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GENERAL INFORMATION

Symbols

The following *symbols*, where shown in columns of figures or elsewhere in tables mean:

- n.a. not available
- n.y.a. not yet available
 - nil or rounded to zero
- .. not applicable
- n.p. not available for separate publication (but included in totals where applicable)
 - p preliminary—figure or series subject to revision
 - r figures or series revised since previous issue
- n.e.i. not elsewhere included
- n.e.c. not elsewhere classified
- break in continuity of series (where drawn across a column between two consecutive figures)
 - m.—males; f.—females; p.—persons.

Other forms of usage

The following *abbreviations* are used for the titles of the Australian States and Territories and Australia: N.S.W. (New South Wales), Vic. (Victoria), Qld (Queensland), S.A. (South Australia), W.A. (Western Australia), Tas. (Tasmania), N.T. (Northern Territory), A.C.T. (Australian Capital Territory), Aust. (Australia).

In general, the *statistics in this volume relate to the States and Territories of Australia*, i.e. they exclude particulars of the External Territories of Australia, which, however, are specifically dealt with in Chapter 27, The Territories of Australia. A few series elsewhere include particulars of Papua New Guinea because of the nature of the subject-matter; these series are indicated.

Yearly periods shown as e.g. 1980 refer to the year ended 31 December 1980; those shown as e.g. 1979-80 refer to the year ended 30 June 1980. Other yearly periods are specifically indicated. The range of years shown in table heading, e.g. 1901 to 1979-80; indicates the period covered, but does not necessarily imply that each intervening year is included.

Values are shown in Australian dollars (\$) or cents (c) unless another currency is specified.

Catalogue numbers. Throughout this book references are made to ABS publications. In each case the catalogue number is shown in brackets; this should be quoted when ordering these publications (*see below*).

Where figures have been rounded, *discrepancies may occur between sums of the component items and totals.*

Availability of ABS publications

Information regarding the availability of ABS publications can be obtained from the Information Services Section, Australian Bureau of Statistics, P.O. Box 10, Belconnen, A.C.T. 2616, Australia, phone (062) 52 6627, or from ABS offices in each capital city and in Darwin.

A complete list of ABS publications produced in Canberra and in each of the State Offices is contained in the *ABS Catalogue of Publications, Australia* (1101.0) which is available free of charge from any ABS office.

In some cases, the ABS can also make available information which is not published. This information may be made available in one or more of the following forms: microfiche, photocopy, data tape, computer printout, clerically—extracted tabulation. Generally, a charge is made for providing unpublished information. Inquiries may be made by contacting Information Services in the nearest ABS office.

PREFACE

By the Constitution of the Commonwealth of Australia, the Parliament of the Commonwealth is empowered, subject to the Constitution, 'to make laws for the peace, order, and good government of the Commonwealth, with respect to . . . Census and statistics.' In the exercise of the power so conferred, a Census and Statistics Act was passed in 1905, and in the year following the Commonwealth Bureau of Census and Statistics was created. During the late 1960s and early 1970s it became increasingly evident that new statistical legislation was required to enable the Bureau to respond to the changing needs of Government. As a consequence, the *Australian Bureau of Statistics Act, 1975* was enacted in mid 1975. The Act came into operation from 3 May 1976. The legislation established the Australian Bureau of Statistics (ABS) as the central statistical authority for the Commonwealth Government, the office of the Australian Statistician and the Australian Statistics Advisory Council (ASAC).

The first Official Year Book was published early in 1908. This is the sixty-sixth Year Book issued under the authority of the Commonwealth Government. The Year Book is the principal general reference work produced by the Central Office of the Australian Bureau of Statistics. It provides a comprehensive and detailed statistical review of all aspects of the economy and social conditions of Australia, and in addition contains descriptive matter dealing with Australia's history, geography, physiography, climate and meteorology, government, defence and repatriation services, and international relations.

This issue contains a special article on the black coal industry in Australia. The article gives a brief history of the exploration and development of the industry from its discovery in Australia in 1791 to the present day, outlines the current position and discusses a number of aspects of the industry, including employment, production, mining methods and its position in the world context.

In the various chapters of the Year Book, and in the special index which precedes the general index, there are references to special articles, background material and items of historic interest which have appeared in previous issues.

Most of the statistics contained in the volume relate to the years ended June or December 1980 or 1981. More detailed and in many cases more recent statistics on subjects dealt with in the Year Book are available in other ABS publications. These publications are listed in the *ABS Catalogue of Publications, Australia* (1101.0).

My thanks are tendered to the responsible officers of the various Commonwealth and State Departments and Organisations who have kindly supplied material for the preparation of the Year Book.

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CHAPTER 1

FROM PRE-HISTORY TO FEDERATION

Early knowledge and discovery of Australia

Pre-history

Man entered the Australian continent from the South-East Asian area during the last glaciation at least 40,000 years ago, when sea levels were lower than in recent times. Nevertheless, these first migrations would have entailed sea voyages of at least some 60 kilometres. Settlement was well established at least 25,000 to 30,000 years ago, and by 20,000 years ago almost all the continent was inhabited.

The original Australians lived as hunters and gatherers, using tools of wood, bone and stone. The archaeological evidence indicates that originally there was a simple, pan-continental toolmaking tradition characterised by stone core tools and scrapers used to make further tools of wood. This tradition persisted until 5,000 to 6,000 years ago, when a series of new influences became apparent. A range of more specialised and sophisticated small tools was added to the old technology. The dingo, the only animal domesticated by the Aborigines, also entered the continent at this time. These new influences never reached Tasmania, isolated for some 12,000 years by the post-glacial rising seas, where a few thousand Tasmanian Aborigines maintained the culture of the late Pleistocene period until the European settlement of the island.

The Aborigines probably achieved maximum exploitation of local resources within the limits of their technology. Population balance had apparently been attained long before European settlement, and anthropologists accept that there were at least some 250,000 to 300,000 Aborigines in Australia in 1788. They were divided into some 500 small groups, speaking a variety of languages and dialects. These 'tribes' were further divided into 'bands'—families or clusters of family groups—which formed the basic self-sufficient economic unit and ranged within territorial limits. Labour was divided between the sexes: the men hunted while the women foraged for the roots, seeds and small animals which formed a basic part of their subsistence. When abundant food or water supplies were available, or when ceremonial obligations demanded, local groups would congregate; in leaner times they scattered. Ceremonial exchanges of goods at these gatherings led to their wide dispersal. Religious and ceremonial activities related to the land were a vital part of Aboriginal life. There is evidence that they had developed the use of ochre as a ritual painting material as early as 25,000 years ago, while some forms of ritual burial was also practised at this time.

The physical barriers of distance and aridity within Australia itself were cause in part of the cultural isolation and linguistic diversity of its people. European exploration and settlement was for most Aboriginal societies their first contact with an outside culture. The impact of this settlement led rapidly to the disappearance of the traditional Aboriginal way of life in those areas where the colonists established themselves most successfully.

Terra Australis

Although references to an Austral land are found in the works of writers in the early centuries after Christ, and evidence appears in maps, globes, and manuscripts from the Middle Ages onward, there is no definite evidence connecting this so-called *Terra Australis* with Australia. Cornelius Wytfliet's map of 1597, however, indicates roughly the eastern and western coasts of Australia, as well as the Gulf of Carpentaria.

Early discoveries of Australia

The Portuguese may have discovered part of the Australian coast before 1542, and it has been suggested that the Arabs may have come to Australia even earlier, though there is no evidence to support this theory. For all practical purposes, however, the coastal exploration of Australia may be taken as having begun with the Spaniards and the Dutch.

Discoveries by the Spanish

In 1606 the Spaniard, Quiros, on reaching the island that has retained the name of Espiritu Santo (the largest island of the New Hebrides group), thought he had discovered the great land of the south and therefore named the group *La Australia del Spiritu Santo*. After leaving the New Hebrides,

Quiros sailed eastward, but Torres, his second-in-command, took a westerly course and passed through the strait that now bears his name. In all probability he sighted the Australian continent, although no mention of it is made in his records.

Discoveries by the Dutch

A map published by Cornelius Wytfliet in 1597 had indicated roughly the eastern and western coast of Australia, as well as the Gulf of Carpentaria.

The Dutch first explored the coast of Australia when, during 1606, the yacht *Duyfken* having coasted along the southern shores of New Guinea, followed the west coast of Cape York Peninsula as far as Cape Keer-Weer (Turn Again). Subsequent visits were made by Hartog (1616), de Houtman (1619), Carstensz (1623), Thijssen (1627), Pelsaert (1629), Tasman (1642) and others, so that by 1644 the Dutch had discovered and explored the Australian coast from Fowler's Bay in the South to the tip of Cape York Peninsula, as well as the south of Tasmania.

More detailed notes on discoveries by the Dutch can be found in Year Book No. 63.

Discoveries by the English

In the meantime, the English had made their first appearance on the Australian coast in 1688, when the north-westerly shores were visited by William Dampier as supercargo of the *Cygnets*, a trading vessel whose crew had turned buccaneers. In 1699 he again visited Australia in command of H.M.S. *Robuck* and, on his return to England, published an account in which a description was given of trees, flowers, birds, and reptiles observed, and of encounters with natives.

At the end of the seventeenth century it was uncertain whether Tasmania and New Zealand were parts of Australia or whether they were separated from it but themselves formed part of a great Antarctic Continent. Lieutenant (later Captain) James Cook's first voyage, though undertaken primarily for the purpose of observing from Tahiti the transit of Venus, had also the objective of ascertaining whether the unexplored part of the southern hemisphere was only an immense mass of water or whether it contained another continent. In command of H.M.S. *Endeavour*, and accompanied by botanist Sir Joseph Banks, naturalist Dr Daniel Solander, astronomer Charles Green, draughtsmen and servants, Cook, after observing the transit of Venus at Tahiti, turned towards New Zealand, sighting that land on 7 October 1769 in the neighbourhood of Poverty Bay.

On 20 April 1770, Cook sighted the Australian mainland at a place he called Point Hicks, naming it after his first-lieutenant, who first saw it. Coasting northwards, on 29 April 1770 he discovered Botany Bay, where he landed. Cook sailed along the coast in a northerly direction for nearly 2,100 kilometres until 11 June 1770, when the *Endeavour* was seriously damaged by striking a coral reef in the vicinity of Trinity Bay. Repairs occupied nearly two months, and the *Endeavour* then again set her course to the north, through Torres Strait.

More detailed notes on Cook's voyages can be found in Year Book No. 63.

The annexation of Australia

Possession taken of eastern coast of Australia by Captain Cook

On 22 August 1770, the history of Australia was brought into definite political connection with western civilisation when Captain Cook took possession 'of the whole eastern coast, from latitude 38°S. to this place, latitude 10½°S. in right of His Majesty King George the Third', i.e. over only what now is Victoria, the eastern parts of New South Wales and Queensland.

Annexation of eastern part of Australian continent and Tasmania

Formal possession on behalf of the British Crown of the whole of the eastern part of the Australian continent and Tasmania was not taken until 26 January 1788, when Captain Phillip's commission, first issued to him on 12 October 1786 and amplified on 2 April 1787, was read to the people whom he had brought with him in the 'First Fleet'. The commission appointed Phillip 'Captain-General and Governor-in-Chief in and over our territory called New South Wales, extending from the Northern Cape or extremity of the coast called Cape York, in the latitude of ten degrees thirty-seven minutes south, to the southern extremity of the said territory of New South Wales or South Cape, in the latitude of forty-three degrees thirty-nine minutes south and of all the country inland westward as far as the one hundred and thirty-fifth degree of east longitude reckoning from the meridian of Greenwich, including all the islands adjacent in the Pacific Ocean within the latitudes aforesaid of ten degrees thirty-seven minutes south and forty-three degrees thirty-nine minutes south'.

By the middle of 1829, the whole territory, now known as Australia, had been constituted a dependency of the United Kingdom.

For more detailed notes on the annexation of Australia, see Year Book No. 63.

The exploration of Australia

Early exploration

From 1788, when Governor Phillip established his colony on the shores of Port Jackson, expeditions began to explore the immediate area of settlement in search of good farming land. Among suitable locations discovered were those just above the head of navigation of the Parramatta River, where the settlement of Rose Hill (later Parramatta) was established in November 1788, and the alluvial flats of the Hawkesbury River, which were explored in 1789.

Other minor exploratory journeys in the 1790s and early 1800s included John Wilson's two investigations of various parts of the Southern Highlands of New South Wales, Lieutenant John Shortland's discovery of the Hunter River (and the future site of Newcastle), and expeditions by Henry Hacking (1794), George Bass (1796), Francis Barrallier (1802) and George Caley (1804) to penetrate the mountain foothills west of the Nepean River.

By the end of the first two decades of colonisation, settlement stretched along the east coast from the Hawkesbury River to the cedar forests of Illawarra, but for barely 65 kilometres inland, where it was compacted by the seemingly impenetrable barrier presented by the Blue Mountains.

The encumberment on the existing land persisted until 1813, when Gregory Blaxland, Lieutenant William Lawson and William Charles Wentworth succeeded in finding a route through the mountain range, thereby allowing the later exploratory parties of George William Evans (1813 and 1815), John Oxley (1817 and 1818), Allan Cunningham (1823 and 1827), Hamilton Hume and William Hovell (1824) and others to open the way for expansion from Port Phillip in the south to the Darling Downs in the north.

Exploring the eastern rivers and to the south

Between 1828 and 1841, exploration of south-eastern Australia was concerned mainly with establishing whether or not there was a large river system emptying into the sea on the south coast.

Between late 1828 and early 1829, an expedition led by Charles Sturt followed the Macquarie River to its meeting with the Darling River and explored part of the Castlereagh River. On his next expedition, in 1830, Sturt pieced together more of the network of waterways which make up the Murray-Darling system by following the Murrumbidgee River from Jugiong down to the river's meeting with the Murray, which he followed as far as Lake Alexandrina and Encounter Bay on the southern coastline. Three years later, Sturt completed his exploration of the Murray by investigating its upper reaches.

Meanwhile, Captain John MacArthur and others had discovered that merino sheep were naturally suited to the dry climate of the interior. The colony's wool industry flourished and, by 1831, 1,340,000 kilograms of fine wool was being exported annually. As a result of the wool boom, settlers became anxious to push further into the interior in search of new pastures.

During three expeditions between 1831 and 1836, Thomas Livingstone Mitchell explored north of the Liverpool Plains and discovered the Macintyre River; discovered well-grassed country at the junction of the Darling and Bogan Rivers; and explored the Lachlan River to its meeting with the Murrumbidgee River, the Murray to its meeting with the Darling River, and south and south-east of the Murray through the region he called 'Australia Felix' to Discovery Bay on the southern coast.

Gradually, the push south continued. In 1838, Angus McMillan discovered a practicable route from Monaro to the southern coastline, and, in 1840, Paul Edmund de Strzelecki made a journey from the Murrumbidgee River south to Melbourne, during which he discovered and named Mount Kosciusko.

Exploring the south

By the mid-to late-1830s, all south-eastern Australia up to the present Queensland border had been explored and was sparsely settled.

In 1831, Captain Collet Barker landed at what was to become Port Adelaide and, by the late 'thirties, cattle-droving journeys undertaken by Joseph Hawdon, Charles Bonney, Charles Sturt and E. J. Eyre had established links between the settlement of Adelaide and the settlements in the east.

In August 1844, Charles Sturt led a sixteen-man expedition from Adelaide into the interior with instructions to investigate a theory that there was an inland sea. After much hardship and near disaster during what was a period of exceptional heat and drought in the region, Sturt found the channels of Cooper's Creek, part of the inland river system of Queensland, dispersed among grassy plains. However, with the waters drying up rapidly in the November (1845) heat and his health deteriorating, Sturt was forced to retreat, declaring the land to be worthless.

Exploring north-eastern Australia

In 1844–45, Ludwig Leichhardt left Jimbour Station on the Darling Downs to lead an expedition on an epic 14½ month, 4,800 kilometre journey north and north-west to Port Essington, thereby winning a reputation for opening up large tracts of rich land. In 1848, however, he and his party disappeared without trace while on another expedition attempting to cross the continent to Perth. Paradoxically much valuable incidental exploration was carried out by a number of search parties.

Meanwhile, Thomas Mitchell's fourth expedition, in 1846, had failed in its objective of finding a river which flowed to the northern coast, but led to the opening up of good pastoral country in the Maranoa and Barcoo Rivers regions.

In 1848, E. B. Kennedy was speared to death by local Aborigines while exploring the interior of Cape York Peninsula from Rockingham Bay to the Cape.

In the mid-to late-1850s, Angus C. Gregory led two expeditions: one, in 1855–56, across northern Australia in a west-east direction from the mouth of the Victoria River to the east coast at Port Curtis; and the other, in 1858, from the Barcoo River south to Adelaide.

Exploration of what was by then the new colony of Queensland was continued through the 1860s and 1870s by George Dalrymple, Ernest Henry, the Macdonald brothers, William Hann, James Venture Mulligan, R. L. Jack and others, which led to the founding of such towns as Bowen, Rockhampton and Mackay, and the opening up of much valuable farming land.

Across the continent south to north

In the late 1850s and early 1860s, most exploratory interest was concentrated on Central Australia, especially after April 1860, when John McDouall Stuart raised a Union Jack on what he considered to be the geographic centre of the continent, Central Mount Stuart. The South Australian Government offered a large reward to the first explorer to cross Australia from south to north.

In August 1860, Robert O'Hara Burke and W. J. Wills set out from Melbourne with a large party to take up the challenge. On 11 February 1861, four expedition members (Burke, Wills, John King and Charles Gray) reached a mangrove swamp on what appeared to be the coast at the Gulf of Carpentaria (though they could not see the sea). After a succession of sorry incidents, however, Burke, Wills and Gray died of exposure and starvation on the return journey.

As in the case of Leichhardt, search parties sent out after Burke and Wills discovered much valuable land in their own right: John McKinlay led an expedition from Adelaide to the north-east; William Landsborough from the Gulf of Carpentaria southward; and Frederick Walker from Rockhampton to the west.

Meanwhile, John McDouall Stuart had set out from Adelaide on his own expedition across Australia and, in July 1862, reached the sea at Van Diemen Gulf.

Exploring the west

As early as 1697, Willem de Vlamingh of the Dutch ship *Geelvinck* had carried out limited inland exploration on the west coast of Australia in the vicinity of what he named the Swan River. However, the first major inland exploration in the colony of Western Australia took place 130 years later when, in 1827, Edmund Lockyer explored the watershed of the Kalgan River to within about 60 kilometres of its mouth.

In the 1830s, exploration and settlement was mainly to the south of Perth (founded in 1829), although, as the soil grew richer, dense hardwood forests made land-clearing difficult. Among the explorers during this decade were Ensign Robert Dale, who found the rich agricultural land of the Avon Valley (1830); Lieutenant H. W. Bunbury, who opened the way to rich pastoral flats in the south-west (1836); and Captain George Grey, who discovered the rich hinterland that now serves Geraldton (1839).

During the 1840s, J. S. Roe, who had also conducted several exploratory journeys during the 1830s, discovered good grazing country while on a 2,900 kilometre York-Pallinup River-Russell Range-Bunbury-Perth trek (1848).

In the 1850s and 1860s, the south-west was extensively occupied as far south as Albany and Kojonup, while to the north the Greenough district quickly became the principal wheat-producing region.

Due largely to the efforts of Grey in the 1830s, the Gregory brothers in the 1840s, 1850s and 1860s, and the Forrest brothers in the 1860s and 1870s, pastoralists were able gradually to push further north to occupy the Murchison, Gascoyne and De Grey districts. By the 1880s, again due largely to exploration by the Forrest brothers, even the Kimberley region was being settled.

Meanwhile, journeys to, or in, the east and south-east of Western Australia by E. J. Eyre (1841), E. A. Delisser (1861), John Forrest (1870) and others had gradually filled in many 'blanks' in those directions also.

Exploring the hinterland

In 1875, Ernest Giles set out from Beltana, South Australia, and made a 4,000 kilometre journey to Perth. Two years previous, two other parties, led by Peter Egerton Warburton and W. C. Gosse respectively, had explored west from the MacDonnell Ranges to the Oakover River, and from Alice Springs to Perth.

Exploration of the hinterland was continued by W. P. Goddard (1890), J. H. Rowe (1895), A. W. Canning (1906) and others into the early twentieth century.

Exploring Tasmania

In 1793, Lieutenant John Hayes, commander of the *Duke of Clarence*, sailed up the Derwent River to become the first explorer to journey more than a few kilometres inland from the coast of Van Diemen's Land (by which name Tasmania was known until 1856). Then, as always, the island's rugged topography hindered any extensive exploration, and it was not until 1807 that Lieutenant Thomas Laycock crossed the island from Port Dalrymple to Hobart.

Much early exploration was carried out either with the encouragement of Lieutenant-Governor William Sorell (including expeditions aimed primarily at discovering the nature of the west coast and determining its suitability for a future penal settlement), or under the auspices of the Van Diemen's Land Company (which fostered efforts to find land suitable for agricultural settlement).

Some of the most noteworthy of Tasmania's early explorers were official surveyors, including John Oxley, G. W. Evans and Thomas Scott who, between 1820 and 1837, examined parts of the east, north-west and west coasts and, no doubt, influenced decisions to establish the infamous penal settlements at Macquarie Harbour (in 1822) and Port Arthur (in 1830).

Between the late 1820s and early 1840s a considerable amount of incidental exploration resulted both from expeditions to round up the remaining Tasmanian Aboriginals following the declaration of martial law against them in 1828; and from the personal encouragement by Lieutenant-Governor Sir John Franklin of scientific expeditions to Tasmania in the late 1830s and early 1840s.

In the 1840s and 1850s, licensed surveyor N. L. Kentish was responsible for opening up the rich pastoral areas between the north-west coast and the first high mountains, while Assistant-Surveyor James Scott explored much of the north-east.

The 1860s and 1870s were marked by a number of exploratory journeys in search of minerals, including those of Charles Gould (1862), who found traces of silver, lead and gold in the Franklin and Gordon Valleys; James Smith (1871), who discovered tin at Mt. Bischoff, destined to become the richest mine of its kind in the world; and C. P. Sprent (1876-77), who found gold, copper, osmiridium and platinum while prospecting between the Arthur and Pieman Rivers.

The establishment of the Commonwealth of Australia

Federation

On 1 January 1901, the colonies, with the exception of New Zealand (*see* Year Book No. 63, page 5), were federated under the name of the 'Commonwealth of Australia', the designation of 'Colonies'—except in the case of the Northern Territory, to which the designation 'Territory' applied—being at the same time changed to that of 'States'.

Transfer of the Northern Territory to the Commonwealth

On 7 December 1907, the Commonwealth and the State of South Australia entered into an agreement for the transfer of the Northern Territory to the Commonwealth, subject to approval by the Parliaments of the Commonwealth and the State. This approval was given by the South Australian Parliament under the Northern Territory Surrender Act, 1907 and by the Commonwealth Parliament under the *Northern Territory Acceptance Act* 1910. The Territory was formally transferred to the Commonwealth on 1 January 1911, and became the Northern Territory of Australia.

By Imperial Order in Council dated 23 July 1931, Ashmore Islands, known as Middle, East and West Islands, and Cartier Island, situated in the Indian Ocean off the north-west coast of Australia, were placed under the authority of the Commonwealth. The islands were accepted by the Commonwealth on 10 May 1934, in the *Ashmore and Cartier Islands Acceptance Act* 1933, under the name of the Territory of Ashmore and Cartier Islands. The Act authorised the Governor of Western Australia to make ordinances having the force of law in and in relation to the Territory. An amendment to the Act in July 1938 annexed the islands to the Northern Territory, whose laws, ordinances, and regulations, wherever applicable, thereupon applied. On the attainment of self-government by the Northern Territory on 1 July 1978, the Territory of Ashmore and Cartier Islands was retained as Commonwealth Territory.

The area of Ashmore Reef is approximately 150 square kilometres (to the limit of the reef), and it is situated 350 kilometres off the western coast of Australia and 850 kilometres west of Darwin. Cartier Island is approximately 9 square kilometres in area (to the limit of the reef), and is situated 290 kilometres off the western coast of Australia and 790 kilometres west of Darwin.

Transfer of the Australian Capital Territory to the Commonwealth

On 18 October 1909, the Commonwealth and the State of New South Wales entered into an agreement for the surrender to and acceptance by the Commonwealth of an area of 2,359 square kilometres as the Seat of Government of the Commonwealth. In December 1909, Acts were passed by the Commonwealth and New South Wales Parliaments approving the agreement, and on 5 December 1910 a proclamation was issued vesting the territory in the Commonwealth on and from 1 January 1911. By the *Jervis Bay Territory Acceptance Act 1915*, an area of 73 square kilometres at Jervis Bay, surrendered by New South Wales according to an agreement made in 1913, was accepted by the Commonwealth and was transferred as from 4 September 1915.

Present composition of Australia

In 1973, the total area of Australia and of the individual States and Territories was determined by the Division of National Mapping as 7,682,300 square kilometres. Some historical dates and the present areas of the several States and Territories and of Australia are shown below. For detailed notes on the creation of the several colonies, see Year Book No. 63, pages 4–5.

AUSTRALIA: COMPONENT STATES AND TERRITORIES

<i>State or Territory</i>	<i>Year of annexation</i>	<i>Year of first permanent settlement</i>	<i>Year of formation into separate Colony or Territory</i>	<i>Year in which responsible government was granted</i>	<i>Present area in km²</i>
New South Wales	1770	1788	1786	1855	801,600
Victoria	1770	1834	1851	1855	227,600
Queensland	1770	1824	1859	(a) 1859	1,727,200
South Australia	1788	1836	1834	1856	984,000
Western Australia	1829	1829	1829	1890	2,525,000
Tasmania	1788	1803	1825	1855	67,800
Northern Territory . . . . .	..	..	(b) 1863	..	1,346,200
Australian Capital Territory . . . . .	..	..	(c) 1911	..	2,400
Australia . . . . .	..	..	..	(d)	7,682,300

(a) As part of New South Wales in 1855; as a separate colony in 1859. (b) Previously part of New South Wales; brought under the jurisdiction of South Australia in 1863; transferred to the Commonwealth in 1911. (c) Previously part of New South Wales. (d) Constituted as from 1 January 1901.

The external Territories of Australia

More detailed information on Australia's external Territories can be found in Chapter 27, The Territories of Australia.

Norfolk Island

In 1856, Norfolk Island was created a distinct and separate settlement under the jurisdiction of New South Wales. Later, in 1896, it was made a dependency under the Governor of that colony, and finally, by the passage of the *Norfolk Island Act 1913*, it was accepted as a Territory of the Commonwealth of Australia. The island is situated in latitude 29° 02' S., longitude 167° 57' E., and comprises an area approximately 36 square kilometres.

Australian Antarctic Territory

An Imperial Order in Council of 7 February 1933 placed under Australian authority 'all the islands and territories other than Adelie Land which are situated south of the 60° S. latitude and lying between the 160° E. longitude and the 45° E. longitude'.

The Order came into force with a proclamation issued by the Governor-General on 24 August 1936, after the passing of the *Australian Antarctic Territory Acceptance Act 1933* by the Commonwealth Parliament. The boundaries of Adelie Land were definitely fixed by a French Decree of 1 April 1938 as latitude 60° S., longitude 136° E., and longitude 142° E.

Heard and McDonald Islands

Heard Island and the McDonald Islands, all about 4,100 kilometres south-west of Fremantle, were transferred from United Kingdom to Australian control as from 26 December 1947. Heard Island is approximately 43 kilometres long and 20 kilometres wide, while the McDonald Islands, about 43 kilometres to the west of Heard Island, are small, rocky and precipitous.

Cocos (Keeling) Islands

The *Cocos (Keeling) Islands Act 1955* provided for the acceptance of the Cocos Islands as a Territory under the authority of the Commonwealth of Australia and was parallel to an Act of the United Kingdom Parliament transferring authority over the islands to the Commonwealth. Consequent on the passing of these Acts, Her Majesty, by Order in Council, specified 23 November 1955 as the date of transfer. From that date the islands came under Australian administration. Day-to-day affairs in the Territory are managed by an Administrator under delegation from the Minister for Home Affairs. The 27 coral islands of the Territory have an area of about 14 square kilometres, and are situated in the Indian Ocean in latitude 12°05' S. and longitude 96° 53' E.

Christmas Island

The *Christmas Island Act 1958* provided for the acceptance of Christmas Island as a Territory under the authority of the Commonwealth of Australia. Complementary legislation having been passed by the Parliament of the United Kingdom, the island was transferred to the Australian administration on 1 October 1958. Day-to-day affairs in the Territory are managed by an Administrator under delegation from the Minister for Home Affairs. The area of the island is about 135 square kilometres and it is situated in the Indian Ocean in latitude 10° 25' S. and longitude 105° 40' E.

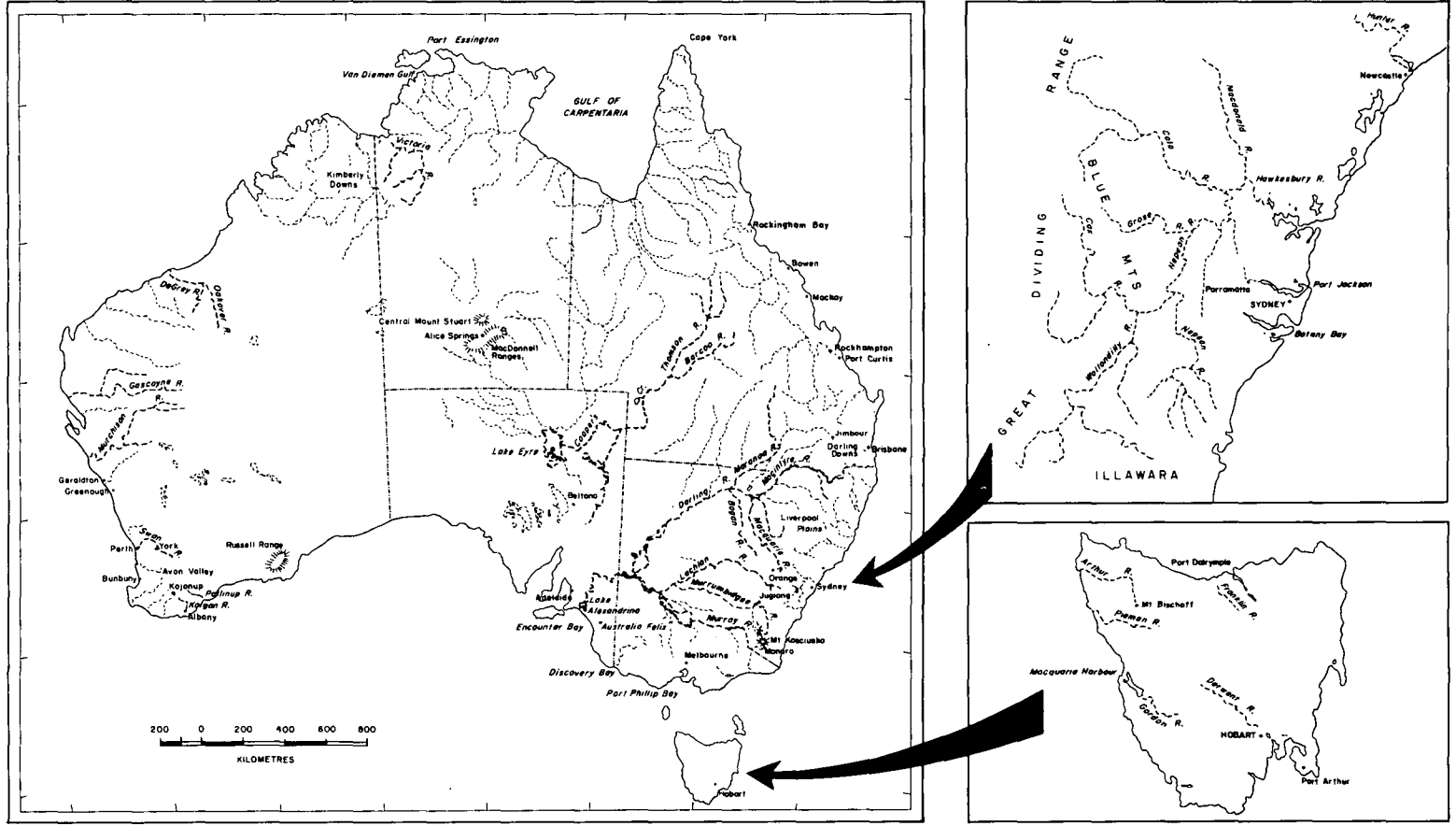
Coral Sea Islands

The Coral Sea Islands were declared to be a Territory of the Commonwealth of Australia by the *Coral Sea Islands Act 1969*. The scattered reefs and islands, often little more than sandbanks, spread over a sea area of about 1 million square kilometres with only a few square kilometres of actual land area, between the Great Barrier Reef, latitude 12° S. and longitude 157° 10' E. The Minister for Home Affairs is responsible for matters affecting the Territory.

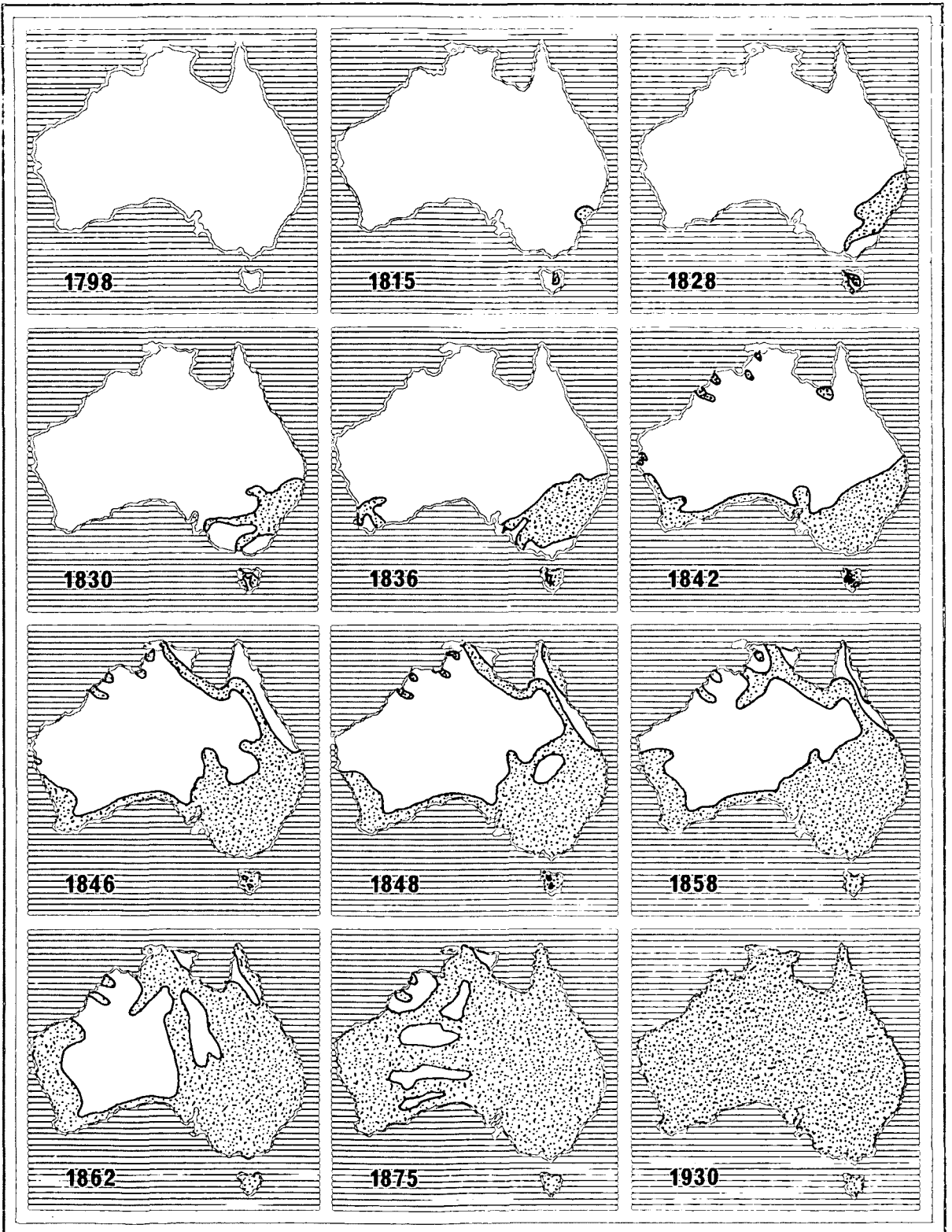
The Constitution of the Commonwealth of Australia

Information regarding the development of the Constitutions of the various Colonies (now States), together with a brief history of the federal movement in Australia, was embodied in this chapter in earlier issues of the Year Book. A complete copy of the revised Constitution is included in Year Book No. 62, pages 7-24.

PLATE 2



These maps show the locations of places and landforms referred to in the accompanying notes on the exploration of Australia.



This map series shows the work of the explorers at various significant times in Australia's history.

CHAPTER 2

CLIMATE AND PHYSICAL GEOGRAPHY OF AUSTRALIA

General description of Australia

This chapter has been prepared by the Bureau of Meteorology, Department of Science and Technology. It is mainly concerned with the climate of Australia, although some geographic comparisons and a summary of landform features influencing climate have been included together with a summary of atmospheric climate controls.

Position and area

Position. Australia, including Tasmania, comprises a land area of 7,682,300 square kilometres. The land lies between latitudes 10° 41' S. (Cape York) and 43° 39' S. (South Cape, Tasmania) and between longitudes 113° 09' E. (Steep Point) and 153° 39' E. (Cape Byron). The most southerly point on the mainland is South Point (Wilson's Promontory) 39° 08' S. The latitudinal distance between Cape York and South Point, Wilson's Promontory (South East Cape, Tasmania) is about 3,180 kilometres (3,680 kilometres) respectively and the longitudinal distance between Steep Point and Cape Byron is about 4,000 kilometres.

Area of Australia compared with areas of other countries. The area of Australia is almost as great as that of the United States of America (excluding Alaska), about 50 per cent greater than Europe (excluding U.S.S.R.) and 32 times greater than the United Kingdom. The following table shows the area of Australia in relation to areas of other continents and selected countries.

AREAS OF CONTINENTS AND SELECTED COUNTRIES, circa 1970
(^{'000 square kilometres})

Country	Area	Country	Area
Continental divisions—		Country—	
Europe (a)	4,936	Australia	7,682
Asia (a)	27,532	Canada	9,976
U.S.S.R. (Europe and Asia)	22,402	Germany, Federal Republic of	248
Africa	30,319	Japan	372
North and Central America and West Indies	24,247	New Guinea (b)	462
South America	17,834	New Zealand	269
Oceania	8,504	United Kingdom	244
		United States of America (c)	9,363
Total, World excluding Arctic and Antarctic continents	135,771		

(a) Excludes U.S.S.R., shown below. (b) West Irian is included in other Asia. (c) Includes Hawaii and Alaska.

Land forms

The average altitude of the surface of the Australian land mass is only about 300 metres. Approximately 87 per cent of the total land mass is less than 500 metres and 99.5 per cent is less than 1,000 metres. The highest point is Mount Kosciusko (2,228 metres) and the lowest point is Lake Eyre (-15 metres).

Australia has three major landform features: the western plateau, the interior lowlands and the eastern uplands. The western half of the continent consists of a great plateau of altitude 300 to 600 metres. The interior lowlands include the channel country of southwest Queensland (drainage to Lake Eyre) and the Murray-Darling system to the south. The eastern uplands consist of a broad belt of varied width extending from north Queensland to Tasmania and consisting largely of tablelands, ranges and ridges with only limited mountain areas above 1,000 metres.

The rivers of Australia may be divided into two major classes, those of the coastal plains with moderate rates of fall and those of the central plains with very slight fall. Of the rivers of the northern part of the east coast, the longest are the Burdekin and the Fitzroy in Queensland. The Hunter is the largest coastal river of New South Wales, and the Murray River, with its great tributary the Darling, drains

part of Queensland, the major part of New South Wales, and a large part of Victoria, finally flowing into the arm of the sea known as Lake Alexandrina, on the eastern side of the South Australian coast. The total length of the Murray is about 2,520 kilometres, about 650 being in South Australia and about 1,870 kilometres from South Australia to the source. The Darling from its junction with the Murray to its junction with the Culgoa is 1,390 kilometres. The Upper Darling (1,140 kilometres) incorporates the Barwon which commences at the junction of the Culgoa to its junction with the Weir River and the Macintyre River from its junction with the Weir to its source near Maybole. The rivers of the north-west coast of Australia (Western Australia) e.g. the Murchison, Gascoyne, Ashburton, Fortescue, De Grey, Fitzroy, Drysdale, and Ord are of considerable size. So also are those in the Northern Territory, e.g. the Victoria and Daly, and those on the Queensland side of the Gulf of Carpentaria, such as the Gregory, Leichhardt, Cloncurry, Gilbert, and Mitchell. The rivers of Tasmania have short and rapid courses, as might be expected from the configuration of the country.

The 'lakes' of Australia may be divided into three classes; true permanent lakes; lakes which being very shallow, become mere morasses in dry seasons or even dry up, and finally present a cracked surface of salt and dry mud; and lakes which are really inlets of the ocean, opening into a lake-like expanse. The second class, which are a characteristic of the interior lowlands are of considerable extent. The largest are Lake Eyre 9,500 square kilometres, Lake Torrens 5,900 square kilometres and Lake Gairdner 4,300 square kilometres.

For further information on the landforms and the geographical features of Australia earlier issues of the Year Book should be consulted. The list of special articles, etc., at the end of this volume indicates the nature of the information available and its position in the various issues.

Area, coastline, tropical and temperate zones, and standard times. The areas of the States and Territories and the length of the coastline were determined in 1973, by the Division of National Mapping, Department of National Resources, by manually digitising these features from the 1:250,000 map series of Australia. This means that only features of measurable size at this scale were considered. About 60,000 points were digitised at an approximate spacing of 0.5 kilometres. These points were joined by chords as the basis for calculation of areas and coastline lengths by computer.

The approximate high water mark coastline was digitised and included all bays, ports and estuaries which are open to the sea. In these cases, the shoreline was assumed to be where the seaward boundary of the title of ownership would be. In mangroves, the shoreline was assumed to be on the landward side. Rivers were considered in a similar manner but the decisions were rather more subjective, the line being across the river where it appeared to take its true form.

AREA, COASTLINE, TROPICAL AND TEMPERATE ZONES, AND STANDARD TIMES: AUSTRALIA

NOTE. See paragraphs above for methods of estimating area and coastline.

State or Territory	Estimated area		Length of coastline	Percentage of total area in		Standard times	
	Total	Percentage of total area		Tropical zone	Temperate zone	Meridian selected	Ahead of G.M.T. (a)
	km ²		km				hours
New South Wales	801,600	10.43	1,900	..	100	150°E	(b)10.0
Victoria	227,600	2.96	1,800	..	100	150°E	(b)10.0
Queensland	1,727,200	22.48	7,400	54	46	150°E	10.0
South Australia	984,000	12.81	3,700	..	100	142°30'E	(b)9.5
Western Australia	2,525,500	32.87	12,500	37	63	120°E	8.0
Tasmania	67,800	0.88	3,200	..	100	150°E	(b)10.0
Northern Territory	1,346,200	17.52	6,200	81	19	142°30'E	9.5
Australian Capital Territory	2,400	0.03	35	..	100	150°E	(b)10.0
Australia	7,682,300	100.00	36,735	39	61	..	..

(a) Greenwich Mean Time.

(b) Because of 'daylight saving' an hour should be added from late October to early March.

Climate of Australia

General

The climate of Australia is predominantly continental but the insular nature of the land mass is significant in producing some modification of the continental pattern.

The island continent of Australia is relatively dry with 50 per cent of the area having a median rainfall of less than 300 millimetres per year and 80 per cent less than 600 millimetres. Extreme minimum temperatures are not as low as those recorded in other continents because of the absence of extensive mountain masses and because of the expanse of ocean to the south. However, extreme maxima are comparatively high, reaching 50°C over the inland, mainly due to the great east-west extent of the continent in the vicinity of the Tropic of Capricorn.

Climatic discomfort, particularly heat discomfort, is significant over most of Australia. During summer, prolonged high temperatures and humidity around the northern coasts and high temperatures over the inland cause physical discomfort. In winter, low temperatures and strong cold winds over the interior and southern areas can be severe for relatively short periods.

Climatic controls

The generally low relief of Australia causes little obstruction to the atmospheric systems which control the climate. A notable exception is the eastern uplands which modify the atmospheric flow.

In the winter half of the year (May–October) anticyclones, or high pressure systems, pass from west to east across the continent and often remain almost stationary over the interior for several days. These anticyclones may extend to 4,000 kilometres along their west-east axes. Northern Australia is then influenced by mild, dry south-east trade winds, and southern Australia experiences cool, moist westerly winds. The westerlies and the frontal systems associated with extensive depressions travelling over the Southern Ocean have a controlling influence on the climate of southern Australia during the winter season, causing rainy periods. Cold outbreaks, particularly in south-east Australia, occur when cold air of Southern Ocean origin is directed northwards by intense depressions having diameters up to 2,000 kilometres. Cold fronts associated with the southern depressions, or with secondary depressions over the Tasman Sea, may produce large day-to-day changes in temperature in southern areas, particularly in south-east coastal regions.

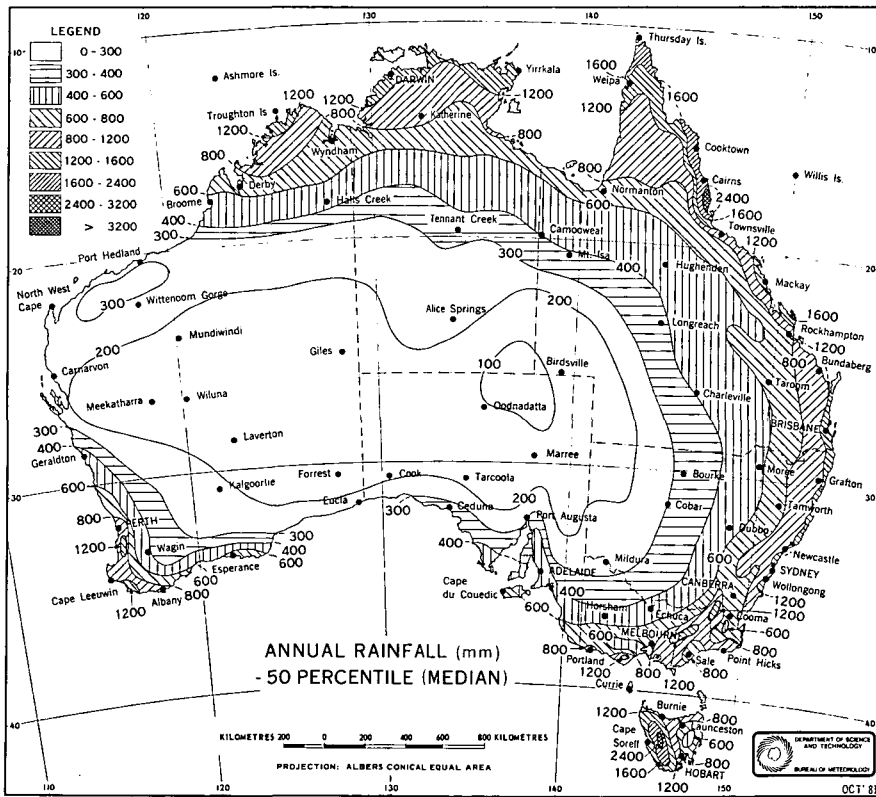
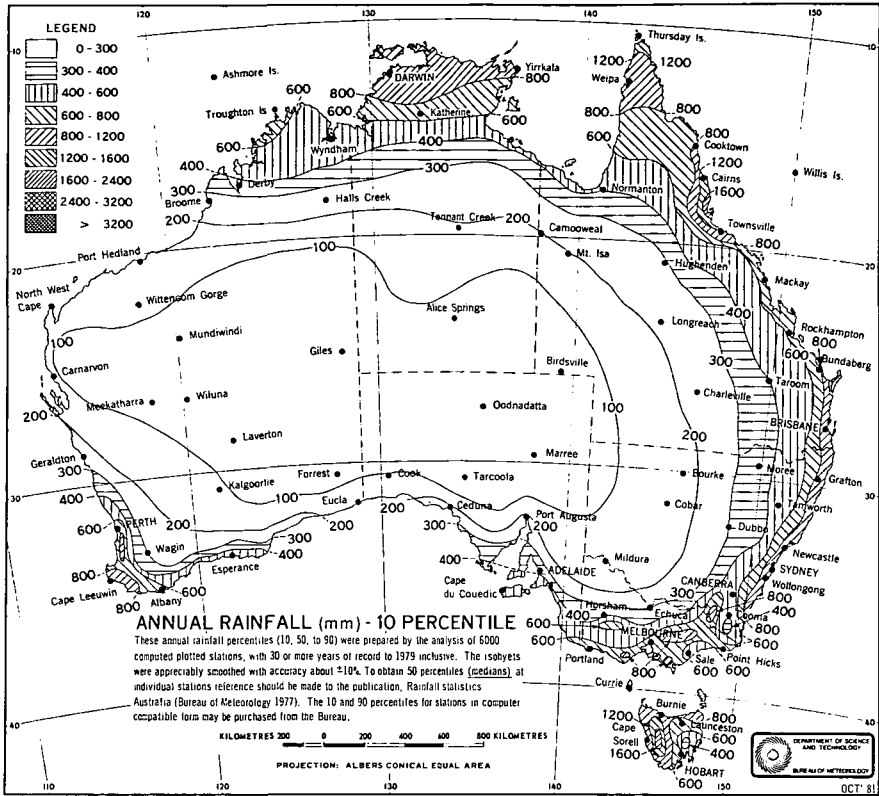
In the summer half of the year (November–April) the anticyclones travel from west to east on a more southerly track across the southern fringes of Australia directing easterly winds generally over the continent. Fine, warmer weather predominates in southern Australia with the passage of each anticyclone. Heat waves occur when there is an interruption to the eastward progression of the anticyclone (blocking) and winds back northerly and later north-westerly. Northern Australia comes under the influence of summer disturbances associated with the southward intrusion of warm moist monsoonal air from north of the inter-tropical convergence zone resulting in a hot rainy season.

Tropical cyclones develop over the seas to the north-west and the north-east of Australia in summer between November and April. Their frequency of occurrence and the tracks they follow vary greatly from season to season. On the average, about three cyclones per season directly affect the Queensland coast, and about three affect the north and northwest coasts. Tropical cyclones approaching the coast usually produce very heavy rain in coastal areas. Some cyclones move inland, losing intensity but still producing widespread heavy rainfall. Individual cyclonic systems may control the weather over northern Australia for periods extending to three weeks.

Rainfall

Annual. The annual 10, 50 and 90 percentile* rainfall maps are shown on Plates 4–6 respectively. The area of lowest rainfall is east of Lake Eyre in South Australia, where the median (50 percentile) rainfall is only about 100 millimetres. Mulka has a median annual rainfall of 81 millimetres (57 years of record to 1980 inclusive). Another very low rainfall area is in Western Australia in the Giles-Warburton Range region, which has a median annual rainfall of about 150 millimetres. A vast region extending from the west coast near Shark Bay across the interior of Western Australia and South Australia to south-west Queensland and north-west New South Wales has a median annual rainfall of less than 200 millimetres. This region is not normally exposed to moist air masses for extended periods and rainfall is irregular, averaging only one or two days per month. However, in favourable synoptic situations, which occur infrequently over extensive parts of the region, up to 400 millimetres of rain may fall within a few days and result in widespread flooding.

* The amounts that are not exceeded by 10, 50 and 90 per cent of all recordings are the 10, 50 and 90 percentiles or the first, fifth and ninth deciles respectively. The 50 percentile is usually called the median.



PLATES 4 and 5

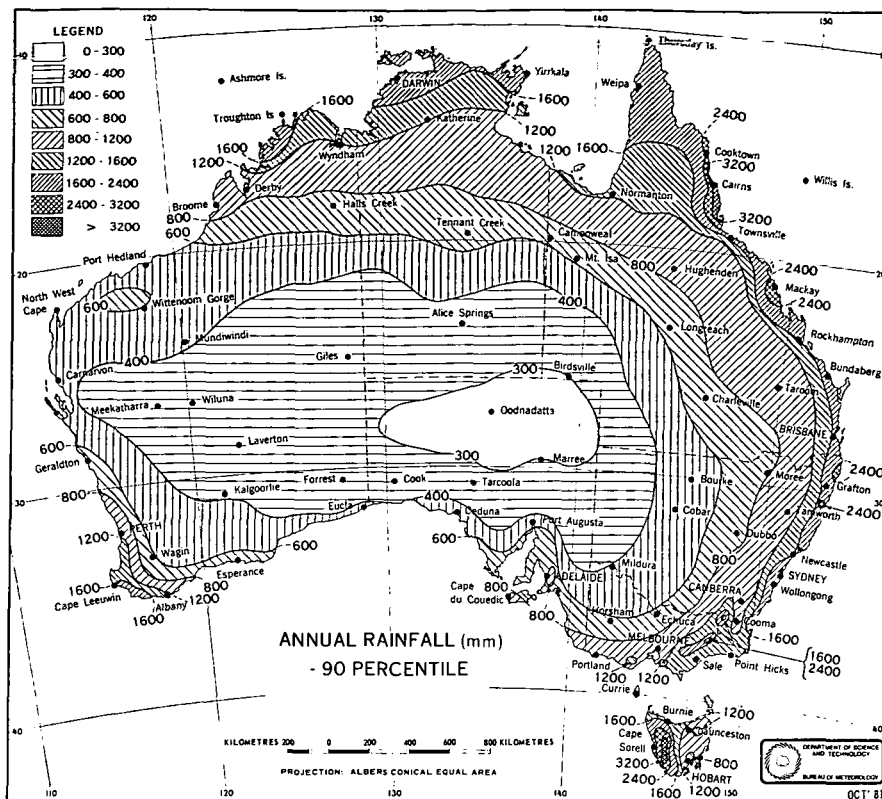


PLATE 6

The region with the highest median annual rainfall is the east coast of Queensland between Cairns and Cardwell, where Tully has a median of 4,203 millimetres (56 years to 1980 inclusive). The mountainous region of western Tasmania also has a high annual rainfall, with Lake Margaret having a median of 3,575 millimetres (68 years to 1980 inclusive). In the mountainous areas of north-east Victoria and some parts of the east coastal slopes there are small pockets with median annual rainfall greater than 2,500 millimetres, but the map scale is too small for these to be shown.

The Snowy Mountains area in New South Wales also has a particularly high rainfall. The highest median annual rainfall isohyet drawn for this region is 3,200 millimetres, and it is likely that small areas have a median annual rainfall approaching 4,000 millimetres on the western slopes above 2,000 metres elevation.

The following table shows the area distribution of the median annual rainfall.

AREA DISTRIBUTION OF MEDIAN ANNUAL RAINFALL: AUSTRALIA
(Per cent)

Median annual rainfall	W.A.	N.T.	S.A.	Qld	N.S.W.(a)	Vic.	Tas.	Aust.
Under 200 mm	43.5	15.5	74.2	10.2	8.0	..	..	29.6
200 to 300 "	29.6	35.6	13.5	13.0	20.3	6.3	..	22.9
300 " 400 "	10.5	9.0	6.8	12.3	19.0	19.2	..	11.2
400 " 500 "	4.3	6.6	3.2	13.5	12.4	11.8	..	7.6
500 " 600 "	3.1	5.8	1.8	11.6	11.3	14.1	12.2	6.6
600 " 800 "	4.6	11.6	0.5	20.5	15.1	24.5	18.2	10.7
800 " 1,200 "	3.7	9.6	..	12.6	11.3	17.7	25.0	7.7
Above 1,200 "	0.7	6.3	..	6.3	2.6	6.4	44.6	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Australian Capital Territory.

Seasonal. As outlined under the heading of Climatic controls, the rainfall pattern is strongly seasonal in character with a winter rainfall regime in the south and a summer regime in the north.

The dominance of rainfall over other climatic elements in determining the growth of specific plants in Australia has led to the development of a climatic classification based on two main parameters. These parameters are median annual rainfall and seasonal rainfall incidence. Plate 7, below, is a reduced version of the seasonal rainfall zones arising from this classification (see Bureau of Meteorology publication *Climatic Atlas of Australia, Map Set 5, Rainfall, 1977*).

Evaporation and the concept of rainfall effectiveness are taken into account to some extent in this classification by assigning higher median annual rainfall limits to the summer zones than the corresponding uniform and winter zones. The main features of the seasonal rainfall are:

- (a) marked wet summer and dry winter of northern Australia;
- (b) wet summer and relatively dry winter of south-eastern Queensland and north-eastern New South Wales;
- (c) uniform rainfall in south-eastern Australia—much of New South Wales, parts of eastern Victoria and in southern Tasmania;
- (d) marked wet winter and dry summer of south-west Western Australia and (to a lesser extent) of much of the remainder of southern Australia directly influenced by westerly circulation;
- (e) arid area comprising about half of the continent extending from the north-west coast of Western Australia across the interior and reaching the south coast at the head of the Great Australian Bight.

The seasonal rainfall classification (Climatic Atlas, Map Set 5) can be further reduced to provide a simplified distribution of seven climatic zones shown in Plate 8.

Variability. The adequate presentation of rainfall variability over an extensive geographical area is difficult. Probably the best measures are found in tables compiled for a number of individual stations in some of the Climatic Survey districts. These tables show the percentage chances of receiving specified amounts of rainfall in monthly, seasonal or annual time spans. Statistical indexes of rainfall variation based on several techniques have been used to compile maps showing main features of the variability of annual rainfall over Australia.

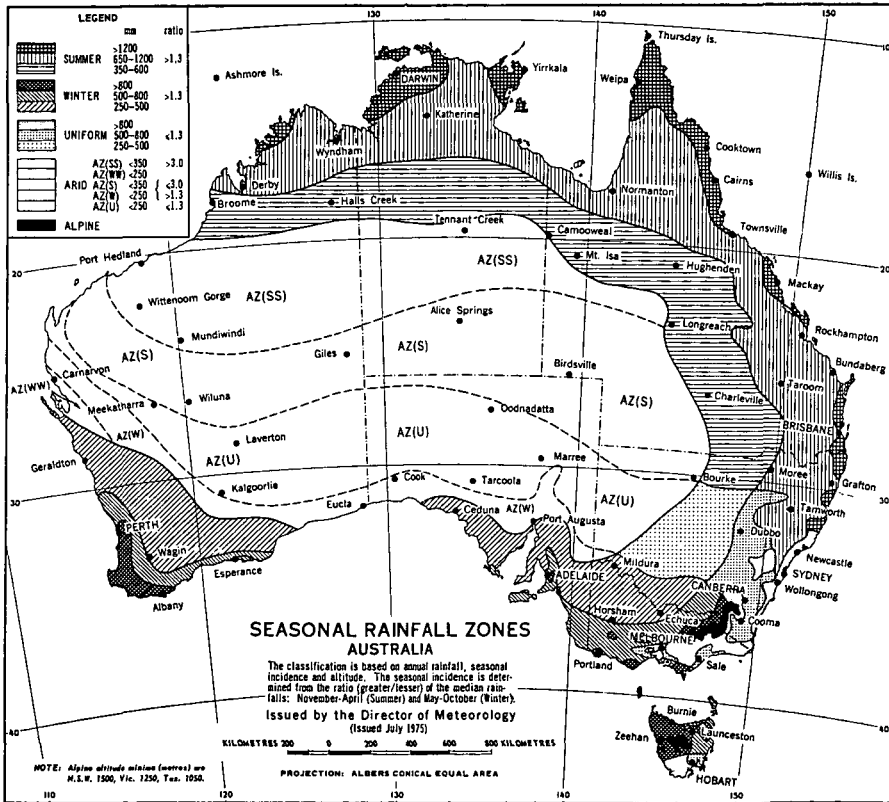


PLATE 7

One index for assessing the variability of annual rainfall is given by the ratio of the 90–10 percentile range to the 50 percentile (median value) i.e. Variability Index = $\left\{ \frac{90 - 10}{50} \right\}$ percentiles.

Variability based on this relationship (Gaffney 1975) is shown in Plate 9, page . The region of high to extreme variability shown in Plate 9, lies mostly in the arid zone with summer rainfall incidence, AZ(S), defined on Plate 7, page . In the winter rainfall zones the variability is generally low to moderate as exemplified by the south-west of Western Australia. In the tropics, random cyclone visitations cause extremely great variations in rainfall from year to year: at Onslow (Western Australia), annual totals varied from 15 millimetres in 1912 to 1,085 millimetres in 1961 and, in the four consecutive years 1921 to 1924, the annual totals were 566, 69, 682 and 55 millimetres respectively. At Whim Creek (Western Australia), where 747 millimetres have been recorded in a single day, only 4 millimetres were received in the whole of 1924. Great variability can also occur in the heavy rainfall areas: at Tully (Queensland), the annual rainfalls have varied from 7,898 millimetres in 1950 to 2,486 millimetres in 1961.

Rainday frequency. The average number of days per year with rainfall of 0.2 millimetres or more is shown in Plate 10, page 19.

The frequency of rain-days exceed 150 per year in Tasmania (with a maximum of over 200 in western Tasmania), southern Victoria, parts of the north Queensland coast and in the extreme south-west of Western Australia. Over most of the continent the frequency is less than 50 rain-days per year. The area of low rainfall with high variability, extending from the north-west coast of Western Australia through the interior of the continent, has less than 25 rain-days per year. In the high rainfall areas of northern Australia the number of rain-days is about 80 per year, but heavier falls occur in this region than in southern regions.

Intensity. The highest rainfall intensities for some localities are shown in the first table on page 20. These figures represent intensities over only small areas around the recording points because turbulence and exposure characteristics of the measuring gauge may vary over a distance of a few metres. The highest rainfall measured for one hour is 330 millimetres at Deeral, Queensland, 13 March 1936. The highest 24-hour (9 a.m. to 9 a.m.) falls are listed by States in the second table on page 20. Most of the very high 24-hour falls (above 700 millimetres) have occurred in the coastal strip of Queensland, where a tropical cyclone moving close to mountainous terrain provides ideal conditions for spectacular falls. The highest 24-hour fall (1,140 millimetres) occurred at Bellenden Ker (Top Station) on 4 January 1979. Bellenden Ker (Top Station) has also recorded the highest monthly rainfall in Australia (5,387 millimetres in January 1979).

The highest annual rainfalls are listed by States in the following table.

HIGHEST ANNUAL RAINFALLS
(All years to 1980 inclusive)

State	Station	Year	Amount
			mm
Queensland	Bellenden Ker (Top Station)	1979	11,251
New South Wales	Tallowood Point	1950	4,540
Tasmania	Lake Margaret	1948	4,504
Victoria	Mt Buffalo Chalet	1917	3,342
Northern Territory	Elizabeth Downs	1973	2,966
Western Australia	Karnet	1964	2,601
South Australia	Aldgate State School	1917	1,851

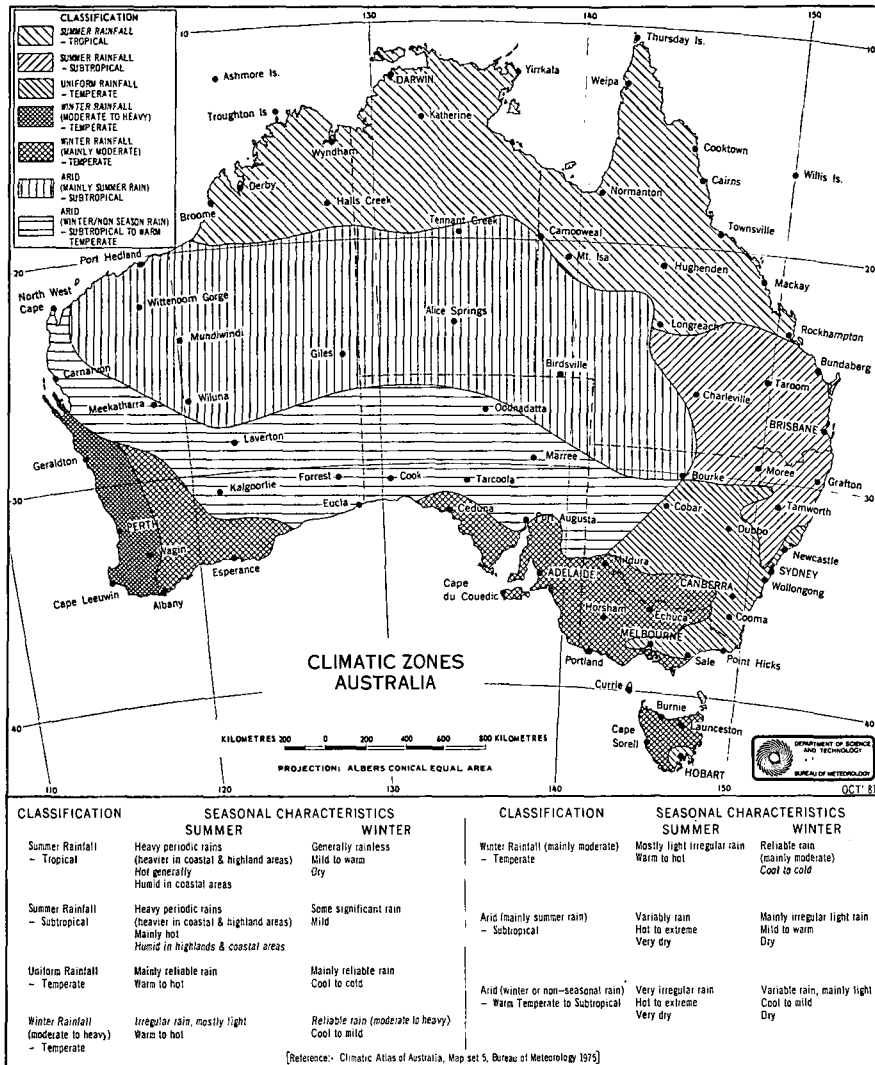
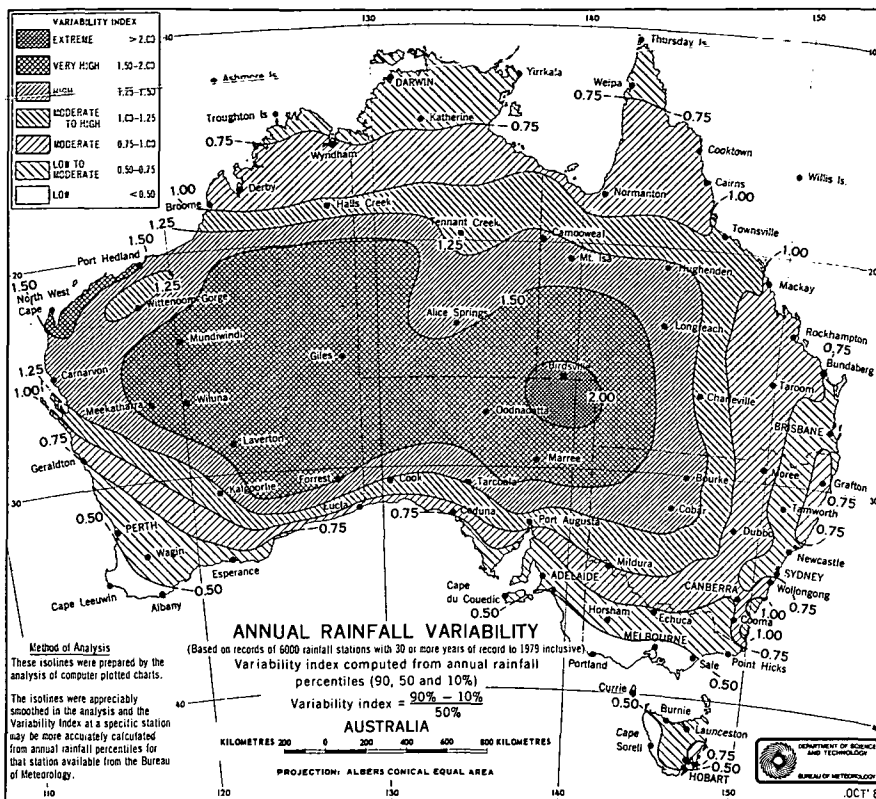


PLATE 8



PLATES 9 and 10

HIGHEST RAINFALL INTENSITIES IN SPECIFIED PERIODS

(millimetres)

(Source: Pluviograph records in Bureau of Meteorology archives.)

Station	Period of record	Years of complete records	Period in hours				
			1	3	6	12	24
			mm	mm	mm	mm	mm
Adelaide	1897-1980	80	69	133	141	141	141
Alice Springs	1951-1980	28	75	77	87	108	150
Brisbane	1911-1980	67	88	144	182	265	327
Broome	1948-1979	32	112	157	185	313	351
Canberra	1932-1979	44	51	68	71	89	139
Carnarvon	1956-1979	24	32	63	83	95	108
Charleville	1953-1980	28	42	66	75	111	142
Cloncurry	1953-1975	20	59	118	164	173	204
Darwin (Airport)	1953-1980	25	88	138	214	260	277
Esperance	1963-1979	15	23	45	62	68	79
Hobart	1911-1980	67	28	56	87	117	168
Meekatharra	1953-1979	25	33	67	81	99	112
Melbourne	1878-1980	90	79	83	86	97	130
Mildura	1953-1977	23	49	60	65	65	91
Perth	1946-1980	33	32	38	47	64	93
Sydney	1913-1979	63	97	135	166	190	282
Townsville	1953-1980	26	88	158	235	296	319

HIGHEST DAILY RAINFALLS

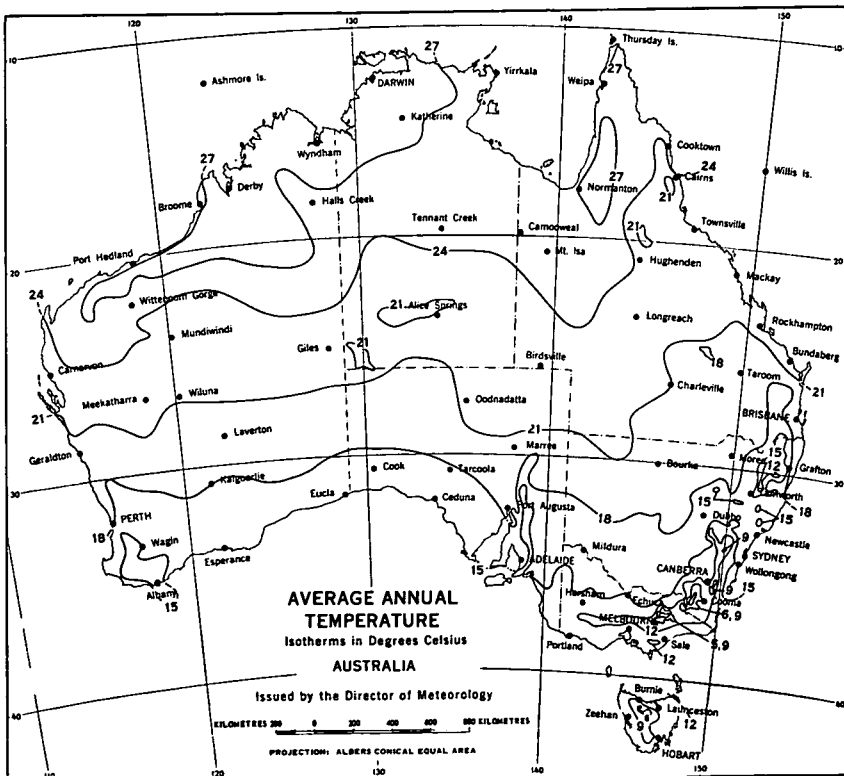
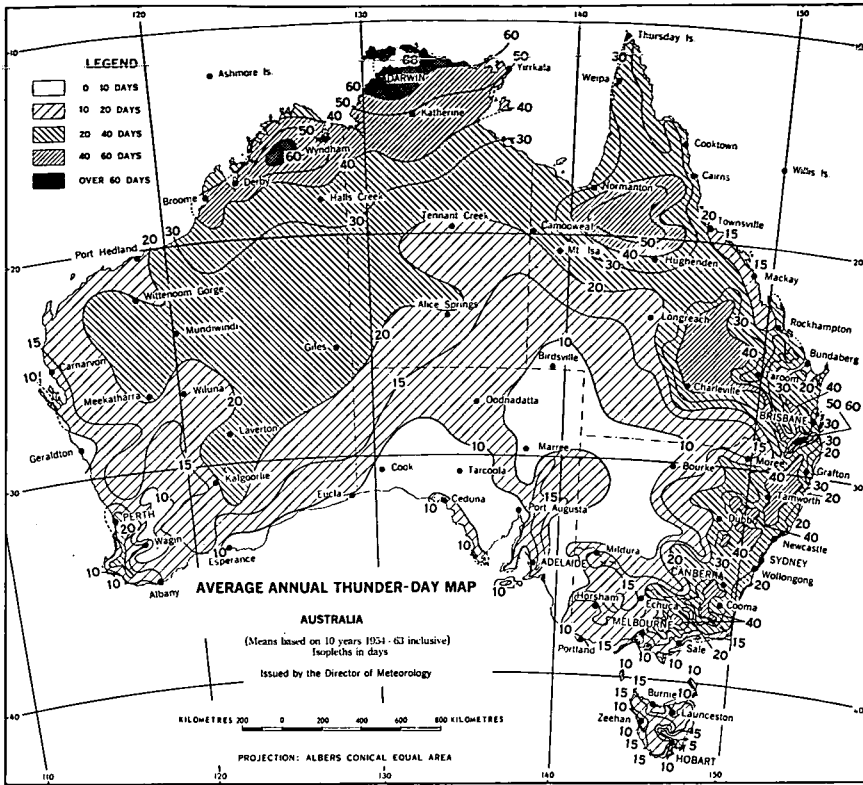
(All years to July 1981)

State	Station	Date	Amount
			mm
Queensland	Bellenden Ker (Top Station)	4.1.1979	1,140
	Crohamhurst	3.2.1893	907
	Finch Hatton	18.2.1958	878
	Mount Dangar	20.1.1970	869
Western Australia	Whim Creek	3.4.1898	747
	Kilto	4.12.1970	635
	Fortescue	3.5.1890	593
New South Wales	Dorrigo	21.2.1954	809
	Cordeaux River	14.2.1898	574
Northern Territory	Roper Valley	15.4.1963	545
	Groote Eylandt	28.3.1953	513
Tasmania	Cullenswood	22.3.1974	352
	Mathinna	5.4.1929	337
Victoria	Balook	18.2.1951	275
	Hazel Park	1.12.1934	267
South Australia	Stansbury	18.2.1946	222
	Stirling	17.4.1889	208

Thunderstorms and hail. A thunder-day at a given location is a calendar day on which thunder is heard at least once. Plate 11, page 21 shows isopleths (isobronts) of the average annual number of thunder-days which varies from 80 per year near Darwin to less than 10 per year over parts of the southern regions. Convictional processes during the summer wet season cause high thunderstorm incidence in northern Australia. The generally high incidence (40-60 annually) over the eastern upland areas is produced mainly by orographic uplift of moist air streams.

Hail, mostly of small size (less than 10 millimetres diameter), occurs with winter/spring cold frontal activity in southern Australia. Summer thunderstorms, particularly over the uplands of eastern Australia, sometimes produce large hail (greater than 10 millimetres diameter). Hail capable of piercing light gauge galvanised iron occurs at irregular intervals and sometimes causes widespread damage.

Snow. Generally, snow covers much of the Australian Alps above 1,500 metres for varying periods from late autumn to early spring. Similarly, in Tasmania the mountains are covered fairly frequently above 1,000 metres in these seasons. The area, depth and duration are highly variable and in the altitude range 500-1,000 metres no snow falls in some years. Snowfalls at levels below 500 metres are occasionally experienced in southern Australia, particularly in the foothill areas of Tasmania and Victoria, but falls are usually light and short-lived. In some seasons parts of the eastern uplands above 1,000 metres from Victoria to south-eastern Queensland have been covered with snow for several weeks. In ravines around Mt Kosciusko (2,228 metres) small areas of snow may persist through summer but there are no permanent snowfields.



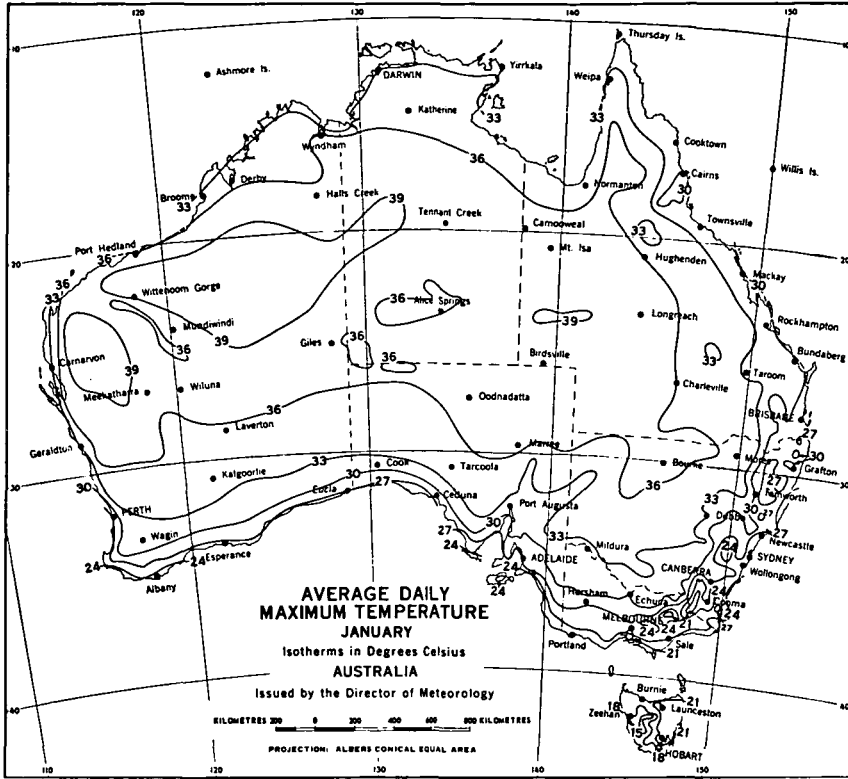


PLATE 13

Temperature

Average temperatures. Average annual air temperatures as shown in Plate 12, page 21 range from 28° C along the Kimberley coast in the extreme north of Western Australia to 4° C in the alpine areas of south-eastern Australia. Although annual temperature may be used for broad comparisons, monthly temperatures are required for detailed analyses.

July is the month with the lowest average temperature in all parts of the continent. The months with the highest average temperature are January or February in the south and December in the north (except in the extreme north and north-west where it is November). The slightly lower temperatures of mid-summer in the north are due to the increase in cloud during the wet season.

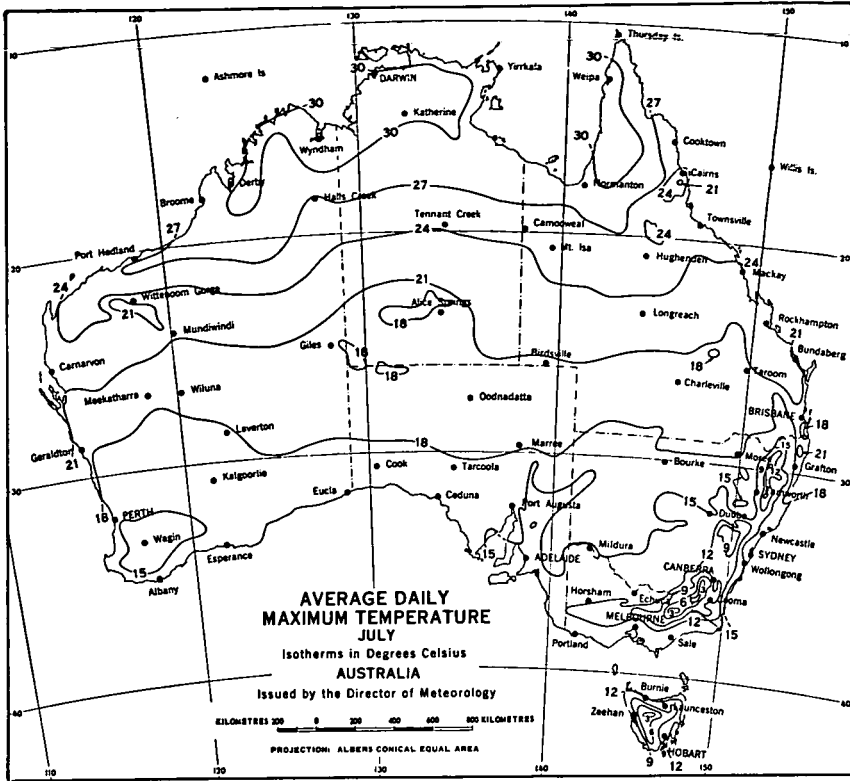
Average monthly maxima. Maps of average maximum and minimum temperatures for the months of January and July are shown in Plates 13-16 inclusive, pages 22-24.

In January, average maximum temperatures exceed 35° C over a vast area of the interior and exceed 40° C over appreciable areas of the north-west. The consistently hottest part of Australia in terms of summer maxima is around Marble Bar, Western Australia (150 kilometres south-east of Port Hedland) where the average is 41° C and daily maxima during summer may exceed 40° C consecutively for several weeks at a time.

The marked gradients of isotherms of maximum temperature in summer in coastal areas, particularly along the south and west coasts, are due to the penetration inland of fresh sea breezes initiated by the sharp temperature discontinuities between the land and sea surfaces. There are also gradients of a complex nature in south-east coastal areas caused primarily by the uplands.

In July a more regular latitudinal distribution of average maxima is evident. Maxima range from 30° C near the north coast to 5° C in the alpine areas of the south-east.

Average monthly minima. In January average minima range from 27° C on the north-west coast to 5° C in the alpine areas of the south-east. In July average minima fall below 5° C in areas south of the tropics (away from the coasts). Alpine areas record the lowest temperatures; the July average is as low as -5° C.



PLATES 14 and 15

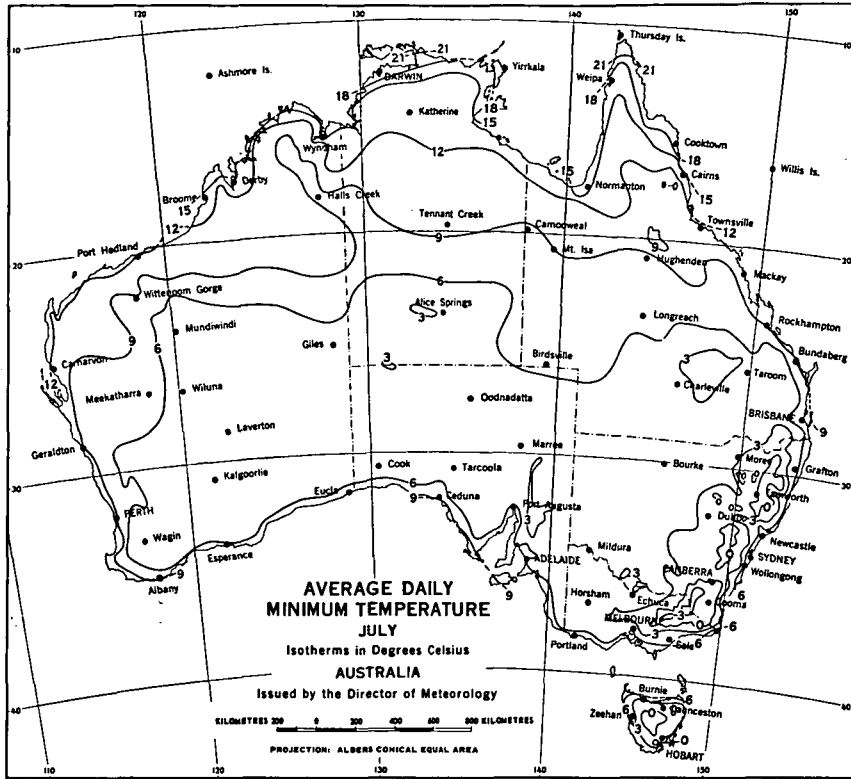


PLATE 16

Extreme maxima. Temperatures have exceeded 45°C at nearly all inland stations more than 150 kilometres from the coast and at many places on the north-west and south coasts. Temperatures have exceeded 50°C at some inland stations and at a few near the coast. It is noteworthy that Eucla on the south coast has recorded 50.7°C, the highest temperature in Western Australia. This is due to the long trajectory over land of hot north-west winds from the Marble Bar area. Although the highest temperature recorded in Australia was 53.1°C at Cloncurry (Queensland), more stations have exceeded 50°C in western New South Wales than in other areas due to the long land trajectory of hot winds from the north-west interior of the continent.

Extreme maximum temperatures recorded at selected stations, including the highest recorded in each State, are shown in the table below.

EXTREME MAXIMUM TEMPERATURES
(All years to July 1981)

Station	°C	Station	°C
Western Australia—		New South Wales—	
Eucla	50.7	Bourke	52.8
Mundrabilla	49.8	White Cliffs	51.1
Forrest	49.8	Walgett	50.1
Madura	49.4	Wilcannia	50.0
Northern Territory—		Menindee	49.7
Finke	48.3	Australian Capital Territory—	
Woolagarang	47.5	Canberra	42.2
Jervis	47.5	Victoria—	
South Australia—		Mildura	50.8
Oodnadatta	50.7	Tasmania—	
Kyancutta	49.3	Bushby Park	40.8
Queensland—		Hobart	40.8
Cloncurry	53.1		
Winton	50.7		
Birdsville	50.0		

Extreme minima. The lowest temperatures in Australia have been recorded in the Snowy Mountains, where Charlotte Pass (elevation 1,760 metres) has recorded -22.2°C at 14 July 1945 and 22 August 1947. Temperatures have fallen below -5°C at most inland places south of the tropics and at some places within a few kilometres of southern coasts. At Eyre, on the south coast of Western Australia, a minimum of -3.9°C has been recorded, and at Swansea, on the east coast of Tasmania, the temperature has fallen as low as -4.4°C .

In the tropics, extreme minima below 0°C have been recorded at many places away from the coasts as far north as Herberton, Queensland (-3.3°C). Even very close to the tropical coastline temperatures have fallen to 0°C , a low recording being -0.8°C for Mackay.

The next table shows extreme minimum temperatures recorded at specified stations, including the lowest recorded in each State.

EXTREME MINIMUM TEMPERATURES

(All years to July 1981)

Station	$^{\circ}\text{C}$	Station	$^{\circ}\text{C}$
Western Australia—		New South Wales—	
Booylgoo	-6.7	Charlotte Pass	-22.2
Wandering	-5.6	Kiandra	-20.6
Northern Territory—		Kosciusko Hotel	-14.4
Alice Springs	-7.5	Cooma	-11.2
Tempe Downs	-6.9	Australian Capital Territory—	
South Australia—		Canberra	-10.0
Yongala	-8.2	Victoria—	
Kyancutta	-7.0	Mount Hotham	-12.8
Queensland—		Omeo	-11.7
Stanthorpe	-11.0	Bairnsdale	-7.2
Mitchell	-9.4	Tasmania—	
Nanango	-9.3	Oatlands	-12.8
		Bothwell	-12.5

Heat waves. Periods with a number of successive days having a temperature higher than 40°C are relatively common in summer over parts of Australia. With the exception of the north-west coast of Western Australia, however, most coastal areas rarely experience more than three successive days of such conditions. The frequency increases inland, and periods of up to ten successive days have been recorded at many inland stations. This figure increases in western Queensland and north-western Western Australia to more than twenty days in places. The central part of the Northern Territory and the Marble Bar-Nullagine area of Western Australia have recorded the most prolonged heat waves. Marble Bar is the only station in the world where temperatures of more than 37.8°C (100°F) have been recorded on as many as 161 consecutive days (30 October 1923–7 April 1924).

Heat waves are experienced in the coastal areas from time to time. During 11–14 January 1939, for example, a severe heat wave affected south-eastern Australia: Adelaide had a record of 47.6°C on the 12th, Melbourne a record of 45.6°C on the 13th and Sydney a record of 45.3°C on the 14th.

The Kimberley district of Western Australia is the consistently hottest part of Australia in terms of annual average maximum temperature. Wyndham, for example, has an annual average maximum of 35.5°C .

Frost

For details see Year Book No. 63.

Humidity

Australia is a dry continent in terms of the water vapour content or humidity of the air and this element may be compared with evaporation to which it is related (see page 29). Humidity is measured at Bureau of Meteorology observational stations by a pair of dry and wet bulb thermometers mounted in a standard instrument screen. These measurements enable moisture content to be expressed by a number of parameters, two of which are vapour pressure and relative humidity.

Vapour pressure is an actual quantitative measure whereas relative humidity is a ratio (expressed as a percentage). Both of these are included here showing their respective applications but more detailed treatment is given to relative humidity because of its wider usage.

Vapour pressure. Vapour pressure is defined as the pressure exerted by the water vapour in the air; and it is a measure of the actual amount of water vapour present. The amount of water vapour does not normally vary greatly during the day, although afternoon sea breezes at coastal stations may bring in moisture to increase the vapour pressure temporarily by amounts up to 5 millibars. The 9 a.m. vapour pressure may be taken to approximate the mean value for the day.

The table on page 29 contains average 9 a.m. vapour pressures for selected stations. The annual averages range from 9.5 millibars at Hobart to 27.9 millibars at Thursday Island. At the high level station Kiandra (1,400 metres) the annual average is 7.9 millibars. Excluding Kiandra, monthly averages range from 6.7 millibars at inland stations in winter months to 30.9 millibars at Broome in February.

Vapour pressure together with corresponding air temperature have been used to measure climatic discomfort affecting human beings. Comfortable conditions are generally accepted as being within the vapour pressure range 7–17 millibars with respective air temperatures in the range 15–30°C. Above these limits heat discomfort increases and below them cold discomfort increases. The wet bulb temperature may also be used as a simple measure of heat discomfort when this temperature rises above 20°C.

Relative humidity. Relative humidity at a given temperature is the ratio (expressed as a percentage) of actual vapour pressure to the saturated vapour pressure at that temperature. As a single measure of human discomfort relative humidity is of limited value because it must be related to the temperature at the time.

Since the temperature at 9 a.m. approximates the mean temperature for the day (24 hours), the relative humidity at 9 a.m. may be taken as an estimate of the mean relative humidity for the day. Relative humidity at 3 p.m. occurs around the warmest part of the day on the average and is representative of the lowest daily values. Relative humidity on the average is at a maximum in the early morning when air temperature is minimal.

Relative humidity isopleths for January and July at 9 a.m. and 3 p.m. are shown in Plates 17–20 on pages 27–28, extracted from the *Climatic Atlas of Australia, Map Set 6, Relative Humidity, 1978.*

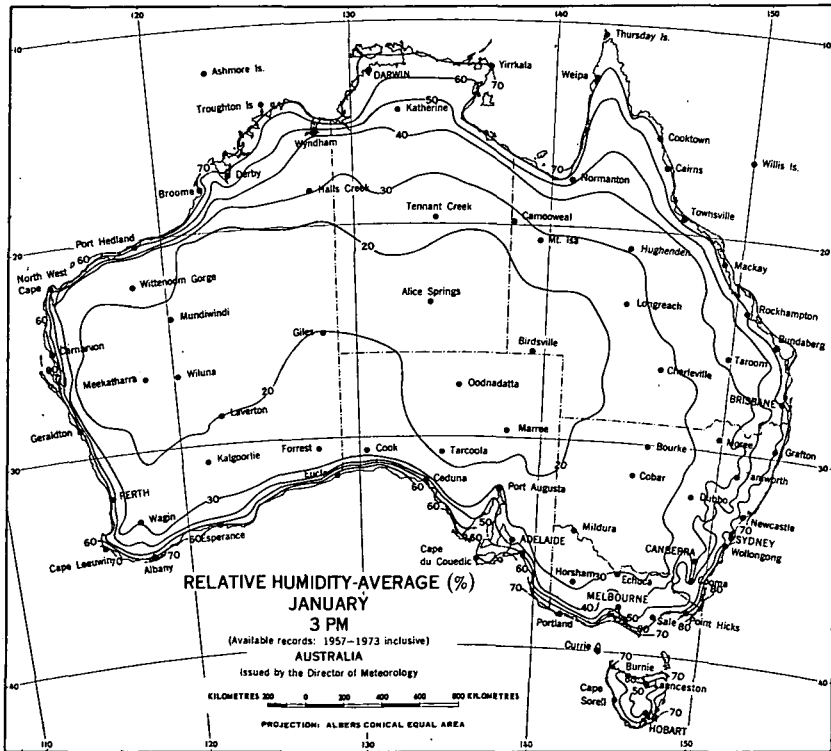
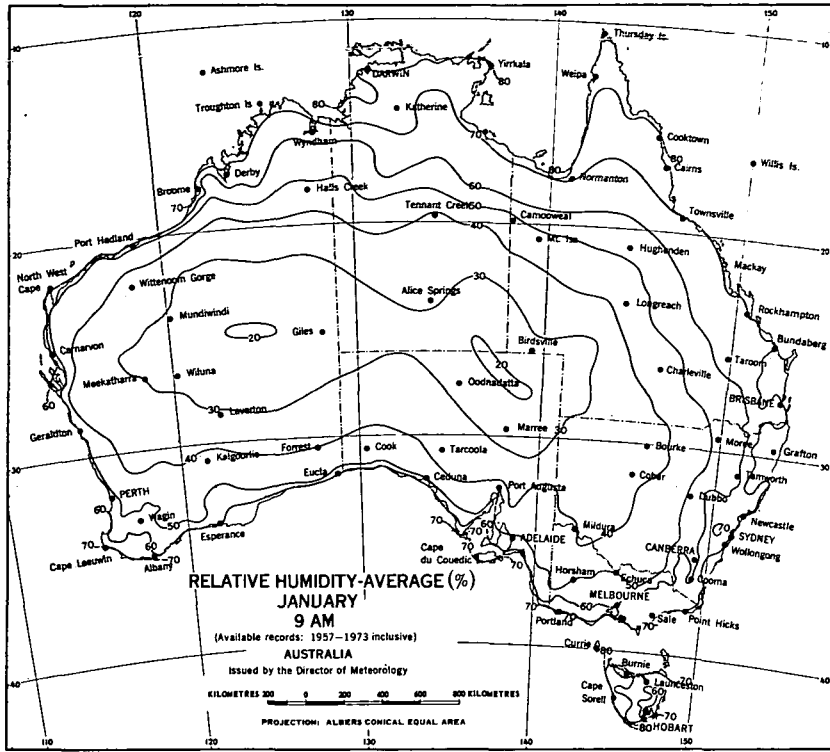
The main features of the relative humidity pattern are:

- (a) over the interior of the continent there is a marked dryness during most of the year, notably towards the northern coasts in the dry season (May–October);
- (b) the coastal fringes are comparatively moist, although this is less evident along the northwest coast of Western Australia where continental effects are marked;
- (c) in northern Australia the highest values occur during the summer wet season (December–February) and the lowest during the winter dry season (June–August);
- (d) in most of southern Australia the highest values are experienced in the winter rainy season (June–August) and the lowest in summer (December–February).

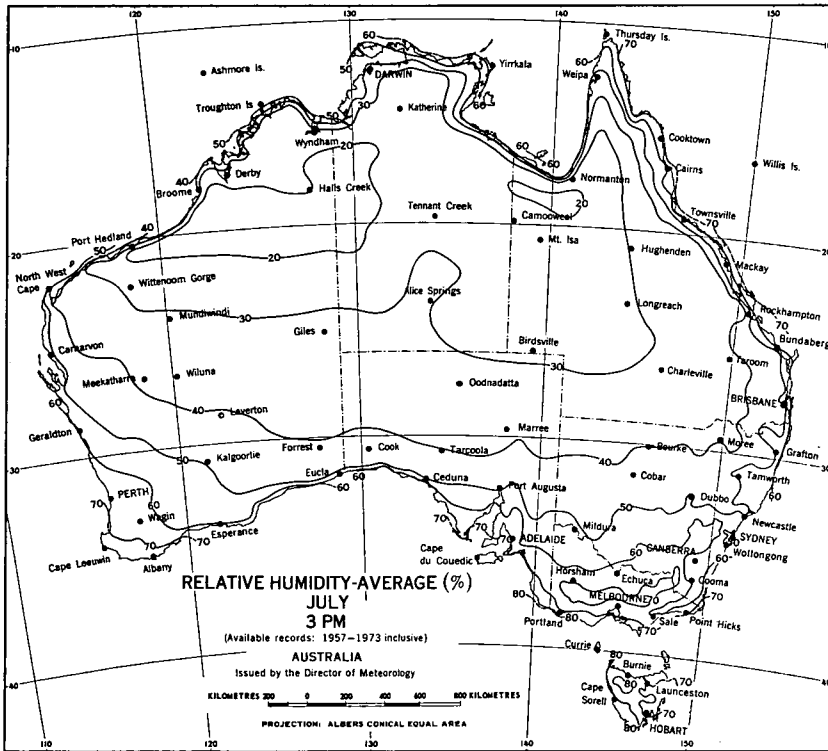
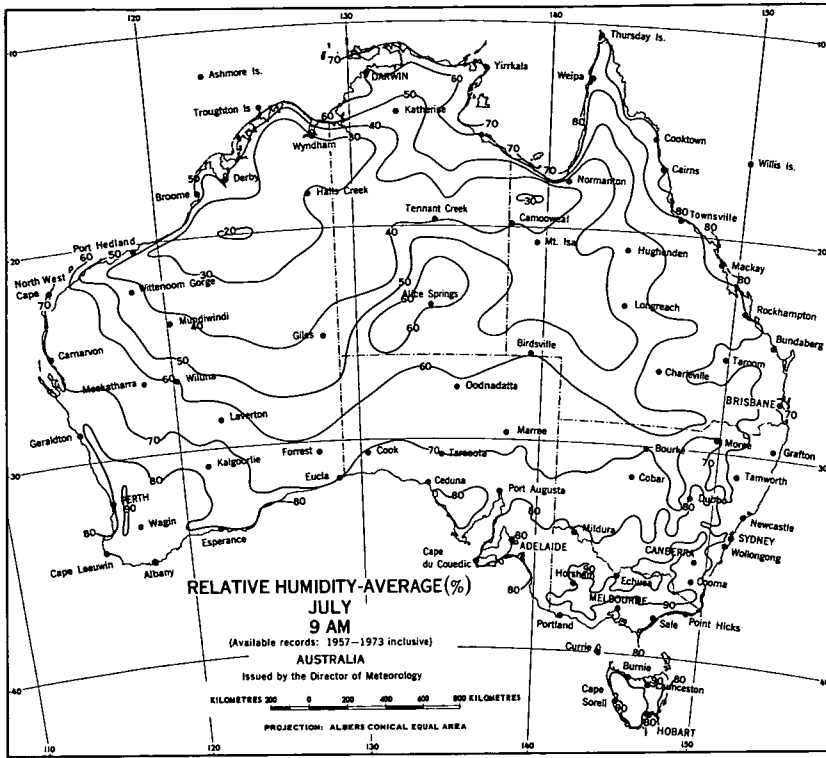
The table on page 29 contains average relative humidity at 9 a.m. for the year and for each month. Average annual figures on the table range from 34 per cent at Mundiwindi and Marble Bar to 79 per cent at Thursday Island illustrating the range of average relative humidity over Australia. Adelaide has the lowest value for a capital city with an annual average of 60 per cent, compared with Melbourne 69 per cent and Darwin 73 per cent.

Monthly averages shown in the table range from 23 per cent at Mundiwindi in November to 89 per cent at Katanning in June and July. At Alice Springs monthly averages vary from 30 per cent in November to 66 per cent in the winter month of June when low temperatures have the effect of raising relative humidity over the interior. Broome varies from 46 per cent in August to 73 per cent in February, which is a marked seasonal change for a coastal station.

The pattern of variation of relative humidity differs from that of vapour pressure particularly in southern Australia. This is due to the difference in variation of the two parameters with temperature. If the amount of moisture in the air remains constant, vapour pressure decreases slightly with falling temperatures, whereas relative humidity increases. Perth for example has an average 9 a.m. vapour pressure of 14.7 millibars in January and 11.0 in August; and the respective average relative humidity figures (51 and 74 per cent respectively) show a reverse change.



PLATES 17 and 18



AVERAGE VAPOUR PRESSURE AT 9 A.M.

(millibars)

NOTE. The averages in this and the next table may differ from previously published averages derived from average monthly and annual dry and wet bulb temperatures respectively. This is mainly due to the nature of psychometric formulae and also to differences in the period of record.

Station	Period of record	Period												Year
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Adelaide	1955-78	13.1	13.6	12.9	11.7	10.9	9.9	9.6	9.6	9.8	10.4	10.9	11.9	11.2
Alice Springs	1940-78	12.8	13.7	11.7	9.9	8.8	7.9	7.0	6.7	7.0	8.5	9.5	11.0	9.6
Armidale	1957-78	15.6	15.8	14.4	11.8	9.2	7.8	6.7	7.5	8.6	10.5	11.9	13.7	11.1
Brisbane	1951-78	21.7	22.2	21.3	18.1	14.1	11.9	10.7	11.1	13.1	15.5	17.7	19.8	16.4
Broome	1939-78	30.2	30.9	29.6	22.6	16.2	13.5	12.5	13.1	16.6	21.2	25.3	28.7	21.7
Canberra	1939-78	13.5	14.2	13.1	10.6	8.6	7.3	6.7	7.2	8.4	10.0	10.9	12.1	10.2
Carnarvon	1945-78	20.9	21.9	20.0	17.0	14.2	13.6	12.5	12.2	12.4	13.4	15.7	18.3	16.0
Ceduna	1939-78	14.0	14.5	13.8	12.4	11.2	9.9	9.4	9.8	10.4	10.8	11.6	12.9	11.7
Charleville	1942-78	17.3	18.4	16.4	12.9	10.7	9.5	8.3	8.3	9.1	11.1	12.0	14.7	12.4
Cloncurry	1939-75	21.2	22.8	18.7	13.8	11.0	9.4	8.0	7.7	8.6	11.2	13.2	17.3	13.6
Darwin	1941-78	30.4	30.5	30.2	26.8	21.5	17.8	17.4	20.1	24.4	27.2	28.9	29.9	25.4
Esperance	1957-69	16.1	16.9	15.8	14.7	12.8	12.1	11.1	11.0	11.8	12.6	13.5	14.8	13.6
Halls Creek	1944-78	21.7	22.2	18.6	13.0	10.8	8.8	7.5	7.4	8.4	11.5	14.4	18.7	13.5
Hobart	1944-78	11.3	11.6	11.2	10.0	9.0	8.1	7.7	7.7	8.2	9.0	9.6	10.7	9.5
Kalgoorlie	1939-78	13.6	14.3	13.7	12.3	10.9	9.9	9.1	9.1	9.2	10.0	11.1	12.3	11.3
Katanning	1957-78	13.6	14.4	13.6	12.9	11.5	10.6	9.7	10.0	10.4	10.9	11.2	12.2	11.7
Kiandra	1957-74	11.6	11.1	10.5	7.9	6.2	5.6	5.0	5.3	5.7	7.3	8.3	10.3	7.9
Marble Bar	1957-78	22.1	21.8	19.0	13.3	10.3	10.0	8.5	8.1	8.2	10.0	11.7	17.2	13.3
Melbourne	1955-78	13.7	14.7	13.8	11.9	10.5	9.5	8.8	9.0	9.7	10.6	11.4	12.4	11.3
Mildura	1946-78	13.5	14.3	13.4	11.8	10.6	9.3	8.7	9.1	9.8	10.7	11.2	12.1	11.2
Mundiwindi	1957-78	14.0	14.8	13.0	11.0	9.0	8.8	7.7	7.2	6.8	8.0	8.9	11.1	10.0
Perth	1942-78	14.7	15.2	14.7	13.6	12.4	11.9	11.1	11.0	11.4	11.2	12.4	13.6	12.8
Sydney	1955-78	19.1	20.0	18.8	15.1	11.8	10.5	9.0	9.6	11.0	13.1	14.9	17.2	14.2
Thursday Island	1950-78	30.5	30.7	30.6	29.5	28.3	26.1	24.7	24.7	25.1	26.6	28.3	29.9	27.9
Townsville	1939-78	27.2	27.7	26.3	22.4	18.8	15.6	15.2	15.9	17.7	20.7	23.5	25.5	21.4

AVERAGE RELATIVE HUMIDITY AT 9 A.M.

(per cent)

Station	Period of record	Period												Year
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Adelaide	1955-78	49	51	54	59	69	73	75	71	63	56	53	51	60
Alice Springs	1940-78	36	41	42	46	57	66	61	50	36	33	30	31	44
Armidale	1957-78	67	71	72	73	78	80	75	72	64	59	58	59	69
Brisbane	1951-78	67	68	70	69	68	69	66	62	60	59	58	60	64
Broome	1939-78	70	73	69	55	51	50	49	46	48	54	58	64	57
Canberra	1939-78	60	65	68	74	81	84	78	72	65	60	56	70	
Carnarvon	1945-78	60	60	58	57	60	70	70	63	54	52	55	58	59
Ceduna	1939-78	55	59	62	68	77	82	81	77	66	56	54	54	65
Charleville	1942-78	49	54	54	54	63	71	66	56	45	41	37	41	52
Cloncurry	1939-75	53	61	53	45	47	50	45	37	31	30	32	41	43
Darwin	1941-78	82	84	83	76	67	63	64	68	71	70	73	77	73
Esperance	1957-69	62	67	66	71	76	81	82	76	71	65	62	62	70
Halls Creek	1944-78	51	55	44	33	36	35	31	25	22	25	30	40	35
Hobart	1944-78	58	62	65	69	75	78	78	73	65	62	60	55	67
Kalgoorlie	1939-78	48	54	56	62	70	76	75	68	56	50	46	45	58
Katanning	1957-78	59	65	69	77	85	89	89	87	82	70	60	57	74
Kiandra	1957-74	67	68	73	75	83	86	86	85	72	67	63	65	74
Marble Bar	1957-78	47	48	41	33	35	41	37	30	24	24	24	34	34
Melbourne	1955-78	61	65	67	71	77	81	80	75	69	64	62	61	69
Mildura	1946-78	50	56	61	70	82	88	86	79	68	59	53	49	66
Mundiwindi	1957-78	32	37	35	37	41	50	47	39	28	25	23	25	34
Perth	1942-78	51	53	57	65	72	78	78	74	68	50	54	51	63
Sydney	1955-78	68	71	72	70	70	73	68	66	63	61	62	65	67
Thursday Island	1950-78	83	85	85	82	81	80	79	78	75	73	73	77	79
Townsville	1939-78	73	76	74	69	67	66	66	63	60	61	64	66	67

Sunshine, cloud and fog

For details see Year Book No. 62.

Global radiation

For details see Year Book No. 63.

Evaporation

Evaporation is defined as the emission of water vapour by a free surface of water at a temperature below boiling point. Potential evaporation is the quantity of water vapour emitted by a free surface of pure water, per unit surface area and unit time, in the existing conditions. In climatology potential evaporation is normally referred to simply as evaporation.

Evaporation from a free water surface depends on a number of climatic elements, mainly temperature, humidity and wind. Evaporation data are useful in water conservation studies and in estimating potential evapotranspiration for irrigation and plant growth studies. In Australia, where surface water storage is vital over large areas, evaporation is a highly significant element.

The Australian Bureau of Meteorology measured evaporation prior to about 1966 by means of the sunken tank type of evaporimeter (Hounam 1961). Analyses based on these tank evaporation measurements are given in the Review of Australia's Water Resources: Monthly Rainfall and Evaporation (1968).

Evaporation measurements. In 1966, the Class-A Pan became the standard equipment used by the Bureau of Meteorology for measuring evaporation from a free water surface. The Class-A Pan network had been steadily increased to about 330 stations throughout Australia by 1979.

Screens to prevent the consumption of water by birds have been progressively fitted to instruments in the network since 1967 and by 1979 nearly all of them had been so fitted. Experiments have shown that measurements taken with an instrument after installation of a screen need to be increased on the average by 7 per cent to compensate for consequential reduction in evaporation. Corrections have been applied to station records as from the date of installation of a screen.

Class-A Pan data for the period January 1967 to May 1974 inclusive have been examined. Analyses have been prepared showing the distribution of average pan evaporation over Australia during this period (see *Climatic Atlas of Australia, Map Set 3, Evaporation*). Generally, instruments located near such water expanses as rivers, reservoirs or irrigation systems record lower evaporation due to the influence of water on local climatic elements, notably humidity (Hoy and Stephens 1975).

Average annual evaporation. The average annual Class-A Pan evaporation (mm) over Australia is shown in Plate 21, page 31.

Annual pan evaporation over Australia is high, ranging from 4,500 mm in the Great Sandy Desert region of Western Australia to 1,200 mm in the alpine areas of south-eastern Australia, and 900 mm in south-west Tasmania. About 75 per cent of the continent has annual evaporation exceeding 2,500 mm. In central and north-west parts of the continent the annual evaporation is twenty times the annual rainfall. Evaporation on the arid north-west coast of Western Australia in the vicinity of Port Hedland (3,600 mm) is comparable with upland areas of central Australia around Alice Springs.

Australian evaporation figures are high in comparison to those of North America. In the United States, for instance, the average pan evaporation varies from 3,600 mm in the dry south-west (Arizona) to 600 mm in the extreme north-east and north-west, where conditions are relatively humid (Baldwin 1973).

In arid areas of Asia and the Middle East available pan evaporation measurements indicate that average annual values may be up to 20 per cent higher than in Australia. For example, average annual pan evaporation measured at Karga (Egypt) for the period 1964–1971 was 5,300 mm (Egyptian Meteorological Authority).

Average evaporation in mid-seasonal months. Average pan evaporation analyses for the mid-seasonal months January and July are shown in Plates 22–23, page 32.

In January, evaporation averages over most of the continent are the highest for any month and the extremely high figures of about 600 mm (19 mm daily) in the Gibson and Simpson Deserts are notable. It is estimated that January figures for individual months may reach as high as 700 mm in these desert regions.

In July, relatively high figures maintained in the north (200 mm) contrast with low figures in the south (100 mm). In higher mountain areas of south-eastern Australia evaporation in this month is as low as 20 mm.

Evaporation in relation to water studies. Class-A Pan evaporation measurements exceed the previous sunken tank measurements by amounts up to 60 per cent in the dry high radiation areas of the north-west interior of the continent (*Climatic Atlas, Map Set 3*).

The increase in pan evaporation in relation to sunken tank measurements is significant in such studies as water conservation, effective rainfall and drought. Earlier studies incorporating tank evaporation may need review in relation to the higher Class-A Pan figures.

In southern Australia the marked seasonal variation in evaporation is significant in agriculture and pastoral drought appraisal. Drought existing in spring, for instance, intensifies rapidly as evaporation increases during summer before relief rains arrive.

In northern Australia evaporation reaches a maximum about November and a high level of evaporation is maintained if summer rains are delayed or are deficient. In this type of situation pastoral conditions may deteriorate rapidly.

As more Class-A Pan data become available in Australia improved evaporation analyses will enable more detailed water studies to be made.

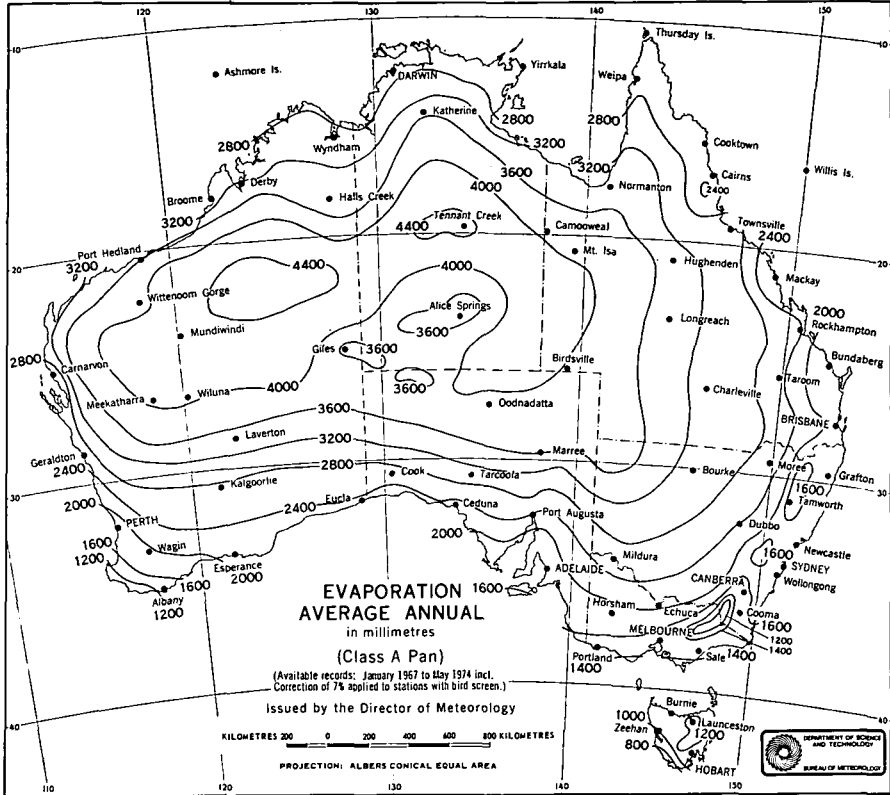
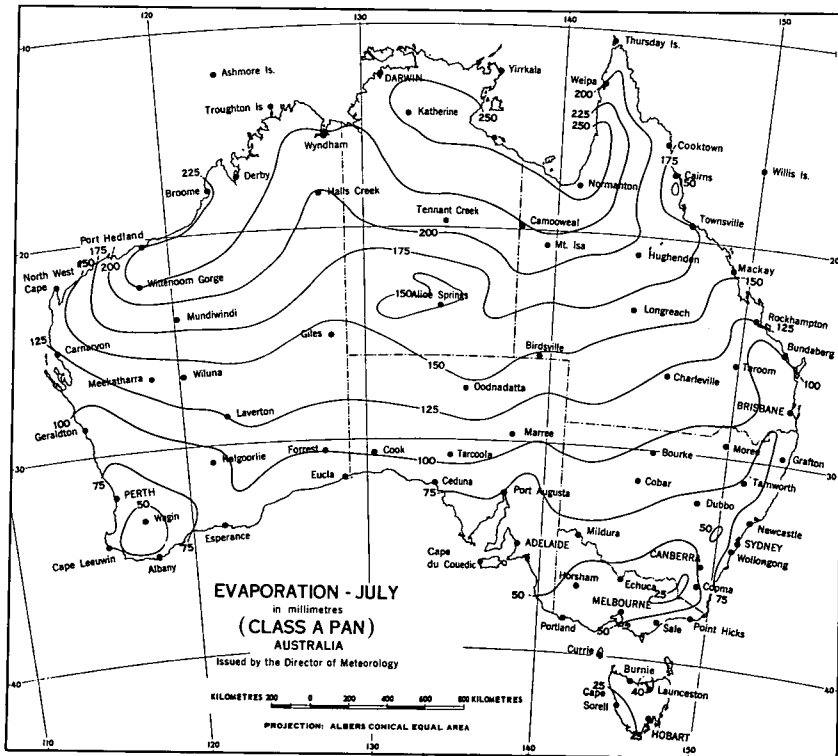
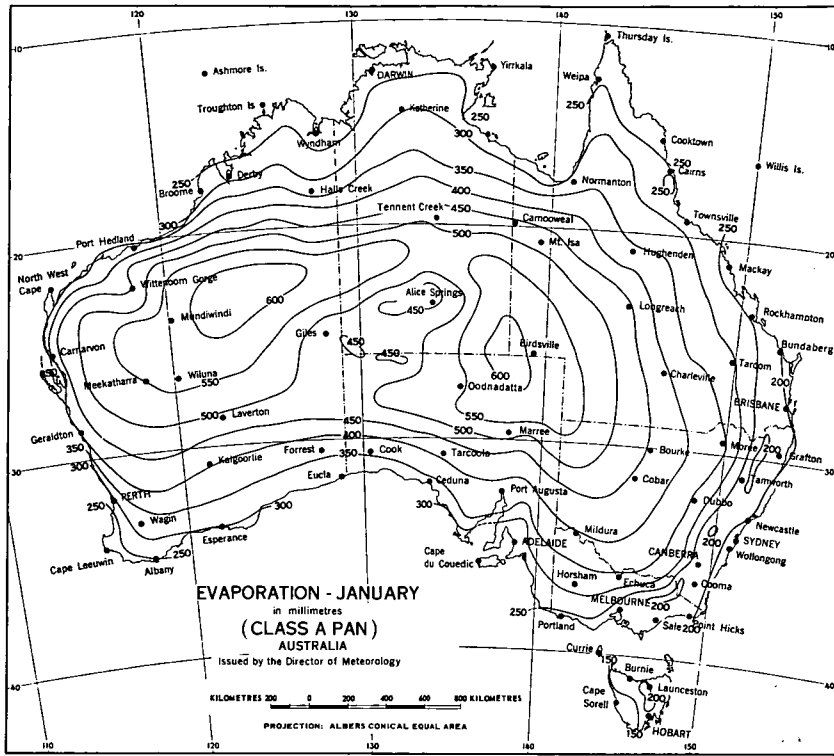


PLATE 21



Winds

The mid-latitude anticyclones are the chief determinants of Australia's two main prevailing wind streams. In relation to the west-east axes of the anticyclones these streams are easterly to the north and westerly to the south. The cycles of development, motion and decay of low pressure systems to the north and south of the anticyclones result in diversity of wind flow patterns. Wind variations are greatest around the coasts where diurnal land and sea breeze effects are important.

Wind roses for the months of January and July at 9 a.m. and 3 p.m. at selected stations are shown in Plates 24–27 inclusive, pages 34–35, extracted from *Climatic Atlas of Australia, Map Set 8*, 1979. The wind roses show the percentage frequency of direction (eight points of compass) and speed ranges of winds.

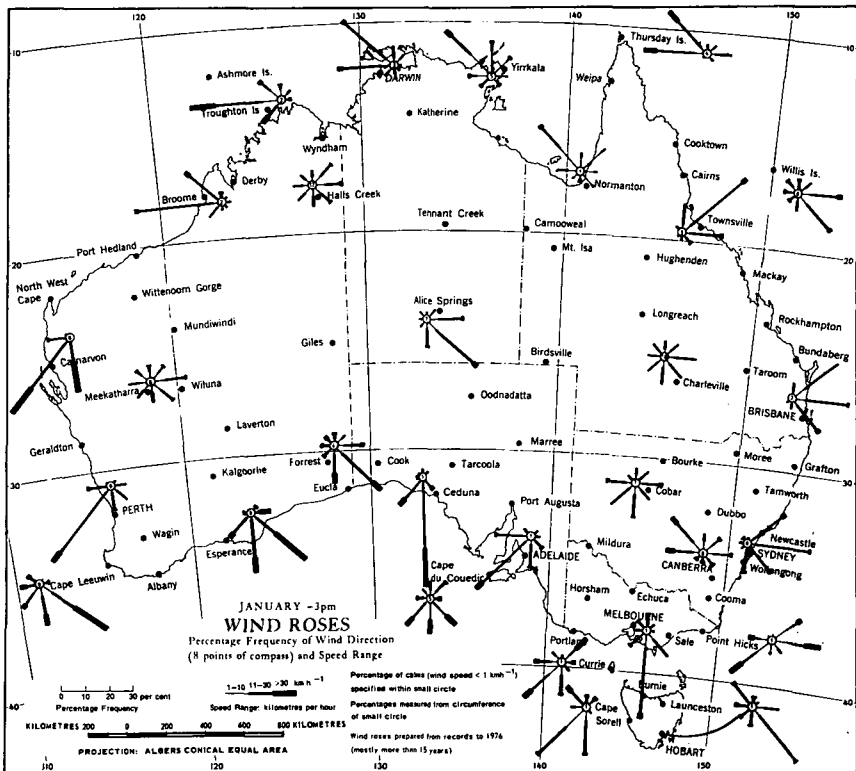
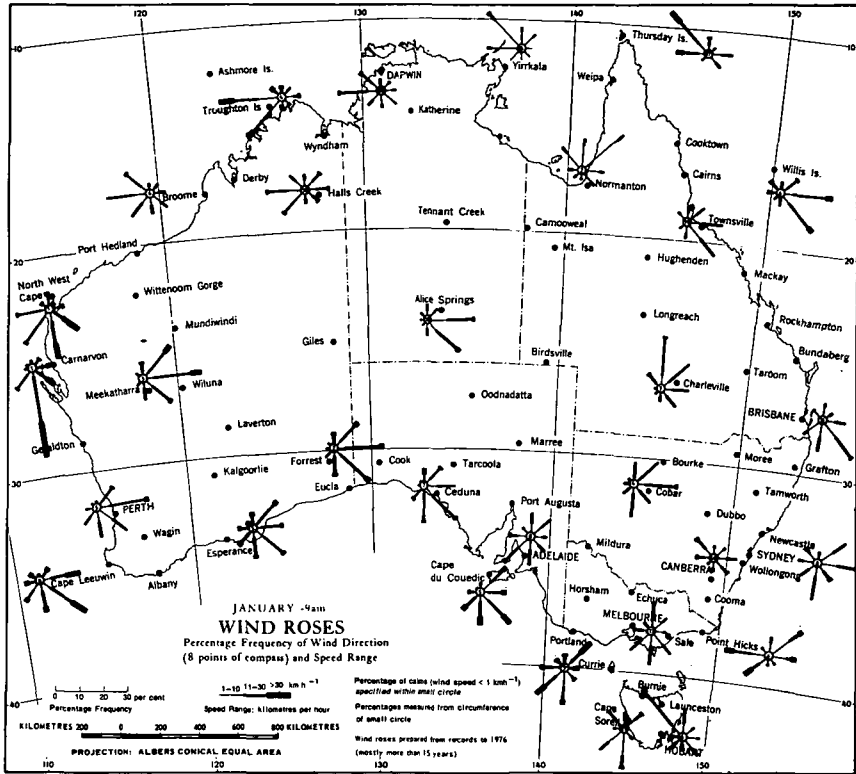
Orography affects the prevailing wind pattern in various ways such as the channelling of winds through valleys, deflection by mountains and cold air drainage from highland areas. An example of this channelling is the high frequency of north-west winds at Hobart caused by the north-west south-east orientation of the Derwent River Valley.

Average wind speeds and prevailing directions at Australian capitals are included in the climatic tables on pages 38–45. Perth is the windiest capital with an average wind speed of 15.6 kilometres per hour; Canberra is the least windy with an average speed of 5.8 kilometres per hour.

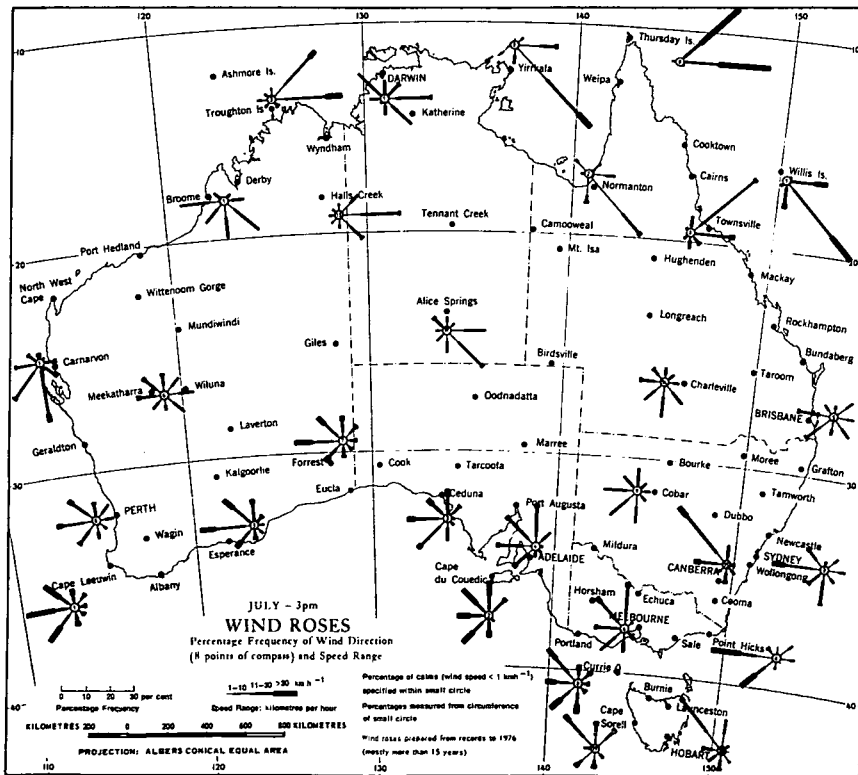
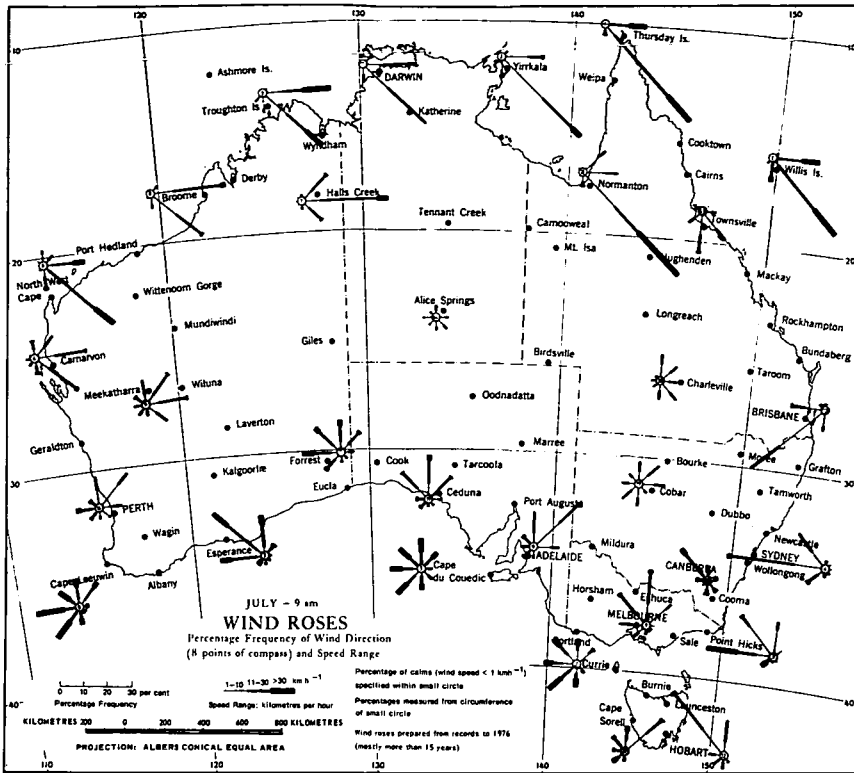
The highest wind speeds and wind gusts recorded in Australia have been associated with tropical cyclones. The highest recorded gust was 246 kilometres per hour during a cyclone at Onslow, Western Australia on 19 February 1975 and gusts reaching 200 kilometres per hour have been recorded on several occasions in northern Australia with cyclone visitations. The highest gusts recorded at Australian capitals were 217 kilometres per hour at Darwin and 156 kilometres per hour at Perth.

Estimates of the extreme wind gust expected in a given return period* have been derived for places through Australia (Whittingham, 1964). On this basis, for example, Darwin would have an extreme gust for a return period of 10 years of 140 kilometres per hour, Melbourne 135 and Perth 130.

*Return period is the average period between successive occurrences equal to, or greater than, a given speed. For example the extreme wind gust for a return period of 10 years can be expected to occur once in 10 years on the average.



PLATES 24 and 25



PLATES 26 and 27

Floods

Widespread flood rainfall may occur anywhere in Australia but it has a higher incidence in the north and in the eastern coastal areas. It is most economically damaging along the shorter streams flowing from the eastern uplands eastward to the seaboard of Queensland and New South Wales. These flood rains are notably destructive in the more densely populated coastal river valleys of New South Wales—the Tweed, Richmond, Clarence, Macleay, Hunter and Nepean-Hawkesbury—all of which experience relatively frequent flooding. Although chiefly summer rains, they may occur in any season.

The great Fitzroy and Burdekin river basins of Queensland receive flood rains during the summer wet season. Much of the run-off due to heavy rain in north Queensland west of the eastern uplands flows southward through the normally dry channels of the network of rivers draining the interior lowlands into Lake Eyre. This widespread rain may cause floods over an extensive area, but it soon seeps away or evaporates, occasionally reaching the lake in quantity. The Condamine and other northern tributaries of the Darling also carry large volumes of water from flood rains south through western New South Wales to the Murray and flooding occurs along their courses at times.

Flood rains occur at irregular intervals in the Murray-Murrumbidgee system of New South Wales and Victoria, the coastal streams of southern Victoria and the north coast streams of Tasmania.

Droughts

Drought, in general terms, refers to an acute water shortage. This is normally due to rainfall deficiency but with other parameters contributing to the actual water availability. The best single measure of water availability in Australia is rainfall; although parameters such as evaporation and soil moisture are significant, or even dominant, in some situations.

Foley (1957) for the period from the commencement of rainfall records in Australia (about 1830) to 1955 lists seven major widespread droughts affecting extensive areas. The drought of 1895–1903 was probably the most disastrous of these in its effects on primary industry. Foley also distinguishes another five droughts affecting wide areas, but of lesser intensity (Foley, pp 204–5).

Gibbs and Maher (1967), having defined a drought year at a specified station as one with the year's rainfall in the first decile range, concluded that the occurrence of areas in the first decile range on annual decile maps for the period 1885–1965 corresponded rather well with drought areas discussed by Foley (1957).

The Bureau of Meteorology commenced the issue of statements on drought in June 1965. These *Drought Reviews* based on rainfall decile criteria are issued monthly when serious or severe deficiencies occur in any of the Australian rainfall districts.

A review of droughts in Australia to 1968 is included in the Year Book No. 54, 1968. That review contained a description of the severe drought of 1958–68, making use of the analysis of rainfall deciles. This drought which affected much of eastern Australia was one of the most widespread in recorded Australian history.

Since 1968 there have been a number of severe droughts defined by rainfall deficiencies based on decile analyses (see *Drought Review, Australia* series, 1968–81). Notable of these were the 1970–73 drought over the north-eastern goldfields and adjacent areas of Western Australia, and the 1975–76 drought over a large part of south-eastern Australia.

One method of assessing the incidence of rainfall deficiency is the analysis of the distribution of annual rainfalls less than the median (Gaffney 1975). The range between the 50 percentile (median) and the 10 percentile gives a measure of the variation in magnitude of annual rainfalls less than the median. The ratio of this range to the 30 percentile value may be used as an index of rainfall deficiency incidence or drought incidence, i.e.:

$$\text{Index of drought incidence} = \left\{ \frac{50-10}{30} \right\} \text{ percentile}$$

For example, the indexes for Onslow (north-west coast of Western Australia) and similarly, for Cape Otway (south coast of Victoria) are derived thus:

$$\text{Index for Onslow} = \left\{ \frac{201-65}{141} \right\} \text{ mm} = 0.96$$

$$\text{Index for Cape Otway} = \left\{ \frac{884-723}{813} \right\} \text{ mm} = 0.19$$

Plate 28 shows the distribution of the index of drought incidence over Australia. The extension of high index values from the interior across New South Wales is significant; and another extension of high index across central Queensland is also notable. In Western Australia the high index over the interior is extensive; and the high values on the north-west coast are chiefly due to the dependence of rainfall on random cyclone tracks.

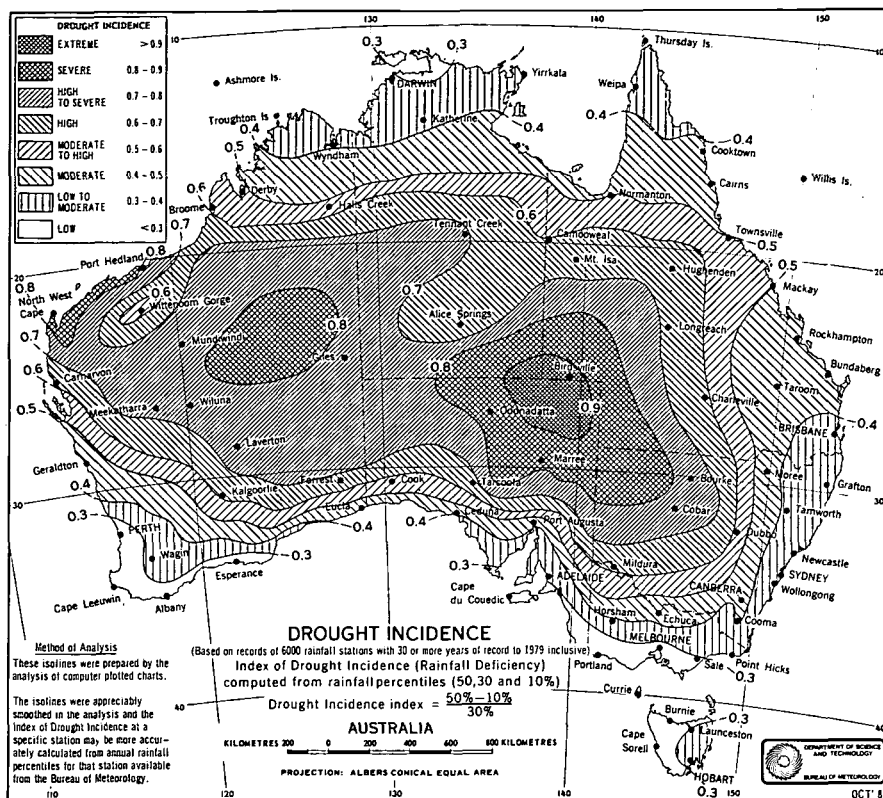


PLATE 28

Climatic discomfort

For details see Year Book No. 62.

Climatic data for capital cities

The averages for a number of elements determined from long-period observations at the Australian capitals to 1976 inclusive (Canberra to 1982 inclusive), are given in the following pages. Extremes generally cover all available data to July 1981 inclusive, whereas averages may only refer to present sites.

CLIMATIC DATA: PERTH, WESTERN AUSTRALIA

(Lat. 31° 57' S., Long. 115° 51' E. Height above M.S.L. 19.5 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Wind (height of anemometer 22 metres)							Mean amt evapora- tion (mm)	No. days thun- der	Mean daily amt clouds		
	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Average		High- est speed in one day (km/h)	High- est gust speed (km/h)	Prevailing direction				9 a.m. 3 p.m.	9 a.m. 3 p.m. (a)	No. clear days
		(km/h)	(km/h)			(km/h)	9 a.m.						3 p.m.
No. of years of record	91	30(b)	79	65	30(b)	30(b)	9(c)	79	30(b)	30(b)		
January	1,012.6	17.5	48.2	26/76*	81	E	SSW	280	0.9	2.3		
February	1,013.0	17.2	40.8	4/73	113	ENE	SSW	241	0.7	2.5		
March	1,015.2	16.2	51.9	28/75	113	E	SSW	214	0.7	2.8		
April	1,017.9	13.7	50.7	25/00	130	ENE	SSW	124	0.9	3.4		
May	1,017.9	13.5	44.5	8/73	119	NE	WSW	83	1.8	4.3		
June	1,017.5	13.5	48.6	17/27	129	N	NW	59	1.8	4.7		
July	1,018.8	14.2	53.9	20/26	137	NNE	W	58	1.5	4.5		
August	1,018.8	15.1	51.3	15/03	156	N	WNW	75	1.3	4.5		
September	1,018.4	15.1	45.9	11/05	109	ENE	SSW	105	0.7	3.9		
October	1,017.0	16.1	43.0	6/16	105	SE	SW	158	0.8	3.8		
November	1,015.5	17.2	48.2	26/75*	101	E	SW	205	0.8	3.1		
December	1,013.4	17.7	44.5	24/75	103	E	SSW	241	0.9	2.6		
Totals	..	..	..	..	..	..	..	1,843	12.8	..
Year Averages	1,016.3	15.6	..	..	..	E	SSW	..	..	3.5
Extremes	..	..	53.9	..	156	..	..	..	..	..

(a) Scale 0-8. (b) Standard thirty years normal (1911-1940). (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sun- shine			
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass					
No. of years of record	82	82	82	86	86	63(a)	84	78				
January	29.6	17.7	23.5	44.7	12/78	9.2	20/25	80.7	22/14	4.2	20/25	10.5
February	29.9	17.9	23.7	44.6	8/33	8.7	1/02	78.7	4/34	4.3	1/13	10.0
March	27.8	16.6	22.2	41.3	14/22	7.7	8/03	75.0	19/18	2.6	(b)	8.9
April	24.5	14.1	19.2	37.6	9/10	4.1	20/14	69.4	8/16	-0.7	26/60	7.2
May	20.7	11.6	16.1	32.4	2/07	1.3	11/14	63.3	4/25	-3.9	31/64	5.9
June	18.2	9.9	14.1	28.1	5/75	1.6	22/55	57.5	9/14	-3.4	27/46	4.8
July	17.3	9.0	13.2	26.3	17/76	1.2	7/16	56.2	13/15	-3.8	30/20	5.3
August	17.9	9.1	13.5	27.8	21/40	1.9	31/08	62.3	29/21	-3.0	18/66	6.2
September	19.4	10.1	14.8	32.7	30/18	2.6	6/56	67.5	29/16	-2.7	(c)	7.2
October	21.2	11.5	16.3	37.3	29/67	4.2	6/68	71.8	19/54	-1.2	16/31	8.3
November	24.6	14.0	19.2	40.3	24/13	5.6	1/04	75.0	30/25	-1.1	6/71	9.7
December	27.3	16.2	21.7	42.3	31/68	8.6	29/57	76.0	11/27	3.3	29/57	10.8
Year Averages	23.2	13.1	18.2	..	..	..	..	..	..	..	..	7.9
Extremes	..	..	..	44.7	..	1.2	..	80.7	..	-3.9	..	..

(a) Records discontinued 1963. (b) 8/1903 and 16/1967. (c) 8/1952 and 6/1956.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pres- sure mean			Rainfall (millimetres)					Fog mean no. days				
	9 a.m. (mb)	Rel. hum. (%) at 9 a.m.		Mean no. of days of rain	Greatest monthly	Least monthly	Greatest in one day						
		Mean	Highest mean					Lowest mean					
No. of years of record	30(a)	30(a)	81	81	100	100	105	105	102	79			
January	14.8	51	63	41	8	3	55	1879	Nil (b)	44	27/79*	0.2	
February	14.7	51	65	43	11	3	166	1955	Nil (b)	87	17/55	0.3	
March	14.7	57	66	46	20	4	145	1934	Nil (b)	77	9/34	0.6	
April	13.4	61	75	51	46	8	149	1926	Nil 1920	67	30/04	0.9	
May	12.4	70	81	60	125	14	308	1879	14	1964	76	17/42	1.3
June	11.4	75	85	68	185	17	476	1945	55	1877	99	10/20	1.4
July	10.9	76	88	69	175	18	425	1958	61	1876	76	4/91*	1.6
August	10.7	71	83	62	138	18	318	1945	12	1902	74	14/45	1.0
September	11.6	66	75	58	81	14	199	1923	9	1916	47	18/66	0.3
October	11.7	60	75	52	55	11	200	1890	1	1969	55	1/75	0.4
November	12.7	52	66	41	21	6	71	1916	Nil	1891	39	29/56	0.2
December	13.9	51	63	39	14	4	81	1951	Nil (b)	47	3/51	0.2	
Totals	..	..	..	..	879	120	..	..	..	..	..	..	8.1
Year Averages	12.7	62	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	88	39	..	..	476	..	Nil (b)	99	..	..	..

(a) Standard thirty years normal (1911-1940). (b) Various years.

Figures such as 26/76, 29/56, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: DARWIN, NORTHERN TERRITORY

(Lat. 12° 28' S., Long. 130° 51' E. Height above M.S.L. 30 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 36 metres)					Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m.-3 p.m. 9 p.m. (a)	No. of clear days
		Average (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction					
					9 a.m.	3 p.m.				
No. of years of record	90	20	..	26(b)	..	..	8(c)	35	35	35
January	1,006.2	9.3	..	106	W	NW	225	12.9	5.9	1
February	1,006.3	10.6	..	101	W	NW	187	10.2	5.8	1
March	1,007.2	7.5	..	157	W	NW	190	10.6	5.2	3
April	1,009.3	8.8	..	67	SE	NW	218	4.0	2.9	10
May	1,010.9	9.6	..	62	SE	E	223	0.5	2.0	16
June	1,012.2	10.1	..	64	SE	E	206	0.0	1.4	19
July	1,012.8	8.9	..	62	SE	E	229	0.0	1.3	20
August	1,012.6	8.6	..	72	SE	NW	238	0.0	1.1	20
September	1,011.7	8.6	..	64	ENE	NW	270	1.0	1.8	16
October	1,010.5	9.8	..	85	NE	NW	285	5.3	2.7	9
November	1,008.7	8.6	..	117	NW	NW	260	11.8	3.9	4
December	1,006.9	9.8	..	217	NW	NW	240	14.2	4.9	2
Year	Totals	..	..	..	..	..	2,773	70.5	..	121
	Averages	1,009.6	9.2	..	..	SE	NW	..	..	3.2
	Extremes	..	..	..	..	..	..	..	..	..

(a) Scale 0-8. (b) Several incomplete years. (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sunshine	
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass			
								Extreme air temperature (°Celsius)		
No. of years of record	90	90	90	96(a)	96(a)	26(b)	..	21		
January	32.2	25.0	28.6	37.8	2/82*	20.0	20/92*	75.6	26/42	..
February	31.9	24.8	28.4	38.3	20/87*	17.2	25/49	73.2	(c)	..
March	32.4	24.8	28.6	38.9	(d)	19.2	31/45	74.3	23/38	..
April	33.1	24.2	28.7	40.0	7/83*	16.0	11/43	72.8	1/38	..
May	32.3	22.4	27.4	39.1	8/84*	14.2	28/67	71.2	5/20	..
June	30.9	20.4	25.7	39.0	17/37	12.1	23/63	68.5	2/16	..
July	30.4	19.6	25.1	36.7	17/88*	10.4	29/42	68.9	28/17	..
August	31.4	20.8	26.1	37.0	30/71*	13.6	11/63	69.1	28/16	..
September	32.7	23.2	27.9	38.9	20/82*	16.7	9/63	69.5	(e)	..
October	33.6	25.0	29.3	40.5	17/92*	19.4	8/66	71.4	30/38	..
November	33.8	25.3	29.6	39.6	9/84*	19.3	4/50	77.0	14/37	..
December	33.2	25.3	29.3	38.9	20/82*	18.3	4/60	76.2	26/23	..
Year	Averages	32.3	23.3	27.9	..	..	..	..	..	..
	Extremes	..	..	..	40.5	10.4	..	77.0	..	..
					17/10/1892	29/7/1942	..	..	..	..
					..	..	14/11/37	..	..	..

(a) Years 1882-1941 at Post Office; 1942-1966 at Aerodrome; 1967-1980 at Regional office; sites not strictly comparable. (b) Records discontinued 1942. (c) 5/1938 and 23/1938. (d) 26/1883 and 27/1883. (e) 28/1916 and 3/1921.

HUMIDITY, RAINFALL AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.					Rainfall (millimetres)				Fog mean no. days		
		Mean	Highest mean	Lowest mean	Mean mthly	Mean no. of days of rain	Greatest monthly	Least monthly	Greatest in one day				
										Mean			
No. of years of record	85(a)	90	57(b)	57(b)	86(c)	74	111(d)	111(d)	111(d)	35			
January	31.1	81	89	69	391	19	906	1981	68	1906	296	7/97*	0.0
February	31.1	81	88	71	330	18	815	1969	13	1931	279	18/55	0.0
March	30.7	80	84	69	260	17	1,014	1977	21	1911	241	16/77	0.0
April	27.0	72	80	60	103	8	603	1891	Nil	1950	158	4/59	0.0
May	21.8	65	76	49	14	1	356	1968	Nil	(e)	58	23/79	0.0
June	18.7	63	75	52	3	0	76	1973	Nil	(e)	36	0/02	0.4
July	17.6	62	71	47	1	0	65	1900	Nil	(e)	43	12/00	1.1
August	20.6	66	73	53	2	0	84	1947	Nil	(e)	80	2/47	0.8
September	24.7	68	73	54	13	2	108	1942	Nil	(e)	71	21/42	0.2
October	27.7	68	72	60	50	5	339	1954	Nil	(e)	95	28/56	0.0
November	29.3	70	75	62	126	11	399	1938	10	1870	120	19/51	0.0
December	30.5	75	83	65	243	16	665	1974	25	1934	279	25/74	0.0
Year	Totals	..	..	..	1,536	97	..	..	..	..	..	..	..
	Averages	25.9	71	..	..	..	..	..	..	..	..	..	..
	Extremes	..	..	89	47	..	1,014	3/77	Nil	(f)	296	..	..
													7/1/1897

(a) Records to 1966 at Aerodrome. (b) 1882 to 1938 at Post Office. (c) 1869 to 1962 at Post Office; 8 years missing. (d) Highest or lowest at either Post Office, Aerodrome or Regional Office Sites. (e) Various years. (f) April to October. Various years. Figures such as 2/82, 26/42, etc., indicate in respect of the month of reference, the day and year of occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: ADELAIDE, SOUTH AUSTRALIA

(Lat. 34° 46' S., Long. 138° 35' E. Height above M.S.L. 43 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 22 metres)						Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds			
		Average (km/h)	Highest mean speed in one day (km/h)		Highest gust speed (km/h)	Prevailing direction				9 a.m.	3 p.m.	9 a.m.	No. of clear days
			20(b)	20(b)		24	30(c)							30(c)
No. of years of record	119	20(b)	20(b)	24	63	30(c)	30(c)	9(d)	104	108	61		
January	1,013.2	12.8	32.2	12/70	116	SW	SW	261	1.5	3.0	12.0		
February	1,014.3	12.1	28.8	25/67	106	NE	SW	224	1.1	3.0	10.7		
March	1,017.2	11.4	30.7	24/64	126	S	SW	180	0.8	3.3	10.7		
April	1,019.8	11.4	37.4	10/56	130	NE	SW	126	1.0	4.2	6.8		
May	1,020.1	11.3	37.8	19/53	113	NE	NW	80	1.0	4.7	4.5		
June	1,019.8	11.6	29.7	16/70	108	NE	N	57	0.9	5.0	3.8		
July	1,019.9	11.8	32.9	13/64	148	NE	NW	61	0.8	4.9	3.5		
August	1,019.0	12.8	38.2	8/55	121	NE	SW	76	1.1	4.2	4.7		
September	1,017.6	13.2	34.9	16/65	111	NNE	SW	113	1.3	4.3	5.5		
October	1,016.0	13.6	35.4	1/68	121	NNE	SW	169	1.9	4.2	5.6		
November	1,015.1	13.9	36.3	14/68	130	SW	SW	202	2.0	3.9	6.5		
December	1,013.3	13.5	31.1	18/69	121	SW	SW	247	1.5	3.4	8.8		
Year Totals	..	..	..	..	..	..	..	1,795	14.9	..	83.1
Year Averages	1,017.1	..	..	..	..	NE	SW	..	..	4.0	..
Year Extremes	..	..	38.2	8/8/65	148	..	..	..	..	..	..

(a) Scale 0-8. (b) Records of cup anemometer. (c) Standard 30 years normal (1931-1960). (d) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)			Mean daily hours sunshine		
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass	..				
								
No. of years of record	119	119	119	124	124	54(a)	..	119	94			
January	29.6	16.4	23.0	47.6	12/39	7.3	21/84*	82.3	18/82*	1.8	3/77	9.9
February	29.4	16.6	23.0	45.3	12/99*	7.5	23/18	76.9	10/00	2.1	23/26	9.3
March	26.9	15.1	21.0	43.6	9/34	6.6	21/33	78.9	17/83*	0.1	21/33	7.9
April	22.7	12.7	17.7	37.0	5/38	4.2	15/59*	68.3	1/83*	-3.5	30/77	6.0
May	18.7	10.3	14.5	31.9	4/21	2.7	(b)	64.6	12/79*	-3.6	19/28	4.8
June	15.8	8.3	12.1	25.6	4/57	0.3	(c)	59.3	18/79*	-6.1	24/44	4.2
July	15.0	7.3	11.1	26.6	29/75	0.0	24/08	56.9	26/90*	-5.5	30/29	4.3
August	16.4	7.8	12.1	29.4	31/11	0.2	17/59*	60.0	31/92*	-5.1	11/29	5.3
September	18.9	9.0	14.0	35.1	30/61	0.4	4/58*	71.4	23/82*	-3.9	25/27	6.2
October	22.0	10.9	16.5	39.4	21/22	2.3	20/58*	72.2	30/21	-3.0	22/66	7.2
November	25.2	12.9	19.1	45.3	21/65*	4.9	2/09	74.9	20/78*	-0.6	17/76	8.6
December	27.8	14.9	21.4	45.9	29/31	6.1	(d)	79.8	7/99*	-1.0	19/76*	9.4
Year Averages	22.4	11.8	17.1	..	..	..	..	..	..	..	..	6.9
Year Extremes	..	..	..	47.6	..	0.0	..	82.3	..	-6.1	..	..
				12/1/39	..	24/7/08	..	18/1/62	..	..	24/6/44	..

(a) Discontinued 1934 incomplete 1931-1934. (b) 26/1895 and 24/04. (c) 27/1876 and 24/44. (d) 16/1861 and 4/06.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)				Fog mean no. days				
		Mean	Highest mean	Lowest mean	Mean of days of rain	Greatest monthly	Least monthly	Greatest in one day					
										
No. of years of record	108	108	108	108	137	137	142	142	142	76			
January	11.9	41	59	29	20	4	84	1941	Nil (a)	58	2/89*	0.0	
February	12.5	44	61	30	21	4	155	1925	Nil (a)	141	7/25	0.0	
March	12.0	47	62	29	24	5	117	1878	Nil (a)	89	5/78*	0.0	
April	11.5	57	72	37	44	9	154	1971	Nil (a)	945	80	5/60*	0.0
May	10.8	67	77	49	69	13	197	1875	3	1934	70	1/53*	0.4
June	10.0	75	84	63	72	15	218	1916	6	1958	54	1/20	1.1
July	9.5	76	87	66	67	16	138	1890	10	1899	44	10/65*	1.3
August	9.7	70	80	54	62	16	157	1852	8	1944	57	19/51*	0.6
September	10.0	61	72	44	51	13	148	1923	7	1951	40	20/23	0.2
October	10.2	52	67	29	44	11	133	1949	1	1969	57	16/08	0.0
November	10.5	45	64	31	31	8	113	1839	1	1967	75	12/60	0.0
December	11.3	42	56	31	26	6	101	1861	Nil	1904	61	23/13	0.0
Year Totals	..	..	..	..	531	120	..	..	..	..	..	..	3.6
Year Averages	10.5	56	..	..	..	..	..	..	..	..	..	..	..
Year Extremes	..	..	87	29	..	..	218	..	Nil (b)	141	..	..	..
							6/1916			7/2/25			

(a) Various years. (b) December to April, various years.

Figures such as 3/55, 21/84, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: BRISBANE, QUEENSLAND

(Lat. 27° 28' S., Long. 153° 2' E. Height above M.S.L. 41 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Wind (height of anemometer 32 metres)							Mean daily amt clouds			
	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Average (km/h)		Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction		Mean amt evaporation (mm)	No. days thunder	9 a.m. 3 p.m. (a)	No. clear days
		9 a.m.	3 p.m.			9 a.m.	3 p.m.				
No. of years of record	89	60	63	63	25(b)	25(b)	9(c)	89	84	68	
January	1,011.7	12.1	31.8	23/47	109	SE	ENE	189	4.6	3.3	
February	1,012.5	11.9	37.3	21/52	108	SSW	ENE	150	3.7	2.4	
March	1,014.6	11.4	32.7	1/29	106	SSW	ESE	149	2.3	5.6	
April	1,017.3	10.5	26.8	3/25	104	SW	ESE	127	1.4	7.8	
May	1,018.3	9.8	28.8	17/26	87	SW	WSW	89	0.6	10.0	
June	1,018.5	10.0	30.5	14/28	95	SW	WSW	70	0.5	13.5	
July	1,018.8	9.7	35.4	13/54	111	SW	WSW	77	0.4	10.3	
August	1,018.8	10.0	23.8	4/35	100	SW	NE	105	1.4	12.5	
September	1,017.6	10.5	25.9	1/48	102	SW	NE	133	2.8	13.4	
October	1,015.9	11.1	25.3	1/41	100	SSW	NE	168	4.4	8.5	
November	1,014.1	11.4	24.9	10/28	111	SE	NE	191	5.7	6.1	
December	1,012.1	11.9	31.3	15/26	127	SSE	NE	209	6.6	4.5	
Totals	..	..	..	..	..	..	..	1,656	34.2	97.7
Year Averages	1,015.9	10.8	..	..	..	SW	ENE	..	..	3.6
Extremes	..	..	37.3	..	127	..	..	..	..	..
				21/2/52							

(a) Scale 0-8. (b) 1950-1974. (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sunshine			
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass					
No. of years of record	89	89	89	92	92	50(a)	92	67				
January	29.4	20.6	25.0	43.2	26/40	14.9	4/93*	76.2	2/37	9.9	4/93*	7.5
February	28.9	20.4	24.7	40.9	21/25	14.7	21/31	74.0	6/10	9.5	22/31	7.0
March	27.8	19.2	23.5	38.8	13/65	11.3	29/13	72.5	6/39	7.4	29/13	6.8
April	26.0	16.4	21.2	36.1	19/73	6.9	25/25	67.7	11/16	2.6	24/25	7.1
May	23.1	13.1	18.0	32.4	21/23	4.8	30/51	63.9	1/10	-1.2	8/97*	6.8
June	20.8	10.7	15.7	31.6	19/18	2.4	29/08	57.8	3/18	-3.7	23/88*	6.6
July	20.3	9.4	14.9	29.1	23/46	2.3	(b)	63.4	20/15	-4.5	11/90	7.0
August	21.8	10.0	15.9	32.8	14/46	2.7	13/64	61.1	20/17	-2.7	9/99*	7.8
September	24.0	12.7	18.3	38.3	22/43	4.8	1/96	68.6	26/03	-0.9	1/89*	8.3
October	26.1	15.8	20.9	40.7	30/58	6.3	3/99*	69.7	31/18	1.6	8/89*	8.2
November	27.8	17.9	22.9	41.2	18/13	9.2	2/05	72.4	7/89*	3.8	1/05	8.2
December	29.1	19.6	24.5	41.1	26/93*	13.5	5/55	74.4	28/42	9.5	3/94*	8.1
Year Averages	25.4	15.5	20.5	..	..	..	..	..	..	..	..	7.5
Extremes	..	..	..	43.2	..	2.3	..	76.2	..	-4.5	..	..
				26/1/1940				2/1/1937		11/7/1890		

(a) 1887-1926, 1936-March 1947. (b) 12/1894 and 2/1896.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean		Rainfall (millimetres)							Fog mean no. days			
	9 a.m. (mb)	Rel. hum. (%) at 9 a.m.	Mean			Greatest monthly	Least monthly	Greatest in one day					
			Mean	Highest mean	Lowest mean								
No. of years of record	64	89	90	90	124	116	126	126	126	89			
January	21.7	65	79	53	167	13	872	1974	8	1919	465	21/87*	0.5
February	22.0	69	82	55	161	14	1,026	1893	15	1849	270	6/31	0.6
March	20.9	71	85	56	144	15	865	1870	Nil	1849	284	14/08	1.1
April	17.5	70	80	56	88	11	388	1867	1	1944	178	3/72	2.1
May	14.3	71	85	59	69	9	410	1980	Nil	1846	149	9/80	3.0
June	12.1	72	84	54	69	8	647	1967	Nil	1847	283	12/67	2.9
July	11.1	70	88	53	54	7	330	1973	Nil	(a)	193	20/65	3.0
August	11.7	66	80	53	48	7	373	1879	Nil	(b)	124	12/87*	3.6
September	13.8	63	76	47	48	8	138	1886	Nil	1979	79	12/65	2.5
October	16.0	60	72	48	74	9	456	1972	(c)	1948	136	25/49	1.2
November	18.1	59	72	45	95	10	315	1917	Nil	1842	143	8/66*	0.5
December	20.1	61	70	51	129	12	441	1942	9	1865	168	28/71*	0.3
Totals	..	..	..	..	1,157	123	..	..	..	..	..	..	21.3
Year Averages	16.6	66	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	..	88	45	..	1,026	..	Nil	..	465	..	..
							2/1893		Various		21/1/1887		

(a) 1841 and 1951. (b) 1862, 1869, 1880 and 1977. (c) Less than 1 mm.

Figures such as 23/47, 4/93, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: SYDNEY, NEW SOUTH WALES

(Lat. 33° 52' S., Long. 151° 12' E. Height above M.S.L. 42 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 22 metres)					Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m. - 3 p.m. (a)	No. clear days
		Average (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction	9 a.m. 3 p.m.				
No. of years of record	66	25(b)	25(b)	61	25(b)	25(b)	7(c)	56	114	65
January	1,012.7	12.3	30.3	10/49	150	NE	NE	217	3.3	4.7
February	1,014.2	11.6	30.3	18/57	101	NE	ENE	177	2.5	4.8
March	1,016.4	10.5	33.3	10/44	93	WNW	ENE	157	1.7	4.4
April	1,018.3	10.2	36.2	24/44	116	W	ENE	126	1.3	4.1
May	1,018.7	10.5	33.8	18/55	101	W	ENE	94	0.9	3.9
June	1,018.9	11.6	36.0	10/47	135	W	WSW	85	0.8	4.0
July	1,018.5	11.5	34.3	20/51	106	W	WSW	93	0.8	3.5
August	1,017.9	12.1	39.6	9/51	109	WNW	WNW	116	1.4	3.3
September	1,017.0	11.6	35.1	23/42	113	WNW	NE	141	1.8	3.5
October	1,015.1	12.3	39.4	1/57	153	WNW	ENE	168	2.7	4.1
November	1,013.4	12.4	31.9	21/54	114	WNW	ENE	193	3.6	4.5
December	1,012.1	12.3	36.2	11/52	121	NE	ENE	252	3.8	4.6
Year Totals	..	..	..	..	..	..	..	1,819	24.7	84.7
Year Averages	1,016.1	11.6	..	..	..	WNW	ENE	..	..	4.2
Year Extremes	..	..	39.6	..	153	..	..	..	..	..

(a) Scale 0-8. (b) Years 1938-1962 inclusive. (c) Sydney Airport, Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass		
No. of years of record	117	117	117	45.3	120	84(a)	120	55	
January	25.7	18.3	22.0	45.3	14/39	10.6	18/49	73.5	
February	25.4	18.4	21.9	42.1	8/26	9.6	28/63*	76.3	
March	24.5	17.3	20.9	39.2	3/69*	9.3	14/86*	70.2	
April	22.1	14.5	18.3	33.0	(b)	7.0	27/64*	62.3	
May	19.2	11.2	15.2	30.0	1/19	4.4	30/62*	54.3	
June	16.6	9.1	12.8	26.9	11/31	2.1	22/32	52.1	
July	15.8	7.8	11.8	25.7	22/26	2.2	12/90*	51.9	
August	17.4	8.7	13.1	30.4	24/54	2.7	3/72*	65.0	
September	19.6	10.8	15.2	34.6	26/65	4.9	2/45	61.2	
October	21.9	13.3	17.6	37.4	4/42	5.7	6/27	66.8	
November	23.5	15.3	19.4	40.3	6/46	7.7	1/05	70.3	
December	24.9	17.2	21.1	42.2	20/57	9.1	3/24	73.5	
Year Averages	21.4	13.6	17.4	..	..	..	..	..
Year Extremes	..	..	..	45.3	..	2.1	..	76.3

(a) Records discontinued 1946. (b) 1/36 and 10/69.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rel. hum. (%) at 9 a.m.			Rainfall (millimetres)				Fog mean no. days
		Mean	Highest mean	Lowest mean	Mean mthly	Mean no. of days of rain	Greatest monthly	Least monthly	
No. of years of record	100	100	101	101	117	117	120	120	120
January	18.8	68	78	58	100	13	388	1911	6
February	19.2	70	81	60	115	13	564	1954	3
March	18.3	74	85	62	131	14	521	1942	8
April	15.0	74	87	63	126	13	622	1861	2
May	11.9	75	90	63	123	13	585	1919	4
June	10.2	76	89	63	133	12	643	1950	4
July	9.6	74	88	59	104	11	336	1950	2
August	9.5	68	84	54	81	11	378	1899	1
September	11.3	66	79	49	69	11	357	1879	2
October	13.0	62	77	46	76	12	283	(a)	2
November	15.0	62	79	42	78	12	577	1961	2
December	17.6	64	77	51	79	13	402	1920	6
Year Totals	..	..	..	..	1,215	148	..	..	..
Year Averages	14.1	69	..	..	..	..	643	6/1950	1
Year Extremes	..	..	90	..	..	..	..	8/1885	281

(a) 1916 and 1959.

Figures such as 10/49, 28/63, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: CANBERRA, AUSTRALIAN CAPITAL TERRITORY

(Lat. 35° 19' S., Long. 149° 11' E. Height above M.S.L. 577 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 10 metres)					Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds		
		Average (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction				9 a.m.	3 p.m.	No. clear days
					9 a.m.	3 p.m.					
No. of years of record	42	47(b)	47(b)	42(c)	42(c)	42(c)	15(d)	42	42	42(e)	
January	1,012.0	6.6	24	24/33	121	NW	NW	251	3.4	4.1	7.5
February	1,013.2	6.0	25	24/33	104	SE	NW	197	3.2	4.3	6.3
March	1,015.9	5.3	29	28/42	111	SE	NW	171	1.9	4.2	7.1
April	1,018.8	4.9	30	8/45	106	NW	NW	107	0.9	4.2	7.1
May	1,019.3	4.5	21	27/58	104	NW	NW	71	0.4	4.5	6.5
June	1,020.7	4.9	26	2/30	96	NW	NW	49	0.2	4.6	6.1
July	1,020.2	5.1	38	7/31	102	NW	NW	54	0.2	4.4	6.8
August	1,018.5	5.9	25	25/36	113	NW	NW	77	0.8	4.4	6.7
September	1,017.4	6.0	28	28/34	107	NW	NW	115	1.1	4.1	7.9
October	1,014.8	6.5	23	12/57	119	NW	NW	165	2.2	4.4	6.1
November	1,011.9	6.9	28	28/42	128	NW	NW	200	3.3	4.4	5.7
December	1,010.7	6.9	26	11/38	106	NW	NW	259	3.4	4.1	7.5
Totals	..	..	..	..	..	..	..	1,697	20.3	..	82.8
Year Averages	1,016.1	5.8	..	..	..	..	..	..	..	4.3	6.9
Extremes	..	..	38	7/7/31	128	..	..	..	..	..	..

(a) Scale 0-8. (b) Recorded at Forestry and Timber Bureau, Yarralumla, where a cup anemometer is installed. (c) Recorded at Meteorological office, R.A.A.F. Fairbairn, where a Dines Pressure Tube anemometer is installed. (d) Class-A Pan. (e) 1940-82. Formerly assessed over 37-year period at Yarralumla.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)		Mean daily hours sunshine	
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass			
							
No. of years of record	42	42	42	42	42	..	..	30	40(a)	
January	27.6	13.1	20.3	41.4	31/68	1.8	1/56	-0.4	1/56	8.9
February	26.8	12.8	19.8	42.2	1/68	3.0	16/62	0.2	17/70	8.2
March	24.4	10.6	17.5	36.4	9/40	-1.1	24/67	-4.0	(b)	7.4
April	19.7	6.4	13.1	32.6	12/68	-3.6	27/78	-8.3	24/69	6.9
May	15.0	2.9	8.9	24.5	10/67	-7.5	30/76	-10.4	26/69	5.6
June	12.1	0.9	6.5	20.1	3/57	-8.5	8/57	-13.4	25/71	4.8
July	11.1	-0.3	5.4	19.7	29/75	-10.0	11/71	-15.1	11/71	5.2
August	12.6	0.8	6.7	21.7	24/54	-7.8	6/74	-12.8	11/69	6.1
September	15.8	2.7	9.3	28.6	26/65	-5.6	5/40	-10.6	12/71	7.4
October	19.0	5.8	12.4	32.7	13/46	-3.3	4/57	-6.2	4/57	7.9
November	22.2	8.2	15.1	38.8	19/44	-1.8	28/67	-6.3	28/67	8.7
December	26.0	11.1	18.6	38.8	21/53	1.1	18/64	-3.9	18/64	9.1
Year Averages	19.3	6.2	12.7	..	..	..	..	-15.1	..	7.2
Extremes	..	..	..	42.2	..	-10.0	..	..	..	..
				1/2/68	11/7/71	..	..	11/7/71	..	..

(a) Recorded at Forestry and Timber Bureau, Yarralumla. (b) 30/58 and 24/67.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rainfall (millimetres)							Fog mean no. days					
		Rel. hum (%) at 9 a.m.			Mean no. of days of rain mthly	Greatest monthly	Least monthly	Greatest in one day						
		Mean	Highest mean	Lowest mean										
No. of years of record	42(a)	42	42	42	42	42	42	42	42					
January	13.1	60	75	42	61	7	164	1941	1	1947	95	12/45	1.0	
February	14.0	67	81	53	53	7	148	1977	Nil	1968	69	20/74	1.0	
March	12.3	69	81	53	53	7	312	1950	1	1954	92	21/78	2.7	
April	10.7	75	84	38	48	7	164	1974	1	1980	75	2/59	4.2	
May	8.7	84	96	73	49	9	150	1953	1	1976	96	3/48	7.3	
June	7.1	85	97	73	39	9	126	1956	4	1979	45	25/56	7.7	
July	6.6	84	93	68	38	10	103	1960	4	1970	35	10/57	7.9	
August	7.1	80	92	58	47	12	156	1974	7	1944	48	29/74	5.0	
September	8.1	74	82	55	50	10	151	1978	6	1946	41	16/62	4.1	
October	10.0	67	82	50	73	12	161	1976	2	1977	105	21/59	3.1	
November	10.7	59	76	38	64	10	135	1961	4	1977	64	9/50	1.4	
December	12.3	59	74	43	56	8	215	1947	Nil	1967	87	30/48	0.6	
Totals	639	110	46.2
Year Averages	9.3	72
Extremes	97	38	312	3/50	Nil	(a)	105
												21/10/59		

(a) 12/67 and 2/68.

Data shown in the above tables relate to the Meteorological Office, R.A.A.F., Fairbairn, except where otherwise indicated, and generally cover years up to 1982.

Figures such as 24/33, 31/68, etc., indicate, in respect of the month of reference, the day and year of the occurrence.

CLIMATIC DATA: MELBOURNE, VICTORIA

(Lat. 37° 49' S., Long. 144° 58' E. Height above M.S.L. 35 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Wind (height of anemometer 28 metres)							Mean daily amt clouds			
	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Average (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction		Mean amt evaporation (mm)	No. days thunder	9 a.m. 3 p.m. (a)	No. clear days	
					9 a.m.	3 p.m.					
No. of years of record	119	36(b)	68	71	57	57	9(c)	68	119	68	
January	1,012.8	12.8	34.0	27/41	106	S	S	228	1.7	4.1	6.7
February	1,014.3	12.4	30.6	13/47	119	S	S	198	1.9	4.0	6.1
March	1,016.8	11.3	29.0	3/61	106	N	S	155	1.3	4.3	5.5
April	1,018.9	10.9	33.7	27/71	108	N	S	97	0.7	4.7	4.2
May	1,019.1	11.4	33.0	4/61	116	N	N	59	0.4	5.2	2.9
June	1,019.0	11.4	36.7	16/47	103	N	N	38	0.2	5.3	2.8
July	1,018.6	12.8	36.9	24/70	109	N	N	47	0.2	5.2	2.5
August	1,017.5	12.5	34.3	20/42	108	N	N	60	0.6	5.0	2.7
September	1,016.0	12.7	34.0	15/64	111	N	S	91	0.8	4.8	3.6
October	1,014.7	12.8	30.4	6/68	111	N	S	130	1.6	4.8	3.4
November	1,013.9	13.3	35.8	8/71	114	SW	S	161	1.9	4.9	3.2
December	1,012.4	13.1	33.8	12/52	100	S	S	209	2.2	4.5	4.4
Totals	..	..	..	..	..	..	..	1,468	13.4	..	48.0
Year Averages	1,016.2	12.3	..	..	..	N	S	..	..	..	4.7
Extremes	..	..	36.9	..	119	..	..	..	..	..	..
				24/7/70							

(a) Scale 0-8. (b) Early records not comparable. (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)		Extreme temperature (°Celsius)		Mean daily hours sunshine				
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass					
No. of years of record	120	120	120	125	125	86(a)	121	52(b)				
January	25.8	13.9	19.9	45.6	13/39	5.6	28/85*	81.4	14/62*	-1.0	28/85*	8.1
February	25.7	14.2	19.9	43.1	7/01	4.6	24/24	75.3	15/70*	-0.6	6/91*	7.5
March	23.7	12.8	18.3	41.7	11/40	2.8	17/84*	73.6	1/68*	-1.7	(c)	6.6
April	20.1	10.5	15.3	34.9	5/38	1.6	24/88*	66.7	8/61*	-3.9	23/97*	5.1
May	16.5	8.3	12.4	28.7	7/05	-1.2	29/16	61.4	2/59*	-6.1	26/16	3.9
June	13.9	6.6	10.3	22.4	2/57	-2.2	11/66	53.9	11/61*	-6.7	30/29	3.4
July	13.3	5.7	9.5	23.1	30/75	-2.8	21/69*	52.1	27/80*	-6.4	12/03	3.7
August	14.8	6.4	10.6	25.0	20/85*	-2.1	11/63*	58.6	29/69*	-5.9	14/02	4.6
September	17.1	7.6	12.4	31.4	28/28	-0.6	3/40	61.2	20/67*	-5.1	8/18	5.5
October	19.5	9.2	14.4	36.9	24/14	0.1	3/71*	67.9	28/68*	-4.0	22/18	5.9
November	21.8	10.8	16.3	40.9	27/94*	2.4	2/96*	70.9	29/65*	-4.1	2/96*	6.5
December	24.1	12.6	18.4	43.7	15/76	4.4	4/70*	76.8	20/69*	0.7	1/04	7.3
Year Averages	19.9	9.9	14.8	..	..	..	..	..	..	..	..	5.7
Extremes	..	..	..	45.6	..	-2.8	..	81.4	..	-6.7	..	..
				13/1/39		21/7/69*		14/1/62*		30/6/29		

(a) Discontinued 1946. (b) Discontinued 1967. (c) 17/1884 and 20/1897.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)		Rel. hum. (%) at 9 a.m.		Rainfall (millimetres)				Fog mean no. days				
	Mean	Highest mean	Lowest mean	Mean no. of days of rain	Greatest monthly	Least monthly	Greatest in one day						
No. of years of record	68	68	73	73	120	120	125	125	122	118			
January	13.1	61	68	50	48	8	176	1963	(a)	1932	108	29/63	0.1
February	14.1	63	77	48	50	7	238	1972	(a)	1965	87	26/46	0.3
March	13.3	66	79	50	54	9	191	1911	4	1934	90	5/19	0.7
April	11.7	72	82	66	59	11	195	1960	Nil	1923	80	23/60	1.8
May	10.3	79	88	69	57	14	142	1942	4	1934	51	15/74	3.6
June	9.3	83	92	73	50	14	115	1859	8	1858	43	21/04	4.6
July	8.9	81	87	73	49	15	178	1891	9	1979	74	12/91*	4.3
August	9.1	75	82	64	50	15	111	1939	12	1903	54	17/81*	2.3
September	9.5	68	76	59	59	14	201	1916	13	1907	59	23/16	0.8
October	10.5	63	72	52	68	14	193	1869	7	1914	61	21/53	0.4
November	11.3	61	73	52	59	12	206	1954	6	1895	73	21/54	0.2
December	12.5	60	72	48	58	10	182	1863	1	1972	100	4/54	0.2
Totals	..	..	..	..	661	143	..	..	..	..	..	..	19.3
Year Averages	11.1	69	..	..	..	..	..	..	..	..	..	..	..
Extremes	..	..	92	43	..	..	238	2/72	Nil	4/23	108	..	..
											29/1/63		

(a) Less than 1 mm.

Figures such as 27/41, 28/85, etc., indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk (*) relate to nineteenth century.

CLIMATIC DATA: HOBART, TASMANIA

(Lat. 42° 53' S., Long. 147° 20' E. Height above M.S.L. 54 metres)

BAROMETER, WIND, EVAPORATION, THUNDER, CLOUDS, AND CLEAR DAYS

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 12 metres)					Mean amt evaporation (mm)	No. days thunder	Mean daily amt clouds 9 a.m.-3 p.m. (a)	No. of clear days	
		Average (km/h)	Highest mean speed in one day (km/h)	Highest gust speed (km/h)	Prevailing direction						
					9 a.m.	3 p.m.					
No. of years of record	90	63	71	95	30(b)	30(b)	10(c)	64	90	30(b)	
January	1,010.6	12.6	33.5	30/16	130	NNW	SSE	167	1.0	5.0	1.9
February	1,012.9	11.5	40.6	4/27	121	NNW	SSE	135	1.0	4.9	2.3
March	1,014.3	11.0	34.4	13/38	127	NW	SSE	109	0.7	4.8	2.4
April	1,015.5	10.9	38.8	9/52	141	NW	W	70	0.3	5.0	1.7
May	1,015.4	10.4	35.4	21/65	135	NNW	NW	38	0.0	5.0	2.4
June	1,015.2	10.2	38.2	27/20	132	NW	NW	22	0.0	5.0	2.4
July	1,014.0	10.7	36.9	22/53	129	NNW	NNW	26	0.0	4.8	2.0
August	1,012.8	10.9	41.0	19/26	140	NNW	NW	44	0.1	4.8	2.1
September	1,011.4	12.5	43.0	28/65	150	NNW	NW	73	0.1	4.9	1.5
October	1,010.3	12.6	32.4	3/65	140	NNW	SW	107	0.4	5.2	1.0
November	1,009.8	12.8	34.1	18/15	135	NNW	S	123	0.6	5.3	1.3
December	1,009.4	12.4	37.7	1/34	122	NNW	SSE	150	0.8	5.3	1.1
Totals	..	..	..	..	..	..	..	1,064	5.1	..	22.1
Year Averages	1,012.6	11.5	..	..	..	NNW	W	..	..	5.0	..
Extremes	..	..	43.0	..	150	..	..	..	..	..	..
28/9/65											

(a) Scale 0-8. (b) Standard thirty years normal (1911-1940). (c) Class-A Pan.

TEMPERATURE AND SUNSHINE

Month	Air temperature daily readings (°Celsius)			Extreme air temperature (°Celsius)			Extreme temperature (°Celsius)			Mean daily hours sunshine
	Mean max.	Mean min.	Mean	Highest	Lowest	Highest in sun	Lowest on grass	..		
No. of years of record	92	92	92	100	100	57(a)	..	94	79	
January	21.4	11.5	16.5	40.8	4/76	71.1	(c)	19/97*	7.9	
February	21.5	11.8	16.7	40.2	12/99*	73.9	24/68*	-2.0	-/87*	
March	20.0	10.6	15.3	37.3	13/40	66.1	26/44	-2.5	30/02	
April	17.1	8.7	12.9	30.6	1/41	61.1	18/93*	-3.9	-/86*	
May	14.2	6.7	10.5	25.5	5/21	53.3	(d)	-6.7	19/02	
June	11.8	5.1	8.5	20.6	1/07	50.0	12/94*	-7.7	24/63	
July	11.4	4.4	7.9	21.0	30/75	49.4	12/93*	-7.5	1/78	
August	12.8	5.0	8.9	24.5	26/77	54.4	-/87*	-6.6	7/09	
September	14.9	6.2	10.6	28.2	29/73	58.9	23/93*	-7.6	16/26	
October	16.7	7.5	12.1	33.4	24/14	68.9	9/93*	-4.6	(e)	
November	18.5	9.0	13.8	36.8	26/37	55.6	19/92*	-3.4	1/08	
December	20.2	10.5	15.4	40.7	30/97*	71.9	10/39	-2.6	-/86*	
Year Averages	16.7	8.1	12.4	..	..	..	..	..	5.9
Extremes	..	..	..	40.8	-2.8	73.9	..	-7.7	..
4/1/1976 25/6/72 24/2/1868 24/6/1963										

(a) Period 1934-1938 not comparable; records discontinued 1946. (b) 09/1937 and 11/1937. (c) 05/1886 and 13/1905. (d)-/1899 and -/1893. (e) 1/1886 and 1/1899.

HUMIDITY, RAINFALL, AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rainfall (millimetres)								Fog mean no. days			
		Rel. hum. (%) at 9 a.m.			Mean no. of days of rain				Greatest in one day				
		Mean	Highest mean	Lowest mean	Mean mthly	Greatest monthly	Least monthly						
No. of years of record	77(a)	81	88	88	93	93	100	100	100(f)	64			
January	11.0	58	81	45	49	11	150	1893	4 1958	75	30/16	0.3	
February	11.7	62	83	49	42	10	171	1964	3 1914	56	1/54	0.1	
March	11.0	65	78	52	47	11	255	1946	7 1943	88	17/46	0.3	
April	10.0	70	84	57	55	12	248	1960	2 1904	133	23/60	0.3	
May	8.8	75	86	61	49	14	214	1958	4 1913	47	3/73	1.1	
June	7.9	78	91	61	59	14	238	1954	2 1979	147	7/54	1.7	
July	7.6	78	87	72	54	15	157	1974	4 1950	64	18/22	1.4	
August	7.9	73	86	59	49	16	161	1946	8 1892	65	2/76	0.7	
September	8.3	66	81	52	52	15	201	1957	10 (e)	156	15/57	0.2	
October	9.1	62	74	52	64	17	193	1947	10 1914	66	4/06	0.1	
November	9.6	59	73	49	56	14	188	1885	9 (c)	94	30/85*	0.1	
December	10.6	58	73	42	57	13	196	1916	5 (d)	85	5/41	0.1	
Totals	633	162	6.1
Year Averages	9.5	67
Extremes	91	42	255	..	2	156
3/1946 (b) 15/9/57													

(a) 1894-1970. (b) 4/1904 and 6/1979. (c) 1919 and 1921. (d) 1897, 1915 and 1931. (e) 1891 and 1951.

Figures such as 30/16, 12/99, etc. indicate, in respect of the month of reference, the day and year of the occurrence. Dates marked with an asterisk(*) relate to nineteenth century.

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CHAPTER 3

GENERAL GOVERNMENT

Parliamentary government

Scheme of parliamentary government

Under section 1 of the Australian Constitution the legislative power of the Commonwealth of Australia is vested in the Parliament of the Commonwealth, which consists of the Sovereign, the Senate, and the House of Representatives. The Sovereign is represented throughout the Commonwealth by the Governor-General who, subject to the Constitution, has such powers and functions as the Sovereign is pleased to assign to him. In each Australian State there is a State Governor, who is the representative of the Sovereign for the State. The Governor has such powers within the State as are conferred upon him by the Letters Patent constituting his office, and he exercises these powers in accordance with instructions issued to him by the Sovereign, detailing the manner in which his duties are to be fulfilled.

In the Commonwealth Parliament the Upper House is known as the Senate, and in the bicameral State Parliaments as the Legislative Council. The Legislature in each State was bicameral until 1922 when the Queensland Parliament became unicameral upon the abolition of the Upper House. In the Commonwealth Parliament the Lower House is known as the House of Representatives; in the State Parliaments of New South Wales, Victoria, Queensland and Western Australia as the Legislative Assembly; and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The extent of the legislative powers of each of the seven Parliaments is defined by the Australian and State Constitutions respectively. In those States that have a bicameral legislature, the Legislative Assembly or House of Assembly, as the case may be, is the larger House.

The members of the Legislative Assembly or House of Assembly, as the case may be, of each State are elected by the people, the franchise extending to British subjects who are at least 18 years of age and possess certain residential qualifications. With the exception of the New South Wales Legislative Council, the members of State Legislative Councils are, in common with members of the Lower Houses, elected by the people of the respective States. Up until 1978 in New South Wales a quarter of the members of the Legislative Council retired every three years, and the continuing members of the Council and the members of the Legislative Assembly, voting as an electoral body, elected members to fill the vacant positions. However, as from 1978 in New South Wales, as well as in all other States possessing a Legislative Council, members of the Council are now elected by adult suffrage. In the Commonwealth Parliament the qualifications for the franchise are identical for both Houses, extending to British subjects who have lived in Australia for six months continuously and who are not less than 18 years of age.

The Sovereign

On 7 February 1952, the then Governor-General of the Commonwealth of Australia and members of the Federal Executive Council proclaimed Princess Elizabeth Queen Elizabeth the Second, Queen of this Realm and of all Her other Realms and Territories, Head of the Commonwealth, Defender of the Faith, Supreme Liege Lady in and over the Commonwealth of Australia. The coronation of Her Majesty took place in Westminster Abbey on 2 June 1953. By the *Royal Style and Titles Act 1973*, which Her Majesty assented to in Canberra on 19 October 1973, the Commonwealth Parliament assented to the adoption by Her Majesty, for use in relation to Australia and its Territories, of the Style and Titles set forth in the Schedule to the Act. On the same day, also in Canberra, Her Majesty issued a Proclamation, under the Great Seal of Australia, appointing and declaring that Her Majesty's Style and Titles should henceforth be, in relation to Australia and its Territories, 'Elizabeth the Second, by the Grace of God Queen of Australia and Her other Realms and Territories, Head of the Commonwealth'.

The Governor-General

Powers and functions. As the Queen's representative in Australia, the Governor-General of the Commonwealth of Australia exercises certain prerogative powers and functions assigned to him by the Queen. Other powers and functions are conferred on him by the Australian Constitution. Powers that

have been so assigned or conferred include, among others, the power to grant pardons and to remit fines for offences against the laws of the Commonwealth of Australia; to appoint certain officers in the Diplomatic or Consular Service; to appoint times for holding the sessions of the Parliament, prorogue Parliament, and dissolve the House of Representatives; to cause writs to be issued for general elections of members of the House of Representatives; to assent in the Queen's name to a proposed law passed by both Houses of the Parliament or to withhold such assent, or to reserve the law for the Queen's pleasure, or to return the proposed law to the House in which it originated and transmit therewith any amendments which he may recommend; to exercise executive power; to choose and summon Executive Councillors, who hold office during his pleasure; and to appoint Ministers of State for the Commonwealth of Australia. In addition, the command-in-chief of the Defence Force of the Commonwealth of Australia is vested in the Governor-General as the Queen's representative.

Many Acts of the Commonwealth Parliament provide that the Governor-General may make regulations to give effect to the Act. The Governor-General may also be authorised by statute to issue proclamations—for example, to declare an Act in force. He has been given power by statute to legislate for certain of the Australian Territories. Under the conventions of responsible government obtaining in British Commonwealth countries, the Governor-General's functions are exercised generally on the advice of Ministers of State.

The present Governor-General is His Excellency Sir Zelman Cowen, A.K., G.C.M.G., G.C.V.O., K.St.J., Q.C., who has held office since 8 December 1977.

Holders of office. The names of those persons who have acted as Governor-General since the inception of the Commonwealth of Australia are listed in Year Book No. 61 and earlier Year Books.

Administrators. In addition to the holders of the office of Governor-General listed above, certain persons have, from time to time, been appointed as Administrator of the Commonwealth of Australia. Administrators are appointed in the event of the death, illness or absence from Australia of the Governor-General, or for the period between the departure of a Governor-General and the arrival of his successor. The names of those persons who have acted as Administrator are also listed in Year Book No. 61 and earlier Year Books.

Governors of the States

Powers and functions. The Queen is represented in each of the Australian States by a Governor, the office having been constituted by Letters Patent issued under the Great Seal of the United Kingdom on various dates. The Governors of the States exercise prerogative powers conferred on them by these Letters Patent, their Commissions of appointment, and the Governor's Instructions given them under the Royal Sign Manual and Signet or other instrument as specified in the Letters Patent. In addition, they have been invested with various statutory functions by State Constitutions and other Imperial Acts, as well as under the Acts of the Parliaments of the States.

A Governor of a State assents to the Queen's name to Bills passed by the Parliament of the State, except those Bills reserved for the Royal Assent. The latter Bills include certain classes of Bills that are regulated by the State's Constitution and by the Governor's Instructions. He administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his jurisdiction, and may remit fines and penalties due to the Crown. In the performance of his functions generally, particularly those conferred by statute, the Governor of a State acts on the advice of Ministers of State for the State.

Holders of office. The names of the present (October 1981) State Governors are as follows:

New South Wales—His Excellency AIR MARSHAL SIR JAMES ANTHONY ROLAND, K.B.E., D.F.C., A.F.C., B.E., C.E.N.G., F.R.A.R.S., F.I.E. (Aust.)

Victoria—His Excellency SIR HENRY ARTHUR WINNEKE, K.C.M.G., K.C.V.O., O.B.E., K.St.J., Q.C.

Queensland—His Excellency COMMODORE SIR JAMES MAXWELL RAMSAY, K.C.M.G., C.B.E., D.S.C., K.St.J.

South Australia—His Excellency SIR KEITH DOUGLAS SEAMAN, O.B.E., K.St.J.

Western Australia—His Excellency REAR-ADMIRAL SIR RICHARD JOHN TROWBRIDGE, K.C.V.O., K.St.J.

Tasmania—His Excellency THE HONOURABLE SIR STANLEY CHARLES BURBURY, K.C.V.O., K.B.E., K.St.J.

The Cabinet and executive government

Detailed information is contained in Year Book No. 62, pages 64 and 65.

Commonwealth Government Ministries

Names and tenure of office, 1901 to 1980. The following list shows the name of each Commonwealth Government Ministry to hold office since 1 January 1901 and the limits of its term of office.

COMMONWEALTH GOVERNMENT MINISTRIES, 1901 TO NOVEMBER 1980

- (i) BARTON MINISTRY, 1 January 1901 to 24 September 1903.
- (ii) DEAKIN MINISTRY, 24 September 1903 to 27 April 1904.
- (iii) WATSON MINISTRY, 27 April 1904 to 17 August 1904.
- (iv) REID-MCLEAN MINISTRY, 18 August 1904 to 5 July 1905.
- (v) DEAKIN MINISTRY, 5 July 1905 to 13 November 1908.
- (vi) FISHER MINISTRY, 13 November 1908 to 1 June 1909.
- (vii) DEAKIN MINISTRY, 2 June 1909 to 29 April 1910.
- (viii) FISHER MINISTRY, 29 April 1910 to 24 June 1913.
- (ix) COOK MINISTRY, 24 June 1913 to 17 September 1914.
- (x) FISHER MINISTRY, 17 September 1914 to 27 October 1915.
- (xi) HUGHES MINISTRY, 27 October 1915 to 14 November 1916.
- (xii) HUGHES MINISTRY, 14 November 1916 to 17 February 1917.
- (xiii) HUGHES MINISTRY, 17 February 1917 to 10 January 1918.
- (xiv) HUGHES MINISTRY, 10 January 1918 to 9 February 1923.
- (xv) BRUCE-PAGE MINISTRY, 9 February 1923 to 22 October 1929.
- (xvi) SCULLIN MINISTRY, 22 October 1929 to 6 January 1932.
- (xvii) LYONS MINISTRY, 6 January 1932 to 7 November 1938.
- (xviii) LYONS MINISTRY, 7 November 1938 to 7 April 1939.
- (xix) PAGE MINISTRY, 7 April 1939 to 26 April 1939.
- (xx) MENZIES MINISTRY, 26 April 1939 to 14 March 1940.
- (xxi) MENZIES MINISTRY, 14 March 1940 to 28 October 1940.
- (xxii) MENZIES MINISTRY, 28 October 1940 to 29 August 1941.
- (xxiii) FADDEN MINISTRY, 29 August 1941 to 7 October 1941.
- (xxiv) CURTIN MINISTRY, 7 October 1941 to 21 September 1943.
- (xxv) CURTIN MINISTRY, 21 September 1943 to 6 July 1945.
- (xxvi) FORDE MINISTRY, 6 July 1945 to 13 July 1945.
- (xxvii) CHIFLEY MINISTRY, 13 July 1945 to 1 November 1946.
- (xxviii) CHIFLEY MINISTRY, 1 November 1946 to 19 December 1949.
- (xxix) MENZIES MINISTRY, 19 December 1949 to 11 May 1951.
- (xxx) MENZIES MINISTRY, 11 May 1951 to 11 January 1956.
- (xxxi) MENZIES MINISTRY, 11 January 1956 to 10 December 1958.
- (xxxii) MENZIES MINISTRY, 10 December 1958 to 18 December 1963.
- (xxxiii) MENZIES MINISTRY, 18 December 1963 to 26 January 1966.
- (xxxiv) HOLT MINISTRY, 26 January 1966 to 14 December 1966.
- (xxxv) HOLT MINISTRY, 14 December 1966 to 19 December 1967.
- (xxxvi) MCEWEN MINISTRY, 19 December 1967 to 10 January 1968.
- (xxxvii) GORTON MINISTRY, 10 January 1968 to 28 February 1968.
- (xxxviii) GORTON MINISTRY, 28 February 1968 to 12 November 1969.
- (xxxix) GORTON MINISTRY, 12 November 1969 to 10 March 1971.
- (xl) MCMAHON MINISTRY, 10 March 1971 to 5 December 1972.
- (xli) WHITLAM MINISTRY, 5 December 1972 to 19 December 1972.
- (xlii) WHITLAM MINISTRY, 19 December 1972 to 11 November 1975.
- (xliii) FRASER MINISTRY, 11 November 1975 to 22 December 1975.
- (xliv) FRASER MINISTRY, 22 December 1975 to 20 December 1977.
- (xlv) FRASER MINISTRY, 20 December 1977 to 3 November 1980.
- (xlvi) FRASER MINISTRY, 3 November 1980.

Names of Members of each Ministry to 3 November 1980. In Year Book No. 17, 1924, the names are given of each Ministry up to the Bruce-Page Ministry (9 February 1923 to 22 October 1929), together with the names of the successive holders of portfolios therein. Year Book No. 39 contains a list which covers the period between 9 February 1923, the date on which the Bruce-Page Ministry assumed power, and 31 July 1951, showing the names of all persons who held office in each Ministry during that period. The names of members of subsequent Ministries are listed in successive issues of the Year Book from No. 39 to No. 61 inclusive and in No. 64.

This issue only shows particulars of the Fourth Fraser Ministry (at 22 October 1981).

COMMONWEALTH AND STATE LEADERS OF THE GOVERNMENT, SEPTEMBER 1981

Commonwealth—The Rt Hon. J. M. Fraser, C.H., M.P. (Vic.) (L.P.)
New South Wales—The Hon. N. K. Wran, Q.C., M.L.A. (A.L.P.)
Victoria—The Hon. L. H. S. Thompson, C.M.G., M.L.A. (L.P.)
Queensland—The Hon. J. Bjelke-Petersen, M.L.A. (N.P.)
South Australia—The Hon. D. O. Tonkin, M.H.A. (L.P.)
Western Australia—The Hon. Sir Charles Court, K.C.M.G., O.B.E., M.L.A. (L.P.)
Tasmania—The Hon. D. A. Lowe, M.H.A. (A.L.P.)
Northern Territory—The Hon. P. A. E. Everingham, M.L.A. (L.P.)

THE FOURTH FRASER MINISTRY—AT 22 OCTOBER 1981

(The State in which each Minister's electorate is situated and party affiliation are shown in parenthesis. Party affiliation is indicated by the use of the following abbreviations; L.P. Liberal Party of Australia; N.C.P. National Country Party of Australia).

***Prime Minister—**

THE RIGHT HON. MALCOLM FRASER, C.H.,
M.P. (Vic.) (L.P.)

***Deputy Prime Minister, Minister for Trade and Resources—**

THE RT HON. J. D. ANTHONY, M.P.
(N.S.W.) (N.C.P.)

***Minister for Industry and Commerce—**

THE RT HON. SIR PHILLIP LYNCH,
K.C.M.G., M.P. (Vic.) (L.P.)

***Minister for Communications and Leader of the House—**

THE RT HON. IAN SINCLAIR, M.P. (N.S.W.)
(N.C.P.)

***Minister for National Development and Energy, Vice-President of the Executive Council and Leader of the Government in the Senate—**

SENATOR THE HON. J. L. CARRICK (N.S.W.)
(L.P.)

***Minister for Foreign Affairs—**

THE HON. A. A. STREET, M.P. (Vic.) (L.P.)

***Minister for Primary Industry—**

THE HON. P. J. NIXON, M.P. (Vic.) (N.C.P.)

***Treasurer—**

THE HON. JOHN HOWARD, M.P. (N.S.W.)
(L.P.)

***Minister for Defence—**

THE HON. D. J. KILLEN, M.P. (Qld) (L.P.)

***Minister for Finance—**

SENATOR THE HON. DAME MARGARET
GUILFOYLE, D.B.E. (Vic.) (L.P.)

***Minister for Industrial Relations and Minister Assisting the Prime Minister—**

THE HON. IAN VINER, M.P. (W.A.) (L.P.)

***Attorney-General—**

SENATOR THE HON. PETER DURACK, Q.C.
(W.A.) (L.P.)

***Minister for Social Security—**

SENATOR THE HON. F. M. CHANEY (W.A.)
(L.P.)

***Minister for Education and Minister Assisting the Prime Minister in Federal Affairs—**

THE HON. WAL FIFE, M.P. (N.S.W.) (L.P.)

Minister for Transport—

THE HON. RALPH J. HUNT, M.P. (N.S.W.)
(N.C.P.)

Minister for Health—

THE HON. M. J. R. MACKELLAR, M.P.
(N.S.W.) (L.P.)

Minister for Immigration and Ethnic Affairs—

THE HON. IAN MACPHEE, M.P. (Vic.) (L.P.)

Minister for Science and Technology—

THE HON. DAVID THOMSON, M.C., M.P.
(Qld) (N.C.P.)

Minister for Administrative Services and Minister Assisting the Minister for Defence—

THE HON. KEVIN NEWMAN, M.P. (Tas.)
(L.P.)

Minister for Business and Consumer Affairs—

THE HON. JOHN MOORE, M.P. (Qld) (L.P.)

Minister for the Capital Territory and Minister Assisting the Minister for Industry and Commerce—

THE HON. MICHAEL HODGMAN, M.P. (Tas.)
(L.P.)

Minister for Veterans' Affairs and Minister Assisting the Treasurer—

SENATOR THE HON. TONY MESSNER (S.A.) (L.P.)

Minister for Aboriginal Affairs and Minister Assisting the Minister for National Development and Energy—

SENATOR THE HON. PETER BAUME (N.S.W.) (L.P.)

Minister for Housing and Construction and Minister Assisting the Minister for Trade and Resources—

THE HON. D. T. MCVEIGH, M.P. (Qld) (N.C.P.)

Minister for Home Affairs and Environment—

THE HON. IAN WILSON, M.P. (S.A.) (L.P.)

*Minister in the Cabinet.

COMMONWEALTH AND STATE LEADERS OF THE OPPOSITION, SEPTEMBER 1981†

The Leader of the Opposition plays an important part in the Party system of government which operates in the Australian Parliaments. The following list gives the names of the holders of this position in each of the Parliaments in September 1981.

*Commonwealth—*The Hon. W. G. Hayden, M.P. (A.L.P.)

*New South Wales—*J. R. A. Dowd, M.P. (L.P.) (a)

*Victoria—*J. Cain, M.P. (A.L.P.)

*Queensland—*E. D. Casey, M.L.A. (A.L.P.)

*South Australia—*J. C. Bannon, M.P. (A.L.P.)

*Western Australia—*B. T. Burke, M.L.A. (A.L.P.)

*Tasmania—*G. A. Pearsall, M.H.A. (L.P.)

*Northern Territory—*The Hon. J. M. Isaacs, M.L.A. (A.L.P.)

(a) Elected October 1981

Numbers and salaries of Commonwealth Government Ministers

Under sections 65 and 66, respectively, of the Constitution of the Commonwealth of Australia the number of Ministers of State was not to exceed seven, and the annual sum payable for their salaries was not to exceed £ 12,000 (\$24,000), each provision to operate, however, 'until the Parliament otherwise provides'.

Subsequently the number and salaries have been increased from time to time, and at September 1981 the number of Ministers is twenty-six and ministerial salaries range from \$14,236 for a Minister not in Cabinet to \$36,308 for the Prime Minister. An additional ministerial allowance of \$17,250 a year is payable to the Prime Minister, \$10,000 a year to the Deputy Prime Minister, \$8,500 a year to the Treasurer, the Deputy Leader of the Government Majority Party, the Leader of the House and the Leader of the Government in the Senate, and \$7,250 a year to other Ministers.

All amounts payable in the foregoing paragraphs are in addition to amounts payable as Parliamentary allowances (see page 56).

Parliaments and elections

The Commonwealth Parliaments

The first Parliament of the Commonwealth of Australia was convened by proclamation dated 29 April 1901 by His Excellency the Marquis of Linlithgow, then Earl of Hopetoun, Governor-General. It was opened on 9 May 1901 by H.R.H. the Duke of Cornwall and York. The Rt Hon. Sir Edmund Barton, G.C.M.G., K.C., was Prime Minister.

The following table shows the number and duration of Parliaments since Federation.

† Party affiliation is indicated by the use of the following abbreviations: A.L.P.—Australian Labor Party; N.P.—National Party; L.P.—Liberal Party of Australia; N.C.P.—National Country Party of Australia.

COMMONWEALTH PARLIAMENTS

<i>Number of Parliament</i>	<i>Date of opening</i>	<i>Date of dissolution</i>
First	9 May 1901	23 November 1903
Second	2 March 1904	5 November 1906
Third	20 February 1907	19 February 1910
Fourth	1 July 1910	23 April 1913
Fifth	9 July 1913	30 July 1914 (a)
Sixth	8 October 1914	26 March 1917
Seventh	14 June 1917	3 November 1919
Eighth	26 February 1920	6 November 1922
Ninth	28 February 1923	3 October 1925
Tenth	13 January 1926	9 October 1928
Eleventh	6 February 1929	16 September 1929
Twelfth	20 November 1929	27 November 1931
Thirteenth	17 February 1932	7 August 1934
Fourteenth	23 October 1934	21 September 1937
Fifteenth	30 November 1937	27 August 1940
Sixteenth	20 November 1940	7 July 1943
Seventeenth	23 September 1943	16 August 1946
Eighteenth	6 November 1946	31 October 1949
Nineteenth	22 February 1950	19 March 1951 (a)
Twentieth	12 June 1951	21 April 1954
Twenty-first	4 August 1954	4 November 1955
Twenty-second	15 February 1956	14 October 1958
Twenty-third	17 February 1959	2 November 1961
Twenty-fourth	20 February 1962	1 November 1963
Twenty-fifth	25 February 1964	31 October 1966
Twenty-sixth	21 February 1967	29 September 1969
Twenty-seventh	25 November 1969	2 November 1972
Twenty-eighth	27 February 1973	11 April 1974 (a)
Twenty-ninth	9 July 1974	11 November 1975 (a)
Thirtieth	17 February 1976	8 November 1977
Thirty-first	21 February 1978	19 September 1980
Thirty-second	25 November 1980	

(a) A dissolution of both the Senate and the House of Representatives was granted by the Governor-General under section 57 of the Constitution.

The thirty-first Parliament opened on 21 February 1978 and ended on 19 September 1980 when the House of Representatives was dissolved. Elections for the House of Representatives, Senators for the Australian Capital Territory and the Northern Territory, and Senators whose term expired on 30 June 1981 were held on 18 October 1980. Writs were issued by the Governor-General on 19 September 1980 for the House of Representatives elections in all States and Territories, and for the Senate elections in the Australian Capital Territory and Northern Territory. Writs for the Senate elections in the respective States were issued on the same date by the State Governors. For voting figures *see* page 54. For particulars of electors enrolled and of electors who voted in the several States and Territories at previous Commonwealth elections *see* Year Book No. 61 and earlier issues.

Qualifications for membership and for franchise—Commonwealth Parliament

Qualifications necessary for membership of either House of the Commonwealth Parliament are possessed by any British subject, eighteen years of age or over and not disentitled on other grounds, who has resided in Australia for at least three years and who is, or is qualified to become, an elector of the Commonwealth Parliament. Qualifications for Commonwealth Parliament franchise are possessed by any British subject, not under eighteen years of age and not disentitled on other grounds, who has lived in Australia for six months continuously. Residence in a subdivision for a period of one month prior to enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory except that the compulsory enrolment provisions do not relate to an Aboriginal native of Australia. A member of the Defence Force on service outside Australia who is not less than eighteen years of age, is a British subject and has lived in Australia for six months continuously is entitled to vote at Commonwealth Parliament elections even though he may not be enrolled.

The principal reasons for disqualification of persons otherwise eligible for election as members of either Commonwealth House are: membership of the other House, allegiance to a foreign power, being attainted of treason, being convicted and under sentence for any offence punishable by imprisonment for one year or longer, being an undischarged bankrupt or insolvent, holding an office of profit under

the Crown (with certain exceptions), or having pecuniary interest in any agreement with the public service of the Commonwealth Government except as a member of an incorporated company of more than twenty-five persons. Persons of unsound mind, attainted of treason, convicted and under sentence for any offence punishable by imprisonment for one year or longer, or persons who are holders of temporary entry permits under the *Migration Act 1958* or are prohibited immigrants under that Act are excluded from the franchise. In the main, these or similar grounds for disqualification apply also to State Parliament membership and franchise. Aborigines are entitled to enrol and to vote at both Commonwealth and State elections in all States.

Commonwealth Parliaments and elections

From the establishment of the Commonwealth of Australia until 1949 the Senate consisted of thirty-six members, six being returned by each of the original federating States. The Constitution empowers Parliament to increase or decrease the size of the Parliament, and, as the population of Australia had more than doubled since its inception, the Parliament passed the *Representation Act 1948* which provided that there should be ten Senators from each State instead of six, thus increasing the total to sixty Senators, enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation.

The *Senate (Representation of Territories) Act 1973* made provision for two Senators to be elected from both the Northern Territory and the Australian Capital Territory. Elections for the Territory Senators are held at the same time as general elections for the House of Representatives.

In accordance with the Constitution, the total number of State Members of the House of Representatives must be as nearly as practicable twice the number of State Senators. Consequent upon the increase in the size of the Senate in 1949, the number of State Members was increased from 74 to 121. In 1955 there were 122 State Members; in 1969, 123; in 1974, 124; in 1977, 121; in 1980, 122.

Redistribution of the States into electoral divisions have taken place in 1949, 1955, 1968, 1974 (Western Australia only), 1977 and 1979 (Western Australia only). The quota (or average number) of electors is the basis for electoral distribution, but the Distribution Commissioners may vary the enrolment of electorates by up to 10 per cent from the quota in order to take account of communities of interest, including economic, social and regional interests, means of communication and travel, the trend of population changes, physical features, and existing boundaries of electoral divisions and subdivisions. In addition, no electorate with an area of 5000 square kilometres or more may contain a greater number of electors than any electorate less than 5000 square kilometres in area.

The Chief Australian Electoral Officer determines the representation entitlements of the States during the twelfth month of the life of each Parliament. Determinations are based on the latest population statistics as provided by the Australian Statistician. Should the representation entitlement of a State change, the preparation of a redistribution is mandatory. The representation entitlements of the States at the three most recent determinations are shown in the following table:

REPRESENTATION ENTITLEMENTS OF THE STATES

State	1972	1977	1979
New South Wales	45	43	43
Victoria	34	33	33
Queensland	18	19	19
South Australia	12	11	11
Western Australia	10	10	11
Tasmania	5	5	5
Total	124	121	122

Following the 1977 determination, Distribution Commissioners were appointed for all States in April and the proposed redistributions were approved by Parliament in October. The proposed redistributions came into effect by force of the *Commonwealth Electoral (Redistribution) Act 1977*. The election of 10 December 1977 was conducted on the basis of the new boundaries. Following the 1979 determination, Distribution Commissioners were appointed for Western Australia in April and the proposed redistribution was approved by Parliament in November 1979.

From 1922 to 1968 the Northern Territory was represented in a limited capacity by one member in the House of Representatives. In May 1968 the *Northern Territory Representation Act* was amended to give full voting rights to the Member for the Northern Territory effective from 15 May 1968, the day on which the Act received Royal Assent.

From 1948 to 1967 the Australian Capital Territory was represented in a limited capacity by one member in the House of Representatives. The Member for the Australian Capital Territory has had full voting rights since 21 February 1967.

Following the passing of the Australian Capital Territory (House of Representatives) Act in October 1973 a Distribution Committee was appointed to distribute the Australian Capital Territory into two electoral divisions. On 19 March 1974, the Committee published an initial redistribution proposal. By early 1974 there was an indication that the House of Representatives would be dissolved before the Distribution Committee could complete its task. Accordingly the *Australian Capital Territory Representation (House of Representatives) Act 1974* was enacted to provide that the Territory be divided into two electoral divisions, adopting the boundaries recommended by the Distribution Committee. The 1974 and subsequent House of Representatives elections were held on those boundaries.

Members of the House of Representatives are elected for the duration of the Parliament, which is limited to three years. At elections for Senators the whole State constitutes the electorate. For the purpose of elections for the House of Representatives the State is divided into single electorates corresponding in number to the number of members to which the State is entitled. Further information regarding the Senate and the House of Representatives is given in earlier issues of the Year Book.

The *Commonwealth Electoral Act 1948*, enacted with the *Representation Act 1948* which enlarged the Commonwealth Parliament (see page 53), changed the system of scrutiny and counting of votes in Senate elections from the alternative vote to that of proportional representation. The method of voting for both the Senate and the House of Representatives is preferential.

Particulars of voting at Senate elections and elections for the House of Representatives up to 1977 appear in earlier issues of the Year Book. Additional information is available in the *Election Statistics* issued by the Chief Australian Electoral Officer following each election and printed as Parliamentary Papers.

The numbers of electors and of primary votes cast for the major political parties in each State and Territory at the latest election for each House of the Commonwealth Parliament were as follows:

COMMONWEALTH PARLIAMENT ELECTIONS, 18 OCTOBER 1980

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
HOUSE OF REPRESENTATIVES ELECTION									
Electors enrolled	3,183,091	2,413,273	1,355,374	849,302	749,286	273,477	55,160	135,957	9,014,920
Number of votes recorded for—									
Australian Labor Party	1,357,556	1,016,617	535,846	348,649	286,259	118,336	17,426	68,916	3,749,605
Liberal Party	1,044,191	874,395	342,154	348,981	317,636	133,144	..	48,016	3,108,517
National Country Party(a)	307,400	109,506	273,668	10,937	15,837	..	18,805	..	736,153
Australian Democrats	166,144	183,212	66,502	68,857	48,076	3,732	2,509	7,001	546,033
Democratic Labor Party . . . . .	..	25,456	..	..	..	..	..	..	25,456
Progress Party	6,869	..	10,171	..	..	..	..	..	17,040
Communist Party	8,155	1,902	..	1,261	..	..	..	..	11,318
Others	38,139	22,768	24,438	5,519	13,328	1,310	4,432	1,577	111,511
Informal votes	70,742	61,920	22,435	22,491	18,821	6,967	2,231	2,752	208,359
Total votes recorded	2,999,196	2,295,776	1,275,214	806,695	699,957	263,489	45,403	128,262	8,513,992
SENATE ELECTION									
Electors enrolled	3,183,091	2,413,273	1,355,374	849,302	749,286	273,477	55,160	135,957	9,014,920
Number of votes recorded for—									
Australian Labor Party	1,215,796	-877,468	445,277	300,420	244,729	86,833	16,384	63,280	3,250,187
Liberal Party: National Country Party(a)(b)	1,139,825	831,703	..	..	..	..	..	..	1,971,528
Liberal Party(b) . . . . .	..	..	266,407	319,088	283,429	96,098	19,129	46,267	1,030,418
National Country Party(a)(b) . . . . .	..	..	309,622	7,419	25,937	..	..	..	342,978
Australian Democrats	187,507	231,113	115,429	96,662	58,538	7,780	4,113	10,663	711,805
Democratic Labor Party . . . . .	..	31,766	..	..	..	..	..	..	31,766
Progress Party	2,260	..	3,399	..	2,593	..	..	..	8,252
Others	172,470	67,666	17,196	12,747	15,278	53,127	2,452	4,494	345,430
Informal votes	281,338	256,060	117,884	70,359	69,453	19,651	3,325	3,558	821,628
Total votes recorded	2,999,196	2,295,776	1,275,214	806,695	699,957	263,489	45,403	128,262	8,513,992

(a) The National Country Party is known in the various States as follows: New South Wales, South Australia and Western Australia—National Country Party; Victoria, Queensland and Tasmania—National Party. (b) In New South Wales and Victoria the Liberal Party and the National Country Party/National Party candidates stood as one group; in Tasmania and the Australian Capital Territory only the Liberal Party stood as a group; in Queensland, South Australia and Western Australia the National Party/National Country Party and the Liberal Party each stood as separate groups; in the Northern Territory there was a Country Liberal Party group only. In the Northern Territory the Country Liberal Party (CLP) is affiliated with both the National Country Party and the Liberal Party; the CLP MHR for the Northern Territory sits with the National Country Party while the CLP Senator for the Northern Territory sits with the Liberal Party. Accordingly, CLP votes in the Northern Territory have been allocated to the National Country Party in the House and to the Liberal Party in the Senate.

The State of the parties in each House at the commencement of the thirty-second Parliament was: *Senate*—Liberal Party 30, National Country Party 5, Australian Labor Party 26, Australian Democrats 2 and Independent 1; *House of Representatives*—Liberal Party 54, National Country Party 20 and Australian Labor Party 51.

Following the retirement of those Senators whose terms expired on 30 June 1981 the state of the parties in the Senate was: Liberal Party 28, National Country Party 3, Australian Labor Party 27, Australian Democrats 5 and Independent 1.

Referendums

In accordance with section 128 of the Constitution any proposed law for the alteration of the Constitution, in addition to being passed by an absolute majority of each House of Parliament must be submitted to a referendum of the electors in each State and Territory and must be approved by a majority of the electors in a majority of the States and by a majority of all the voters who voted before it can be presented for Royal Assent.

Since 1901 thirty-six proposals have been submitted to referendums and the consent of the electors has been received in eight cases: the first in relation to the election of Senators in 1906, the second and third in respect of State Debts—one in 1910 and the other in 1928, the fourth in respect of Social Services in 1946 and the fifth in respect of Aborigines in 1967. The remaining three proposals in relation respectively to Senate casual vacancies, maximum retirement age for justices of the High Court and other Federal Courts and the right of electors in the Territories to vote in referendums for the alteration of the Constitution were approved in May 1977. In addition to referendums for alterations of the Constitution, other Commonwealth referendums have been held—two prior to Federation regarding the proposed Constitution and two regarding military service during the 1914–1918 War. For further details of referendums see Year Book No. 52, pages 66–68, Year Book No. 60, pages 90–91, and Year Book No. 62, pages 72–73.

The Parliaments of the States

This section contains summarised information; for greater detail refer to State Year Books.

Membership of State Parliaments. The following table shows the party distribution in each of the various State Parliaments at September 1981.

STATE PARLIAMENTS: MEMBERSHIP, BY PARTY AFFILIATION, SEPTEMBER 1981

Party	N.S.W.(a)	Vic.	Qld	S.A.	W.A.	Tas.
UPPER HOUSE						
Australian Country Party (C.P.)	..	..	..	..	..	..
Australian Labor Party (A.L.P.)	24	13	..	10	9	3
Independent (Ind.)	1	..	..	..	..	16
Liberal Party of Australia (L.P.)	12	27	..	11	19	..
National Country Party (N.C.P.)(b)	6	..	..	..	3	..
National Party (N.P.)	..	..	..	..	1	..
National Party of Australia (Victoria) (N.P.A.)	..	4	..	..	..	..
Australian Democrats (A.D.)	1	..	..	1	..	..
Call to Australia	..	..	..	..	..	..
Total	44	44	(c)	22	32	19
LOWER HOUSE						
Australian Country Party (C.P.)	14	..	..	..	..	..
Australian Labor Party (A.L.P.)	69	32	25	20	23	19
Independent (Ind.)	2	..	..	..	..	..
Independent Labor (Ind. Lab.)	..	..	..	1	..	..
Liberal Party of Australia (L.P.)	14	42	22	24	26	15
National Country Party (N.C.P.)(b)	..	..	..	1	3	..
National Party (N.P.)	..	..	35	..	3	..
National Party of Australia (Victoria) (N.P.A.)	..	7	..	..	..	..
Australian Democrats (A.D.)	..	..	..	1	..	1
Total	99	81	82	47	55	35

(a) Elected 19 September 1981.

(b) Formerly the National Alliance Party.

(c) Upper House abolished in 1922.

For corresponding particulars for the Commonwealth Parliament, see page 54.

Number and salaries and allowances of members of the legislatures, Commonwealth parliaments, September 1981

COMMONWEALTH PARLIAMENTS: MEMBERS AND ANNUAL SALARIES AND ALLOWANCES, SEPTEMBER 1981

Members in—	Cwlth	N.S.W.	Vic.	Qld	S.A.	W.A.(f)	Tas.	Total
NUMBER OF MEMBERS								
Upper House . . .	64	44	44	(a)	22	32	19	225
Lower House . . .	125	99	81	82	47	55	35	524
Total . . .	189	143	125	82	69	87	54	749
ANNUAL SALARY (b) (\$)								
Upper House . . .	33,013	18,324	32,513	(a)	27,780	29,032	28,621	..
Lower House . . .	33,013	28,190	32,513	33,690	27,780	29,032	28,621	..
ELECTORAL ALLOWANCES (\$)								
Upper House . . .	(c)12,600	6,040	9,200– 13,400	(a)	8,745	(d)8,910– 18,630	(d)3,148– 7,441	..
Lower House . . .	(c)12,600– 18,400(e)	(d)9,292– 16,632	(d)9,200– 13,400	(d)8,370– 21,600	(d)5,500– 20,350	(d)8,160– 17,880	(d)4,293– 10,017	..

(a) Abolished in 1922. (b) Basic rates (payable to backbenchers, etc.) only; additional rates apply for Ministers, etc. (c) Certain additional allowances are also provided for holders of parliamentary offices, etc. (d) Allowance payable depends on location of electorate and, for Victoria, Tasmania and Western Australia, size of electorate. In N.S.W. a special expense allowance for members of the Lower House of \$3,515 or \$4,391, is paid to members representing country electorates with members, of the Upper House, who reside in country districts, receiving \$3,164 or \$3,952 per annum. (e) A member of the House of Representatives representing an electorate of less than 5,000 square kilometres receives an electorate allowance at the rate of \$12,600 p.a.; a member representing an electorate of 5,000 square kilometres or more receives an electorate allowance at the rate of \$18,400 p.a. (f) New salaries as from 1 October 1981.

Outlay on parliamentary government

The table below shows, in broad groups, the expenditure incurred in the operation of the parliamentary system in Australia, comprising the Governor-General and Governors, the Ministries, the Upper and Lower Houses of Parliament, and electoral activities; *it does not attempt to cover the expenditure on Commonwealth and State administration generally.* Only broad groups are shown, but even these are not entirely comparable because of differences in accounting procedures and in the presentation of accounts. Expenditure under the head of Governor-General or Governor includes salaries of Government House staffs and maintenance of residences, official establishments, grounds, etc., and expenditure on capital works and services.

OUTLAY ON PARLIAMENTARY GOVERNMENT, 1979–80
((\$'000)

Expenditure group	Cwlth	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
Governor-General or Governor (a)		695	1,014	635	325	509	562	..	
Ministry (b)	5,561	1,351	1,303	1,674	712	462	831	795	16,429
Parliament—									
Upper House (c)	3,127	913	1,526	..	640	1,270	589	244	8,309
Lower House (c)	6,108	3,486	2,723	2,921	1,257	2,075	916	284	19,770
Both Houses (d)	25,158	8,542	8,043	4,406	3,675	3,789	2,730	1,642	57,985
Miscellaneous (e)	16,864	813	1,612	3,441	1,060	736	186	404	25,116
Total, Parliament	51,257	13,754	13,904	10,768	6,632	7,870	4,421	2,574	111,180
Electoral (f)	16,434	1,269	761	728	1,166	1,591	612	260	22,821
Royal Commissions, Select Committees, etc.	785	725	478	17	87	112	13	—	2,217
Grand Total	74,037	17,794	17,460	13,822	8,922	10,544	6,439	3,629	152,647

(a) Salaries and other expenses, including maintenance of house and grounds. (b) Salaries, travelling and other expenses as ministers. (c) Allowances to members (including ministers' salaries as members), travelling and other expenses. (d) Government contribution to members' superannuation funds, printing, reporting staff, library, etc. (e) Services, furniture, stores, etc. (f) Salaries, cost of elections, etc.

OUTLAY ON PARLIAMENTARY GOVERNMENT

Year	Cwth	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
TOTAL (\$'000)									
1974-75	44,113	8,047	7,194	6,332	3,895	4,865	2,461	..	76,907
1975-76	53,680	12,454	12,541	7,839	5,207	6,333	3,031	..	101,086
1976-77	60,698	14,181	12,434	7,616	5,995	7,256	4,525	..	112,705
1977-78	69,830	16,846	13,412	9,823	7,554	8,096	4,650	..	130,210
1978-79	70,424	19,315	16,512	12,516	7,904	9,517	5,382	2,468	144,038
1979-80	74,037	17,794	17,460	13,822	8,922	10,544	6,439	3,629	152,647
PER HEAD OF POPULATION (\$)									
1974-75	3.22	1.65	1.94	3.07	3.12	4.29	6.11	..	5.62
1975-76	3.88	2.54	3.36	3.74	4.14	5.47	7.46	..	7.30
1976-77	4.34	2.87	3.30	3.59	4.73	6.13	11.06	..	8.05
1977-78	4.93	3.38	3.53	4.56	5.89	6.69	11.28	..	9.19
1978-79	4.91	3.83	4.30	5.74	6.12	7.72	12.95	20.83	10.05
1979-80	5.10	3.48	4.51	6.22	6.88	8.41	15.32	30.62	10.52

Commonwealth Government Departments

For current detailed information on the Acts administered, the functions and the organisation of the Departments and Agencies of the Commonwealth Government see the *Commonwealth Government Directory* 1981.

Acts of the Commonwealth Parliaments

In the Commonwealth Parliament all laws are enacted in the name of the Sovereign, the Senate, and the House of Representatives. The subjects with respect to which the Commonwealth Parliament is empowered to make laws are enumerated in the Australian Constitution. In all States, other than South Australia and Tasmania, laws are enacted in the name of the Sovereign by and with the consent of the Legislative Council (except in Queensland) and Legislative Assembly. In South Australia and Tasmania laws are enacted in the name of the Governor of the State, with the advice and consent of the Parliament in the case of South Australia, and of the Legislative Council and House of Assembly in the case of Tasmania. Generally, assent to Bills passed by the Legislatures is given by the Governor-General or State Governor acting on behalf of, and in the name of, the Sovereign. In certain special cases Bills are reserved for the Royal Assent. The Parliaments of the States are empowered generally, subject to the Australian Constitution, to make laws in and for their respective States in all cases whatsoever. Subject to certain limitations they may alter, repeal, or vary their Constitutions. Where a law of a State is inconsistent with a law of the Commonwealth Parliament, the latter law prevails and the former law is, to the extent of the inconsistency, invalid.

The enactment/history of Commonwealth Parliament legislation

The legislation passed by the Commonwealth Parliament between 1901 and 1973, and which was then still in operation, is published in a consolidated form entitled *Acts of the Parliament 1901-1973*. Since 1974, annual volumes of Acts have also been published. The consolidation contains a chronological table of Acts passed from 1901 to 1973, showing how they are affected by subsequent legislation or lapse of time, together with a table of legislation of the Commonwealth Parliament passed from 1901 to 1973 in relation to the several provisions of the Australian Constitution. Reference should be made to these for complete information.

The following figures indicate the variation over the years in the number of enactments of the Commonwealth Parliament since 1901: 17 Acts were passed in 1901, 36 in 1914, 38 in 1927, 87 in 1939, 109 in 1952, 156 in 1965, 157 in 1968, 223 in 1973, 166 in 1974, 121 in 1975, 209 in 1976, 161 in 1977, 211 in 1978, 191 in 1979 and 177 in 1980.

CHAPTER 4

DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher defence organisation; the functions, organisation, manning and training of the three Services; the functions and activities of the Defence Science and Technology Organization; the Natural Disasters Organisation; and the functions of defence production.

Further information on Australia's strategic environment and defence policies and programming is contained in the Government's White Paper on Australian Defence tabled in Parliament on 4 November 1976 and statements made to the House of Representatives by the Minister for Defence, most recently on 25 March, 26 August, 9 September and 4 December, 1980. Further factual information on the programs and activities of the Department and the Defence Force is contained in past Defence Reports and other publications issued by the Department of Defence.

Current defence policy

The primary aim of Australian defence policy is to ensure the security of Australia and its direct interests against military threat. Factors of geography that support our security interests provide us with considerable assurance in pursuit of that objective. Nevertheless, recent global and regional developments have led to increased tensions and rendered less predictable the prospects for stability in regions both distant and nearer at hand.

Australian defence policy attaches high priority to developing and improving Australia's capacity to mount an independent national defence effort in order to maximise the risks and costs to any aggressor. The Government also places particular emphasis upon supporting the United States in its efforts to deter global war.

Defence policy is to maintain the ability to deploy forces appropriate to cope with a range of lesser situations, or to expand in time should the need arise to meet more substantial threat. This policy does not assume that US combat support would be available in all circumstances. However, the alliance with the United States under ANZUS gives substantial grounds for confidence that, in the event of a major threat to Australia's security, US military support would be forthcoming.

Priority in Australian defence activity is accorded generally to areas close to Australia from which threat could be most readily projected against Australia itself or Australian territories, or the maritime resources zone and the nearer lines of communication.

The stress placed upon improving the operational self reliance of the Defence Force in Australia's own environs has regard to our own national interests and responsibilities and to the constraints imposed by resources on our ability to project power at distance. Progress towards the objective of greater self-reliance will strengthen our capacity to contribute in our region to the support of allies and friends as well as to national concerns.

Australia remains conscious of its traditional associations with the liberal democracies and with the Western strategic community. Additionally, Australia maintains its concern for the security and development of the strategic neighbourhood—South-East Asia, Papua New Guinea and the South West Pacific. High value is placed on developing defence links with the region.

Higher defence organisation

Legislation concerning the present organisation of the higher management of the Defence Force and the Department of Defence was passed by the Commonwealth Parliament in September 1975 and became effective on 9 February 1976. It specifically recognised that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.

Chief of Defence Force Staff: Under section 9 (2) of the *Defence Act* 1903 the Chief of Defence Force Staff is vested with the command of the Defence Force. The Chief of Defence Force Staff is the chief military adviser to the Minister and in addition the Chief of Defence Force Staff has, with the Secretary, the joint administration of the Defence Force as specified above.

Secretary, Department of Defence: The Secretary derives his normal administrative powers as a Permanent Head and Chief Officer from the Public Service Act, the Audit Act and Finance Regulations. In addition to these powers, section 9A of the *Defence Act* 1903 makes the Secretary and the Chief of the Defence Force Staff jointly responsible for the administration of the Defence Force (except for the matters falling within the command of the Defence Force or any other matter specified by the Minister.) The Secretary is the principal civilian adviser to the Minister for Defence and is responsible to the Minister for advice on general policy and on the management and utilisation of defence resources.

Higher defence machinery

The *Council of Defence* considers and discusses matters referred to it by the Minister relating to the control and administration of the Defence Force and the respective Arms of the Defence Force. The Council is chaired by the Minister for Defence and membership includes the Minister Assisting the Minister for Defence, the Chief of Defence Force Staff, the Secretary of the Department of Defence and the Chiefs of Staff.

An extensive committee system exists to prepare advice for the Minister on defence policy, and to identify the respective Armed Services' operational requirements to meet defence objectives. It is also designed to facilitate the sound management of resources and the development of general policy and to enable the interests of elements of the Defence organisation to be represented when decisions on resource allocation are taken. The committee system brings together the expertise of both military and civilian members in the internal policy formulating process and the proffering of advice to Government. The more important committees are described below:

The *Defence Committee*, chaired by the Secretary with the Chief of Defence Force Staff, the three Chiefs of Staff, and the Secretaries of the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs as members. Representatives of other Government Departments and Agencies may be invited as members or consultants. It advises the Minister on general defence policies calling for co-ordinated information and advice about strategic, military, foreign affairs, financial and economic aspects.

The *Chiefs of Staff Committee*, chaired by the Chief of Defence Force Staff, is responsible for providing the Minister with collective professional advice on military operations; military implications of defence policy; endorsement of military plans; and other related subjects.

The *Defence Force Development Committee*, chaired by the Secretary with the Chief of Defence Force Staff and the three Chiefs of Staff as members. It is concerned with advising the Minister on the formulation of the Five Year Defence Program, annual budget estimates, new major equipment acquisitions, and other matters relating to force structure and the management of resources.

Defence Review

On 30 April 1981 the Prime Minister announced in the House of Representatives a major review of the Defence organisation as part of the Review of Commonwealth Functions.

The Committee is chaired by Mr John Utz, Chairman and Chief Executive of Wormald International Ltd.

The terms of reference for the Review are:

- To review the organisation of the higher Defence machinery in the light of experience since the Defence re-organisation of 9 February 1976, with particular reference to;
- the suitability of the organisation to propose and implement policy for the achievement of governmental defence objectives, including development of:
 - capability for independent defence of our national security interests;
 - national defence preparedness;
 - defence co-operation with allies and regional friends;
 - increased self-reliance in the national infrastructure supporting Defence; and
 - the scope for further rationalisation and economy in managerial arrangements for defence-related activities of the Government now conducted outside the Defence organisation.
- the suitability of the organisation for a defence emergency or war;
- the distribution of responsibilities within the higher Defence machinery as laid down in Defence and other relevant statutes and in the Directives issued by the Minister for Defence;
- the organisation and functions of the senior Defence Committees.

The Review Committee is expected to report in 1982.

EXPENDITURE ON THE DEFENCE FUNCTION
(\\$'000)

Departmental category	Actual Expenditure					Estimated
	1976-77	1977-78	1978-79	1979-80	1980-81	Expenditure 1981-82
Department of Defence—						
Capital equipment	281,200	319,238	406,880	495,731	563,556	665,038
Defence facilities	116,837	111,596	90,828	89,706	116,793	178,722
Defence co-operation	25,369	26,952	24,600	30,045	37,914	40,693
Manpower	1,104,690	1,197,742	1,255,390	1,386,587	1,599,461	1,778,007
Other running costs	504,031	569,285	633,872	788,876	967,616	1,065,086
<i>Total</i>	<i>2,032,127</i>	<i>2,224,812</i>	<i>2,411,570</i>	<i>2,790,945</i>	<i>3,285,340</i>	<i>3,727,546</i>
Department of Industry and Commerce (defence functions)—						
Capital equipment	7,762	6,410	10,167	14,190	21,593	37,604
Defence facilities	9,234	8,832	6,915	9,147	8,755	18,746
Manpower costs (including Remuneration Tribunal and Defence Force Retirement and Death Benefits)	127,366	145,729	167,761	185,088	211,029	247,044
Other running costs	78,167	85,246	89,870	104,560	118,705	118,598
<i>Total</i>	<i>222,529</i>	<i>246,217</i>	<i>274,713</i>	<i>312,985</i>	<i>360,082</i>	<i>421,992</i>
Total expenditure on defence function	2,254,656	2,471,029	2,686,283	3,103,930	3,645,419	4,149,538
Special provisions—						
Acquisition Boeing 707 aircraft . . . . .	..	..	10,201	3,395	196	471
Allowance for prospective wage and salary increases . . . . .	..	..	..	..	..	100,000
Total defence expenditure	2,254,656	2,471,029	2,696,484	3,107,325	3,645,615	4,250,009

Equipment for the defence force

An amount of \$585.1 million (excluding Boeing 707 aircraft) was spent on equipment of a capital nature in 1980-81. An amount of \$702.6 million is expected to be spent in 1981-82.

The significant new equipment items received by the Services in 1980-81 included 2 guided missile frigates (HMAS *Adelaide* and HMAS *Canberra*), 1 amphibious heavy lift ship (HMAS *Tobruk*), 1 oceanographic ship (HMAS *Cook*), 1 patrol craft (HMAS *Warrnambool*), 680 light trucks, 8 bulk fuel tankers, 59 fire fighting trucks, 54 medium tracked tractors, 9 medium wheeled tractors, 20 medium motorised graders, as well as Harpoon anti-ship missiles and MK48 submarine launched torpedoes. In addition, the services received 1 destroyer (HMAS *Hobart*) and 1 submarine (HMAS *Otway*) from refit, 2 RF111C aircraft from modification with a reconnaissance capability, 5 P3C aircraft from fitment with AQS-901 sonics processors and 2 Macchi aircraft from refurbishment.

In June 1981 the Government acquired four F111A aircraft from the US Government to replace the four Australian F111C aircraft lost in accidents, bringing the strategic strike squadrons up to their original strength of 24 aircraft. The Government has also approved the acquisition of the Pave Tack target acquisition and tracking system for the F111s which will enable the aircraft to identify targets by day and night and give them the capability to use precision guided munitions.

Deliveries expected during 1981-82 include 3 self propelled combined water/diesel lighters, 1 destroyer escort (HMAS *Parramatta*) from refit, 4 patrol craft, additional Harpoon anti-ship missiles and MK 48 submarine launched torpedoes, 75 8 tonne trucks, 20 ambulances, 64 medium duty wheeled tractors, 20 Macchi aircraft from refurbishment, 1 C130H flight simulator, 1 Mulloka sonar system and a precision approach radar for Naval Air Station Nowra. HMAS ships *Adelaide* and *Canberra* are also expected to arrive in Australia during 1981-82.

Evaluation is continuing for a replacement for the Aircraft Carrier HMAS *Melbourne* and the construction in Australia of two FFG-type guided missile frigates.

Concerning selection of the new tactical fighter, the Minister for Defence announced on 4 December 1980 that major uncertainties about costs and other aspects of both contending aircraft programs had forced a deferment of type selection until later in 1981. On 20 October 1981, the Minister announced that the Government would purchase the McDonnell Douglas F/A-18 aircraft as Australia's new tactical fighter.

The Government expects to approve a number of major new capital equipment projects during 1981-82. Details of equipment approved in the context of the 1981-82 Budget will be announced by the Minister for Defence later in 1981.

Defence Facilities

During 1980-81 total expenditure on Defence facilities was \$244.1 million. Expenditure in 1981-82 is expected to increase to some \$316 million.

Emphasis continues to be placed on the development of facilities in the north of Australia. To support the new Fremantle class patrol boats, the patrol boat base at Cairns, Qld, is nearing completion and that at Darwin, N.T., is well advanced. In support of the RAAF, works started in 1981 on an aircraft maintenance complex at RAAF Base, Darwin; on improvements to the airfield at Learmonth, W.A.; and on surveys for the proposed new airfield at Derby, W.A. Construction began of workshops and stores at Lavarack Barracks, Townsville, Qld, to support Army's Operational Deployment Force.

Other operational bases where there are, or have recently been, new major works include: HMAS *Stirling*, Cockburn Sound, W.A.—armament depot and oil fuel installation; Garden Island, N.S.W.—first stage of a modernisation program for the RAN Fleet Base and dockyard; HMAS *Albatross*, Nowra, N.S.W.—new hangar and workshop for Fleet Air Arm; Holsworthy, N.S.W.—living and working accommodation for Army's 1 Task Force; Enoggera, Qld.—working accommodation for 6 Task Force; RAAF Base, Edinburgh, S.A.—improvements to operational, training and fuel storage facilities; Glenbrook, N.S.W.—command and administration facilities for RAAF Operational Command Headquarters. In addition, programmes are well under way for over 500 additional Service houses at Townsville, Darwin and Cockburn Sound.

Major works at logistic facilities, besides the modernisation programme at Garden Island Dockyard, include a modernisation programme at Williamstown Dockyard, Melbourne; development of the RAN's main storage and supply centre at Zetland, N.S.W. and the second stage of a programme at Randwick, N.S.W. to improve facilities for Army's main transport units in N.S.W.

Major works at Defence Force educational and training institutions include the commencement in early 1981 of construction of the Australian Defence Force Academy in Canberra; the first stage of development of facilities at Bonegilla, Vic., for Army's School of Military Survey and Apprentices' School; and improvements to the RAAF School of Technical Training at Wagga, N.S.W.

Defence manpower

Employment

The following table indicates the range of activities and occupations in which defence military and civilian manpower are involved.

FUNCTIONAL DISTRIBUTION OF DEFENCE MANPOWER AS AT 30 JUNE 1981

<i>Function</i>	<i>Service</i>	<i>Civilian</i>	<i>Total</i>
Operational forces and direct logistic support	29,850	720	30,570
Specialist support (e.g. communications, medical services)	5,200	3,880	9,080
Stores and supply; storage and control	2,815	4,490	7,305
Dockyards, equipment production, repair and overhaul	2,935	6,440	9,375
Training	19,440	1,490	20,930
Support to reserves and cadets	1,215	100	1,315
Research and development	305	4,880	5,185
Central headquarters and administration including overseas representation	3,860	3,300	7,160
Regional commands and administration	7,215	3,830	11,045
Defence co-operation	220	..	220
Total	72,520	29,180	101,700

NOTES: Figures have been rounded.

Figures cannot be reconciled with those in previous Year Books prior to 1979, owing to changes within classifications.

Civilian figures include only full-time operatives and exclude 1,212 locally-engaged civilians overseas, persons on extended leave and part-time staff.

Permanent Defence Force**PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE AS AT 30 JUNE**

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1977	16,390	31,988	21,703	70,081
1978	16,298	31,883	21,689	69,870
1979	16,582	31,813	21,803	70,198
1980	16,961	32,321	22,249	71,531
1981	17,298	32,898	22,322	72,518
1982 (Approved Targets)	17,626	33,176	22,767	73,569

**COMPOSITION OF PERMANENT DEFENCE FORCE (a)
as at 30 June 1981**

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
Male—				
Officers	2,064	4,169	3,313	9,546
Other ranks	13,015	25,648	16,635	55,298
Cadets	417	477	408	1,302
Apprentices	666	818	441	1,925
Junior recruits	121	—	—	121
<i>Total</i>	16,283	31,112	20,797	68,192
Female (b)—				
Officers	90	280	213	583
Other ranks	894	1,479	1,289	3,662
Cadets	31	27	23	81
<i>Total(c)</i>	1,015	1,786	1,525	4,326
Total strength	17,298	32,898	22,322	72,518

(a) Includes Reserve personnel on full-time duty.

(b) Excludes female personnel on maternity leave.

Reserve Forces

Reserves comprise trained and partly trained volunteers who are available to participate in the defence of Australia and its interests in times of war or defence emergency. Royal Australian Navy and Royal Australian Air Force Reserves can be used to supplement and increase the rate of effort of the Permanent Forces. The Army Reserve consists mainly of formed units and sub-units, which, with the Regular Army, provide the basis for expansion of the Army.

**RESERVE COMPONENTS WITH TRAINING OBLIGATIONS (a)
as at 30 June**

	<i>Navy</i>	<i>Army</i>	<i>Air Force</i>	<i>Total</i>
1977	970	21,641	473	23,084
1978	917	23,164	490	24,571
1979	1,037	22,978	498	24,513
1980	1,039	23,986	502	25,527
1981	1,021	31,125	591	32,737

(a) Strengths exclude those members who are serving full-time in the Permanent Defence Force but include members who have not fulfilled their minimum training obligations.

Defence co-operation

In support of Australia's defence and foreign policies the Government conducts Defence Co-operation Programs with South-East Asian and South Pacific countries. The programs are bilateral, geared to the needs and priorities of co-operating countries, and emphasise the transfer of skills and technology. Activities include training in Australia, joint projects, loan of Australian personnel, and combined military exercises.

Training in Australia is an important activity. In 1980–81 over 1,150 overseas personnel were trained by the three Services or with civil organizations, almost twice as many as in the previous year. In accordance with the Government's decision to increase defence co-operation with neighbouring countries this figure is expected to expand steadily in future years. To this end the development and

upgrading of selected facilities and equipment in Australia commenced in 1981. This includes the establishment of an English language training and cultural familiarization centre (AUSTFAMIL) at RAAF Laverton where most overseas personnel attend prior to undertaking training at other Service establishments. The cost of establishing this centre will be \$1.97 million.

Co-operation with Papua New Guinea included the provision of Australian Loan Servicemen to PNG, combined exercises, training for PNG Servicemen in Australia, survey and engineering projects in PNG, and the provision of defence equipment. Expenditure in 1980-81 totalled \$15.2 million.

As well as the provision of training and advisory assistance, major projects undertaken with Indonesia included survey and mapping of Maluku Province (Moluccas) and Irian Jaya, a maritime patrol project (including patrol boats and Nomad aircraft), provision of Army vehicles, and maintenance of C130 (Hercules), engines and gearboxes. Expenditure totalled \$11.9 million in 1980-81.

Assistance to Malaysia in 1980-81 amounted to \$3.9 million, mainly for training. Major equipment elements of joint projects are now complete. Related advisory assistance is being developed including in association with the Armed Forces Manufacturing Workshop, Defence Research Centre and the Ordnance Training Centre. Assistance in defence cataloguing is also being provided.

Continued training and advisory assistance were provided to the Philippines, Thailand and Singapore during 1981-82. Additional emphasis was directed towards the Philippines and Thailand where assistance was increased from the previous year's modest level and a number of joint projects were commenced.

In 1980-81 expenditure on co-operation with South West Pacific countries increased to \$2.6 million. Activities in the South West Pacific are not confined to those states with defence forces. They include technical advisers, survey and mapping, hydrography, channel clearance operations, training and equipment assistance. Assistance was provided to Vanuatu to equip its newly formed Police Mobile Force and to contribute to the cost of its initial training in Papua New Guinea.

Defence representation overseas

Defence representatives are accredited to Britain, Canada, France, India, Indonesia, Iran, Japan, Republic of Korea, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, the Philippines, Switzerland, Thailand and the United States of America.

Defence force activities overseas

The main areas where Australian Defence Force elements have been deployed overseas during the year were Malaysia/Singapore, Papua New Guinea and the Indian Ocean. Units also visited the United Kingdom and Western Germany, Indonesia, the Philippines, Japan, the People's Republic of China, the United States, Canada, New Zealand and the South West Pacific.

Australian Defence Force elements in the Malaysia/Singapore area include:

Navy—A Destroyer or Destroyer Escort is maintained in South-East Asian waters for much of the year. In addition, the Aircraft Carrier *Melbourne*, an escort and support ships visited the area on good-will visits.

Army—An Australian Army infantry company is maintained at Butterworth on the basis of three month detachments from Australia, in a training role.

Air Force—Two squadrons of Mirage fighter aircraft are maintained at Butterworth with a detachment at Tengah in Singapore. Up to three P3 Orion maritime patrol aircraft are also located at Butterworth for surveillance duties.

The Defence Force continued to contribute to United Nations peace-keeping operations with Australian Army observers in Kashmir and the Middle East.

Since mid-January 1981, a Guided Missile Destroyer has been maintained on surveillance duties in the Indian Ocean and the Arabian Sea. These vessels have also paid good-will visits to Indian Ocean littoral states.

For the first time in 32 years, a RAN ship, the Destroyer Escort *Swan*, paid a good-will visit to the People's Republic of China, in late August—early September.

Under the Defence Co-operation Program with neighbouring countries, elements of the Defence Force have conducted surveying and mapping operations in Indonesia, Papua New Guinea and Fiji; and have undertaken other tasks in the Solomon Islands, Tonga, Vanuatu and Kiribati.

THE DEFENCE FORCE

Royal Australian Navy

The RAN maintains and exercises a modern, well-equipped and highly-trained maritime force. The structure of this force is based primarily on the provision at sea of a balanced force group, consisting of surface warships, naval aviation and submarines.

Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of the Naval Staff, the Chief of Operational Requirements and Plans, the Chief of Personnel, the Chief of Technical Services, and the Chief of Materiel. Other senior officers of the RAN include the Flag Officer Naval Support Command and the Flag Officer Commanding H.M. Australian Fleet.

Ships of the Royal Australian Navy

The Fleet, September 1981: *Melbourne*-aircraft carrier; *Supply*-oiler; *Stalwart*-destroyer tender; *Tobruk*-amphibious heavy lift ship; *Adelaide, Canberra*-guided missile frigates; *Perth, Hobart, Brisbane*-guided missile destroyers; *Vampire*-destroyer; *Yarra, Parramatta, Stuart, Derwent, Swan, Torrens*-destroyer escorts; *Jervis Bay*-training ship; *Curlew, Snipe*-coastal minehunters; *Ibis*-coastal minesweeper; *Moresby, Flinders*-surveying ships; *Cook, Kimbla*-oceanographic research ships; *Otway, Onslow, Ovens, Otama, Oxley, Orion*-submarines; *Attack, Acute, Advance, Adroit, Ardent, Assail, Aware, Barbette, Barricade, Bayonet, Bombard, Buccaneer, Fremantle, Townsville, Warrnambool*-patrol boats; *Banks, Bass*-general purpose vessels; *Brunei, Labuan, Tarakan, Wewak, Betano, Balikpapan*-heavy landing craft.

Fleet Air Arm

The Fleet Air Arm maintains three front line squadrons for embarked operations in the carrier HMAS *Melbourne*. These squadrons currently consist of Skyhawk A-4G fighter/ground-attack aircraft, Tracker S2E/G anti-submarine aircraft and Sea King Mk 50 anti-submarine helicopters. Two Wessex 31B helicopters are also carried for Search and Rescue/Utility tasks. Three training and support squadrons are based at the RAN Air Station, Nowra, New South Wales. Tracker S2E and S2G aircraft are also used for surveillance duties in Bass Strait. Other aircraft operated by the Navy are the Bell 206B/1 helicopter in the survey ship HMAS *Moresby*, Iroquois UH-1B and Wessex 31B helicopters (utility tasks, and search and rescue), HS-748, (electronic warfare role) Skyhawk TA4-G and Macchi trainers and Jindivik pilotless target aircraft.

Ship construction and repairs

There are two naval dockyards, one at Garden Island, Sydney and one at Williamstown, near Melbourne. A third yard at Cockatoo Island in Sydney harbour is operated by Vickers Cockatoo Dockyard Pty Ltd under agreement with the Australian Government. This company carries out considerable naval refitting work, particularly of submarines. In August 1979 the company was awarded a contract to construct a new replenishment ship for the RAN the keel of which was laid in August 1980.

Other current construction projects include eleven patrol boats being built in Cairns, two guided missile frigates in the United States of America and modernisation of two destroyer escorts being undertaken by Williamstown Naval Dockyard.

Training and entry

Officer Entry. The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Applicants must be under twenty years of age on 1 January of the year of entry, and must meet or intend meeting during the year of entry, the matriculation standard of the University of New South Wales, with passes in English, Mathematics, Physics and/or Chemistry. Officer appointees specialise in either Seaman, Engineering, Supply and Secretarial, or Instructor branches. Selected appointees complete a full time degree course in Engineering, Science, Surveying or Art at the University of New South Wales. Engineering Officer candidates must have attained Matriculation standard with passes in English, Mathematics, Physics and Chemistry. Male and female applicants for short service are selected after completing Year 12, to age twenty-four. Entry is also available to professionally qualified persons such as doctors, teachers, engineers and lawyers.

Sailor Entry. There are several entry schemes available, depending upon an individual's age, educational standard and interests. New entry training is carried out at the following establishments:

- *HMAS Nirimba* at Quaker's Hill, New South Wales, is the primary establishment for all RAN trade training which includes courses for apprentices aged between fifteen and seventeen-and-a-half, general entry personnel and direct entry tradesmen.
- *HMAS Leeuwin* at Fremantle, Western Australia, is the junior recruit training establishment for male entrants aged between fifteen-and-three-quarters and sixteen-and-a-half.
- *HMAS Cerberus* at Westernport, Victoria, is the training establishment for general entry members aged between seventeen and twenty-six. Recruits receive twelve weeks initial basic training before progressing to branch training courses.

Advanced branch training is also undertaken at the various schools at *HMAS Penguin*, *HMAS Watson* in Sydney, and the Naval Air Station at Nowra, New South Wales. A number of specialist courses are conducted in the United Kingdom and United States.

Australian Army

The Australian Army maintains a potential ability and readiness to conduct operations on land for the defence of Australia and, in co-operation with the other arms of the Australian Defence Force, shares a responsibility to deter aggression, to ensure the nation's security and to preserve its national interests.

Higher organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. He has for his principal staff officers the Deputy Chief of the General Staff, the Chief of Operations, the Chief of Personnel, the Chief of Logistics, the Chief of Materiel and the Chief of the Army Reserve.

The Army is organised into three commands as follows:

- *Field Force Command* which commands all field force units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command* which commands the principal logistic elements of the Army.
- *Training Command* which is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon (which is under the command of the Chief of the General Staff).

Military Districts as listed below provide administrative support for the three commands, and, in certain cases act as intermediate headquarters for them:

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th Military Districts.
- *3rd Military District*—the State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia, plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia.
- *6th Military District*—the State of Tasmania.
- *7th Military District*—the Northern Territory.

The military district headquarters also handle those matters in which both Commonwealth and State Governments are involved.

Training

Australian Staff College. The Australian Staff College is located at Queenscliff, Victoria. The course is held annually and is of twelve months duration. The normal intake is eighty students, twenty of whom are from overseas countries. The course is intended to train selected officers for appointments in all branches of the staff in peace and war and to prepare them to assume, after experience, command and higher staff appointments. On 1 January 1982 the College is to be retitled the Command and Staff College, with an associated change in curriculum.

Royal Military College. The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory to provide trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations. The course is either four or five years of military and academic studies depending upon the academic course undertaken. On graduation, cadets are appointed lieutenant in the Australian Regular Army.

Officer Cadet School. The Officer Cadet School was established in 1951 at Portsea, Victoria, to increase the rate at which junior regimental officers could be produced for the Australian Army. Civilians between eighteen-and-a-half and twenty-two-and-a-half years are eligible for entry. Serving soldiers are eligible for entry from eighteen-and-a-half up to twenty-seven years. Civilians accorded special entry status because of completed or part completed tertiary qualifications are eligible for entry between eighteen-and-a-half and twenty-five years. The course lasts for forty-four weeks and, on graduation, cadets are appointed second lieutenants in the Australian Regular Army.

Women's Royal Australian Army Corps School. The WRAAC School at Mosman, New South Wales, has two wings: one whose task is the training of officer cadets for the WRAAC; and one which is a basic training wing. The officer cadets are selected on the same criteria as entrants to the Officer Cadet School. The course is of forty weeks duration and, on graduation, cadets are appointed second lieutenants in the Women's Royal Australian Army Corps.

Land Warfare Centre. The Land Warfare Centre at Canungra provides training for personnel in tactics and administration and conducts sub-unit and individual training in battle skills.

Army Apprentices School. The Army Apprentices School was opened in 1948 at Balcombe, Victoria, to train youths as skilled tradesmen for the Regular Army and to provide them with a background for an Army career. The course is open to youths between the ages of fifteen and seventeen and provides training in a number of highly skilled trades.

Other Schools. Army schools have been established for the major arms and services to train officers and other ranks in the up-to-date techniques of their own arm or service, to qualify them for promotion and to produce trained instructors. Courses at Army Schools are conducted for members of both the Regular Army and Army Reserve.

Royal Australian Air Force

The function of the Royal Australian Air Force is the conduct of operations in the air for the defence of Australia and Australian interests.

Higher organisation

The Chief of the Air Staff (CAS) has command of the Royal Australian Air Force subject to the overall command of the Defence Force by the Chief of Defence Force Staff. The CAS is assisted in his decisions by an advisory committee which includes the Deputy Chief of the Air Staff, Chief of Air Force Personnel, Chief of Air Force Technical Services, Chief of Air Force Development, Chief of Air Force Materiel, Director General Supply—Air Force, Assistant Secretary Resources Planning, and other senior officers or specialists as may be directed by the CAS. The Committee has no statutory authority nor executive function and the CAS is not obliged to accept its recommendations.

The Chief of Air Staff administers and controls RAAF units in Australia through two commands: Operational Command and Support Command. Operational Command is responsible to the CAS for the command of operational units and the conduct of their operations within Australia and overseas. Operational units based at Butterworth, Malaysia, contribute to the development of the Malaysian and Singapore defence capability and provide forces for the Integrated Air Defence System. Support Command is responsible to the CAS for training of personnel, and the supply and maintenance of Service equipment.

Structural organisation

The RAAF has five operational elements, the units of which actively and directly participate in air operations. These elements are the strike/reconnaissance force, tactical fighter force, air transport force, tactical air support force and the maritime force. The strike/reconnaissance force provides a capability for offensive air operations against land and naval targets, and a long range reconnaissance capability. The tactical fighter force is responsible for air superiority, air defence and air interdiction operations, and also provides close air support to sea and land forces. The air transport force is used for routine strategic and domestic transport, and in addition has a tactical transport role. Tactical transport and close air support aircraft normally operate within a tactical air support force which is usually controlled by a joint (Air Force/Army) headquarters. Maritime forces are primarily employed in ocean surveillance, anti-submarine warfare and search and rescue. Major maritime operations are controlled by a joint (Air Force/Navy) headquarters.

The support component consists of those units and personnel which support units of the operational component. The elements are maintenance, supply, air training, ground training, administrative and the RAAF Reserve.

Aircraft

The RAAF's strike/reconnaissance force is equipped with F-111C aircraft. Canberra aircraft are used for aerial photography, survey and target towing. The air defence and ground attack squadrons are equipped with the Mirage 1110/D. Transport aircraft currently in use are Hercules C130H and C130E, Caribou, Mystere 20, HS-748, Boeing 707, and BAC-111. Three squadrons operate Iroquois helicopters and one operates the Chinook medium lift helicopter. Maritime squadrons operate Orion P-3B and P-3C aircraft. Aircraft used for aircrew initial training are the CT-4 Airtrainer, Macchi and HS-748T2.

Training

RAAF Academy. The RAAF Academy at Point Cook, Victoria is an affiliated college of the University of Melbourne. Cadets are selected principally for the General Duties Branch, and, after three years tertiary training, graduate with a Bachelor of Science degree. Graduates then complete a basic aircrew training course. Cadets selected for the Engineer Branch study the first year at the Academy and then attend the University of Sydney to graduate with a Bachelor of Aeronautical Engineering degree.

Engineer Cadet Squadron. The Engineer Cadet Scheme provides training for degree status in aeronautical, mechanical, electrical and communication engineering at the Royal Melbourne Institute of Technology and similar institutes in the Melbourne area.

Equipment Cadets. Cadets selected for Equipment Branch duties undertake a three year course at the Darling Downs Institute of Advanced Education in Queensland. They graduate with a Bachelor of Business degree.

Basic Aircrew Training. Flying training for RAAF pilots is conducted at Point Cook, Victoria, and Pearce, W.A., while RAAF navigators are trained at East Sale, Victoria. Officer and military training forms part of the flying training course. Trainees receive their wings and are commissioned on graduation. The RAAF also provides pilot and observer training for the RAN and initial pilot training for the Army. Airmen, aircrew for employment as flight engineers, loadmasters and crewmen are trained in two phases: a basic aircrew course at Richmond, N.S.W., and flying training within the conversion training or operational squadrons.

Aircrew Operational Conversion. Conversion training to Mirage fighter aircraft and Orion Maritime aircraft is conducted by the respective conversion training squadrons. Conversions to other operational aircraft are conducted within the operational squadrons.

Officer Training. With the exception of those officers commissioned from the RAAF Academy or the flying training schools, all officers entering directly (with or without tertiary qualifications), commissioned airmen and airwomen, engineering and equipment cadets and undergraduate students undergo the Officers' Initial Training Course at the Officers' Training School, Point Cook, Victoria.

Staff College. The RAAF Staff College located at Fairbairn, A.C.T., provides staff training and higher service education to selected officers normally of the rank of Squadron Leader. The course, which is of one year's duration, is designed to broaden the students' professional background and to prepare them for command and staff appointments of greater responsibility. A two year correspondence course covering communication skills, military studies, international affairs and management is a compulsory prerequisite for entry to this course.

Ground Training. The major ground training schools are the School of Radio at Laverton, Victoria and the School of Technical Training at Wagga, New South Wales. Both schools provide apprentice and adult trade training for technical personnel. They also provide post graduate-type training and specialist familiarisation courses on aircraft and telecommunication systems. Non-technical courses conducted at Wagga include catering, clerical, supervision and management and instructional technique.

**SERVICE ESTABLISHMENTS PROVIDING EDUCATIONAL COURSES OF SIX MONTHS DURATION
OR LONGER, AUSTRALIA, 1977, 1978, AND 1979**

<i>Establishment</i>	<i>Students enrolled</i>			<i>New entrants during year</i>			<i>Number completing course during year</i>		
	1978	1979	1980	1978	1979	1980	1978	1979	1980
Staff colleges—									
Joint Services Staff College	82	82	88	82	82	88	82	82	88
Australian Staff College	80	80	80	80	80	80	80	80	80
RAAF Staff College	48	48	41	48	48	41	48	47	41
RAN Staff College	—	34	36	—	34	36	—	34	35
Officer cadet training establishments—									
RANC	264	(a)537	567	119	332	314	41	217	245
RMC	438	439	456	148	135	139	89	77	71
RAAFA	122	130	127	45	46	33	26	25	26
Apprentice schools—									
Navy	419	677	904	240	184	252	101	167	527
Army	563	557	559	274	254	274	218	216	204
Air Force									
Wagga Wagga	278	338	335	135	161	173	133	(b)42	144
Laverton	77	86	109	37	50	50	38	(b)—	23
Other—									
RAN Junior Recruit Training School	326	360	256	330	360	256	570	344	220
RAAF School of Languages	37	34	45	37	34	45	37	34	35

(a) Now includes all RAN officer training. (b) Low numbers completing the course are due to extension of the course length by an average of three months. Apprentices graduated in 1980.



RAAF F/A18 fighter.

Defence Science and Technology Organisation

The Chief Defence Scientist heads the Defence Science and Technology Organisation (DSTO) which is engaged in research, analysis, development, trials and evaluation. It consists of a central office and thirteen establishments, a small number of people in overseas posts and some in joint activities with other nations. The DSTO contains about 4,800 staff (including some 1,100 professional) who provide a degree of scientific expertise in most physical sciences and some engineering fields of relevance to defence.

The objective of DSTO is to ensure that Australia takes best advantage of modern technology in its Defence Force. The major activities are: scientific input to Defence policy formulation; solution of Service problems particularly where high technology or special features of Australian physical or military environment are involved; modification and extension of life of Service equipment; development of Australian equipment; evaluation of Service equipment and procedures by trials, exercise analysis or operational research; support to defence industry; international co-operation in defence Research and Development.

The central office of DSTO in Canberra has 3 Divisions:

Programs and Administration Division controls the management and administration of the DSTO forward planning and advises on the optimum deployment of DSTO resources; co-ordinates co-operation with overseas governments and is responsible for information services as well as career planning and assessments. It manages special joint undertakings with other countries.

The Projects and Analytical Studies Division provides management and advice on Major Projects and co-ordinates relevant establishment activities; co-ordinates analytical studies throughout DSTO, fosters DSTO contacts with other national science and technology agencies and bodies.

The Service Laboratories and Trials Division plans and executes trials of Defence Force equipment; maintains a source of engineering design for development and modification of military equipment; advises on appropriate engineering and trials standards.

DSTO Establishments

DSTO laboratories are located in eastern and southern Australia. Those primarily concerned with testing and evaluating Service equipment are functionally grouped under the Services Laboratories and Trials Division.

The DSTO establishments are:

- Advanced Engineering Laboratory*, Salisbury, S.A.
- Armed Forces Food Sciences Establishment*,* Scottsdale, Tas.
- Aeronautical Research Laboratories*, Fishermen's Bend, Vic.
- Central Studies Establishment*, Canberra, A.C.T.
- Engineering Development Establishment*,* Maribyrnong and Monegeetta, Vic.
- Electronics Research Laboratory*, Salisbury, S.A.
- Joint Tropical Trials Research Establishment*,* Innisfail, Qld
- Materials Research Laboratories*, Maribyrnong, Vic.
- Materials Testing Laboratory*,* Alexandria, N.S.W.
- Royal Australian Navy Research Laboratory*,* Edgecliff, N.S.W.
- Royal Australian Navy Trials and Assessing Unit*,* North Sydney, N.S.W.
- Trials Resources Laboratory*, Salisbury, S.A.
- Weapons Systems Research Laboratory*, Salisbury, S.A.

* Responsible to Chief Defence Scientist through Controller Services Laboratories and Trials Division.

DSTO Reviews

In line with Commonwealth government policy to review its major research organisations, DSTO was the subject of review in 1980. The reports:

- Independent External Review of the Defence Science and Technology Organisation Report, October 1980
- Internal Review into Objectives and Procedures of the Defence Science and Technology Organisation, October 1980

are published by the Australian Government Publishing Service.

The Minister for Defence announced the Government response to the reviews' recommendations on 29 July 1981. Many of the recommendations concerned the organisation, management and administration of DSTO, and were aimed at streamlining its operations. Some recommendations aimed at enhancing relations with industry and external science. The Minister agreed that scientists in

Government service required special working arrangements if innovation was to flourish and the Government accepted most of the recommendations. Some relating to organisation, including whether DSTO should be a Statutory Authority, were referred to the major review of Defence Organisation announced on 7 May 1981.

Natural Disasters Organisation

The Natural Disasters Organisation (NDO) was established in the Department of Defence in 1974, absorbing the functions of the former Directorate of Civil Defence; the latter had been in the Department of the Interior until moved to Defence in December 1972.

The organisation mitigates the effects of disasters at the request of State and territory counter disaster organisations and in conjunction with the Defence Force, Commonwealth Government Departments and other Government and non-Government organisations; and supports the development of a core civil defence structure. The NDO and the State and Territory Emergency Service organisations constitute the core civil defence structure for Australia, but their main continuing activity in peace is related to mitigation of the effects of disasters. The States and Territories have complete responsibility for their own counter disaster organisations.

At the national level NDO is required to develop and implement contingency plans involving Commonwealth resources to cope with requests by State/Territory counter-disaster authorities during disasters, and with civil defence needs. The headquarters of NDO in Canberra, through its National Emergency Operations Centre, provides a focal point for the co-ordination of national effort where appropriate. It is through this Centre that the physical resources available from the Commonwealth are co-ordinated when assistance or support is requested by State and Territory authorities.

The NDO administers a number of programs from Commonwealth funds for the support of the Emergency Service organisations, namely: the supply of emergency type equipment (radios, rescue vehicles, first aid kits, generators, flood rescue boats, etc); reimbursement of salaries of State/Territory full time organisers at regional level; provision of training films and handbooks, and subsidies on a limited dollar-for-dollar basis to provide accommodation for the State/Territory units at local government level.

Other programs which benefit all organisations with a counter-disaster involvement, and the community at large, are: training, principally at the Australian Counter Disaster College at Macedon, Victoria; emergency broadcasting facilities; a fall out shelter survey service; and a public awareness program.

DEFENCE PRODUCTION

Defence production functions of Department of Industry and Commerce

The defence production functions of the Department of Industry and Commerce are carried out under the *Supply and Development Act* 1939 and include the following:

Planning, establishment, operation and management of facilities producing aircraft, guided missiles, small arms, ammunition, explosives, clothing and other defence goods. Acquisition, maintenance, and disposal of strategic materials, investigation and development of Australian sources of supply of defence material in conjunction with the Department of Defence.

For the performance of the above functions the Department has two production divisions—

Munitions Supply, and Aircraft, Guided Weapons and Electronics Supply—supported by the Marketing Branch and elements of Central Office administrative staff.

Munitions supply

The Munitions Supply Division is responsible for the production of munitions required by the Defence Force. Production is carried out in Government factories, which may place orders with private industry for components and materials. The factories currently in operation and their main products or services are as follows:

Ammunition Factory, Footscray, Victoria (fuses, primers, cartridge cases and small arms ammunition); Australian Government Clothing Factory, Victoria (uniforms and clothing); Albion Explosives Factory, Deer Park, Victoria (high explosives, propellant); Explosives Factory, Maribyrnong, Victoria (propellants, explosives, rocket motors); Mulwala Explosives Factory, New South Wales (propellants and chemicals); Munitions Filling Factory, St Marys, New South Wales (filling of ammunition and explosive munitions); Ordnance Factory, Bendigo, Victoria (heavy guns, mountings, large gears); Ordnance Factory, Maribyrnong, Victoria (guns, projectiles, heavy forgings, rocket motor components); and Small Arms Factory, Lithgow, New South Wales (rifles, machine guns, mortar shells and fuse components).

Aircraft, guided weapons and electronics supply

Design, production and product support both in Government factories, and in industry, of aircraft, aero-engines, other aircraft components and guided weapons is the responsibility of this Division. Planning of capacity and negotiation (in conjunction with the Department of Administrative Services) of contractual arrangements concerning aircraft modification, repair and overhaul, and for the supply of spare parts and airborne equipment for the Services, are also functions of the Division.

The following factories are operated by the Division: Government Aircraft Factories at Fishermen's Bend, Victoria, together with its final assembly workshops and test airfield at Avalon, Victoria and the Aircraft Engineering Workshop at Pooraka, South Australia.

A twin turbo-propellor utility aircraft known as Nomad has been designed and developed by the Government Aircraft Factories (GAF) and the Government has approved production of 200 aircraft. A new Mark IV version of the Jindivik is being developed with costs being shared by Britain and Australia. The Ikara anti-submarine weapon system which has been fitted into 9 RAN ships has also been purchased by the British and Brazilian Navies. A commercial workload has also been maintained, a prime activity being the production of components for Boeing aircraft.

Marketing

Overseas sales orders of munitions items in 1980-81 amounted to approximately \$11.6 million. The main items sold were propellant, 105 mm ammunition, 25 lb aircraft practice bombs, FFG shafting, handcuffs, 7.62 mm L1A1 rifles and rifle spares, to USA, UK, New Zealand, Hong Kong, Fiji, Brunei and the Carribean region.

Finance

The total outlay by the Department of Industry and Commerce on defence-orientated activities was \$125.6 million during 1980-81. This was in addition to a turnover of \$115.0 million by the Government Factories through their trust accounts.

Personnel

At 30 June 1981, 9,015 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 163; aircraft production 2,511; munitions production 5,623; miscellaneous production 712; and overseas staff 6.

CHAPTER 5

INTERNATIONAL RELATIONS

The basic principles underlying the shaping and conduct of Australia's foreign policy are that Australia is an essentially Western democratic society aligned with the United States and its allies and partners; the country's prosperity is largely dependent on trade; it is remote from its founding nation, principal migration source countries, major markets and its main allies; it is a relatively rich country in a populous, developing and rapidly-changing region.

Initially, Britain and the Commonwealth countries were the central elements of Australia's foreign policy and activity. Later, partly as a consequence of the vital role played by the United States of America in the Pacific in the Second World War and subsequently, close relations were also developed with that country. These links, and links with Western Europe, remain important factors in Australian policy. Australia inherits its national traditions from Western European countries, conducts a major part of its trade with these countries and with the United States, and obtains technology and capital for its development from them.

Australia is located in a region which includes the politically, economically and strategically significant countries of North East and South East Asia and the many newly independent nations of the South Pacific. Awareness of the importance of these neighbouring states has led successive Australian Governments to seek to promote and maintain friendly and co-operative relations with them, not only to ensure the stability and security of the region, but also to develop mutually-profitable trade, investment, exchange of technology, and co-operation in the development process. Australia gives special attention to its relations with China, Japan, ASEAN (the Association of South East Asian Nations) and its members, New Zealand, Papua New Guinea and the other South Pacific states.

Australia has also been concerned at the increasing instability in the world strategic environment, particularly in South West Asia, Indo China, the Middle East and Africa. These will remain issues of central importance to the Government's foreign policy concerns and to the Western alliance of which Australia is an active member.

New international issues (economic, resources, human rights, etc.) and new concepts of national interest are emerging, together with an increasing recognition of the growing interdependence of the world community. This is reflected in economic issues becoming one of the priorities in Australia's foreign policy. Australia recognises the importance and growing complexity of economic issues, particularly the slow-down in world trade and economic development and the continuing energy crisis affecting both developed and developing countries. The growing interdependence of national economic and foreign policies and the increasing vulnerability of Australia's economy to international trade and other developments will remain at the heart of Australia's foreign policy concerns for some while to come. Australia's recognition of the serious implications that many of these issues have for the relationships between developed and developing countries was shown by the establishment early in 1978 of a Committee on Australia's Relations with the Third World. The Committee's Report was issued in September 1979. Australia places a high priority on its participation in the resolution of these global issues in the United Nations, the Commonwealth and other multilateral forums.

The United Nations

Successive Australian Governments have reaffirmed their support for the United Nations (UN), its Charter and the work being done in the various specialised agencies. Within the United Nations and other organisations, Australia seeks to work toward the solution of the pressing problems confronting humanity today.

Australia is involved in a wide range of United Nations matters and has served on many United Nations bodies. It was a member of the Security Council in 1973-74 and, in 1975, a long period of membership on the Trusteeship Council came to an end with the independence of Papua New Guinea. It is a member of the Special Committee on Decolonisation and the UN Committee for Namibia.

Australia is a member of the Economic and Social Council for 1980-82. Australia also supports the work of the specialised agencies and subsidiary bodies in such areas as development assistance, drug control and human rights. It is an active participant in the economic work of the United Nations through such forums as UNCTAD, and was last a member of the UNDP Governing Council in 1977-79. It is a member of the UN Commissions on Human Rights, Human Settlements, and Narcotic

Drugs, and on the Executive Board of the UN Children's Fund and the Governing Council of UNEP—and has been elected to the Statistical Commission for a four year term beginning in 1981. Australia is a member of three of UNESCO's Governing Councils.

Australia has been involved in almost all UN peacekeeping activities since these began. Australia has also contributed its assessed share of the costs of all UN operations and also makes voluntary contributions as well as providing men and equipment for peacekeeping forces.

Australia is also fully involved in the work of the UN on disarmament and outer space, and is a member of the main subsidiary bodies working in these areas.

Australia accepts the compulsory jurisdiction of the International Court of Justice and plays an active role in bodies concerned with the development of international law.

The Commonwealth

The Commonwealth is a distinctive and unique framework bringing together about a quarter of the world's population. Australia participates actively in the broad range of Commonwealth activities. It was host to the first regional Heads of Government meeting in Sydney in February 1978, and hosted the Commonwealth Heads of Government Meeting in Melbourne in September-October 1981.

South East Asia

Australia shares with South East Asian countries a concern for peace and the economic and social development of the region. The Australian Government is in regular contact and consultation with South East Asian governments on a wide range of issues. Contacts with them have widened beyond the scope of official activity to include consultation between private sector organisations, co-operation in the trade and resources field, the export of Australian expertise and technology in joint enterprise arrangements, and direct Australian investment. Benefits from this growing economic relationship are mutual, and it is essential to Australia's economic and political future in its own region.

The range of personal contacts with the region continues to widen, as tourism develops, migration from Asia to Australia grows, student exchanges increase, and academic studies and press coverage of regional affairs expand.

Australia has particularly welcomed the progress made by ASEAN and its contribution to the promotion of regional co-operation. Australia has a significant interest in helping to ensure that ASEAN succeeds in generating economic growth and political stability and supports its wish to prevent domination of the region by any major power. Australia has entered a program of economic co-operation with ASEAN to which it has pledged a total of \$34.5 million.

Asia

Australia believes that peace and prosperity in Asia depend largely on the ability of countries in the region to co-operate to secure these objectives and in ensuring that no major power, either inside or outside the region, is able to exert an undue influence in the area.

Australia's primary interest and concern in Asia has long been reflected in its active role in regional associations and organisations such as the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP), the Colombo Plan, the Asian Development Bank and in many other bodies, both private and government.

Japan is Australia's largest trading partner, with total trade now around \$8,850 million a year and is a significant source of investment funds. Relations between the two countries in political, cultural, scientific, sporting and other areas are being actively fostered by both Governments with a view to enhancing mutual understanding and friendship.

Australia has developed a broad range of interests with China since the establishment of diplomatic relations in 1972. This has been facilitated through reciprocal visits by political leaders and the conclusion of several bilateral agreements. There is an increased level of co-operation and exchange of experts between the two countries, one element of which is an aid program which Australia has begun with China. The level of trade between Australia and China is important for both countries. China is a significant market for Australian wheat, sugar, wool and iron and steel products. Recent years have also seen an increase in consultations between China and Australia on regional issues of mutual concern.

Australia's relations with the Republic of Korea are firmly established. In addition to the important economic partnership, both countries are promoting exchanges in other areas.

Australia is developing its relations with Laos and gives it a modest amount of aid. Australia maintains normal diplomatic relations with Vietnam but the bilateral relationship has been affected by Vietnam's military occupation of Kampuchea.

Australia recognises the strategic and political importance of the Indian sub-continent and has continued to strengthen friendly relations with the countries of that region. The Australian Prime Minister paid a State visit to India in January/February 1979 and high-level contacts have continued.

Pacific

Australia looks to consolidate and to expand its co-operative activities to promote the stability, welfare, harmony and economic development of the region. Australia has moved deliberately to develop and extend its bilateral relations with the Island countries and now has nine diplomatic missions in the area. Aid programmes are substantial in size and varied in nature, covering all types of infrastructure and other development projects. The Australian Government has approved a three-year forward aid commitment of \$120 million and for 1981-82 project aid to the region (excluding Papua New Guinea) is expected to amount to \$35 million. A further \$3.774 million for defence co-operation projects in the countries of the South West Pacific has been allocated for 1981-82.

As the largest of the South Pacific Island States, Papua New Guinea (PNG) has played, since independence, an influential and leading role in the region. Australia and PNG have a close and warm relationship which encompasses a broad range of Government and non-government activities. Australia's aid commitment to PNG is substantial and a second five-year aid agreement was announced in September 1981. Australia's budgetary aid will total \$241 million for 1981-82 while the defence co-operation program will provide grant assistance of a further \$14.86 million.

Australia was a foundation member of the South Pacific Commission, the South Pacific Forum and the South Pacific Bureau for Economic Co-operation and has become a party to the convention establishing the Forum Fisheries Agency. Australia takes part in these and the many regional meetings held in the Pacific to act on a broad range of issues of common interest. Besides contributions to ESCAP, SPEC and the SPC, financial support for other regional and international programs developed in the South Pacific is being increased significantly in 1981-82. Australia has also established a fund to promote the preservation and development of Pacific cultures. Australia and New Zealand have entered into a Non-reciprocal Preferential trade agreement in favour of South Pacific Forum States: the South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA).

The Americas

Australia has a long-standing and close relationship with the United States which extends across the whole range of the national life of both countries. Government-to-Government relations are only one part of a larger and more extensive interaction between the two countries which derives from common experiences, culture and language. In general, relations between the countries are warm and co-operative, with a high degree of official political consultation and a close personal relationship between the political leaders. The affinity between Australia and the United States is underpinned by substantial economic ties. The United States is Australia's largest supplier of imported items and its second largest export market.

Canada is, to a greater degree than other nations, a country comparable with Australia in terms of institutions and traditions, geographical size, economic standing and international outlook. The genuine goodwill established between the two countries has allowed Canada and Australia to co-operate on the achievement of mutually desirable objectives, reflecting individual national interests and competition in certain commercial fields.

Developments in the Caribbean and the Latin American region are of increasing importance to Australia, and resident missions have been established in Jamaica, Mexico, Chile, Argentina, Brazil, Peru and, most recently, Venezuela. Australia has observer status at the annual General Assemblies of the Organisation of American States.

Europe

Australia attaches considerable importance to maintaining warm and friendly relations with the countries of Western Europe, with the European Community and its institutions, including the European Parliament.

Bilateral relations with individual Western European countries continue to be of considerable importance. These relations are promoted by the very close cultural and historical links we share with these countries and are reinforced by the presence in Australia of large numbers of people of recent European origin. Economic ties between Australia and the major Western European economies are likely to be significantly strengthened by a major increase in the export of Australian energy resources to Europe.

The European Community (EC) is Australia's second largest trading partner and a major source of investment funds and scientific and technological expertise. The 1979 agreement with the EC over the Multilateral Trade Negotiation (MTN) has gone only some way towards resolving trading difficulties. Australia remains committed to seeking the development of a closer and mutually advantageous relationship with the EC based on our wide range of common interests.

With the establishment last year of the first directly elected European Parliament, it is evident that the Parliament will assume an increasingly important role in the Community. A delegation from the Parliament visited Australia early in 1981 during which the foundation for further mutually advantageous contact was established.

Australia's relations with the Soviet Union have been circumscribed following that country's invasion of Afghanistan. The Government has denounced unequivocally the Soviet invasion as being totally without justification and as being in contempt of the Charter of the United Nations. Australia does not accept the Soviet view that what has occurred in Afghanistan can be divorced from the conduct of bilateral relations. To demonstrate its concern, the Government has taken a number of measures to curtail relations between Australia and the Soviet Union.

Australia has expanded its contacts with Eastern European countries in the past decade, which saw the establishment of diplomatic missions in Yugoslavia, Poland and the German Democratic Republic (GDR). Eastern Europe is a sensitive area in world affairs and Australia has an interest in the maintenance of a balanced East/West relationship. Eastern Europe also has significant potential for Australian exports, particularly commodity exports, and our trade relations with the area have been expanding. Another aspect of our relations with Eastern Europe is the presence in Australia of large ethnic groups from countries of the region which have substantial links with their country of origin, notably in cultural matters.

The Middle East

Much value is placed on Australia's longstanding and close relations with the Arab nations and with Israel. Australia has an interest in the settlement of unresolved disputes in the region. Although Australia's ability to bring influence to bear towards a settlement of the Israel/Palestine issue is very limited, it has important interests in the region which cannot be overlooked. Australia supports the peace treaty between Israel and Egypt, seeing it as the first step towards a just, lasting and comprehensive peace settlement. Australia sees the basis for a peaceful settlement in the United Nations' Security Council resolutions 242 and 338. It regards full recognition of Israel's right to exist as an essential part of any settlement and at the same time supports the legitimate rights of the Palestinian people to a homeland alongside Israel. The terms of a settlement are a matter for negotiation among the parties directly concerned.

Africa

Australia wishes to broaden the range of its contacts with independent black African states and consolidate links with those with which it already enjoys friendly relations. It maintains formal diplomatic relations with South Africa without allowing this to derogate from its opposition to that country's policies of racial discrimination. Australia supports international action to bring Namibia to independence by a negotiated settlement.

Indian Ocean

Although recognizing that the deterioration in the regional and international climate following the Soviet invasion of Afghanistan has ruled out any immediate prospects for the successful convening of a conference on the Indian Ocean as a zone of peace, Australia continues to play an active role in the UN Ad Hoc Committee considering this matter. In response to the changed strategic situation in the north-west Indian Ocean region, Australia has increased its naval and air deployments into the region on an independent national basis. It has also indicated a readiness to co-operate with the United States in assisting the latter's deployments into the region. In March 1981 Australia and the United States agreed on terms for staging unarmed B-52 aircraft through Darwin for the purposes of training and surveillance over the Indian Ocean.

ANZUS

Maintenance of the ANZUS alliance with the United States and New Zealand remains of major importance in Australian foreign policy. The alliance continues to play a valuable role in the promotion of stability and normal relations in the Asian and Pacific area.

Nuclear issues

Australia's nuclear policies are based on strong support of the Nuclear Non-Proliferation Treaty (NPT), which Australia ratified in 1973.

In May 1977, the Prime Minister announced Australia's nuclear safeguards policy to cover exports of Australian uranium under new contracts. The policy includes requirements for International Atomic Energy Agency (IAEA) safeguards on Australian origin nuclear material, the conclusion of bilateral nuclear safeguards agreements with customer countries, and support for constructive

international non-proliferation initiatives. Nuclear safeguards agreements incorporating all the requirements of the Government's policy have been signed with Finland, the Philippines, the Republic of Korea, the United States and the United Kingdom. Negotiations are continuing with other countries.

Australia participated in the two year International Nuclear Fuel Cycle Evaluation study (INFCE), established in October 1977 to examine ways in which nuclear energy could help in meeting the world's energy needs consistent with nuclear proliferation objectives. INFCE successfully completed its work in February 1980.

During the post-INFCE period, international attention is concentrating on improved safeguards, improved assurance of nuclear supply and new institutional barriers to proliferation such as an international plutonium storage scheme. Australia is participating in work in these areas under the auspices of the IAEA. Australia is a member of the Board of Governors of the IAEA and also a member of the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development.

Australia encourages universal adherence to the NPT and supports other measures to strengthen generally international arrangements to provide assurance against the further spread of nuclear weapons.

Disarmament and arms control

For a number of years Australia has promoted nuclear arms control and disarmament objectives in the United Nations, and, since January 1979, as a member of the Committee on Disarmament in Geneva. Australia attaches particular priority to the earliest possible conclusion of a treaty banning all nuclear testing in all environments. Australia also has great interest in a number of non-nuclear disarmament questions. A promising start to serious consideration of a possible chemical weapons convention has been made in the Committee on Disarmament.

Australia has acceded to the following disarmament and arms control agreements: The Partial Test Ban Treaty, the Geneva Protocol (on Asphyxiating, Poisonous or Other Gases), the Outer Space Treaty, the Seabed Arms Control Treaty, the Nuclear Non-Proliferation Treaty, the Biological Weapons Convention, and the Environmental Modification Ban.

Economic Relations

In recent years economic factors have assumed increasing importance in international relations. This is largely due to the growing recognition of economic interdependence between nations and the need for global co-operation to solve the problems facing domestic economies.

Australia's interest in international economic developments derives from the overall importance of trade to Australia and its historical reliance upon a substantial amount of capital inflow to offset balance of payments deficits on the current account. The economic instability of the world economy in the 1970s and 80s has led many of Australia's trading partners to adopt protectionist measures and also to seek a solution to their economic problems by forming exclusive regional groupings. The Australian Government has endeavoured, through its involvement in such forums as GATT, to encourage these countries to adopt a global approach to economic recovery based on a removal of harmful tariff and non-tariff barriers to trade expansion.

Australia also has a strong commitment to the freedom of international capital flows. As a net capital importer, it is of considerable importance to Australia that the international system remains increasingly open and adaptable to facilitate the global exchange of goods, services, labour and capital. This is all the more so in view of the significant challenges imposed on the international monetary system by the dramatic changes in the world economy during the past decade.

Because of its particular characteristics and location, Australia is vitally dependent on its aviation, shipping and communications links with the rest of the world. Civil aviation has assumed particular prominence in Australia's foreign policy considerations in recent years, notably in its relations with developing countries in the region. In seeking to implement its policy of providing a wide choice of fares from the largest number of gateway ports, the Australian Government has sought a balance between the legitimate needs of Australian consumers on the one hand and the interests of Australia's bilateral aviation partners on the other. The attitude of other countries assumes particular significance with a route as complex as the Kangaroo route flown by Qantas; it involves not only those countries in Europe to which the service operates, but many other countries along the route which Qantas either overflies or where it enjoys stop-over rights.

A recent factor contributing to moves for changes in the world economy has been developing country demands for a new International Economic Order (NIEO) more geared to their needs and development aspirations. In 1980 and 1981, a major preoccupation of the UN General Assembly was

the proposal to hold Global Negotiations on international economic development issues. Agreement is outstanding, however, on the agenda and procedures for the negotiations. Nonetheless, North/South issues were considered in 1981 at a series of important summit meetings. It was a major subject at the Commonwealth Heads of Government Meeting which Australia hosted in September-October 1981. Later in Cancun, Mexico twenty-one heads of government met in October 1981 solely to consider North/South issues. Australia considers that it is in the interests of global security and stability and of the economic self-interest of all groups of states to achieve progress in the North/South dialogue and to address the economic development problems of developing states.

Australia also continues to attach great importance to its traditional relations with other developed countries, which continue to be Australia's principal trading partners. Membership of the OECD enables Australia to take part in consultations on a wide range of policy issues and on issues of international concern with countries experiencing similar social and economic circumstances. The Organisation's role in developing its members' policies on relations with developing countries, including the North/South dialogue, also makes it an important instrument for Australia's foreign policy.

Despite the importance of Australia's relations with her traditional trading partners, considerable concern has been expressed in recent years at the growing imbalance of trading opportunities which has unduly restricted the access of important Australian agricultural products to European Community markets. Australia has also been concerned about the effect of EC export subsidies on the returns from Australia's commodity exports to third world countries. Policies are being pursued to help resolve these problems.

North-South Relations

Australia seeks to play a constructive role in the dialogue on international economic development issues between the developed ('the North') and developing countries ('the South'). Australia's approach to North/South issues is based on the belief that not only are there compelling humanitarian reasons for finding solutions to the many problems facing the world economy and the developing countries in particular, but also that the degree of interdependence in the world economy makes progress imperative for international stability and economic growth. Australia's approach is also influenced by the predominance of developing countries in the region and by the fact that Australia shares a number of economic interests with the developing countries e.g. it is a leading producer and exporter of a wide range of primary products.

Australia has taken a forward position on a number of North/South issues. It has encouraged changes to the international economic system which are effective and which would serve to promote orderly development, political stability and the full participation by all countries in an open international trade and payments system. Australia believes that the round of global negotiations on North/South issues which has been proposed in the UN General Assembly could make a positive contribution to those goals. North/South issues were also scheduled as major items for discussion at the Commonwealth Heads of Government Meeting, which Australia hosted in Melbourne in September-October 1981.

Law of the Sea

Australia is participating in the Law of the Sea Conference, the largest and potentially the most important conference in the history of the United Nations, involving major strategic, economic, transport, scientific and environmental issues. The current draft text of a Convention includes articles on the system of exploration and exploitation of the deep seabed beyond the limits of national jurisdiction; the extension of the territorial sea to 12 nautical miles; the establishment of coastal state sovereign rights in the living and non-living resources of an 'exclusive economic zone' of 200 nautical miles; recognition of coastal state sovereign rights over the exploration and exploitation of the natural resources of the continental shelf, defined in terms of the natural prolongation of the land-mass; protection and preservation of the marine environment; marine scientific research; and the settlement of disputes. Rights of freedom of navigation and passage through straits and archipelagos which are important to trading nations such as Australia are also recognized in the text. The Conference has reached informal agreement on all but a few of the 400 articles in the negotiating text and its annexes and negotiations on the outstanding issues are at an advanced stage. It is hoped that negotiations can be concluded in 1981.

Antarctica

Australia has had a long association with Antarctica commencing with early expeditions and continuing with an active scientific program. Antarctica's importance to Australia derives from its geographical proximity, the history of Australian involvement there and Australian administration of the Australian Antarctic Territory. Australia maintains three permanent bases in the Territory at Casey, Davis and Mawson (as well as one on Macquarie Island).

As one of the twelve original signatories, Australia attaches particular significance to the 1959 Antarctic Treaty, which serves important Australian scientific, environmental and security interests. Australia hosted the first Antarctic Treaty Consultative Meeting in Canberra in 1961. Such meetings are held about every two years in one of the Consultative Party States, and in 1983 Australia will be host to the twelfth meeting.

In 1980, at a conference in Canberra, a Convention for the Conservation of Antarctic Marine Living Resources was concluded. A preparatory meeting for the establishment of a Commission to administer the Convention was held in Hobart in September 1981, and it is expected that the Commission (the first international body to be based in Australia) will be operating in Hobart in 1982.

Treaties

The texts of bilateral and multilateral treaties to which Australia becomes a party are printed in the Australian Treaty Series when they enter into force. The most recent consolidation of the Australian Treaty List was published as Treaty Series 1971, No. 1. Australia's current position with regard to individual treaties may be ascertained by referring to the 1971 list in conjunction with Cumulative Supplement No. 3 (Treaty Series 1975, No. 1), annual volumes on treaty action in the Treaty Series, and annual volumes on International Treaties and Conventions to which Australia has not yet become a party, in the series 'Select Documents on International Affairs'. These publications are available from the Australian Government Publishing Service.

Cultural Relations

The Department of Foreign Affairs administers a program of cultural relations overseas in furtherance of the Government's foreign policy objectives. The program includes exchanges in the performing and visual arts, sport, film and literature as well as academic exchanges. The Department co-operates and consults with appropriate Australian organisations.

Australia has cultural agreements with France, Greece, India, Indonesia, Iran, Italy, Japan, Republic of Korea, Malaysia, the Philippines, Romania, Singapore, Thailand, USSR, Yugoslavia and China.

Australian Aid Program—1981-82

Australia's development assistance program is directed towards promoting the economic and social advancement of developing countries, particularly in Asia and the Pacific. It aims to meet the expressed needs of these countries and is directed towards key activities in their economies, such as rural development. All of Australia's aid is given on grant terms and a significant proportion is untied.

About 80 countries receive assistance, but Australia's efforts are aimed principally at assisting its nearest neighbours—Papua New Guinea (PNG), the South Pacific region and member countries of the Association of South-East Asian Nations (ASEAN).

In 1981-82, Australia expects to spend about \$662 million on official development assistance, an increase of over \$100 million over 1980-81. Of this amount, \$520 million (79 per cent) will be provided as bilateral aid given directly to the governments of developing countries. The major elements of the bilateral program are budgetary support for PNG, project aid (equipment, goods and expertise), the education of Third World students and trainees, food aid and assistance through non-government organisations.

In addition, \$142 million has been allocated to multilateral agencies. Support provided to these bodies has been increased by \$41 million over 1980-81.

Training

During 1981-82 within a budget of \$24 million, Australia will sponsor about 3,300 people to study in Australia and Third World countries. The training program is designed to assist people from Asia, Africa and the Pacific and Indian Ocean regions to develop the manpower skills needed for social and economic development.

Australia's training program seeks to encourage recipient governments to relate their requests for training to their national development priorities. The aim is a matching of the Australian expertise with the requirements of recipient governments, whose role is to decide who should be nominated for scholarships and to indicate the level of training required and the field of study.

Within Australia the training includes individual training awards to regular Australian courses and special group courses known as Australian Development Assistance Courses, some of which are run in the International Training Institute in Sydney. Courses include studies in agriculture, health, engineering, education and management.

It is proposed to increase English language training both in Australia and in selected recipient countries. One benefit of this will be increased opportunities for academically promising candidates without good English. Further emphasis on training senior administrators in developing countries is also proposed.

Funding for the Australian Universities International Development Program (formerly the Australian Asian Universities Co-operation Scheme) will account for approximately \$2 million. The primary focus of the program is on agriculture, food production and population studies. Assistance is given in teaching, research and a variety of short courses.

Food Aid

Food aid has a significant role to play in improving food security in low income, food-deficit countries. As a major exporter of food, Australia is continuing to make food aid available to relieve starvation and encourage agricultural development. A total of \$100 million will be set aside for this purpose. The 1981-82 program will have a food grain component of 445,000 tonnes.

Australia is committed under the Food Aid Convention (FAC) to provide a minimum of 400,000 tonnes of food grain. Of this, 320,000 tonnes will be committed bilaterally as either wheat, flour or rice. Almost 60 per cent will be sent to African countries with the balance to South and SE Asian and Indian Ocean countries. Freight costs will be paid on grain sent to disaster areas and where recipient countries are facing balance of payment problems. Some will also be earmarked to meet the Government's commitment to provide \$8 million of additional food aid to meet the special needs of African refugees resulting from the extreme hardships and malnutrition evident in many African countries.

The remaining 80,000 tonnes will be channelled multilaterally through the World Food Program (WFP) which uses food aid in projects to directly stimulate and advance economic and social development as well as helping in emergencies. In addition Australia's contribution to the cash and commodities pledge made to WFP for the 1981-82 biennium will be \$12.5 million. Two thirds of this will be used to buy commodities in Australia for WFP projects throughout the developing world.

For the first time, in 1981-82 Australia will commit food grain and freight costs to the International Emergency Food Reserve (IEFR) over and above Australia's minimum FAC commitment of 400,000 tonnes. The reserve is an international facility which is used to help overcome unexpected and sudden food shortages resulting from war, drought, floods and pests. A contribution of 45,000 tonnes to the IEFR is expected, which will be allocated in close consultation with the WFP.

During 1981-82 food grain aid generally will be directed more to emergencies and to refugees where the needs are greatest; and through multilateral channels such as WFP and UN High Commissioner for Refugees, which can assume logistic monitoring and evaluation responsibilities ensuring that it does reach needy people quickly.

Apart from food grain aid, Australia is providing non-grain foods (freight paid) valued at \$4.1 million for vulnerable group feeding projects and for emergencies.

\$2 million has also been set aside for other food security measures intended to assist the development of secure production, marketing and distribution facilities in the food economies of some of our principal aid recipients. This assistance is in addition to our existing country programs and will be provided by a mix of commodity aid and technical assistance, as well as support for relevant programs developed by international bodies.

A further major initiative in the food security sector in 1981-82 is the establishment of the Australian Centre for International Agricultural Research (ACIAR). The Centre will be charged with contracting research work to existing Australian institutions in agriculture and related disciplines for the benefit of developing countries. Its principal aim will be to contribute to the solution of agricultural problems in these countries. When appropriate, research work will be carried out in developing countries and opportunities will be sought to involve research and extension workers from these countries. An advisory council representative of the Australian, developing country and international scientific communities is being established to set the research priorities of the new Centre and review the progress of research programs undertaken. A trust fund will be set up for the Centre to which an initial commitment of \$25 million over four years has been made by the Australian Government.

Papua New Guinea

About half of Australia's bilateral aid goes to PNG because of a special relationship with the country based on long historical association.

This year Papua New Guinea will receive \$254 million in assistance. The bulk of this amount (\$241 million) will be in the form of an untied grant for budgetary support. This amount represents the first payment under a five-year aid agreement negotiated between the Australian and Papua New Guinea Governments in September 1980. As with the first five-year aid agreement which ended in 1980-81, the purpose of this long-term aid arrangement is to provide PNG with a practicable framework in which to plan its development.

In addition to the budget support grant, Australia meets the cost of termination payments and retirement benefits due to former employees and provides training for Papua New Guineans. From 1981-82 this training will be incorporated into the PNG/Australia Technical Co-operation Program. This program also includes a jointly funded technical assistance program which will provide services and related equipment to increase the technical capacity and capability of Papua New Guinea.

Bilateral Projects

Most of Australia's bilateral aid to countries other than PNG is for specific development activities undertaken by the developing countries. These range from large-scale regional development programs to simple facilities in villages. At 1 July 1981, Australia was involved in 323 projects in about 35 countries. The total value of its contribution is some \$570 million. Generally, Australia meets the foreign exchange costs of a project, but it also pays, in an increasing number of cases, some of the local costs associated with projects.

South-East Asia receives the bulk of Australia's bilateral project aid. Australia is contributing about \$308 million to 87 projects in the region. Many of these involve infrastructure development work, agricultural improvements through crop and livestock research as well as practical extension work. In recent years Australia has become increasingly involved in large-scale, integrated rural development programs intended to bring about the balanced growth of whole regions, particularly in Indonesia, the Philippines and Thailand.

The basis of our program to the ASEAN countries within this region is an open-ended commitment of \$250 million. This commitment was first established in 1977 and has been periodically renewed. In addition, expenditure on research projects and other activities under the ASEAN Australia Economic Co-operation Program will amount to \$7.5 million in 1981-82.

Most of the ASEAN countries have now reached a stage of development where they are also looking to other forms of assistance to capitalise on their progress to date. As one response, Australia has introduced a scheme specifically for ASEAN countries known as the Development Import Finance Facility. The idea of the scheme is to reduce the cost to ASEAN governments of importing capital goods and services from Australia for development purposes. By offering a grant to support such transactions the Australian Government aims to enable recipient countries to purchase needed capital goods and services on better terms than are available under existing concessional finance.

South Pacific countries are beneficiaries under a three-year forward aid commitment of \$120 million (over the period 1980-81 to 1982-83). Most of the expenditure associated with this commitment is in the form of bilateral project aid for Fiji, Tonga, Western Samoa, Solomon Islands, Vanuatu, Kiribati, Tuvalu, Cook Islands and Niue.

At 1 July 1981, Australia was undertaking 120 projects in the South Pacific worth \$73 million. The large number of projects reflects the small-scale nature of island economies. These projects cover a wide range of activities and include assistance with transport, rural development, water and sewerage schemes, telecommunications and upgrading health facilities.

To keep pace with the changing requirements of the region, new forms of aid have been introduced over recent years, for example, one particular form of assistance which will be given increasing prominence in 1981-82 is the funding of joint ventures in the region. \$1 million has been earmarked to provide grants for the purchase of island equity in joint ventures with Australian companies. The South Pacific countries should benefit from this through income and employment creation.

South Asian countries receive significant amounts of project aid mainly to help rural development. Australia's total commitment to the 44 aid projects in South Asia on 1 July 1981, was \$75 million.

While the Asian and Pacific regions have traditionally been major recipients of project assistance, an increase of \$6 million in the level of assistance to African countries and Indian Ocean States is included in this year's aid program. Total project expenditure in 1981-82 will amount to \$16 million. This area contains many of the poorest countries which are faced with particularly severe development problems. Apart from normal project activities, the expanded program will include staffing assistance schemes, provision of development import grants and provision of assistance to regional programs being developed in southern Africa. These activities will be in addition to the commitment of \$20 million to Zimbabwe (for expenditure by the end of 1984) which was announced in March 1981. The increase in assistance to this region is particularly appropriate at a time when the international community is focusing on the particular needs of the least developed countries which are predominantly African. In total some 27 projects worth \$22 million were in existence at the beginning of 1981-82.

Non-Government Organisations (NGO)

The Australian Government gives financial assistance to a number of Australian non-government organisations (NGOs) for their development assistance activities. Support for these organisations this year will amount to over \$4 million.

The principal avenue of Government/NGO co-operation is a Project Subsidy Scheme under which eligible NGOs are assisted to undertake a variety of small scale projects at 'grass roots' level in developing countries. In 1981-82 some \$3.5 million will be provided for this purpose. Within this amount funds will be set aside for use in South Pacific projects. In 1981 when the needs of disabled persons are being emphasised, projects of particular relevance to the disabled will also be given prominence.

Some \$580,000 is also provided for schemes utilising the skills of Australian Volunteers. In addition to the long running Australian Volunteers Abroad scheme, a further scheme known as the Australian Executive Service Overseas Program has been introduced on a trial basis this year. Volunteers who may be either active or retired business executives will be placed with business and community organisations in developing countries for periods of up to six months. The Confederation of Australian Industry is managing the scheme during the trial period.

A number of international NGOs will also be supported again in 1981-82 such as the International Committee of the Red Cross. In total, support for these activities will amount to approximately \$1 million.

Multilateral Aid

Australia contributes to several international organisations and financial institutions concerned with aid to developing countries. They include the World Bank Group, Asian Development Bank, United Nations Development Program and other UN agencies, International Fund for Agricultural Development, Commonwealth Fund for Technical Co-operation, Economic and Social Commission for Asia and the Pacific (ESCAP), South Pacific Bureau for Economic Co-operation (SPEC), South Pacific Commission (SPC) and various international science, technology and research centres.

Support for these bodies provides Australia with an opportunity to participate in major development projects which are beyond the resources of individual donors.

Contributions in 1981-82 to international financial institutions are estimated at \$61 million. Included in this amount is \$35.6 million which will be provided to the International Development Association, the soft-lending affiliate of the World Bank, which directs its work towards assisting the poorest countries. Other major contributions in 1981-82 involve expenditure of some \$7.7 million to the Asian Development Fund, \$6.5 million for the International Bank for Reconstruction and Development and \$6.8 million for the International Finance Corporation.

Payments to UN, regional and international agencies in 1981-82 are estimated at \$81 million (including \$24 million to the WFP). In 1981-82, there is provision for significant increases in our pledges to the major UN bodies active in development. This reflects the Government's appreciation of the special role which these bodies can play in providing assistance at the international level. The five major bodies which will receive additional assistance are the UN Development Program, UN Children's Fund, the UN High Commissioner for Refugees, the UN Fund for Population Activities and the UN Relief and Works Agency. In total, these five bodies will receive over \$22 million in 1981-82.

With regard to Commonwealth-related concerns, a \$3.6 million contribution to the Commonwealth Fund for Technical Co-operation is provided for to meet priority technical assistance needs of developing Commonwealth countries. Over \$5 million is included this year to meet Commonwealth commitments.

Continued support of over \$8 million is to be given to regional organisations such as ESCAP, SPEC and SPC. Support for other regional and international programs developed in the South Pacific will amount to \$4.6 million in 1981-82. One new program will involve Australian participation in a geoscientific research program in the region. This seabed research program will be jointly undertaken by New Zealand, the United States and Australia.

\$4.7 million will be provided in 1981-82 for the international science, technology and research programs including support of a number of international agricultural research institutions within the Consultative Group on International Agricultural Research (CGIAR).

Refugees and relief

The past year has seen further increases in the number of refugees throughout the world. Three areas which are subject to particular problems are East Africa, Kampuchea and Afghanistan. To counter the extreme hardships which people from these places face, Australia will continue to support international appeals and provide emergency aid, mainly in the form of aid.

As a means of providing greater flexibility to deal with emergency refugee and relief situations as they arise, a separate amount of \$7.5 million has been set aside within the 1981-82 Budget. At least \$2 million of this amount will be used for refugee relief in Africa.

Passports

The Department of Foreign Affairs is responsible for Australian passport matters. Australian passports are normally valid for five years. Proof of citizenship must be produced. It is the responsibility of the passport holder to obtain any necessary visas. More than one million Australians travel abroad each year. The Department issued 469,000 new passports in 1980.

Consular

The Department of Foreign Affairs is responsible for advising its Minister on the conduct of foreign affairs and relations with foreign governments. It operates 85 Australian diplomatic missions and consular posts, and has responsibility for the protection of Australian interests and Australian citizens abroad. Numbers of Australians travelling overseas are increasing, as are the numbers of those requiring consular assistance.

CHAPTER 6

DEMOGRAPHY

This chapter deals with the size, growth, geographic location and characteristics of the population and with components of population change, namely births, deaths, marriage, divorce and migration.

The sources of the statistics in this chapter are population censuses, population surveys, State and Territorial registers of births, deaths and marriages, records of courts dealing with divorce, and other administrative records such as passenger cards required from international travellers and records of electoral roll and family allowance transfers.

With the proclamation of the *Constitution Alteration (Aboriginals) Act* 1967 on 10 August 1967, the provision in Section 127 of the Constitution requiring the exclusion of Aboriginals in reckoning the numbers of the people of the Commonwealth or of a State or other part of the Commonwealth was repealed. Accordingly, population and vital statistics for all dates subsequent to 10 August 1967 no longer exclude full-blood Aboriginals. Also, estimates for periods back to 30 June 1961 have been revised to include Aboriginals.

The references at the end of this chapter list publications of the Central Office of the Australian Bureau of Statistics dealing specifically with the topics of this chapter.

THE POPULATION

The population census

Basic enumerations of the population have been made since the early days of settlement in Australia. The early enumerations were known as 'musters'. A census conducted in New South Wales in 1828 became the first in a series of regular censuses in that colony. Periodic censuses were taken in the other Australian colonies. The first simultaneous censuses of all the Australian colonies was taken in 1881. The first national census was taken in 1911. It was followed by others in 1921, 1933, 1947, 1954, 1961 and at five yearly intervals thereafter. A special article on early censuses appears in Year Book No. 15 of 1922. A special article outlining the history, purposes, legal basis, organisation and publication of results of population censuses appears in Year Book No. 53 of 1967, pages 164-70.

Every census from 1881 has inquired into age, sex, marital status, birthplace, nationality or citizenship, and occupation. A wide variety of other topics has been included from time to time.

The most recent census in Australia was conducted on 30 June 1981. The first results are expected to be available early in 1982.

The 1981 census contains fewer questions than the 1976 census. However, in addition to basic demographic topics mentioned above, questions were asked on such topics as previous residence, birth place of parents, language usage, Aboriginality, religious affiliation, school attendance, educational qualifications, income, employment, mode of travel to work and certain characteristics of dwellings.

The questions which were deleted in 1981 were concerned principally with more detailed characteristics of dwellings. Some welfare related questions such as incidence of handicaps and child care usage were also omitted.

As for previous censuses, foreign diplomatic personnel and their families were out of the scope of the census, as were all persons residing in diplomatic residences on census night.

Despite elaborate arrangements aimed at obtaining complete coverage, it is not possible to ensure that a census schedule is returned for every individual. Some error inevitably remains for various reasons (e.g. inadvertent omission of very young children, missed dwellings or occupied dwellings mistakenly taken as unoccupied). Since 1966, sample surveys have been taken soon after each census to discover the approximate extent of underenumeration and the effects on the census results of misstatement or nonreply to specific questions. Underenumeration of the population of Australia at the 1976 census is estimated to have been 2.7 per cent. Estimated underenumeration of State and Territory populations ranged from 1.1 per cent in Tasmania to 4.4 per cent in the Northern Territory. Underenumeration varies from location to location and for populations of different ages and other characteristics. These and similar problems are common to all population censuses and, although underenumeration has increased in Australia since the 1971 census, it is of a similar order to that experienced by comparable countries.

Population estimates

The census count, adjusted for underenumeration, forms the basis for quarterly estimates of the population by sex and State. These are calculated by updating for subsequent births and deaths and for overseas and interstate migration. Age estimates as at 30 June each year are published by sex for each State and Territory. Small area population estimates are also made annually.

From 1976, and retrospectively to June 1971, the overseas migration component is defined as the excess of arrivals over departures of permanent and long-term movements. Long-term comprises visits to or absences from Australia lasting one year or longer. Previously, all overseas movement was included. Since 1961, interstate movement which enters the calculation of population estimates for the States and Territories has excluded holiday, business or other short term movements. Thus, quarterly changes due to short term overseas movement are reflected in Australian and State population figures prior to 1971 but not thereafter, and quarterly movements due to interstate travel are reflected in population figures prior to 1961 but not thereafter.

Estimates of the population at 30 June 1971 and 30 June 1976 are based on the population as counted in the censuses with an adjustment for underenumeration. The estimate of the population at 30 June 1971 is 12,937.2 thousand compared with the counted population of 12,755.6 thousand. The estimate of the population at 30 June 1976 is 13,915.5 thousand compared with the counted population of 13,548.5 thousand. The estimate of the population at 30 June 1980 is 14,615.9 thousand. While adjustments have been made to the estimates of the age and sex of the population of each State and of the population of each local government area, it is not possible to adjust all the statistical material derived from the census.

The quarterly estimates from June 1971 to June 1976 have also been revised to take into account the 1976 census and to allow for underenumeration at that and the preceding census.

Mean populations, by sex, are calculated for calendar and financial years and are used in the calculation of crude rates.

Size and growth of Australia's population

When Europeans first settled in Australia, the Aboriginal population is believed to have been at least 300,000. The Aboriginal population suffered a drastic decline in numbers over the next 145 years so that by 1933 it is estimated to have totalled about 67,000. It has since risen (to about 161,000 in 1976).

The population of Australia reached 1 million in 1858, 5 million in 1918 and 14 million early in 1977.

From 1861 natural increase has been the major element in population growth, and immigration the most variable. In the years 1861 to 1890, total growth on average exceeded 3 per cent a year and natural increase 2 per cent. The rate of natural increase declined during the last decade of the nineteenth century and the first decade of the twentieth century, and this, together with a near cessation of immigration during that period, reduced the rate of growth from 3.70 per cent in 1861-70 to 1.63 per cent in 1901-10.

The 1914-18 war was the dominating influence in the decade 1911-1920: during the war and immediate post-war years the birth rate rose and immigration was resumed. In the economic depression of the 1930s, however, natural increase fell to very low levels and immigration ceased; indeed, in some years, overseas departures exceeded arrivals.

With the outbreak of the 1939-45 War, Australia entered a new phase. The immediate effect of the war was to increase the number of marriages and births. The increasing births more than offset the rise in deaths due to war casualties and higher civilian death rates. Migration in these years was negligible.

The period 1947 to 1961 was marked by continued high natural increase and a resumption of immigration, the latter resulting in very high net gains in each of the four years 1949 to 1952.

Between 1961 and 1970, net migration continued at about the same level as in the previous decade, but there were declines in the crude birth rate and the rate of natural increase. The years since 1971 have been characterised by a reduced rate of natural increase due to a decline in the birth rate. Net migration gain, moderate for most of the seventies, increased sharply in 1979 and 1980, following changes in migration intake targets and Australia's acceptance of a large number of Indo-Chinese refugees as settlers.

The rate of population growth in 1980 was 1.45 per cent, the highest since 1974 (1.62 per cent). The population estimates in the following table relate to the end of December. Estimates for the end of June are given in other tables in this Chapter.

POPULATION AND COMPONENTS OF GROWTH

Period	Population at end of period ('000) (a)	Average annual rate of growth (b) (per cent)		
		Natural increase	Net migration (c)	Total
1851-1860	1,145.6			
1861-1870	1,647.8	2.47	1.23	3.70
1871-1880	2,231.5	2.07	1.01	3.08
1881-1890	3,151.4	2.05	1.46	3.51
1891-1900	3,765.3	1.73	0.07	1.80
1901-1910	4,425.1	1.53	0.10	1.63
1911-1920	5,411.3	1.60	0.43	2.03
1921-1930	6,500.8	1.32	0.53	1.85
1931-1940	7,077.6	0.79	0.05	0.85
1941-1950	8,307.5	1.13	0.47	1.61
1951-1955	9,311.8	1.38	0.95	2.31
1956-1960	10,391.9	1.40	0.83	2.22
1961-1965	11,505.4	1.27	0.74	1.98
1966-1970	12,663.5	1.11	0.91	1.94
1971-1975	(d) 13,849.3	1.08	0.49	1.59
1972	(d) 13,283.9	1.19	0.43	1.64
1973	(d) 13,490.6	1.03	0.51	1.56
1974	(d) 13,709.5	0.96	0.65	1.62
1975	(d) 13,849.3	0.90	0.10	1.02
1976	(d) 13,991.2	0.83	0.18	1.02
1977	(d) 14,163.5	0.84	0.39	1.23
1978	(d) 14,330.9	0.82	0.36	1.18
1979	(d) 14,516.5	0.81	0.41	1.22
1980 ^p	(d) 14,726.8	0.80	0.64	1.45

(a) Excludes full-blood Aboriginals prior to 1961. (b) The average annual rates of population growth for periods greater than one year are calculated on the compound interest principle. The rates refer to the population at the beginning of the period. Discrepancies between the sum of the rate of growth due to natural increase and net migration and the rate of total growth are due to intercensal adjustments. (c) From 30 June 1971, net migration is defined as the excess of overseas arrivals over overseas departures classified as permanent and long-term movement. (Long-term comprises visits to and absences from Australia lasting one year or longer). From 30 June 1933 to 30 June 1971, net migration represents the excess of all arrivals over all departures. Prior to 30 June 1933, net migration includes discrepancies disclosed by the various censuses, which were corrected by adjusting recorded overseas departures. (d) These population estimates and rates of growth incorporate revisions resulting from an examination of evidence of underenumeration in the 1976 and 1971 censuses. The estimated population at 31 December 1970 used to compute rates of growth thereafter was 12,799,600.

Projections of the population

Projections of Australia's population have been made by the ABS using the component method in which a base population is brought forward year by year by applying assumptions about future levels of fertility, mortality and the characteristics of overseas migration.

The 1978 projections presented in the following table give a possible 2011 population in the range 18.6 million to 20.6 million persons. The 1980 projection is available only up to the year 2001 where it gives a population of 19.4 million, higher than each of the 1978-based projections for that year.

Assumptions used in 1978 projection series—

Base population: The four series are based on provisional estimates of the population of Australia at 30 June 1978.

Series A: *Fertility*—Total fertility rates for Australia are assumed to decline from 2,035 births per thousand females in 1977 to a low point of 1,905 in 1979 and to recover to long-term replacement level of 2,110 by 1984, remaining constant thereafter.

Mortality—Infant mortality rates are assumed to continue the recorded 1966-76 average annual rate of decline, reduced by 1 per cent a year. The 1975-76 average life table mortality rates are assumed to apply throughout the whole projection period for ages 1 and above.

Migration—Net overseas migration to Australia is set at 50,000 persons per year.

Series B: *Fertility*—Total fertility rates for Australia are assumed to decline from 2,035 births per thousand females in 1977 to 1,730 by the year 1980 and to recover partially to 1,900, below long-term replacement level, in 1984, remaining constant thereafter.

Mortality—as in Series A.

Migration—as in Series A.

Series C: *Fertility*—Total fertility rates for Australia are assumed to rise from 2,035 births per thousand females in 1977 to 2,320 in 1984, remaining constant thereafter.

Mortality—as in Series A.

Migration—as in Series A.

Series D: *Fertility*—as in Series A.

Mortality—1975-76 life table mortality rates are assumed to decline by 1.5 per cent a year.

This rate of reduction would mean that Australians' life expectancy at birth would reach 73.6 (males) and 80.3 (females) by 2001, currently about the highest level achieved by any country.

Migration—as in Series A.

Assumptions used in 1980 projection—

Base population: Preliminary estimates of the population of Australia at 30 June 1980, by single years of age and sex.

Fertility—as in Series A, above, but with the recovery to replacement level being extended 3 years to 1987.

Mortality—The age-sex specific mortality rates for 1977 and 1978 were adjusted to produce the estimated deaths figure for the financial year 1980-81 of 105,000. For each subsequent year to 2001 the mortality rates were assumed to decrease by 1.5 per cent per year.

Migration—Net overseas migration to Australia is set at 80,000 persons per year.

According to the 1980 projection, the population will number 17.4 million in 2001 without further immigration and 19.4 million with net immigration at 80,000 persons a year.

POPULATION: ACTUAL AND PROJECTED
(^{'000})

At 30 June	Actual population	Projected population					1980 Projection
		At 30 June	1978 Projections				
			Series A	Series B	Series C	Series D	
1947	7 579.4	1980	14 563.1	14 540.0	14 585.1	14 564.9	14 615.8
1954	8 986.5	1981	14 720.3	14 674.4	14 764.9	14 725.5	14 813.7
1961	10 508.2	1982	14 885.1	14 815.3	14 953.2	14 895.3	15 015.6
1966	11 550.5	1983	15 057.1	14 962.8	15 149.6	15 073.8	15 222.2
1971 (a)	12 937.2	1984	15 234.6	15 115.0	15 352.4	15 259.4	15 434.0
1972	13 177.0	1985	15 415.1	15 269.7	15 558.9	15 449.5	15 654.3
1973	13 380.4	1986	15 595.6	15 424.0	15 765.5	15 640.9	15 882.4
1974	13 599.1						
1975	13 771.4	1991	16 487.8	16 182.9	16 791.0	16 607.4	17 069.4
1976	13 915.5	1996	17 347.4	16 905.8	17 787.4	17 571.4	18 259.1
1977	14 074.1	2001	18 141.3	17 555.2	18 727.5	18 496.4	19 410.2
1978	14 248.6	2006	18 867.3	18 106.5	19 636.9	19 377.9	n.a.
1979	14 422.0	2011	19 580.7	18 599.3	20 588.6	20 271.1	n.a.

(a) Population adjusted from 1971 for under-enumeration in 1971 and 1976 censuses.

The average annual rate of population growth would rise from 0.8 per cent to 0.9 per cent and would then decline to 0.7 per cent, if there is no further immigration or emigration. The crude birthrate on the assumptions used would rise from 15 per thousand of population to 17 per thousand and would then decline to 15 again. The crude death rate would rise from 7 per thousand to 8 per thousand.

With net immigration at 80,000 persons a year, the average annual rate of growth would rise from 1.4 per cent to 1.5 per cent and then decline to 1.2 per cent. The crude birthrate would rise from 15 per thousand of population to 17 per thousand and then decline to 15 again. The crude death rate would remain steady at 7 per thousand.

PROJECTED AVERAGE ANNUAL RATES OF GROWTH (a), AUSTRALIA 1980 TO 2001
(Per cent)

	<i>Excluding migration after 30 June 1980</i>			<i>Including net immigration at the illustrative level of 80,000 persons a year after 30 June 1980</i>				
	<i>Births</i>	<i>Deaths</i>	<i>Rate of growth</i>	<i>Births</i>	<i>Deaths</i>	<i>Natural increase</i>	<i>Net immi- gration</i>	<i>Rate of growth</i>
1980-81	1.52	0.72	0.80	1.52	0.72	0.80	0.55	1.35
1981-86	1.58	0.73	0.85	1.60	0.72	0.88	0.52	1.40
1986-91	1.66	0.75	0.91	1.69	0.73	0.96	0.49	1.45
1991-96	1.59	0.76	0.83	1.64	0.73	0.90	0.46	1.36
1996-2001	1.50	0.78	0.72	1.54	0.73	0.80	0.43	1.23

(a) Calculated using the compound interest principle. The rates are split between the components of natural increase and net immigration according to the relative size of each component.

The proportion of juveniles aged under 15 would fall from 25 per cent to 22 per cent without immigration and to 23 per cent with immigration. The proportion of elderly aged 65 and over would rise from 10 per cent to 13 per cent without immigration and to 12 per cent with immigration. The proportion of the population aged 15 to 64 would remain at approximately 65 per cent whether or not there is any further immigration.

PROJECTED AGE DISTRIBUTION AND MEDIAN AGE

	<i>Excluding migration after 30 June 1980</i>			<i>Median age (years)</i>	<i>Including net immigration at illustrative level of 80,000 persons a year</i>			<i>Median age (years)</i>
	<i>Age distribution (per cent)</i>				<i>Age distribution (per cent)</i>			
<i>30 June</i>	<i>0-14</i>	<i>15-64</i>	<i>65 & over</i>		<i>0-14</i>	<i>15-64</i>	<i>65 & over</i>	
1981	24.9	65.3	9.8	29.8	25.0	65.3	9.8	29.8
1986	23.1	66.2	10.8	31.3	23.4	66.1	10.5	30.9
1991	22.2	65.9	11.9	32.6	22.8	65.8	11.5	32.0
1996	22.3	65.0	12.7	34.0	23.0	64.9	12.1	33.2
2001	22.1	64.9	13.1	35.3	22.8	65.0	12.2	34.2

Location of the population

For historical, climatic and economic reasons the population of Australia is concentrated in capital cities and other major cities, mainly on the south and east coasts of the continent. In June 1980, 69.70 per cent of the population lived in the national capital, the six State capital cities and five other major cities of 100,000 or more persons (metropolitan statistical divisions and statistical districts). Of these, only Canberra is located inland. The percentage of the population living in rural areas declined over the years as the major cities and towns attracted most of the population growth; there were periods when the rural population actually declined in numbers. This trend, however, appears to have slowed considerably since 1971. In 1980, New South Wales was the State with the highest per cent of the population living in the capital city or towns of over 100,000 (75.0 per cent), followed by Victoria (74.7 per cent), South Australia (71.9 per cent), Western Australia (71.3 per cent), Queensland (52.1 per cent) and Tasmania (40.2 per cent).

POPULATION IN STATE CAPITAL CITIES AND OTHER MAJOR CITIES(a)
(^{'000})

	30 June 1978	30 June 1979	30 June 1980
Sydney	3,155.2	3,193.3	3,231.7
Melbourne	2,717.6	2,739.7	2,759.7
Brisbane	1,004.5	1,015.2	1,028.9
Adelaide	930.5	933.3	934.2
Perth	864.9	r884.2	902.0
Newcastle	375.3	379.8	385.0
Canberra (b)	234.8	241.3	245.5
Wollongong	222.0	224.0	226.3
Hobart	166.5	168.5	170.2
Geelong	139.9	141.1	142.3
Gold Coast (c)	r133.5	r144.2	161.1
Total	r9,944.5	r10,064.0	10,186.9
Percentage of total population	69.79	69.78	69.70

(a) Capital city statistical divisions and statistical districts of 100,000 persons or more in 1976. (b) Includes Queanbeyan. (c) Includes Tweed Heads.

While there has been population growth in all States during the past decade, there has been substantially higher than average growth in the States of Queensland (19.5 per cent), Western Australia (21.3 per cent), and the two Territories—the Northern Territory (32.0 per cent) and the Australian Capital Territory (55.6 per cent) between 30 June 1971 and 30 June 1980.

POPULATION OF STATES AND TERRITORIES(a)
(^{'000})

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.(b)</i>	<i>Aust.</i>
5 April 1891	1,127.1	1,140.1	393.7	315.5	49.8	146.7	4.9	..	3,177.8
31 March 1901	1,354.8	1,201.1	498.1	358.3	184.1	172.5	4.8	..	3,773.8
3 April 1911	1,646.7	1,315.6	605.8	408.6	282.1	191.2	3.3	1.7	4,455.0
4 April 1921	2,100.4	1,531.3	756.0	495.2	332.7	213.8	3.9	2.6	5,435.7
30 June 1933	2,600.8	1,820.3	947.5	580.9	438.9	227.6	4.9	8.9	6,629.8
30 June 1947	2,984.8	2,054.7	1,106.4	646.1	502.5	257.1	10.9	16.9	7,579.4
30 June 1954	3,423.5	2,452.3	1,318.3	797.1	639.8	308.8	16.5	30.3	8,986.5
30 June 1961(b)	3,918.5	2,930.4	1,527.5	971.5	746.8	350.3	44.5	58.8	10,548.3
30 June 1966	4,237.9	3,220.2	1,674.3	1,095.0	848.1	371.4	56.5	96.0	11,599.5
30 June—									
1971	4,679.4	3,520.4	1,881.4	1,185.3	1,043.1	390.2	91.9	145.6	12,937.2
1972	4,746.9	3,577.4	1,932.5	1,202.4	1,070.9	392.2	96.6	158.0	13,177.0
1973	4,793.4	3,628.4	1,987.3	1,217.9	1,089.8	395.7	99.7	168.2	13,380.4
1974	4,839.4	3,676.8	2,046.1	1,236.2	1,117.4	399.3	104.4	179.6	13,599.1
1975	4,884.5	3,719.1	2,084.0	1,252.1	1,146.7	404.7	89.4	190.9	13,771.4
1976	4,914.3	3,746.0	2,111.7	1,261.6	1,169.8	407.4	101.4	203.3	13,915.5
1977	4,956.7	3,782.3	2,136.8	1,276.8	1,197.1	410.6	105.5	208.2	14,074.1
1978	5,011.8	3,818.4	2,166.7	1,287.6	1,222.3	413.7	112.5	215.6	14,248.6
1979	5,078.5	3,853.5	2,197.4	1,293.8	1,242.8	417.7	115.9	222.3	14,421.9
1980	5,146.2	3,887.0	2,247.8	1,299.1	1,265.0	422.9	121.3	226.6	14,615.9
Percentage of total population in 1980	35.21	26.59	15.38	8.89	8.65	2.89	0.83	1.55	100.00

(a) Figures before 1961 exclude Aborigines, later figures do not. The estimates from June 1971 for each State and Territory are made from the 1971 census results, with augmented adjustments for under-enumeration to make the total balance with the estimates for Australia made retrospectively from 1976. (b) Part of New South Wales before 1911.

Age distribution of the population

The age distribution of the population is shown in Plate 30, page 93, in the form of an age-sex pyramid. The low birthrates of the depression years of the 1930s, the prolonged "baby boom" from the end of World War II to the early 1960s and the declining birthrate of the 1970s are reflected in the profile.

ESTIMATED AGE DISTRIBUTION: 30 JUNE 1980 (^{'000})

Age group (years)	Males	Females	Persons
0-4	580.4	550.4	1,130.9
5-9	666.5	635.4	1,301.9
10-14	649.6	615.0	1,264.6
15-19	667.0	629.8	1,296.8
20-24	637.6	614.8	1,252.4
25-29	593.7	590.4	1,184.1
30-34	598.3	577.9	1,176.2
35-39	486.9	459.8	946.7
40-44	421.6	399.9	821.4
45-49	382.1	361.1	743.2
50-54	398.0	377.0	775.0
55-59	365.8	367.9	733.7
60-64	283.5	304.1	587.6
65-69	240.7	280.2	520.9
70+	347.6	533.0	880.6
All ages	7,319.2	7,296.7	14,615.9

The median age of the population has been increasing since the early 1970s. It stood at 29.5 years on 30 June 1980.

MEDIAN AGE OF THE POPULATION, SELECTED YEARS 1901-80

	1901	1921	1933	1947	1961	1971	1980
Median age (years)	22.5	25.8	27.7	30.7	29.4	27.5	29.5

The age distribution of the population has changed gradually in the past decade. The proportion of the population aged over 60 years has increased, due in part to a declining number of births, but also to improvements in life expectancy resulting from a falling death rate.

Substantial levels of immigration have had the effect of reducing the proportion of the population in elderly groups to levels below what it would otherwise have been.

Australia's age profile, with a median age approximately 30 years, is comparatively younger than that of much of Europe, the original source of most of Australia's population. This is because of a higher rate of natural increase and the effect of immigration to Australia.

The labour force age group

The proportion of the population in the labour force age group (usually defined as the population aged 15-64) increased between 1971 and 1980 from 62.9 to 65.1 per cent of the population. The increase was particularly large in the 15-44 age group.

PERCENTAGE DISTRIBUTION OF THE POPULATION BY AGE GROUP: SELECTED YEARS 1947-80

Age group	30 June						
	1947(a)	1954	1961	1966	1971	1976	1980
	(^{'000})						
0-14 years	25.1	28.5	30.2	29.4	28.7	27.1	25.3
15-44 years	45.2	43.1	41.4	42.2	43.0	44.1	45.7
45-64 years	21.1	20.0	19.9	19.9	19.9	20.0	19.4
Total 15-64 years	66.3	63.2	61.3	62.1	62.9	64.1	65.1
65 years and over	8.0	8.3	8.5	8.5	8.4	8.9	9.6

(a) Excludes a proportion (0.6 per cent) of not stated ages which are not distributed among recorded ages as in later censuses.

The aged population

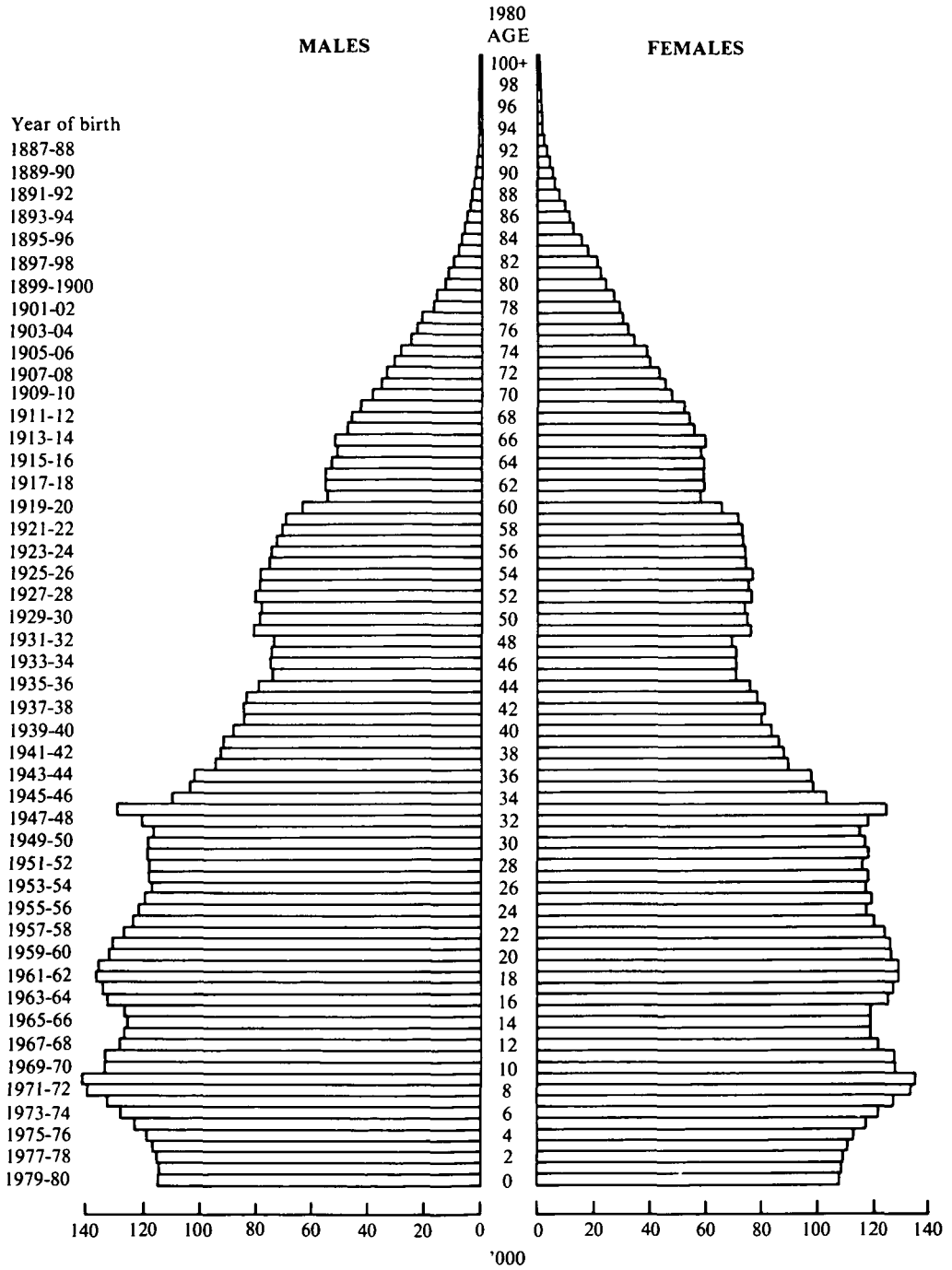
The proportion of total population aged 65 years and above is increasing. The proportion was 9.59 per cent in 1980; an increase from 8.43 per cent in 1971 and 8.88 per cent in 1976.

The proportion of females in this group is high; 58.02 per cent of the total in 1980. The female proportion increases with age due to higher male mortality at every age.

POPULATION IN AGE GROUPS: 1971 TO 1980

30 June	Number ('000)				Per cent			
	Under 15	15-44	45-64	65 and over	Under 15	15-44	45-64	65 and over
MALES								
1971	1,920.9	2,844.7	1,284.1	456.5	29.5	43.7	19.7	7.0
1976	1,932.7	3,133.3	1,394.9	518.4	27.7	44.9	20.0	7.4
1977	1,920.2	3,199.1	1,401.5	534.6	27.2	45.3	19.9	7.6
1978	1,910.1	3,266.3	1,410.8	552.0	26.8	45.8	19.8	7.7
1979	1,898.2	3,336.5	1,418.2	571.1	26.3	46.2	19.6	7.9
1980	1,896.5	3,405.0	1,429.4	588.3	25.9	46.5	19.5	8.0
FEMALES								
1971	1,827.6	2,701.3	1,272.8	629.3	28.4	42.0	19.8	9.8
1976	1,834.1	3,002.1	1,382.2	717.7	26.4	43.3	19.9	10.4
1977	1,822.9	3,069.3	1,387.9	738.6	26.0	43.7	19.8	10.5
1978	1,813.3	3,138.2	1,395.8	762.1	25.5	44.1	19.6	10.7
1979	1,803.1	3,205.8	1,400.7	788.6	25.0	44.5	19.5	11.0
1980	1,800.8	3,272.5	1,410.1	813.2	24.7	44.8	19.3	11.1
PERSONS								
1971	3,748.5	5,546.0	2,556.9	1,085.9	29.0	42.9	19.8	8.4
1976	3,766.8	6,135.4	2,777.1	1,236.1	27.1	44.1	20.0	8.9
1977	3,743.1	6,268.3	2,789.4	1,273.3	26.6	44.5	19.8	9.0
1978	3,723.4	6,404.5	2,806.6	1,314.1	26.1	45.0	19.7	9.2
1979	3,701.3	6,542.2	2,818.8	1,359.7	25.7	45.4	19.5	9.4
1980	3,697.4	6,677.5	2,839.5	1,401.5	25.3	45.7	19.4	9.6

AGE PYRAMID OF THE POPULATION, 1980



POPULATION OF AUSTRALIA : AGE LAST BIRTHDAY, BY SEX, 30 JUNE 1980

Marital Status

The proportion of the population of marriageable age (18 years and above) who were married changed little between the censuses of 1971 and 1976.

A new divorce law, the Family Law Act, was introduced in 1976. A proper assessment of the impact of the change in the divorce law on the population of married people will not be possible until processing of marital status data from the 1981 census has been completed.

Masculinity

The masculinity of the population is expressed as the number of males per 100 females. This ratio is influenced by the age structure: masculinity at birth is about 105.5, but higher male mortality gradually erodes the difference so that the numbers of males and females would tend to be about the same soon after age 50 in the absence of migration, and the masculinity ratio progressively declines thereafter. The overall masculinity of the population has been declining and in 1980 was 100.31.

MASCULINITY IN EACH AGE GROUP (males per hundred females)(a)

30 June	Age in years				Total
	0-14	15-44	45-64	65 and over	
1971	104.85	105.87	100.40	72.17	101.17
1976	105.38	104.37	100.92	72.24	100.62
1977	105.34	104.22	100.99	72.35	100.52
1978	105.34	104.08	101.07	72.43	100.42
1979	105.27	104.08	101.25	72.42	100.36
1980	105.31	104.05	101.37	72.34	100.31

(a) Based on census results adjusted for mis-statement of age and, for 1971 and 1976, for under-enumeration.

Ethnic composition

The composition of the population has been changing gradually in post-war decades due to changes in both the numbers and the origins of immigrant flows.

In 1976, persons born outside Australia made up 20 per cent of the population, approximately the same proportion as in 1971. This represents a substantially higher proportion than that recorded at the 1947 census (following the end of World War II) when the proportion was 10 per cent.

POPULATION BY BIRTHPLACE 30 JUNE 1976(a)

	Males	Females	Persons
Australia	5,353,810	5,475,806	10,829,616
UK and Ireland	571,035	546,564	1,117,599
New Zealand	45,056	44,735	89,791
Germany	53,820	53,739	107,559
Greece	78,667	74,242	152,909
Italy	152,886	127,268	280,154
Malta	30,437	25,452	55,889
Netherlands	50,206	41,905	92,111
Poland	31,802	24,249	56,051
Yugoslavia	79,185	64,406	143,591
Other Europe	112,455	92,499	204,954
Asia	125,102	115,520	240,622
America	41,767	38,965	80,732
Africa	35,720	34,791	70,511
Other Countries	13,000	13,359	26,359
Total	6,774,948	6,773,501	13,548,449

(a) Census figures, not adjusted for under enumeration.

AUSTRALIAN AND OVERSEAS BORN POPULATION
(Per cent)

Census	Australian born	Overseas born		Total
		U.K. and Eire	Other	
1954	85.7	7.4	6.9	100.0
1961	83.1	7.2	9.7	100.0
1966	81.6	7.9	10.6	100.0
1971	79.8	8.5	11.7	100.0
1976(a)	79.9	8.2	11.8	100.0

(a) Based on 1976 Census counts, not adjusted for under enumeration.

The Aboriginal population

A brief account was given of the Australian Aboriginal population, its origin and its numbers as estimated from time to time in Year Book No. 17, pages 951-61. A special article by A. R. Radcliffe Brown dealing with the estimated number and distribution of the Aboriginal population at the date of the first settlement of European people on the continent appeared in Year Book No. 23, pages 687-96. That article arrived at an estimated minimum Aboriginal population of 251,000, based on the evidence available at the time; however, estimates of upwards of 300,000 persons have since been considered more likely.

The task of collecting data on the Aboriginal population is difficult, raising problems of coverage, definition and reporting. For this reason, statistics, even of the total Aboriginal population, should be treated with caution. This applies particularly to comparison of the changes in numbers from one census to another which can be affected by social attitudes and by changes made in the nature of the question in an attempt to improve coverage and reporting. For the censuses of 1971 and 1976 the question was designed to distinguish those persons who identify themselves as Aboriginals or Torres Strait Islanders.

ABORIGINALS AND TORRES STRAIT ISLANDERS
(Persons)

State	30 June 1971	30 June 1976
New South Wales	23,873	40,450
Victoria	6,371	14,760
Queensland	31,922	41,345
South Australia	7,299	10,714
Western Australia	22,181	26,126
Tasmania	671	2,942
Northern Territory	23,381	23,751
Australian Capital Territory	255	827
Total Australia	115,953	160,915

Compared with the rest of the Australian population, Aboriginal women have very high rates of fertility and Aboriginal people at all ages suffer high rates of mortality. At the time of the 1971 census, the average issue of married Aboriginal women was 4.1 children (excluding still-born children), but had declined to 3.3 by 1976. Acknowledging the probability of high reporting error among this group, this represents a total fertility rate still well above that of the population as a whole. The expectation of life at birth for Aboriginal Australians may be as low as 50 years, compared with 73 years for the rest of the population.

Internal migration

The five-yearly censuses and annual internal migration surveys (conducted in conjunction with the labour-force survey) are the principal sources of internal migration data. Estimates of interstate migration are also made from address changes notified to the Electoral Office and the Department of Social Security. For reasons of timing, methodology, coverage (the surveys for example exclude children under 15) and other constraints, these three data series are not comparable.

Internal migration surveys

Internal migration surveys were conducted in respect of each of the twelve-month periods ended 30 April 1970 to 1974 and for the twelve-month periods ended 31 December 1974, 31 January 1977, 30 September 1978, 30 June 1979 and 30 June 1980. In these surveys, the usual place of residence of respondents at the beginning and end of the reference period was ascertained. Estimates were made of the numbers and characteristics of movers and non-movers. (Because the estimates are based on information from occupants of a small sample of dwellings, the imprecision due to sampling variability should be kept in mind. Standard errors of estimates are published in the detailed bulletins providing the survey results.)

Recent internal migration surveys show that about 16 per cent of all persons aged 15 and over change their residence within a twelve-month period. Of those who change their residence, about 50 per cent remain within the same capital city and together with another 40 per cent, within the same State or Territory; slightly over 10 per cent are interstate movements.

While the pattern of migration has varied over the years, the age and sex composition of those who changed residence has been rather consistent: the masculinity ratio remains around 50 to 51 per cent and movers show a concentration in the ages 20 to 34 (59 per cent of all movers in the twelve-month period ended 30 June 1980).

INTERNAL MIGRATION(a) (Persons aged 15 years and over)

	Year ended—			
	31 January 1977	30 September 1978	30 June 1979	30 June 1980
	('000)			
Changed usual residence—				
Intrastate—				
Within State capital cities (b)	816.3	827.4	854.4	885.4
To and from State capital cities (b)	149.5	158.1	168.0	177.7
Within Territories and rest of States	453.4	505.2	451.5	508.4
Total, intrastate	1,419.2	1,490.6	1,473.9	1,571.5
Interstate	161.9	193.5	179.2	185.6
Total	1,581.1	1,684.1	1,653.1	1,757.0
Did not change usual residence	8,161.6	8,522.1	8,672.5	8,783.6
Total	9,742.7	10,206.2	10,325.6	10,540.6
	<i>Movers per thousand of population</i>			
<i>Mobility rate</i>	162	165	160	167

(a) Non-institutionalised civilians aged 15 years and over at the time of the survey who were resident in Australia at the beginning and end of the survey year. (b) State capital cities exclude Canberra and Darwin.

Interstate transfers

Estimates of net *interstate* migration from the survey are generally a small fraction of total gross flows and have a relatively high sampling error which affects the accuracy of the estimates. This is particularly the case when the net migration is derived from two gross flows of small magnitude such as interstate flows of the smaller States and the two Territories. Net migration figures from the survey are therefore inadequate as measures of the volume of net gain or loss of population through interstate migration. They only provide indicators of long-term trends over a period of time.

Official estimates of interstate migration have been compiled for the years commencing 1961 from address changes (transfers) notified to the Electoral Office and to the Department of Social Security (by recipients of Family Allowances). They also draw on results of the internal migration survey. Figures for the years 1979–80 and 1980–81 are shown below. New South Wales, Victoria and South Australia have been recording net losses, largely in favour of Queensland, and also to the Northern Territory and Western Australia.

INTERSTATE MIGRATION
(‘000)

	Year ended 30 June—					
	1980			1981		
	Arrivals	Departures	Net	Arrivals	Departures	Net
New South Wales	70.5	75.4	-4.9	70.9	83.5	-12.5
Victoria	46.2	62.9	-16.7	46.3	59.3	-13.0
Queensland	65.5	43.6	21.9	70.7	44.6	26.1
South Australia	22.2	29.1	-6.9	21.3	28.1	-6.9
Western Australia	22.7	20.2	2.5	22.3	22.9	-0.6
Tasmania	9.4	8.2	1.2	8.6	9.5	-0.9
Northern Territory	11.9	9.1	2.8	11.4	6.1	5.3
Australian Capital Territory	12.6	12.4	0.2	15.6	13.1	2.5
Total	261.0	261.0	-	267.2	267.2	-

Censuses

The 1971 census set out to measure internal migration by asking respondents where they usually lived and where they had lived five years before. An analysis of the data is given in the Census Monograph *Internal Migration in Australia*. The 1976 and 1981 Census asked respondents where they had lived one year as well as five years before. A summary of the 1976 results is given in Year Book No. 65.

VITAL STATISTICS

Registration of vital events, i.e. births, deaths and marriages, has been compulsory throughout Australia since 1856. The total number of these occurrences is available for each year since the 1860s and more detailed information since the 1910s. The number of divorces has been published since 1891, but other details have been published on a consistent basis only since the 1950s.

Crude rates are the number of vital events per thousand of the mean population of a particular year. *Natural increase* is the excess of births over deaths. In 1980, births numbered 225,527, deaths are preliminarily numbered at 108,693 and the natural increase was 116,834. The rate of natural increase for that year was 7.99 per thousand of the mean population made up of crude birth rate 15.43 and crude death rate 7.61. This represented a considerable decline since 1955-60 when the birth rate was 22.59, the death rate 8.78 and natural increase 13.81.

BIRTHS, DEATHS AND NATURAL INCREASE

Period	Number			Crude rates per 1,000 of mean population		
	Births	Deaths	Natural increase	Births	Deaths	Natural increase
Annual averages—						
1961-65	232,952	95,465	137,487	21.34	8.75	12.60
1966-70	240,325	107,263	133,062	19.95	8.90	11.05
1971-75	253,438	111,216	142,222	18.99	8.32	10.67
1976-80	225,387	p109,028	p116,360	p15.82	p7.65	p8.16
Annual totals—						
1975	233,012	109,021	123,991	16.92	7.91	9.00
1976	227,810	112,662	115,148	16.37	8.10	8.27
1977	226,291	108,790	117,501	16.08	7.73	8.35
1978	224,181	108,425	115,756	15.73	7.61	8.12
1979	r223,129	r106,568	116,561	15.47	7.39	8.08
1980	225,527	p108,693	p116,834	p15.43	p7.44	p7.99

There were 109,240 marriages in 1980, a crude rate of 7.5. Divorces numbered 39,258 bringing the crude divorce rate to 2.7, which was a reduction from a peak of 4.6 in 1976.

MARRIAGE AND DIVORCE

Period	Number		Crude rates per 1,000 of mean population	
	Marriages	Divorces	Marriage	Divorce
Annual averages—				
1961-65	83,250	7,611	7.6	0.7
1966-70	106,188	10,738	8.8	0.9
1971-75	111,803	17,405	8.4	1.3
1976-80	106,297	45,241	7.5	3.2
Annual totals—				
1975	103,973	24,307	7.5	1.8
1976	109,973	63,267	7.9	4.6
1977	104,918	45,175	7.5	3.2
1978	102,958	40,633	7.2	2.9
1979	104,396	37,873	7.2	2.6
1980	109,240	39,258(a)	7.5	2.7(a)

(a) Excluding nullities.

Births and fertility

Special interest attaches to fertility as an element of population change. Fertility has had considerable impact on the population structure. In 1971, there was a record 276,362 births but the number of births has declined progressively in each year since. In 1980, there were 225,527 births.

Live births

Extensive statistics of live births are available since the 1910s. These include information about sex of children, the incidence of multiple births, marital status of the parents, the number of previous issue to the mother's existing marriage, the duration of marriage, the age of parents and their country of birth.

With rare exceptions, statistics indicate an excess of male over female births. In 1980, there were 115,948 male births and 109,579 female births, a masculinity ratio of 105.81.

The proportion of children born to parents not married to each other at the time of birth has been increasing. In 1951-55, 3.97 per cent of births were ex-nuptial. In 1980, there were 28,076 ex-nuptial births, 12.45 per cent of the total.

LIVE BIRTHS: SEX AND NUPTIALITY

Period	Live births				Ex-nuptial live births			Per 1,000 of mean popula- tion
	Males	Females	Persons	Mascu- linity	Persons	Mascu- linity	Per- centage of total	
Annual averages—								
1961-65	119,777	113,175	232,952	105.83	13,798	106.88	5.92	1.26
1966-70	123,326	116,999	240,325	105.41	18,937	105.11	7.88	1.57
1971-75	130,047	123,389	253,436	105.39	24,516	106.71	9.69	1.88
1976-80	115,783	109,605	225,388	105.64	25,062	106.34	11.12	p1.76
Annual totals—								
1975	119,850	113,162	233,012	105.91	23,705	107.83	10.17	1.72
1976	116,838	110,972	227,810	105.29	23,064	108.20	10.12	1.66
1977	116,551	109,740	226,291	106.21	23,314	106.03	10.30	1.66
1978	114,964	109,217	224,181	105.26	24,744	106.73	11.04	1.74
1979	r114,613	108,516	r223,129	105.62	r26,110	103.94	11.70	1.81
1980	115,948	109,579	225,527	105.81	28,076	106.78	12.45	p1.92

About 1 per cent of confinements result in twin births and about one in 10,000 in triplets. Quadruplets occur about once in 250,000 confinements. The likelihood of multiple confinement is about 0.9 per cent for the first nuptial confinement, rising to about 1 per cent at the second confinement and to as much as 1.5 per cent at the fourth and subsequent confinements. The incidence of multiple births also rises with age of mother.

Since the 1950s, there has been a decline in the proportion, and since 1971 in the number, of women having three or more children to their marriage. During the 1950s and early 1960s the median age of mother at first nuptial birth declined, but in recent years it has risen. In 1980, median age at first birth was 25.20 years.

NUPTIAL CONFINEMENTS: BIRTH ORDER

Period	Birth order						7 and over	Total nuptial (a)	Ex-nuptial	Confinements
	1	2	3	4	5	6				
NUMBER OF CONFINEMENTS										
Annual averages—										
1961-65	69,281	57,971	40,818	23,612	12,125	6,160	6,862	216,829	13,655	230,483
1966-70	80,999	62,930	37,446	18,899	8,961	4,489	5,213	218,937	18,707	237,644
1971-75	88,120	74,641	36,914	15,216	6,006	2,805	2,959	226,674	24,299	250,973
1976-80	77,877	69,291	34,288	11,119	3,332	1,278	1,173	198,373	24,851	223,224
Annual totals—										
1975	81,543	73,456	33,036	11,653	3,979	1,873	1,699	207,267	23,510	230,777
1976	78,086	73,338	33,505	11,130	3,584	1,497	1,534	202,692	22,873	225,565
1977	78,588	70,859	34,596	11,032	3,438	1,349	1,263	201,135	23,134	224,269
1978	76,999	68,759	34,783	11,248	3,307	1,224	1,134	197,461	24,538	221,999
1979	77,032	67,250	34,387	11,100	3,124	1,140	1,050	195,084	25,884	220,968
1980	78,680	66,247	34,167	11,084	3,207	1,179	884	195,492	27,826	223,318
MEDIAN AGE OF MOTHER										
Annual averages—										
1961-65	23.12	25.72	28.35	30.64	32.51	33.88	35.02	26.54	22.54	26.38
1966-70	23.14	25.63	28.21	30.54	32.53	34.06	35.42	25.92	21.37	25.67
1971-75	23.60	25.96	28.21	30.55	32.53	34.09	36.84	25.87	21.12	25.58
1976-80	24.79	26.60	28.77	30.59	32.47	34.23	37.29	26.64	21.63	26.27
Annual totals—										
1975	23.95	26.25	28.32	30.57	32.67	34.30	36.96	26.07	21.29	25.76
1976	24.23	26.22	28.45	30.40	32.38	34.30	37.32	26.22	21.60	25.91
1977	24.59	26.39	28.64	30.53	32.41	34.54	37.08	26.46	21.51	26.13
1978	24.85	26.56	28.75	30.48	32.46	33.98	37.99	26.65	21.55	26.28
1979	25.07	26.82	28.89	30.66	32.44	34.23	36.83	26.86	21.62	26.46
1980	25.20	27.02	29.11	30.88	32.68	34.12	37.23	27.00	21.89	26.56

(a) Includes those for whom birth order was not stated.

Since 1971, there has been a decline in the number of confinements occurring in the early years of marriage. The number of confinements to marriages of 10 years duration and longer has been declining since the 1950s.

Fertility

The general fertility rate, which is the number of births to women of any age per thousand females aged 15-44, is the simplest measure of fertility. The rates have been calculated for the three years' births around each census from 1881 and provide a consistent series for nuptial and ex-nuptial fertility as well as for total fertility.

The rates show a substantial decline in fertility over the total period with a low point in 1932-34 and a minor recovery, peaking in 1960-62. The 1975-77 general rate of 78 births per thousand females aged 15-44 was only 46 per cent of the rate in 1880-82. The decline has been greater among married women, the rate for 1975-77 of 107 per thousand being only 33 per cent of the 1880-82 rate. Ex-nuptial fertility in 1975-77 was 23 per thousand, 64 per cent above 1880-82.

FERTILITY RATES: AUSTRALIA

Period	Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years	Ex-nuptial births per 1,000 single, widowed or divorced women aged 15-44 years	Index numbers (base year 1880-82=100)		
				Births per 1,000 women aged 15-44 years	Nuptial births per 1,000 married women aged 15-44 years	Ex-nuptial births per 1,000 single, widowed or divorced women
1880-82	170	321	14	100	100	100
1890-92	159	332	16	94	103	114
1900-02	117	235	13	69	73	93
1910-12	117	236	13	69	74	93
1920-22	107	197	11	63	61	79
1932-34	71	131	7	42	41	50
1946-48	104	160	11	61	50	79
1953-55	109	149	14	64	46	100
1960-62	112	154	18	66	48	129
1965-67	95	132	21	56	41	150
1970-72	100	134	29	59	42	207
1975-77	78	107	23	46	33	164

Age specific birth rates provide a measure of changing patterns of fertility within the fertile ages. The sum of these rates is the total fertility rate. The total fertility rate represents the number of children a woman would bear in her lifetime if she experienced the rates of the year shown. Fertility is declining at all ages. The decline started first with the older ages in the 1950s, and spread progressively to the younger ages. Fertility for ages 15-19 years has been declining in the 1970s. The total fertility rate, which rose in the 1950s, has since declined.

AGE-SPECIFIC BIRTH RATES(a)

Period	Age group (years)							Total fertility (b)
	15-19	20-24	25-29	30-34	35-39	40-44	45-49	
1956-60	44.20	216.42	211.47	126.06	63.91	18.96	1.45	3.412
1961-65	46.50	203.95	207.15	122.38	59.18	17.54	1.19	3.289
1966-70	49.39	172.59	187.64	103.03	46.84	12.89	1.00	2.866
1971-75	48.02	154.84	170.63	85.69	34.25	8.65	0.59	2.513
1976-80	31.12	117.64	145.63	74.46	23.91	4.80	0.31	1.980
1975	40.37	134.44	150.95	74.96	26.40	6.17	0.37	2.168
1976	35.55	129.22	147.34	73.06	24.28	5.57	0.41	2.077
1977	32.59	123.06	147.23	74.84	24.01	5.06	0.30	2.035
1978	30.38	116.87	145.93	74.22	23.63	4.49	0.25	1.979
1979	28.97	110.27	144.54	74.73	23.67	4.56	0.33	1.935
1980	28.10	108.77	143.12	75.47	23.96	4.31	0.28	1.920

(a) Number of births per 1,000 women in each age group. Excludes particulars of full-blood Aborigines before 1966. (b) The sum of the age specific rates multiplied by 5 and divided by 1,000. This is the number of children a woman would bear in her lifetime if she experienced the rates of the year shown.

The gross reproduction rate is derived from total fertility and the ratio of female to total births. It indicates the number of female children who would be born on average to women supposing the rates from which it was calculated were to apply throughout the reproductive period. It is an indication of the extent to which the population is reproducing itself except that it does not allow for females who fail to survive to the end of the childbearing period. *The net reproduction rate* allows for such mortality. It is obtained by multiplying the age-specific rates by the survivor proportions in the corresponding age group of the stationary or life table population. Mortality in childhood and young adulthood is now so low that there is little difference between current gross and net reproduction rates.

GROSS AND NET REPRODUCTION RATES

<i>Period</i>	<i>Gross reproduction rate</i>	<i>Net reproduction rate</i>	<i>Life tables used</i>
1954	1.559	1.499	1953-55
1961	1.728	1.672	1960-62
1966	1.400	1.357	1965-67
1971	1.427	1.386	1970-72
1978	0.964	0.944	1978
1979	0.941	0.922	1979
1980	0.933	0.913	1980

Mortality

The number of deaths per year is in excess of 100,000. The increase from previous decades arises from the overall growth of the population, and from the advanced age of an increasing proportion of the population. The crude death rate, which fell from over 12 per 1,000 at the beginning of the century to 7.4 per 1,000 in 1979, can be expected to rise slowly as a result of further ageing of the population, unless there is a more than off-setting drop in age specific death rates.

General mortality

Between 1953-55 and 1960-62 mortality declined in every age-group. Between 1960-62 and 1970-72 there were further declines in most age groups, particularly infant mortality. However, increases in mortality were recorded for males aged 15-24 years. Since 1970-72, there have been further decreases in mortality at most ages.

Mortality is greater for males than for females at every age. It is relatively high in the first year of life (12.6 per 1,000 males and 10.1 per 1,000 females in 1979), very low in childhood and young adulthood, and then rises in middle and old age.

AGE-SPECIFIC DEATH RATES^(a)

Age group (years)	1953-55 (b)	1960-62 (b)	1965-67 (b)	1970-72 (b)	1975-77 (b)	1977	1978	1979
MALES								
Under 1 ^(c)	25.18	22.36	20.85	18.85	15.27	13.98	13.70	12.57
1-4	1.69	1.15	1.08	0.99	0.78	0.73	0.69	0.63
5-9	0.67	0.52	0.45	0.45	0.37	0.39	0.29	0.31
10-14	0.63	0.48	0.46	0.42	0.39	0.40	0.36	0.36
15-19	1.51	1.23	1.33	1.50	1.51	1.47	1.42	1.31
20-24	1.82	1.62	1.67	1.75	1.73	1.80	1.89	1.72
25-29	1.68	1.49	1.48	1.38	1.29	1.38	1.38	1.42
30-34	1.79	1.69	1.64	1.49	1.41	1.34	1.33	1.32
35-39	2.40	2.26	2.45	2.31	1.99	1.95	1.86	1.74
40-44	3.64	3.67	3.82	3.45	3.29	3.11	3.01	2.73
45-49	6.01	5.96	6.14	6.06	5.67	5.66	5.05	4.97
50-54	10.44	10.01	10.45	9.92	9.21	8.86	8.41	8.32
55-59	17.03	16.57	16.96	16.58	14.78	14.06	13.92	13.28
60-64	26.58	26.44	27.59	26.59	23.77	22.98	22.45	21.34
65-69	41.28	41.68	43.66	42.04	37.42	36.51	35.67	34.14
70-74	64.53	63.04	66.84	63.45	57.92	55.74	53.40	53.12
75-79	98.77	94.43	99.77	99.99	88.24	85.82	87.31	81.67
80-84	145.88	141.83	146.95	143.42	135.05	127.09	122.56	116.01
85 and over	248.14	243.69	241.98	230.68	227.86	216.44	212.38	209.25
FEMALES								
Under 1 ^(c)	19.88	17.57	16.35	14.37	11.85	10.86	10.60	10.07
1-4	1.35	1.08	1.14	0.78	0.59	0.57	0.53	0.54
5-9	0.50	0.38	0.34	0.33	0.27	0.26	0.23	0.24
10-14	0.37	0.29	0.27	0.26	0.23	0.22	0.24	0.17
15-19	0.58	0.50	0.54	0.59	0.52	0.56	0.51	0.48
20-24	0.67	0.60	0.63	0.58	0.51	0.54	0.55	0.58
25-29	0.83	0.71	0.72	0.67	0.52	0.55	0.47	0.54
30-34	1.11	0.95	0.98	0.89	0.75	0.70	0.71	0.65
35-39	1.74	1.47	1.54	1.44	1.21	1.14	1.05	0.96
40-44	2.55	2.26	2.31	2.23	1.98	1.93	1.75	1.61
45-49	4.19	3.65	3.86	3.63	3.15	3.08	2.90	2.69
50-54	6.43	5.55	5.87	5.56	4.91	4.88	4.57	4.26
55-59	9.25	8.14	8.67	8.29	7.42	7.13	7.01	6.50
60-64	14.75	13.31	13.56	13.01	11.57	11.36	11.18	10.52
65-69	23.89	21.99	21.94	20.70	18.32	17.37	16.95	16.12
70-74	40.93	37.14	37.47	35.79	30.01	28.72	28.22	26.84
75-79	69.72	63.18	62.37	60.24	51.99	50.72	48.04	45.79
80-84	117.36	105.10	107.93	100.96	89.36	86.20	80.74	76.62
85 and over	213.69	210.20	197.73	187.16	182.26	177.10	177.19	171.98

(a) Number of deaths per 1,000 of population of the same age group and sex. The populations used in the calculation of these rates are based on census populations at 30 June 1961, 1966, 1971 and 1976; and estimates at 30 June for other years. From 1971, the population figures have been adjusted for under-enumeration. (b) Average annual rate per 1,000 of census population, based on deaths in the three year period, i.e. census year and the years preceding and following it. (c) Infant deaths per 1,000 live births.

AGE AT DEATH, 1979

Age at death (years)	Number			Per cent		
	Males	Females	Persons	Males	Females	Persons
Under 1	1,441	1,093	2,534	2.43	2.31	2.38
1-4	299	242	541	0.50	0.51	0.51
5-9	206	157	363	0.35	0.33	0.34
10-14	227	104	331	0.38	0.22	0.31
15-19	876	301	1,177	1.48	0.64	1.10
20-24	1,068	348	1,416	1.80	0.74	1.33
25-29	839	314	1,153	1.42	0.66	1.08
30-34	765	359	1,124	1.29	0.76	1.05
35-39	818	427	1,245	1.38	0.90	1.17
40-44	1,115	623	1,738	1.88	1.32	1.63
45-49	1,925	981	2,906	3.25	2.07	2.73
50-54	3,300	1,609	4,909	5.57	3.40	4.61
55-59	4,757	2,348	7,105	8.03	4.96	6.67
60-64	5,890	3,133	9,023	9.94	6.62	8.47
65-69	8,051	4,409	12,460	13.59	9.32	11.69
70-74	8,686	5,509	14,195	14.66	11.64	13.32
75-79	7,997	6,766	14,763	13.50	14.30	13.85
80-84	5,551	7,461	13,012	9.37	15.77	12.21
85-89	3,647	6,601	10,248	6.15	13.95	9.62
90-94	1,475	3,396	4,871	2.49	7.18	4.57
95-99	277	1,002	1,279	0.47	2.12	1.20
100 and over	28	122	150	0.05	0.26	0.14
Not stated	19	6	25	0.03	0.01	0.02
Total	59,257	47,311	106,568	100.00	100.00	100.00

Life expectancy

Life tables are measures of life expectancy compiled from the death rates prevailing over a period. They form the basis for the *stationary population* which is the population that would result from a constant number of births each year which had been subject at each age to the life table mortality rates.

Since 1921, official life tables have been calculated from the separate male and female populations as enumerated at the census, and the deaths of the three years around the census. Earlier life tables were compiled for decennial periods 1881-90, 1891-1900 and 1901-10. Life tables have also been prepared in recent years using annual age estimates and the deaths of a particular year.

A key value in life tables is the expectation of life remaining at each age. Expectation of life, particularly at birth, improved at every age in the first half of this century. Between 1953-55 and 1970-72 there was little change in expectation of life. However, since 1970-72 there have been significant improvements, particularly in expectation of life at birth which has increased between 1970-72 and 1979 from 67.8 years to 70.8 for males and from 74.5 years to 77.8 for females.

COMPLETE EXPECTATION OF LIFE AT SELECTED AGES

Period	Expectation of life (a) at									
	Birth		1 year of age		20 years of age		40 years of age		60 years of age	
	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females
1901-11 (b)(c)	55.2	58.8	60.0	62.9	44.7	47.5	28.6	31.5	14.4	16.2
1920-22 (b)(c)	59.2	63.3	62.7	66.0	47.0	50.0	30.1	33.1	15.1	17.2
1932-34 (b)(c)	63.5	67.1	65.5	68.7	48.8	51.7	31.1	34.0	15.6	17.7
1946-48 (b)(c)	66.1	70.6	67.3	71.5	49.6	53.5	31.2	34.9	15.4	18.1
1953-55 (b)(c)	67.1	72.8	67.9	73.5	50.1	55.1	31.7	36.0	15.5	18.8
1960-62 (b)(c)	67.9	74.2	68.5	74.5	50.4	56.2	31.8	37.0	15.6	19.5
1965-67 (c)	67.6	74.2	68.1	74.4	50.0	56.0	31.4	36.9	15.3	19.5
1970-72 (c)	r68.1	r74.8	r68.5	r74.9	r50.4	r56.5	r31.8	r37.3	r15.5	r19.9
1975-77 (c)	69.6	76.6	69.6	76.5	51.5	58.0	32.8	38.7	16.4	21.0
1976 (d)	69.3	76.3	69.4	76.2	51.2	57.7	32.5	38.4	16.1	20.7
1977 (d)	69.9	76.8	69.9	76.6	51.7	58.1	33.1	38.8	16.6	21.1
1978 (d)	70.2	77.2	70.2	77.0	52.0	58.5	33.4	39.2	16.7	21.4
1979 (d)	70.8	77.8	70.7	77.6	52.4	59.0	33.8	39.7	17.1	21.8

(a) The average number of additional years a person of the given age and sex might expect to live if the age-specific death rates of the given period continued throughout his/her lifetime. (b) Excludes particulars of full-blood Aboriginals prior to 1967. (c) Based on Official Life Tables calculated by the Australian Government Actuary. (d) Based on annual life tables calculated by the Australian Statistician. These tables are based on age estimates revised in the light of the 1976 Census results adjusted for underenumeration and misstatement of ages.

Marriages

Marriages in Australia are solemnised under Federal legislation, namely the *Marriage Act* 1961 as amended. The original Act, which superseded State Acts, came into part operation on 6 May 1961. The first regulations and major provisions under the Act commenced on 1 September 1963.

Under the Act, marriages may be celebrated by Ministers of Religion registered as Authorised Celebrants, Registrars or other persons whose function is the registration of marriages, and other authorised civil and religious celebrants.

One month's written notice of intended marriage must be given to the Celebrant, though this may be shortened in special circumstances. Celebrants issue marriage certificates to the parties and transmit copies of the certificates to Registrars in the States or Territories in which the marriages took place.

The marriageable age under the Act is 18 for males and 16 for females. After inquiry, a Judge or Magistrate may authorise, in exceptional and unusual circumstances, the marriage of a person below marriageable age, but not below 16 for males and 14 for females.

Minors require, generally speaking, parental consent. A prescribed authority, usually a Registrar, may dispense with consent where such consent can be presumed and it would be unreasonable to require it. If parental consent is refused unreasonably, a Magistrate may give consent in lieu of the parent or guardian. Such a Magistrate's decision is subject to appeal. The age of majority was reduced in 1973 from 21 to 18. Because the marriageable age for males is also 18, the only persons of marriageable age requiring parental consent are now females between the ages of 16 and 18.

The Act makes provision, on a uniform basis, in respect of prohibited relations, other grounds for void marriages, legitimation, marriages overseas, and pre-marital education.

In 1980, 76.8 per cent of grooms and 77.6 per cent of brides were marrying for the first time; approximately 3 per cent were widowers and 4 per cent widows; and 20.2 per cent of grooms and 18.8 per cent of brides had been divorced. The proportion of marriages involving divorced persons increased sharply in 1976 and slightly thereafter. This is associated with the larger numbers of divorces granted since the introduction of the *Family Law Act* 1975.

Median age at first marriage declined during the 1950s and 1960s but has risen slightly in recent years. In 1980 it was 24.2 years for males and 21.9 for females. In 1980, 3.7 per cent of grooms and 17.8 per cent of brides married under the age of 20.

MARITAL STATUS AT MARRIAGE

Period	Grooms			Total bride- grooms	Brides			Total brides
	Bachelors	Widowers	Divorced		Spinsters	Widows	Divorced	
NUMBER								
Annual averages—								
1961-65	75,384	3,063	4,803	83,250	74,962	3,218	5,070	83,250
1966-70	96,438	3,320	6,430	106,188	96,341	3,568	6,279	106,188
1971-75	99,203	3,473	9,126	111,802	99,287	3,810	8,705	111,802
1976-80	82,344	3,394	20,559	106,297	82,987	4,022	19,288	106,297
Annual totals—								
1975	89,912	3,308	10,753	103,973	90,010	3,681	10,282	103,973
1976	86,792	3,777	19,404	109,973	87,434	4,378	18,161	109,973
1977	81,172	3,385	20,361	104,918	81,694	3,999	19,225	104,918
1978	79,581	3,279	20,098	102,958	80,142	3,818	18,998	102,958
1979	80,226	3,266	20,904	104,396	80,893	3,996	19,507	104,396
1980	83,950	3,264	22,026	109,240	84,770	3,920	20,550	109,240
MEDIAN AGES								
Annual averages—								
1961-65	24.16	56.60	40.41	24.69	21.32	49.25	36.63	21.67
1966-70	23.54	56.69	39.75	23.94	21.19	50.05	36.08	21.50
1971-75	23.33	57.78	37.25	23.86	20.99	51.13	33.04	21.43
1976-80	23.93	58.42	36.07	25.35	21.55	51.64	32.52	22.67
Annual totals—								
1975	23.37	57.99	36.40	24.06	20.97	51.35	32.82	21.55
1976	23.62	57.86	36.56	24.89	21.23	51.19	32.58	22.24
1977	23.76	58.43	35.92	25.17	21.35	50.88	32.24	22.48
1978	23.94	58.54	35.95	25.41	21.55	51.81	32.37	22.71
1979	24.10	58.65	36.07	25.60	21.72	52.30	32.63	22.89
1980	24.22	58.63	35.83	25.66	21.91	52.04	32.80	23.03

DEMOGRAPHY

AGE AT MARRIAGE

Period	Age								Total
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49	50 and over	
GROOM									
Annual averages—									
1961-65	5,278	38,845	20,344	7,495	3,799	2,154	1,498	3,837	83,250
1966-70	7,917	55,824	23,398	7,008	3,544	2,473	1,763	4,258	106,185
1971-75	8,427	59,058	24,374	7,408	3,425	2,376	1,970	4,765	111,802
1976-80	4,830	45,796	26,139	11,245	5,500	3,512	2,822	6,452	106,297
Annual totals—									
1975	7,399	52,512	23,510	7,674	3,685	2,352	1,998	4,843	103,973
1976	6,302	49,614	25,659	9,776	5,198	3,450	3,057	6,917	109,973
1977	5,242	46,059	24,908	10,750	5,216	3,399	2,915	6,429	104,918
1978	4,592	44,011	25,337	11,229	5,451	3,447	2,691	6,200	102,958
1979	4,069	43,778	26,537	11,687	5,706	3,576	2,710	6,333	104,396
1980	3,943	45,519	28,256	12,785	5,928	3,690	2,737	6,382	109,240
BRIDE									
Annual averages—									
1961-65	23,454	39,370	8,760	3,553	2,416	1,715	1,367	2,616	83,250
1966-70	30,475	53,356	10,334	3,521	2,143	1,764	1,545	3,047	106,185
1971-75	34,319	51,846	12,363	4,280	2,279	1,733	1,621	3,362	111,802
1976-80	23,006	45,938	16,560	7,700	4,092	2,669	2,124	4,208	106,297
Annual totals—									
1975	31,483	45,872	12,581	4,742	2,521	1,752	1,642	3,380	103,973
1976	28,063	45,891	15,755	6,866	3,892	2,641	2,356	4,509	109,973
1977	24,827	44,208	15,692	7,360	3,945	2,519	2,229	4,138	104,918
1978	22,290	44,094	16,114	7,810	4,026	2,525	2,121	3,978	102,958
1979	20,382	46,029	16,974	7,873	4,225	2,803	1,950	4,160	104,396
1980	19,466	49,467	18,267	8,591	4,370	2,858	1,965	4,256	109,240

Marriage rates of the marriageable population provide a measure of changing marriage patterns. Marriage rates have been calculated for the three years around the census per thousand single, widowed and divorced males, females and persons.

The rates for 1975-77 were 64.86 for males, 61.92 for females, and 63.36 for persons.

The proportion of all marriages celebrated by civil officers rose to 36.3 per cent of all marriages registered in 1980. This proportion has more than doubled since 1973. The increase in the share of civil ceremonies has, however, tapered off in 1979 and 1980.

MARRIAGE RATES OF MARRIAGEABLE POPULATION

Censal period	Per thousand single, widowed and divorced, aged 15 and over			Per thousand persons	
	Males rate	Females rate	Persons rate	Rate	Index
1880-82	39.38	63.56	48.63	7.62	100
1890-92	36.50	35.50	44.04	7.28	96
1900-02	37.32	48.39	42.14	7.27	95
1910-12	45.80	55.33	50.12	8.74	115
1920-22	54.00	58.08	55.97	8.75	115
1932-34	41.70	44.13	42.88	7.12	93
1946-48	71.89	70.60	71.24	10.15	133
1953-55	64.20	66.46	65.32	7.92	104
1960-62	61.50	63.07	62.27	7.34	96
1965-67	68.06	68.04	68.05	8.32	109
1970-72	70.34	67.11	68.69	9.09	119
1975-77	64.86	61.92	63.36	7.84	103

Divorce

The *Matrimonial Causes Act* 1959–66 provided for dissolution of marriage on one or more of 14 grounds. It also provided for nullity of marriage and for judicial separation. This Act, which came into operation in 1961, replaced separate State and Territory legislation. The *Family Law Act* 1975, which came into operation on 5 January 1976, provides for a single ground for divorce—irretrievable breakdown of marriage—and for nullity of marriage on the ground that the marriage is void.

Statistics prior to 1976 in the following tables relate to divorces granted under the Matrimonial Causes Act or under previous State or Territory legislation. Statistics for 1976 differentiate between divorces granted under Matrimonial Causes and Family Law legislation. Although Family Law legislation provides for petitions filed before 1976 to be heard under the superseded Matrimonial Causes legislation, statistics of divorces granted after 1976 make no such differentiation.

When comparing the number and rate of decrees granted from year to year it should be borne in mind that the availability of judges to hear petitions lodged can affect the number of decrees granted. A rise in one year may be due wholly or in part to the clearing of a backlog of cases from an earlier year. In addition, changes to legislature, rules or practices may also affect the number of divorce applications.

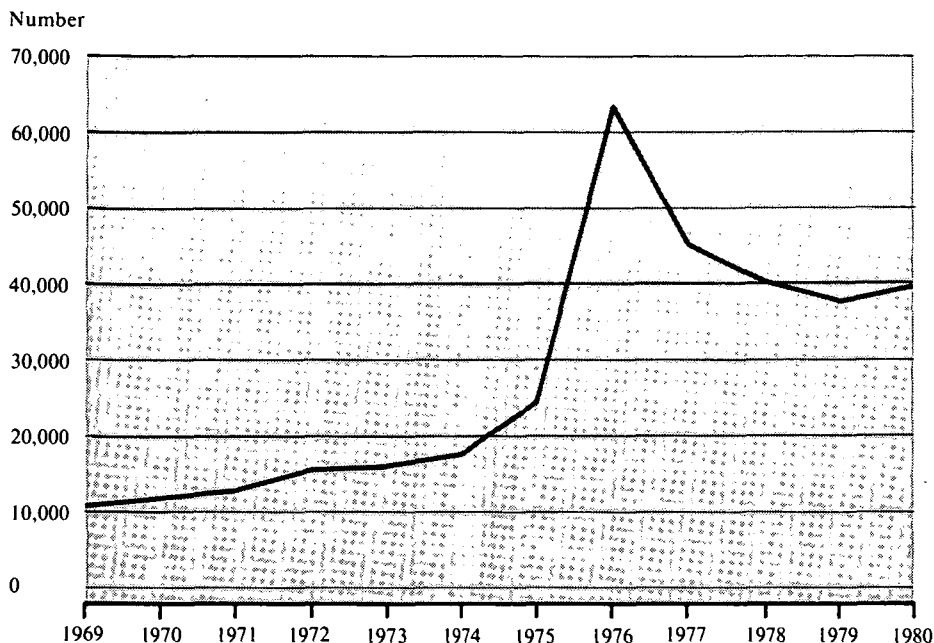
Following a sharp rise in the number of divorces in 1976, the first year of Family Law legislation, the number dropped by 29 per cent to 45,175 in 1977. However, this number was still 86 per cent higher than the number granted in 1975 under Matrimonial Causes legislation. The total number for 1979 was 37,873 and for 1980, 39,258.

DIVORCES

<i>Period</i>	<i>Petitions filed</i>	<i>Petitions granted</i>
Annual averages—		
1961–65	9,955	7,611
1966–70	13,089	10,738
1971–75	22,704	17,405
1976–80	45,312	45,241
Annual totals—		
1975	28,383	24,307
1976	66,092	63,267
Matrimonial Causes	—	15,743
Family Law	66,092	47,524
1977	41,628	45,175
1978	40,918	40,633
1979	37,393	37,873
1980	40,531	39,258(a)

(a) Excluding nullities.

NUMBER OF DIVORCES, 1969 TO 1980



Duration of marriage, age at marriage and age at divorce

The median duration of marriages dissolved in 1980 was 10.2 years. Of the 39,258 marriages which were dissolved, 49.0 per cent had lasted less than ten years, 31.1 per cent between ten and twenty years and 19.9 per cent twenty years or more.

DIVORCE, YEARS MARRIED

Period	Years married						Total	Median duration of marriage
	0-4	5-9	10-14	15-19	20-24	25 and over		
Annual averages—								
1961-65	501	1,999	1,747	1,329	926	1,040	7,542	13.6
1966-70	903	2,937	2,146	1,685	1,429	1,581	10,681	13.4
1971-75	1,693	5,478	3,432	2,398	1,930	2,417	17,349	11.9
1976-80	8,234	13,112	8,359	5,556	4,265	5,694	45,220	10.6
Annual totals—								
1975	2,401	7,861	4,873	3,353	2,481	3,288	24,257	11.6
1976	9,791	19,108	11,421	7,917	6,200	8,793	63,230	11.0
1977	7,802	12,960	8,383	5,630	4,374	6,001	45,150	10.9
1978	7,839	11,599	7,504	4,941	3,755	4,970	40,608	10.5
1979	7,621	10,754	6,929	4,646	3,502	4,402	37,854	10.3
1980	8,115	11,138	7,558	4,644	3,496	4,306	39,258	10.2

In 1980, the median age at marriage of divorcing husbands was 23.4 years and of wives 20.9 years. Of husbands, 10.4 per cent had been aged under 20 at marriage and 54.1 per cent aged 20-24; of wives 37.4 per cent had been aged under age 20 and 44.0 per cent between 20-24.

DIVORCE, MEDIAN AGE AT MARRIAGE

Period	Median age at marriage of—	
	Husband	Wife
Annual averages—		
1966-70	24.2	21.7
1971-75	23.5	20.9
1976-80	23.4	20.8
Annual		
1975	23.3	20.8
1976	23.4	21.0
1977	23.3	20.7
1978	23.3	20.8
1979	23.4	20.8
1980	23.4	20.9

At time of divorce, the median age of husbands was 35.3 years and of wives 32.7 years. A total of 26.7 per cent of husbands and 38.0 per cent of wives were aged under 30 years when the marriage was dissolved.

Children of the marriage

For the years in which the Matrimonial Causes Act was in force, children of the marriage were defined as living children under the age of 21 at the time of the petition. Under previous legislation there were differences between States. The Family Law Act defines them as children of the marriage if they were under the age of 18 at the time of application. In 1980, of the dissolutions granted under the Family Law Act, no children were involved in 39 per cent of the dissolutions, while 21 per cent of the dissolutions involved 1 child, 25 per cent 2 children, and 14 per cent 3 or more children.

DISSOLUTION OF MARRIAGE, NUMBER OF CHILDREN

Period	Number of children of the marriage						Total dissolutions	Total children	Average number of children
	0	1	2	3	4	5 and over			
Annual averages—									
1961-65	2,834	1,950	1,611	753	279	143	7,568	9,347	1.2
1966-70	3,628	2,656	2,428	1,212	497	261	10,681	14,588	1.4
1971-75	5,628	4,062	4,200	2,147	874	438	17,349	24,840	1.4
1976-80	17,013	10,186	10,970	4,746	1,633	671	45,220	55,218	1.2
Annual totals—									
1975	7,870	5,467	6,031	3,029	1,254	606	24,257	34,992	1.4
1976	23,606	14,751	14,422	6,761	2,542	1,148	63,230	73,645	1.2
1977	16,381	10,473	11,005	4,857	1,679	755	45,150	57,878	1.3
1978	14,965	9,127	10,047	4,336	1,530	603	40,608	51,599	1.3
1979	14,641	8,167	9,488	3,876	1,243	439	37,854	46,130	1.2
1980	15,471	8,412	9,890	3,900	1,173	412	39,258	46,836	1.2

INTERNATIONAL MOVEMENTS

Statistics of overseas arrivals and departures are compiled from incoming and outgoing passenger cards which are collected from all travellers under the *Migration Act 1958*. Earlier statistics were obtained from passenger lists required under various Acts.

Since 1924, overseas travellers have been classified into two principal categories which distinguish movements for short terms from movements for longer periods (including permanent movements). Revised questions for travellers were introduced in 1958 and again in 1974. The 1958 revision enabled the separation, after 1959, of permanent from other long-term movements and also the identification of former settlers departing permanently. The 1974 revisions improved the classification without change of principle. The categories of overseas movement are:

Permanent—consists of persons arriving with the stated intention of settling permanently in Australia (settlers), and Australian residents (including former settlers) departing with the stated intention of residing permanently abroad. Before 1974, former settlers were not so classified unless they had spent at least 12 months in Australia.

Long-term—consists of overseas visitors arriving and Australian residents departing with the stated intention of staying in Australia or abroad respectively for 12 months or more; and visitors departing and residents returning who have stayed in Australia or abroad respectively for 12 months or more. Until 1974, Australian residents returning were classified as long-term only if their time spent abroad included a period of 12 months in any one country. Their classification is now governed solely by their total absence from Australia.

Short-term—consists of overseas visitors arriving and Australian residents departing whose intended or actual period of stay in Australia or abroad respectively is less than twelve months.

The classification of overseas movements is based on statements made by the traveller on arrival in or departure from Australia. The statistics represent the travellers' intentions at the time of arrival or departure; travellers may subsequently change their intentions, and this must be borne in mind in interpreting the statistics.

An upsurge of international tourism, particularly by Australian residents, occurred in the 1970s. The volume of sea travel has changed little over the period (the figures exclude pleasure cruises in the south west Pacific beginning and ending in Australia), so that in 1980 less than one per cent of arrivals and departures had travelled by ship. Net gain, i.e. the excess of total arrivals over total departures, until recently provided a satisfactory measure of the population gain from international migration. In recent years, however, distortions arising from seasonality of short-term arrivals and departures have become very large. For the purpose of estimating the population of Australia and the States and Territories, therefore, the migration component of population growth has been measured since 1 July 1971 by reference to permanent and long-term movements only.

OVERSEAS ARRIVALS AND DEPARTURES: AUSTRALIA 1961-1980

ARRIVALS

Period	Permanent and long-term movement			Short-term movement(a)					Total arrivals
	Per- manent Settlers arriving	Long-term Australian residents returning	Overseas visitors arriving	Total permanent and long-term arrivals	Overseas visitors arriving			Total	
					Australian residents returning	In transit	Other		
Annual averages—									
1961-65	115,198	22,258	14,770	152,226	117,041	28,685	102,776	131,461	400,727
1966-70	160,813	36,148	24,481	221,442	259,700	41,476	255,800	297,275	778,417
1971-75	109,687	57,751	26,254	193,692	631,446	74,356	401,569	475,925	1,301,063
1976-80	73,823	59,143	28,730	161,695	1,062,105	62,521	622,208	684,729	1,908,530
Annual totals—									
1975	54,117	58,352	19,858	132,327	880,609	78,222	437,801	516,023	1,528,959
1976	58,317	59,875	23,312	141,504	968,265	66,462	465,406	531,868	1,641,636
1977	75,640	57,700	27,472	160,813	973,677	53,032	510,249	563,281	1,697,771
1978	68,419	57,938	28,389	154,745	1,029,482	57,501	573,093	630,594	1,814,822
1979	72,236	61,441	33,450	167,127	1,144,334	68,339	725,006	793,345	2,104,807
1980	94,502	58,760	31,025	184,288	1,194,768	67,270	837,288	904,558	2,283,613

DEPARTURES

Period	Permanent and long-term movement					Short-term movement(a)			
	Permanent			Long-term		Total permanent and long-term departures	Australian residents departing	Overseas visitors departing	Total departing departures
	Former settlers departing	Other residents departing	Total permanent departures	Australian residents departing	Overseas visitors departing				
Annual averages—									
1961-65	9,698	6,798	16,496	37,905	12,719	67,120	118,624	135,006	320,749
1966-70	23,191	8,752	31,942	56,219	14,349	102,511	258,824	308,321	669,656
1971-75	26,622	12,032	38,654	66,430	22,984	128,067	647,608	479,015	1,254,690
1976-80	13,827	9,917	23,744	59,223	19,837	102,803	1,077,331	655,413	1,835,548
Annual totals—									
1975	18,315	10,769	29,084	66,405	23,327	118,816	911,815	506,454	1,537,084
1976	16,815	9,918	26,733	68,526	20,631	115,890	973,799	512,468	1,602,156
1977	14,171	8,591	22,762	64,091	19,182	106,035	971,253	540,943	1,618,230
1978	14,027	10,933	24,960	58,519	19,643	103,122	1,062,234	597,123	1,762,480
1979	12,670	10,750	23,420	54,266	20,422	98,107	1,175,768	752,440	2,026,317
1980	11,450	9,393	20,843	50,713	19,306	90,862	1,203,603	874,090	2,168,555

(a) Statistics of short-term movement since 1974 have been derived from a stratified sample of travellers and are subject to sampling error.

The total number of overseas arrivals and departures (excluding passengers on cruises which commence and complete their journeys in an Australian port) for the year 1980 was 4,452,200, 8 per cent more than for 1979. Growth in both arrivals and departures was particularly significant in the March quarter with almost half the total growth.

New South Wales, with 58.6 per cent of clearances, remained the principal State of arrival and departure in 1980.

Short-term movements accounted for approximately 94 per cent of total movements in both 1979 and 1980.

Changes in the pattern and volume of short-term movements is shown in Chapter 26, under the heading 'Tourism'.

Migration to Australia

Migration to Australia is regulated by the *Migration Act* 1958 which came into force on 1 June 1959. Any person entering Australia after the commencement of the Act without having been granted an entry permit or who is not within an exempted class is a prohibited immigrant. Exempted persons include diplomatic and consular representatives of other countries, and seamen and air crew who enter with leave in Australian ports.

Immigration has contributed substantially to Australia's post war population growth. In the post-war years, some 3.6 million migrants have arrived, of which an estimated 80 per cent settled.

Settler arrivals totalled 94,500 in 1980, an increase of 31 per cent on the previous year.

Europe was the largest source of permanent settlers in 1980 with 44 per cent of the total settlers. Persons born in the U.K. or Eire were the largest group from any country. The number of settlers born in Asia was 28,400, 30 per cent of the total. A large proportion of the Asian born group were born in Indochina, admitted as settlers under Australia's current refugee resettlement program. Other significant Asian sources were the Philippines and Malaysia. A substantial increase has occurred in the number of permanent arrivals from New Zealand in recent years. Those born in New Zealand totalled 14,400 in 1980, the second largest "national" group, excluding refugees, after the U.K. or Eire born.

The age distribution of settlers has not changed significantly in the past few years. In 1980 the 20 to 34 year age group made up 37 per cent and 0 to 9 years olds 22 per cent of the total.

A total of 26,300 assisted settlers were among the total permanent settler arrivals, most of these were refugees.

SETTLERS ARRIVING BY COUNTRY OF LAST RESIDENCE

	<i>Number</i>		<i>Per cent</i>	
	<i>1970</i>	<i>1980</i>	<i>1970</i>	<i>1980</i>
South Africa	1,751	3,216	0.9	3.4
Other Africa	3,799	1,154	2.1	1.2
<i>Total Africa</i>	<i>5,550</i>	<i>4,370</i>	<i>3.0</i>	<i>4.6</i>
Canada	2,080	883	1.1	0.9
U.S.A.	4,909	1,806	2.7	1.9
Other America	4,262	1,614	2.3	1.7
<i>Total America</i>	<i>11,251</i>	<i>4,303</i>	<i>6.1</i>	<i>4.6</i>
Bangladesh, India, Pakistan and Sri Lanka	4,119	895	2.2	0.9
Indonesia	85	4,438	..	4.7
Lebanon	3,974	746	2.1	0.8
Malaysia and Singapore	1,501	8,053	0.8	8.5
Philippines	351	2,974	0.2	3.1
Thailand	131	4,163	0.1	4.4
Turkey	4,399	940	2.4	1.0
Other Asia	3,447	4,650	1.9	4.9
<i>Total Asia</i>	<i>18,007</i>	<i>26,859</i>	<i>9.7</i>	<i>28.4</i>
U.K. and Ireland	77,522	23,521	41.8	24.9
Austria	12,790	3,883	6.9	4.1
Germany	5,106	1,763	2.8	1.9
Greece	10,098	1,174	5.4	1.2
Italy	8,843	2,411	4.8	2.6
Yugoslavia	15,717	1,815	8.5	1.9
Other Europe	14,102	6,048	7.6	6.4
<i>Total Europe</i>	<i>144,178</i>	<i>40,615</i>	<i>77.8</i>	<i>43.0</i>
New Zealand	5,532	17,023	3.0	18.0
Other Oceania	807	1,331	0.4	1.4
<i>Total Oceania</i>	<i>6,339</i>	<i>18,354</i>	<i>3.4</i>	<i>19.4</i>
Not Stated . . . . .	..	2	..	..
Total	185,325	94,502	100.0	100.0

Each year Australia loses a proportion of its previous migrant intakes. Additionally, partly as a result of the high international mobility of professional and skilled workers, substantial numbers of Australians take up job opportunities overseas.

Eligibility for entry for settlement is restricted to certain family members and fiancées and fiancés of Australian residents, to others who possess skills, qualifications, personal or other qualities which represent an economic, social or cultural gain to Australia, and to certain refugees.

The grant of passage assistance is restricted to refugees and skilled workers in demand in Australia.

SETTLER ARRIVALS

<i>Period</i>	<i>Assisted</i>	<i>Unassisted</i>	<i>Total</i>
Annual averages—			
1966-70	107,496	53,317	160,813
1971-75	58,176	51,511	109,687
1976-80	19,662	54,162	73,824
Annual totals—			
1975	21,345	32,773	54,118
1976	15,840	42,481	58,321
1977	17,532	58,108	75,640
1978	19,549	48,870	68,419
1979	19,063	53,173	72,236
1980	26,324	68,178	94,502

SETTLER ARRIVALS BY AGE

<i>Period</i>	<i>Age in years</i>						<i>65 and over</i>	<i>All ages</i>
	<i>0-4</i>	<i>5-14</i>	<i>15-24</i>	<i>25-44</i>	<i>45-64</i>			
MALES								
Annual averages—								
1966-70	10,542	15,434	21,184	32,272	5,809	1,243	86,484	
1971-75	7,411	10,009	12,878	20,326	3,921	1,247	55,792	
1976-80	4,942	7,154	7,707	12,669	2,971	1,385	36,828	
Annual totals—								
1975	4,124	4,968	4,011	8,673	1,735	1,063	24,575	
1976	3,996	5,543	5,339	9,556	2,105	1,183	27,722	
1977	5,205	7,221	8,009	12,410	3,461	1,344	37,650	
1978	4,577	6,768	7,463	11,351	2,897	1,378	34,434	
1979	4,986	6,837	7,598	12,205	2,873	1,339	35,838	
1980	5,947	9,403	10,126	17,822	3,517	1,680	48,495	
FEMALES								
Annual averages—								
1966-70	9,909	14,435	17,751	24,132	6,240	1,861	74,328	
1971-75	6,952	9,301	13,685	17,445	4,787	1,725	53,895	
1976-80	4,639	6,392	8,105	12,168	3,885	1,808	36,996	
Annual totals—								
1975	3,908	4,671	6,990	9,676	2,807	1,491	29,544	
1976	4,100	5,314	6,537	9,830	3,280	1,538	30,599	
1977	4,821	6,597	8,070	12,104	4,595	1,803	37,990	
1978	4,062	5,651	7,578	11,202	3,738	1,754	33,985	
1979	4,621	6,062	8,438	11,874	3,607	1,796	36,398	
1980	5,591	8,334	9,904	15,828	4,204	2,147	46,008	
PERSONS								
Annual averages—								
1966-70	20,451	29,869	38,935	56,405	12,049	3,104	160,813	
1971-75	14,363	19,311	26,563	37,771	8,708	2,972	109,687	
1976-80	9,581	13,546	15,812	24,837	6,855	3,192	73,824	
Annual totals—								
1975	8,032	9,639	11,001	18,350	4,542	2,554	54,118	
1976	8,096	10,857	11,876	19,386	5,385	2,721	58,321	
1977	10,026	13,818	16,075	24,518	8,056	3,147	75,640	
1978	8,639	12,419	15,041	22,553	6,635	3,132	68,419	
1979	9,607	12,899	16,036	24,079	6,480	3,135	72,236	
1980	11,538	17,737	20,030	33,650	7,721	3,827	94,502	

SETTLER ARRIVALS BY MARITAL STATUS

Period	<i>Never married</i>		<i>Married</i>	<i>Widowed and divorced</i>	<i>Total</i>
	<i>Under 15 years</i>	<i>15 years and over</i>			
MALES					
<i>Annual averages—</i>					
1966-70	25,976	25,742	33,668	1,098	86,484
1971-75	17,420	14,750	22,595	1,027	55,792
1976-80	12,095	9,052	14,769	912	36,827
<i>Annual totals—</i>					
1975	9,092	4,664	10,377	442	24,575
1976	9,541	6,710	10,888	581	27,720
1977	12,426	9,631	14,826	767	37,650
1978	11,345	8,451	13,808	830	34,434
1979	11,817	8,453	14,562	1,006	35,838
1980	15,344	12,015	19,762	1,374	48,495
FEMALES					
<i>Annual averages—</i>					
1966-70	24,344	12,530	34,125	3,330	74,328
1971-75	16,246	9,752	25,055	2,842	53,895
1976-80	11,005	6,435	17,043	2,513	36,996
<i>Annual totals—</i>					
1975	8,559	5,521	13,614	1,849	29,544
1976	9,361	5,473	13,886	1,877	30,597
1977	11,378	6,319	17,874	2,419	37,990
1978	9,700	5,955	15,950	2,380	33,985
1979	10,672	6,609	16,518	2,599	36,398
1980	13,914	7,818	20,987	3,289	46,008
PERSONS					
<i>Annual averages—</i>					
1966-70	50,320	38,272	67,793	4,427	160,813
1971-75	33,666	24,502	47,651	3,869	109,687
1976-80	23,100	15,487	31,813	3,424	73,824
<i>Annual totals—</i>					
1975	17,651	10,185	23,991	2,290	54,118
1976	18,902	12,182	24,779	2,458	58,321
1977	23,804	15,950	32,700	3,186	75,640
1978	21,045	14,406	29,758	3,210	68,419
1979	22,489	15,062	31,080	3,605	72,236
1980	29,258	19,833	40,748	4,663	94,502

Refugees

Australia accepted 21,692 people under refugee and special humanitarian programs in 1980. This compared with an intake of 17,057 in 1979.

Since 1945, Australia has accepted some 400,000 refugees or displaced persons, including 170,000 from Europe who were displaced by the Second World War and its aftermath.

Australia presently accepts refugees from about 40 countries. The largest single element in Australia's current refugee intake is the Indo-Chinese program. In 1980, 15,323 Indo-Chinese refugees were resettled in Australia, bringing the total intake since 1975 to 45,077.

Australia is one of 90 countries which have become party to an international convention and protocol on the status of refugees and, in so doing, have taken on certain international legal obligations to assist refugees. It is also a member of the Executive Committee of the United Nations High Commission for Refugees (UNHCR). Australia's response to refugee situations is two-fold. Through aid programs directed principally through UNHCR refugees are offered protection and assistance in countries of first asylum. Those refugees for whom other durable solutions are not feasible are offered resettlement (in Australia) when the group has cultural or historical ties with Australia, or in response to a regional problem.

REFUGEE ARRIVALS

<i>Period</i>	<i>Assisted</i>	<i>Other</i>	<i>Total</i>
Annual average--			
1961-65	1,799	n.a.	n.a.
1966-70	7,446	n.a.	n.a.
1971-75	2,773	7,776	10,549
1976-80	9,274	3,284	12,558
Annual totals--			
1975	853	3,302	4,155
1976	865	3,231	4,096
1977	2,202	7,272	9,474
1978	8,790	1,682	10,472
1979	14,639	2,418	17,057
1980	19,875	1,817	21,692

Citizenship

The grant of citizenship is controlled by the *Australian Citizenship Act* 1948. Citizenship may be acquired by birth in Australia, by birth abroad to an Australian parent, or by grant of citizenship to persons resident in Australia under conditions prescribed in the Act.

An amendment to the legislation in 1973 meant that all persons are now eligible for the grant of Australian citizenship provided that they have lived in Australia for at least three years, are of good character, have an adequate knowledge of English and of the responsibilities and privileges of citizenship, and declare that their intention is to reside permanently in Australia.

PERSONS GRANTED AUSTRALIAN CITIZENSHIP

<i>Period</i>	<i>Number</i>
Annual averages--	
1961-65	43,823
1966-70	40,934
1971-75	61,182
1976-80	75,138
Annual totals--	
1975	84,059
1976	118,189
1977	70,706
1978	65,094
1979	53,555
1980	68,145

Sources

Comprehensive statistics on aspects of demography are in the following publications of the Australian Bureau of Statistics:

- 1976 Census publications including: *Population of States and Territories Adjusted for Under-Enumeration as Shown by Post-Enumeration Survey* (2212.0); *Summary of Population and Dwelling Characteristics: States, Territories and Australia* (2409.0 to 2417.0); *Characteristics of the Population and Dwellings: States, Territories and Australia* (2418.0 to 2426.0); *Characteristics of the Population and Dwellings in Local Government Areas* (2427.0 to 2434.0).
Australian Life Tables (3305.0).
Australian Mortality—A Study By Causes of Death—Occasional Paper (1980/1).
Birth Expectations of Married Women (3215.0).
Births, Australia (3301.0).
Deaths, Australia (3302.0).
Australian Demographic Statistics Quarterly (3101.0).
Divorces, Australia (3307.0).
Estimated Age Distribution of the Population: States and Territories of Australia (3201.0).
Fertility of Australian Marriages (R Series, Demog 2)
Internal Migration (3408.0).
Internal Migration in Australia, D. T. Rowland, Census Monograph, Australian Bureau of Statistics and the Department of Demography, Australian National University, 1979 (3409.0).
Marriages, Australia (3306.0).
Overseas Arrivals and Departures, Australia (3401.0, 3402.0, 3404.0).
Perinatal Deaths, Australia (3304.0).
Projections of the Population of Australia (3204.0).
Projections of the Population of the States and Territories of Australia (3214.0).

CHAPTER 7

PRICES

RETAIL PRICES AND PRICE INDEXES

Retail prices of food and groceries and average rentals of houses have been collected by the Australian Statistician for the years extending back to 1901 and, in some cases, by the Statisticians of various States for earlier years.

Retail prices of a more extensive range of commodities (including clothing) and certain services in common demand have been ascertained at frequent and regular intervals since 1923. (Comparable information was ascertained for the month of November in each year from 1914 to 1922.) The range of items for which retail prices data is obtained was considerably expanded in 1948 and in later years. Average retail prices of certain food and grocery items in the relevant periods were published in the annual *Labour Report* (now discontinued).

The current retail price index, the Consumer Price Index, was published for the first time in August 1960 and was compiled retrospectively to the September quarter 1948. A description of the Consumer Price Index (CPI) is given below. For a more complete description of the CPI, readers are referred to a booklet entitled *A Guide to the Consumer Price Index* which is available from the Australian Bureau of Statistics (ABS) on request. An explanation of the nature and purposes of retail price indexes is given in the various editions of the annual *Labour Report*; the last issue of this publication is *Labour Report No. 58 1973*.

The Consumer Price Index

Introduction

The Consumer Price Index measures quarterly changes in the price of a 'basket' of goods and services which account for a high proportion of expenditures by metropolitan wage and salary earner households. This 'basket' covers a wide range of goods and services, arranged in the following groups: Food; Clothing; Housing; Household equipment and operation; Transportation; Tobacco and alcohol; Health and personal care; and Recreation. Each group is, in turn, divided into sub-groups.

Index numbers at the *Group* and *All Groups* levels are published each quarter for each State capital city and Canberra, for the weighted average of six State capital cities and for the weighted average of seven capital cities. *Sub-group index numbers* are also published for the weighted average of six State capital cities.

Items in the Food Group of the CPI are priced each month and the Food Group Index is compiled and published monthly. (Indexes for other groups are not compiled monthly.)

As from August 1978 monthly indexes for the Food Group and its sub-groups have been published for Darwin (see *Consumer Price Index, Monthly Food Group Index, Darwin (6413.0)*). Indexes have been calculated retrospectively to February 1975 for the Food Group and some sub-groups. The Food Group is the only Group for which data are collected and compiled in respect of Darwin.

Index population

The CPI measures price changes affecting a high proportion of *metropolitan employee households*. *Employee households* are defined as those households which obtain at least three-quarters of their total income from wages and salaries but excluding the top 10 per cent (in terms of income) of such households. *Metropolitan* means the State Capital cities and Canberra.

Weighting pattern

There are 105 expenditure classes (i.e. groupings of like items) within the current CPI and each expenditure class has its own weight, or measure of relative importance. In calculating the index, price changes for the various expenditure classes are combined using these weights.

Changes in the weighting pattern have been made at approximately five-yearly intervals to take account of changes in household spending patterns. The CPI, in fact, comprises nine series of price indexes which have been linked to form a continuous series. The ninth series (i.e. the current series) was introduced as from the September quarter 1976 and its weighting pattern is based on estimated expenditures in 1974-75 obtained from the first household expenditure survey conducted by the ABS. Details of the weighting pattern are published in the booklet *A Guide to the Consumer Price Index*.

The CPI 'basket' of goods and services covers items which are considered representative of metropolitan household spending habits and whose prices can be associated with an identifiable and specific quantity of a commodity or service. For instance, price changes for a given quantity and quality of bread or refrigerators can be measured and included in the CPI. Income taxes and personal savings, on the other hand, do not form part of the CPI because they cannot be clearly associated with the purchase of a specific quantity of a good or service.

Price collection

Since the CPI is designed to measure the impact of changing prices on metropolitan wage and salary earner households, price movements are monitored in the kinds of retail outlets or other establishments where such households would normally purchase goods and services. This involves collecting prices from many sources including supermarkets, department stores, footwear stores, restaurants, garages, dental surgeries and hairdressers. Items such as bus, rail and air fares, electricity and gas charges, telephone charges and local authority rates are collected from the appropriate authorities. Information on rents is obtained from property management companies. In total, around 80,000 separate price quotations are collected each quarter.

Food items are priced at the middle of each month except in the case of some fresh items (fruit, vegetables and fish) where prices are collected more frequently and averaged to obtain monthly prices. Most of the other CPI items are priced quarterly, usually at the middle of the mid-month of the quarter (February, May, August and November). However, to smooth out collection workloads, some items are collected during the first month of each quarter. Some items, such as local authority rates, need to be priced only once a year.

The prices used in the CPI are those that any member of the public would have to pay on the pricing day to purchase the specified good or service. Any sales or excise taxes which the consumer must pay when purchasing specific items are included in the CPI price. Sale prices, discount prices and 'specials' are reflected in the CPI so long as the items concerned are of normal quality (i.e. not damaged or shop soiled) and are offered for sale in reasonable quantities. To ensure that the price movements reflect the experience of the bulk of the metropolitan population, the brands and the varieties of the items which are priced are generally those which sell in greatest volume.

Changes in quality

The CPI aims to measure the price change of a constant basket of goods and services over time. For this reason, efforts are made to ensure that identical or equivalent items are priced in successive time periods. This involves evaluating changes in the quality of goods and services included in the index, and removing the effects of such changes so that the index reflects only the price change.

Periodic revision of the CPI

The CPI is periodically revised in order to ensure it continues to reflect current conditions. CPI revisions have usually been carried out at approximately five-yearly intervals. Following each revision the new list of items and weights (i.e. the new CPI basket) is linked to the previous series to form one continuous series. The process of linking ensures that the continuous series reflects only price variations and not differences in costs of the old and new baskets.

Earlier CPI series

The index has been compiled for each quarter from the September quarter 1948. The above description of the CPI refers to the ninth series which was introduced as from the September quarter 1976. A description of earlier CPI series is contained in the *Labour Report* No. 58, 1973, and in previous issues of the Year Book.

**CONSUMER PRICE INDEX: ALL GROUPS INDEX
SIX STATE CAPITAL CITIES AND CANBERRA**

(Base of each index: Year 1966-67=100.0) (a)

<i>Period</i>	<i>Weighted average of six State capital cities</i>	<i>Sydney</i>	<i>Mel- bourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Canberra</i>	<i>Weighted average of seven capital cities</i>
Year—									
1975-76 . . .	193.3	199.0	189.5	190.9	190.5	189.6	190.0	187.3	193.3
1976-77 . . .	220.0	223.4	216.6	218.0	220.1	219.4	217.7	212.9	219.9
1977-78 . . .	241.0	243.2	238.2	238.4	241.8	243.1	239.1	232.3	240.9
1978-79 . . .	260.7	264.4	256.8	258.0	259.7	262.8	257.7	251.1	260.6
1979-80 . . .	287.2	292.4	282.5	283.0	285.8	287.4	284.0	278.0	287.0
1980-81 . . .	314.2	320.8	309.1	309.3	312.0	312.7	310.1	305.1	314.1
Quarter—									
1979-80—									
March . . .	290.3	296.2	284.6	287.1	288.9	290.4	287.0	281.3	290.1
June . . .	298.4	304.4	293.3	293.9	297.3	297.7	294.1	289.2	298.3
1980-81—									
September .	304.0	310.0	299.2	298.9	301.3	304.5	300.8	294.7	303.9
December .	310.3	316.8	305.4	305.6	307.4	309.0	306.2	301.8	310.2
March . . .	317.7	324.9	312.3	312.0	315.9	315.1	313.1	307.8	317.6
June . . .	324.7	331.4	319.3	320.5	323.5	322.0	320.1	315.9	324.6

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

**CONSUMER PRICE INDEX: GROUP INDEXES
WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES**

(Base of each index: Year 1966-67=100.0 unless otherwise noted)

<i>Period</i>	<i>Food</i>	<i>Clothing</i>	<i>Housing</i>	<i>Household equipment and operation</i>	<i>Transport- ation</i>	<i>Tobacco and alcohol</i>	<i>Health and personal care(a)</i>	<i>Recreation (b)</i>	<i>All groups</i>
Year—									
1975-76 . . .	180.2	201.0	221.1	178.3	203.8	211.1	151.6	(c)	193.3
1976-77 . . .	201.2	232.5	251.8	196.3	221.9	229.8	265.8	104.1	220.0
1977-78 . . .	223.2	257.4	274.6	212.6	240.1	240.0	318.3	113.4	241.0
1978-79 . . .	248.8	276.3	292.5	225.9	262.7	277.4	301.7	120.7	260.7
1979-80 . . .	283.6	295.1	314.3	244.2	296.5	300.5	329.6	131.2	287.2
1980-81 . . .	312.9	316.4	345.6	271.2	324.7	321.1	361.7	142.5	314.2
Quarter—									
1979-80—									
March . . .	288.9	295.2	316.8	247.0	296.5	302.8	340.6	133.8	290.3
June . . .	296.2	303.7	324.5	253.4	310.3	307.9	348.8	136.2	298.4
1980-81—									
September .	302.4	307.2	333.1	262.2	311.3	314.3	354.7	138.5	304.0
December .	310.7	314.1	341.7	267.8	317.1	317.2	358.9	140.6	310.3
March . . .	316.9	317.5	348.9	275.3	328.7	324.0	364.7	144.5	317.7
June . . .	321.4	326.6	358.5	279.5	341.8	329.0	368.4	146.5	324.7

(a) Base: December quarter 1968=100.0

(b) Base: September quarter 1976=100.0.

(c) New grouping not compiled for quarters prior to September quarter 1976.

**CONSUMER PRICE INDEX: GROUP INDEXES
SIX STATE CAPITAL CITIES AND CANBERRA**

(Base of each index: Year 1966-67=100.0 unless otherwise noted) (a)

<i>Year</i>	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	<i>Canberra</i>
FOOD							
1975-76	181.8	177.8	180.8	180.6	180.2	177.5	181.3
1976-77	200.2	198.9	201.7	205.8	205.5	201.5	201.5
1977-78	220.1	220.9	222.6	229.7	235.6	224.3	221.6
1978-79	247.7	245.8	245.7	253.0	260.2	251.3	249.0
1979-80	284.3	278.8	284.6	285.5	290.7	286.8	283.9
1980-81	314.0	307.7	316.9	314.1	317.1	313.0	312.7
CLOTHING							
1975-76	201.0	200.4	200.0	203.6	202.3	200.9	200.9
1976-77	231.9	232.4	230.4	236.5	232.9	232.5	232.4
1977-78	256.4	257.7	254.6	261.2	258.6	257.1	253.7
1978-79	275.1	276.5	272.7	282.1	277.0	277.2	272.4
1979-80	293.8	295.0	291.5	301.9	295.9	297.6	290.5
1980-81	315.4	315.9	310.6	324.4	318.5	319.7	312.1
HOUSING							
1975-76	233.7	214.0	202.9	222.1	209.7	216.4	194.1
1976-77	264.5	242.6	236.0	253.8	244.5	244.9	224.0
1977-78	288.7	263.1	260.9	275.1	269.5	264.6	240.4
1978-79	313.0	276.1	278.5	288.6	282.3	278.1	250.1
1979-80	344.1	291.7	297.2	309.2	292.9	293.7	262.5
1980-81	383.5	318.5	324.6	335.7	316.6	315.4	282.9
HOUSEHOLD EQUIPMENT AND OPERATION							
1975-76	186.5	169.5	181.7	173.1	184.1	183.9	166.1
1976-77	205.5	188.0	197.7	190.0	198.9	201.8	183.9
1977-78	220.7	204.2	213.8	207.0	217.9	222.0	199.2
1978-79	232.2	218.5	228.8	219.6	233.4	235.9	213.4
1979-80	248.9	238.6	243.5	239.8	251.6	257.2	235.6
1980-81	275.5	266.0	269.2	265.4	281.4	286.3	264.3
TRANSPORTATION							
1975-76	220.0	194.1	199.7	196.2	184.9	196.7	196.9
1976-77	231.7	216.8	219.6	215.5	206.2	220.7	216.6
1977-78	248.6	236.7	233.8	234.8	224.9	241.6	236.3
1978-79	273.0	256.9	257.0	257.2	249.5	256.5	256.2
1979-80	307.2	292.8	288.1	288.4	278.7	291.5	293.7
1980-81	335.8	321.7	313.8	314.0	307.6	321.6	323.6
TOBACCO AND ALCOHOL							
1975-76	214.3	214.0	200.9	206.2	206.4	206.3	194.3
1976-77	236.6	229.3	217.4	224.6	226.3	222.0	213.1
1977-78	245.2	241.7	227.5	233.8	237.6	232.2	224.5
1978-79	282.8	277.9	271.6	264.8	277.2	268.4	255.9
1979-80	308.1	302.2	287.9	283.8	299.7	289.1	279.2
1980-81	333.5	319.0	306.0	303.0	317.5	310.7	300.2
HEALTH AND PERSONAL CARE(b)							
1975-76	152.3	149.3	164.1	144.0	156.6	138.5	156.9
1976-77	246.8	266.1	296.1	274.7	308.1	250.3	263.3
1977-78	294.7	321.5	353.6	326.4	365.7	302.6	316.8
1978-79	286.0	307.4	315.6	302.3	337.0	292.2	311.0
1979-80	316.5	327.0	333.8	340.2	385.5	319.8	343.1
1980-81	349.0	360.3	372.0	376.5	398.7	352.5	380.3

CONSUMER PRICE INDEX: GROUP INDEXES
SIX STATE CAPITAL CITIES AND CANBERRA—continued
(Base of each index: Year 1966-67=100.0 unless otherwise noted) (a)

Year	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra
RECREATION(c)							
1976-77	104.4	103.7	104.1	103.8	104.3	103.6	104.3
1977-78	113.5	113.0	114.8	113.5	113.5	110.2	112.9
1978-79	119.7	120.5	123.4	122.6	120.8	118.7	120.3
1979-80	130.1	131.1	133.9	132.5	131.3	128.5	130.5
1980-81	140.3	143.5	144.3	144.8	143.6	139.8	143.1

(a) The index numbers are designed to measure movements in retail prices of specified groups of items for each city individually. They measure variations from time to time and not differences in price levels between cities. (b) Base: December quarter 1968=100.0. (c) Base: September quarter 1976=100.0.

Previous retail price indexes

Five series of retail price indexes were compiled by the ABS at various times prior to the introduction of the Consumer Price Index in 1960. These indexes are described in Year Book No. 61.

An index of retail price movements from 1901 onwards has been derived by linking together the following indexes: from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946-47, the 'C' Series Retail Price Index; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; and from 1948-49 onwards, the Consumer Price Index. The continuous series derived in this way is shown in the table below. As the indexes differ greatly in scope, the resulting series is only a broad indication of long-term trends in retail prices.

RETAIL PRICE INDEX NUMBERS: SIX STATE CAPITAL CITIES
COMBINED, 1901 TO 1980
(Base: Year 1911=100)

Year	Index number	Year	Index number	Year	Index number
1901	88	1928	167	1955	394
1902	93	1929	171	1956	419
1903	91	1930	162	1957	429
1904	86	1931	145	1958	435
1905	90	1932	138	1959	443
1906	90	1933	133	1960	459
1907	90	1934	136	1961	471
1908	95	1935	138	1962	469
1909	95	1936	141	1963	472
1910	97	1937	145	1964	483
1911	100	1938	149	1965	502
1912	110	1939	153	1966	517
1913	110	1940	159	1967	534
1914(a)	114	1941	167	1968	548
1915(a)	130	1942	181	1969	564
1916(a)	132	1943	188	1970	586
1917(a)	141	1944	187	1971	621
1918(a)	150	1945	187	1972	658
1919(a)	170	1946	190	1973	720
1920(a)	193	1947	198	1974	829
1921(a)	168	1948	218	1975	954
1922(a)	162	1949	240	1976	1,083
1923	166	1950	262	1977	1,216
1924	164	1951	313	1978	1,313
1925	165	1952	367	1979	1,432
1926	168	1953	383	1980	1,578
1927	166	1954	386		

(a) November

**INDEX NUMBERS OF CONSUMER (RETAIL) PRICES IN VARIOUS COUNTRIES
ALL GROUP INDEXES(a)**

(Source: *Monthly Bulletin of Statistics* of the Statistical Office of the United Nations)
(Base of each index: Year 1970 = 100)

Period	Australia (b)	Canada	Federal Republic of Germany	Indonesia (Djakarta) (c)	Japan	New Zealand	United Kingdom	United States of America
1975	163	143	135	244	172	163	184	139
1976	185	153	r140	292	188	190	215	147
1977	208	165	146	324	204	218	249	156
1978	224	180	150	351	211	244	270	168
1979	244	197	156	r132	219	277	306	187
1980	269	217	164	156	237	325	361	212
Quarter—								
1979—								
Sept	247	199	157	139	221	289	316	191
Dec	254	203	158	142	224	295	325	196
1980—								
March	260	208	161	146	229	r306	340	203
June	267	214	164	153	236	319	360	211
Sept	272	220	165	160	239	331	368	215
Dec	278	226	167	166	242	343	375	221

(a) The items priced and the levels at which they are priced in these indexes vary widely according to the intended purposes of the indexes of the various countries. The index numbers show fluctuations in prices in each country and do not measure relative price levels between countries. (b) Consumer Price Index converted to base: 1970 = 100. (c) From March 1979—revised figures, base April 1977—March 1978 = 100.

Wholesale price indexes

Introduction

The ABS compiles a range of Wholesale Price Indexes relating to materials used and articles produced by defined sectors of the Australian economy. Each index is calculated using fixed weights. In compiling the indexes, prices are collected from representative suppliers, manufacturers or exporters of the goods included in the indexes. Prices are generally collected as at the mid-point of each month except in the case of the *Price Index of Materials Used in Manufacturing Industry and Export Price Index*, for which average monthly prices are mainly used.

All indexes are compiled and published monthly. Published index numbers for financial years are simple averages of the relevant monthly index numbers. Annual index numbers for most of the indexes are shown below. Monthly index numbers, together with more detailed information concerning methods used in compiling these indexes, are shown in the monthly bulletins published for each index. Information on the weighting patterns for each index is available from the ABS on request.

Price index of materials used in house building

This index measures changes in prices of selected materials used in the construction of houses. Its composition reflects the usage of materials in houses which were selected as representative for the purpose. Weights are based on the year 1968-69. The reference base of the index is the year 1966-67 = 100.0. Further information concerning the method of compiling the index, as well as more detailed index numbers, is shown in the publications *Price Index of Materials Used in House Building* (6408.0), *Labour Report* No. 58, 1973 and *Year Book* No. 60.

**PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
GROUP INDEX NUMBERS—WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES**

(Base of each index: Year 1966-67=100.0)

	<i>Concrete mix, cement and sand</i>	<i>Cement products</i>	<i>Clay bricks, tiles, etc.</i>	<i>Timber, board and joinery</i>	<i>Steel products</i>	<i>Other metal products</i>
<i>Value Weight</i>	5.73%	8.10%	12.85%	36.16%	5.86%	7.20%
1975-76	195.1	227.0	205.1	226.2	229.3	187.1
1976-77	217.8	258.9	227.8	254.1	263.2	207.9
1977-78	239.0	284.6	245.8	275.0	287.7	220.1
1978-79	255.5	303.8	262.2	290.8	307.6	239.7
1979-80	292.8	336.3	294.8	331.5	341.0	281.7
1980-81	334.1	383.1	334.9	377.8	389.4	314.7

	<i>Plumbing fixtures, etc.</i>	<i>Electrical instal- lation materials</i>	<i>Installed appli- ances</i>	<i>Plaster and plaster products</i>	<i>Miscel- laneous materials</i>	<i>All groups</i>
<i>Value weight</i>	3.74%	1.63%	5.13%	5.64%	7.96%	100.00%
1975-76	201.5	183.5	165.9	167.7	187.9	208.1
1976-77	224.3	201.8	181.9	178.8	210.7	232.9
1977-78	239.1	215.5	193.3	191.8	230.4	252.0
1978-79	244.1	240.0	202.9	204.3	248.2	268.1
1979-80	278.1	282.1	217.6	222.8	278.2	302.9
1980-81	319.3	316.0	240.6	244.6	319.6	344.0

**PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING
ALL GROUPS INDEX NUMBERS—SIX STATE CAPITAL CITIES**

(Base of each index: Year 1966-67=100.0)

	<i>State capital cities(a)</i>						<i>Weighted average of six State capital cities</i>
	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	
1975-76	211.1	200.1	218.5	222.5	201.9	209.2	208.1
1976-77	234.5	223.6	243.5	250.7	229.8	235.1	232.9
1977-78	254.0	238.6	265.1	270.7	253.4	256.7	252.0
1978-79	272.7	251.4	281.3	292.1	268.2	273.6	268.1
1979-80	309.5	283.4	315.0	338.5	299.4	304.2	302.9
1980-81	347.6	324.7	363.7	386.1	337.6	338.2	344.0

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Price index of materials used in building other than house building

The *Price Index of Materials Used in Building Other than House Building* (6407.0), on a reference base 1966-67 = 100.0, was discontinued in January 1981. Monthly index numbers on a 1966-67 = 100.0 reference base are available for the period 1966-67 to 1979-80. A description of the discontinued index is shown in previous year books and in the monthly publications issued up to and including January 1981.

The revised price index of materials used in building other than house building

Introduction

The revised Price Index of Materials Used in Building Other than House Building was introduced in February 1981 on reference base 1979-80 = 100.0. It replaces the previous index on reference base 1966-67 = 100.0. The revised index excludes materials which are no longer important in the construction of buildings other than houses and includes new important materials.

Scope and composition

The index measures changes in the prices of materials used in the construction of buildings other than houses. It includes 68 items combined into 10 industry of origin groups in addition to an 'All groups' index. Index numbers are published, for the weighted average of the six State capital cities, for each of the industry of origin groups and for 'All groups'. In addition, index numbers are published for 'All groups' for each of the State capital cities separately.

Although many of the Selected materials are also used in house building, and in building repair, maintenance and alteration work, the weighting pattern of the index is not applicable to these other activities of the construction industry. Neither is it applicable to *engineering construction* work such as the construction of dams, highways, bridges, and other similar types of projects. In addition, since the weights are based on an average materials usage for a range of different building types, the index is not necessarily representative of the price movements for materials used in any particular building or any one type of building.

Items and weights

The index is a fixed weights index. The items were selected and allocated weights in accordance with the estimated average values of materials used in the construction of buildings (other than houses) commenced in the six State capital cities in the three years ended June 1977. The estimated values were derived from data reported from a sample of actual building projects selected from ABS building commencements statistics. The same weighting pattern is used for all State capital cities and is applied to local price measures for calculating index numbers for each State capital city.

Classifications used

The selected materials have been combined into broad groups on an *industry of origin* basis. Index numbers for groups are defined in terms of the Groups (3 digit-level) of the 1978 edition of the *Australian Standard Industrial Classification (ASIC)* (1201.0). The 'industry of origin' is not necessarily identical with the industry which supplies the materials to builders. The 'industry of origin' is the industry in which the material is *primarily produced*, determined in accordance with the classification rules of the ASIC. For instance, many of the materials are sold to builders by wholesalers, but the materials are classified to the appropriate producing industries, rather than the wholesale trading industries.

Prices

Prices are collected at the mid-point of the month to which the index refers, or the nearest trading day. They relate to specified standards of each material and are obtained in all State capital cities from representative suppliers of materials used in building. In general the point of pricing is *delivered on site* but in some cases it has been necessary to use the nearest realistic price available, eg. 'delivered to electrical contractors' store'.

Index numbers

The index has been compiled for each month from July 1979. Financial year index numbers are simple averages of the monthly index numbers. In addition to the index numbers for 'industry of origin' groups and 'All groups' referred to earlier, index numbers are published for:

- (i) selected materials, for the weighted average of the six State capital cities;
- (ii) selected major materials, for each State capital city separately; and
- (iii) special combinations of materials (i.e. 'All groups, excluding electrical materials and mechanical services components', 'Electrical materials', 'Mechanical services components', 'Plumbing materials'), for the weighted average of the six State capital cities and for each State capital city separately.

Further information concerning the method of compiling the index can be obtained from the February 1981 issue of the publication *Price Index of Materials Used in Building Other than House Building—Six State Capital Cities* (6407.0). The tables below show annual index numbers for ASIC groups and 'All groups' for the weighted average of six State capital cities. In addition 'All groups' index numbers for each State capital city are shown. Index numbers for selected materials and special combinations of materials and monthly index numbers are shown in each issue of the monthly price index publication *Price Index of Materials Used in Building Other than House Building—Six State Capital Cities* (6407.0).

**PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING GROUP
INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)
WEIGHTED AVERAGE OF SIX STATE CAPITAL CITIES**

(Base of each index: Year 1979-80=100.00)

	<i>Selected ASIC Groups</i>					
	<i>Wood and wood products</i>	<i>Clay products and refractories</i>	<i>Cement and concrete products</i>	<i>Basic iron and steel</i>	<i>Structural metal products</i>	<i>Sheet metal products</i>
	(253)	(286)	(287)	(294)	(314)	(315)
<i>Value weight</i>	7.97%	4.16%	15.41%	4.69%	29.24%	3.68%
1979-80	100.0	100.0	100.0	100.0	100.0	100.0
1980-81	114.3	114.3	113.0	113.2	113.9	114.5

	<i>Selected ASIC Groups</i>					
	<i>Other fabricated metal products</i>	<i>Appliances and electrical equipment</i>	<i>Industrial machinery and equipment</i>	<i>Other</i>	<i>All groups</i>	
	(316)	(335)	(336)			
<i>Value weight</i>	2.77%	9.70%	8.79%	13.58%		100.00%
1979-80		100.0	100.0	100.0	100.0	100.0
1980-81		112.9	109.8	111.2	112.6	112.9

**PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING ALL GROUPS
INDEX NUMBERS—SIX STATE CAPITAL CITIES**

(Base of each index: Year 1979-80=100.0)

	<i>State capital cities(a)</i>						<i>Weighted average of six State capital cities</i>
	<i>Sydney</i>	<i>Melbourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>	
1975-76(b)	67.8	68.3	69.0	66.9	67.3	69.7	68.1
1976-77(b)	75.5	76.6	77.0	74.5	76.0	77.8	76.0
1977-78(b)	81.8	83.0	83.2	80.9	83.4	84.1	82.4
1978-79(b)	88.3	88.5	88.9	87.3	89.4	89.6	88.5
1979-80	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1980-81	113.1	112.7	113.2	113.8	112.2	111.6	112.9

(a) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.
(b) The index series for 1975-76 to 1978-79 are based on the series previously published on a reference base 1966-67=100.0. They have been converted to the reference base 1979-80=100.0 by linking the old and new series in the year 1979-80.

**PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING
COMPOSITION AND WEIGHTING IN REFERENCE BASE YEAR 1979-80
INDEX ITEMS GROUPED ACCORDING TO AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION
(ASIC) 1978**

ASIC Code	Description	Percentage contribution (a) of—	
		Items to groups	Items and groups to All groups
253	WOOD AND WOOD PRODUCTS	100.00	7.97
	Structural timber	20.04	1.60
	Plywood, hardboard and softboard	6.53	0.52
	Timber doors ready made	15.73	1.25
	Timber windows ready made	6.06	0.48
	Built in wooden furniture	37.03	2.95
	Wooden shelves, racks, partitions and other joinery	14.61	1.17
286	CLAY PRODUCTS AND REFRACTORIES	100.00	4.16
	Clay bricks	66.09	2.75
	Earthenware pipes and fittings	5.28	0.22
	Ceramic tiles	18.82	0.78
	Toilet suites	5.89	0.25
	Hand basins	3.92	0.16
287	CEMENT AND CONCRETE PRODUCTS	100.00	15.42
	Cement	3.76	0.58
	Ready mixed concrete	67.19	10.36
	Precast concrete pipes and drainage products	4.25	0.66
	Concrete masonry blocks	6.25	0.96
	Other precast concrete products	17.04	2.63
	Terrazzo	1.51	0.23
294	BASIC IRON AND STEEL	100.00	4.69
	Galvanised steel decking, cladding and sheet products	49.62	2.33
	Cast iron pipes and fittings	8.16	0.38
	Sprinkler and hydrant systems	28.94	1.36
	Galvanised steel piping	10.28	0.48
	Metal conduit and accessories	3.00	0.14
314	STRUCTURAL METAL PRODUCTS	100.00	29.24
	Structural steel	31.62	9.25
	Reinforcing steel bar	15.32	4.48
	Reinforcing steel fabric and mesh	5.18	1.52
	Aluminium windows	13.31	3.89
	Aluminium screens, doors, louvres and other fabricated products	6.57	1.92
	Suspended ceilings	11.71	3.42
	Steel windows, doors, louvres, grilles and roller shutters	5.54	1.62
	Light fabricated steel work	5.04	1.47
	Other steel fabricated architectural products	3.87	1.13
	Fire doors	1.84	0.54
315	SHEET METAL PRODUCTS	100.00	3.68
	Steel gutters and downpipes	22.06	0.81
	Ductwork used in air conditioning	59.40	2.19
	Metal ducting and cable trays	6.86	0.25
	Urinals	3.85	0.14
	Baths and sinks	7.83	0.29
316	OTHER FABRICATED METAL PRODUCTS	100.00	2.77
	Builders' hardware—hinges, catches, handles, bolts, etc.	64.64	1.79
	Taps, valves and other fittings	24.46	0.68
	Boilers	10.90	0.30
335	APPLIANCES AND ELECTRICAL EQUIPMENT	100.00	9.70
	Fire alarm systems	6.70	0.65
	Mains cable	13.45	1.30
	Circuitry	5.85	0.57
	Electrical materials used in air conditioning	7.67	0.74
	Light fittings	32.79	3.18
	Lamps	4.24	0.41
	Switches, outlets and plugs	4.73	0.46
	Switchboards	21.84	2.12
	Hot water units	2.73	0.27

PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING
COMPOSITION AND WEIGHTING IN REFERENCE BASE YEAR 1979-80—continued
INDEX ITEMS GROUPED ACCORDING TO AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION
(ASIC) 1978—continued

ASIC Code	Description	Percentage contribution (a) of—	
		Items to groups	Items and groups to All groups
336	INDUSTRIAL MACHINERY AND EQUIPMENT	100.00	8.79
	Air conditioning packaged units	12.79	1.12
	Refrigeration equipment—air conditioning	24.07	2.12
	Other air conditioning equipment	25.37	2.23
	Registers and fans used in air conditioning	12.95	1.14
	Elevators and escalators	24.82	2.18
—	OTHER MATERIALS	100.00	13.58
	Sand, aggregate and filling	13.32	1.81
	Carpet	9.86	1.34
	Paint	5.53	0.75
	Asphalt	3.99	0.54
	Bituminous sheeting	9.91	1.35
	Glass	5.31	0.72
	Plaster and plaster products	10.62	1.44
	Insulation	2.52	0.34
	Asbestos cement products	5.03	0.68
	Lime	1.36	0.18
	Non-ferrous pipes	17.41	2.37
	Vinyl sheet and tiles	6.83	0.93
	Plastic conduit, ducting and accessories	3.61	0.49
	Plastic pipes and fittings	4.70	0.64
	ALL GROUPS		100.00

(a) Percentage contributions reflect estimated average materials usage in the 3 years ended June 1977, valued at the relevant prices in 1979-80.

PRICE INDEX OF ELECTRICAL MATERIALS—COMPOSITION AND WEIGHTING IN REFERENCE
BASE YEAR 1979-80

Description	Percentage contribution (a) of—	
	Items to classes	Items and classes to All Electrical Materials
CONDUCTORS	100.00	20.96
Mains cable	69.52	14.57
Circuitry	30.48	6.39
CONDUIT AND ACCESSORIES	100.00	9.87
Metal ducting and cable trays	28.41	2.80
Plastic conduit, ducting and accessories	55.68	5.50
Metal conduit and accessories	15.91	1.57
SWITCHBOARDS AND SWITCHGEAR	100.00	28.92
Switchboards	82.17	23.76
Switches, outlets and plugs	17.83	5.16
LAMPS AND LIGHT FITTINGS	100.00	40.25
Lamps	11.42	4.60
Light fittings	88.58	35.65
ALL ELECTRICAL MATERIALS	—	100.00

(a) Percentage contributions reflect estimated average materials usage in the 3 years ended June 1977, valued at the relevant prices in 1979-80.

**PRICE INDEX OF MECHANICAL SERVICES COMPONENTS—COMPOSITION AND WEIGHTING IN
REFERENCE BASE YEAR 1979-80**

<i>Description</i>	<i>Percentage contribution (a) of—</i>	
	<i>Items to classes</i>	<i>Items and classes to All Mechanical Services</i>
AIR CONDITIONING	100.00	72.81
Air conditioning packaged units	9.98	7.27
Refrigeration equipment—air conditioning	18.90	13.76
Ductwork used in air conditioning	19.52	14.21
Piping used in air conditioning	12.30	8.95
Electrical materials used in air conditioning	6.59	4.80
Boilers	2.67	1.95
Registers and fans used in air conditioning	10.16	7.40
Others air conditioning equipment	19.88	14.47
FIRE PROTECTION INSTALLATIONS	100.00	13.04
Fire alarm systems	32.34	4.22
Sprinkler and hydrant systems	67.66	8.82
ELEVATORS AND ESCALATORS	100.00	14.15
Elevators and escalators	100.00	14.15
ALL MECHANICAL SERVICES COMPONENTS	—	100.00

(a) Percentage contributions reflect estimated average materials usage in the 3 years ended June 1977, valued at the relevant prices in 1979-80.

**PRICE INDEX OF PLUMBING MATERIALS—COMPOSITION AND WEIGHTING IN REFERENCE
BASE YEAR 1979-80**

<i>Description</i>	<i>Percentage contribution (a) of—</i>	
	<i>Items to classes</i>	<i>Items and classes to All Plumbing Materials</i>
HYDRAULIC PLUMBING MATERIALS	100.00	50.55
Urinals	3.62	1.83
Baths and sinks	7.35	3.72
Toilet suites	6.24	3.15
Hand basins	4.16	2.10
Cast iron pipes and fittings	5.85	2.96
Non-ferrous pipes	34.77	17.58
Taps, valves and other fittings	17.26	8.72
Plastic pipes and fittings	11.95	6.04
Galvanised steel piping	3.81	1.93
Hot water units	4.99	2.52
DRAINAGE MATERIALS	100.00	14.52
Earthenware pipes and fittings	19.51	2.83
Plastic pipes and fittings	8.83	1.28
Pre-cast concrete pipes and drainage products	58.10	8.44
Cast iron pipes and fittings	13.56	1.97
ROOF AND ROOF PLUMBING MATERIALS	100.00	34.93
Steel gutters and downpipes	29.99	10.48
Steel decking	70.01	24.45
ALL PLUMBING MATERIALS	—	100.00

(a) Percentage contributions reflect estimated average materials usage in the 3 years ended June 1977, valued at the relevant prices in 1979-80.

**PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE
BUILDING—COMPOSITION AND WEIGHTING IN REFERENCE BASE YEAR 1979-80 OF ALL GROUPS
EXCLUDING ELECTRICAL MATERIALS AND MECHANICAL SERVICES**

<i>Description</i>	<i>Percentage contribution (a) of Items to All groups excluding electrical materials and mechanical services</i>
Structural timber	2.11
Plywood, hardboard and softboard	0.69
Timber doors ready made	1.65
Timber windows ready made	0.63
Built-in wooden furniture	3.90
Wooden shelves, racks, partitions and other joinery	1.55
Clay bricks	3.64
Earthenware pipes and fittings	0.29
Ceramic tiles	1.03
Toilet suites	0.33
Hand basins	0.21
Cement	0.77
Ready mixed concrete	13.69
Precast concrete pipes and drainage products	0.87
Concrete masonry blocks	1.27
Other precast concrete products	3.48
Terrazzo	0.30
Galvanised steel decking, cladding and sheet products	3.08
Cast iron pipes and fittings	0.50
Structural steel	12.23
Reinforcing steel bar	5.92
Reinforcing steel fabric and mesh	2.01
Aluminium windows	5.14
Aluminium screens, doors, louvres and other fabricated products	2.54
Suspended ceilings	4.52
Steel windows, doors, louvres, grilles and roller shutters	2.14
Light fabricated steel work	1.94
Other steel fabricated architectural products	1.49
Fire doors	0.71
Steel gutters and downpipes	1.07
Urinals	0.19
Baths and sinks	0.38
Builders' hardware—hinges, catches, handles, bolts, etc.	2.37
Taps, valves and other fittings	0.90
Hot water units	0.36
Sand, aggregate and filling	2.39
Carpet	1.77
Paint	0.99
Asphalt	0.71
Bituminous sheeting	1.78
Glass	0.95
Plaster and plaster products	1.90
Insulation	0.45
Asbestos cement products	0.90
Lime	0.24
Non-ferrous pipes	2.04
Vinyl sheets and tiles	1.23
Plastic pipes and fittings	0.75
ALL GROUPS EXCLUDING ELECTRICAL MATERIALS AND MECHANICAL SERVICES	100.00

(a) Percentage contributions reflect estimated average materials usage in the 3 years ended June 1977, valued at the relevant prices in 1979-80.

Price index of materials used in manufacturing industry

This index measures changes in prices of materials (including fuels) used by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC), as described in the ABS publication *Australian Standard Industrial Classification (Preliminary Edition) 1969* (1201.0). The index is on a *net basis*, i.e. it relates in concept only to those materials which are used by establishments within the Manufacturing Division in Australia and which have been produced by establishments outside that Division. Materials purchased by establishments classified to the Australian Manufacturing Division from other establishments in that Division are outside the scope of the index.

The reference base of the index is the year 1968-69=100.0. The weighting base of the index corresponds to the year 1971-72. The items included in the index were allocated weights in accordance with estimated manufacturing usage in 1971-72 valued at relevant prices applying in the reference base year 1968-69. The selected items are combined for publication purposes into broad groups using two different classifications:

- (i) Australian Standard Industrial Classification (ASIC), and
- (ii) Standard International Trade Classification (SITC (R)).

Further information concerning the method of compiling the index, as well as more detailed index numbers, is shown in the publications *Price Index of Materials Used in Manufacturing Industry, Australia* (6411.0) and Year Book No. 61.

PRICE INDEX OF MATERIALS USED IN MANUFACTURING INDUSTRY: GROUP INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (Base of each index: Year 1968-69=100.0)

	Imported materials				Home produced materials					All groups
	Agri- culture	Mining	Manu- facturing	Total imported materials	Agri- culture	Forestry and fishing	Mining	Elec- tricity	Total home produced materials	
Value weight	1.92%	4.17%	21.07%	27.16%	47.04%	1.12%	18.92%	5.76%	72.84%	100.00%
1975-76	166.5	423.6	162.6	202.9	132.3	213.7	163.3	137.9	142.0	158.6
1976-77	258.6	479.5	182.1	233.2	152.5	245.2	189.2	148.8	163.2	182.2
1977-78	303.4	515.3	201.6	257.0	162.4	273.5	211.4	160.9	176.7	198.5
1978-79	285.3	542.6	222.1	275.7	228.8	263.5	281.8	173.8	238.7	248.8
1979-80	329.2	911.8	261.8	366.4	280.3	300.3	403.5	186.7	305.2	321.8
1980-81	293.6	1,146.3	278.7	413.0	295.9	344.4	454.0	210.2	330.9	353.2

PRICE INDEX OF MATERIALS USED IN MANUFACTURING INDUSTRY: GROUP INDEX NUMBERS BASED ON STANDARD INTERNATIONAL TRADE CLASSIFICATION (REVISED) (Base of each index: Year 1968-69=100.0)

	Manufactured materials (imported)			Other materials (imported and home produced)				All groups
	Chemicals	Metal manu- factures, components for transport equipment and machinery	Other manufactured materials	Food, live animals and tobacco	Crude materials (excl. fuels)	Electricity, gas and fuels		
Value weight	6.67%	5.21%	5.76%	45.87%	20.66%	15.83%	100.00%	
1975-76	149.4	179.6	148.4	132.5	163.0	229.0	158.6	
1976-77	160.3	211.6	164.5	154.9	191.7	254.8	182.2	
1977-78	170.7	246.6	185.1	166.6	199.2	291.0	198.5	
1978-79	180.9	271.6	201.3	232.5	227.4	362.4	248.8	
1979-80	225.1	294.2	230.3	285.1	288.8	554.6	321.8	
1980-81	244.7	310.3	242.9	299.5	286.9	695.5	353.2	

Price indexes of articles produced by manufacturing industry

These indexes measure changes in the prices of articles produced by establishments classified to the Manufacturing Division of the Australian Standard Industrial Classification (ASIC). The indexes are on a *net basis*, i.e. they relate in concept only to those articles which are produced in defined sectors of Australian manufacturing industry for sale or transfer to other sectors or for export or for use as capital equipment. Articles which are sold or transferred to other establishments within the sector for further processing (as materials, components, fuels, etc.) are excluded.

The following sector price indexes are published:

- (i) a net index for the Manufacturing Division of ASIC (known as the *All Manufacturing Industry Index*), and
- (ii) net indexes for the twelve sub-divisions within the Manufacturing Division.

The reference base of the index is the year 1968-69=100.0. The weighting base of the index corresponds to the year 1971-72. The items included in these indexes were allocated weights in accordance with estimated *net* sector production in the year 1971-72, valued at the relevant prices applying in the reference base year 1968-69.

The selected items are combined for publication purposes using the structure of the Australian Standard Industrial Classification.

Further information concerning the method of compiling the index and monthly index numbers for sub-divisions and special groupings are shown in the publication *Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0). Further information about the indexes is also shown in Year Book No. 62.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a) (Base of each index: Year 1968-69=100.0)

Net subdivision indexes (c)							
Year	All Manufacturing Industry Index (b)	Food, beverages and tobacco (21-22)	Textiles (23)	Clothing and footwear (24)	Wood, wood products and furniture (25)	Paper, paper products and printing (26)	Chemical, petroleum and coal products (27)
1975-76	177.8	163.5	159.7	185.2	219.9	196.3	168.2
1976-77	196.9	180.0	178.6	208.1	246.8	212.8	182.4
1977-78	213.8	195.6	193.3	225.2	264.0	231.7	200.7
1978-79	237.4	226.4	205.1	238.4	280.4	245.0	233.1
1979-80	274.9	266.5	228.8	255.3	315.5	269.6	307.4
1980-81	305.2	290.9	252.7	276.5	357.3	304.2	366.9

Year	Glass, clay and other non-metallic mineral products (28)	Basic metal products (29)	Fabricated metal products (31)	Transport equipment (32)	Other industrial machinery and equipment and household appliances (33)	Miscellaneous manufacturing products (34)
1975-76	183.2	174.0	217.1	175.8	179.2	159.0
1976-77	202.5	200.6	244.9	195.0	199.4	176.0
1977-78	219.8	214.0	268.7	211.6	215.3	192.4
1978-79	236.8	237.2	287.7	230.2	232.2	209.8
1979-80	265.2	282.7	323.9	252.2	261.3	252.5
1980-81	300.2	297.8	371.6	275.7	289.6	273.9

(a) For a full description of Division C, 'Manufacturing' and the subdivisions within Manufacturing Division, see *Australian Standard Industrial Classification* (ASIC), *Preliminary Edition*, 1969. (b) This index is on a net division basis and relates in concept only to articles which are produced in the Manufacturing Division of ASIC for sale or transfer outside the Division. (c) These indexes are on a 'net subdivision' basis; the index for each subdivision relates in concept to articles which are produced in that subdivision for sale or transfer outside the subdivision.

EXPORT PRICE INDEXES

An annual index of export prices has been published by the bureau since its inception. Brief descriptions of indexes covering the period between 1901 and 1979 are shown in Year Book No. 55, pages 256-7 and Year Book No. 58, pages 240-2.

Export price index

The revised Export Price Index was introduced in July 1979. It relates to *all exports of merchandise* from Australia and includes re-exports of merchandise (that is, goods which are imported into Australia and exported at a later date without physical transformation). The index numbers for each month relate to prices of those exports of merchandise that are physically shipped from Australia during that month.

The reference base of the index is the year 1974-75 = 100. The commodities directly represented in the index were selected on the basis of their export values in the years 1974-75, 1975-76 and 1976-77. They were allocated weights in accordance with the average value of exports for each commodity over the period 1974-75 to 1976-77. The 1975-76 and 1976-77 export values for each commodity were revalued at 1974-75 prices before averaging.

The selected commodities are combined for publication purposes into broad index groups using two different classifications:

- (i) Australian Export Commodity Classification, 1978-79 (AECC), (1203.0);
- (ii) Australian Standard Industrial Classification, 1978 (ASIC), (1201.0).

Further information concerning the method of compiling the index can be obtained from the July 1979 issue of the publication *Export Price Index* (6405.0) and Year Book No. 64. More detailed index numbers are shown in the monthly publication *Export Price Index, Australia* (6405.0).

EXPORT PRICE INDEX:
INDEX NUMBERS BASED ON AUSTRALIAN EXPORT COMMODITY CLASSIFICATION (AECC)
(Base of each index: Year 1974-75=100)

Year	<i>AECC Sections</i>					
	<i>All groups</i>	<i>Food and live animals (0)</i>	<i>Crude materials inedible (except fuels) (2)</i>	<i>Mineral fuels and lubricants (3)</i>	<i>Animal and vegetable oils and fats (4)</i>	<i>Chemicals and other manufactured exports (5, 6, 7 and 8)</i>
1975-76 . . .	109	97	115	144	98	101
1976-77 . . .	122	98	141	156	117	118
1977-78 . . .	128	100	149	167	136	125
1978-79 . . .	144	119	162	170	157	146
1979-80 . . .	174	145	191	198	*169	188
1980-81 . . .	185	162	202	217	145	181

EXPORT PRICE INDEX:
INDEX NUMBERS BASED ON AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION (ASIC)
(Base of each index: Year 1974-75=100)

Year	<i>ASIC Divisions</i>		
	<i>Agriculture, forestry, fishing and hunting (A)</i>	<i>Mining (B)</i>	<i>Manufacturing (C)</i>
1975-76	98	130	105
1976-77	106	148	119
1977-78	105	159	127
1978-79	114	163	150
1979-80	137	180	190
1980-81	150	191	199

Previous wholesale price indexes

The *Melbourne Wholesale Price Index*, first compiled in 1912, was discontinued in 1961. The *Wholesale Price (Basic Materials and Foodstuffs) Index*, which replaced the Melbourne Wholesale Price Index from 1936-37, was discontinued in 1970. Further information concerning these indexes is shown in Year Book No. 61.

References

For further information on the subjects dealt with in the foregoing pages, see the following ABS publications: *Monthly Summary of Statistics, Australia* (1304.0); *Digest of Current Economic Statistics, Australia* (1305.0); *Consumer Price Index* (6401.0); *Consumer Price Index, Monthly Food Group Index, Six State Capital Cities and Canberra* (6402.0); *Average Retail Prices of Selected Items, Six State Capital Cities and Canberra* (6403.0); *Consumer Price Index, Monthly Food Group Index, Darwin* (6413.0); *Price Index of Materials Used in Building Other Than House Building, Six State Capital Cities* (6407.0); *Price Index of Materials Used in House Building, Six State Capital Cities* (6408.0); *Price Index of Materials Used in Manufacturing Industry, Australia* (6411.0); *Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0); *Price Indexes of Metallic Materials, Australia* (6410.0); *Export Price Index, Australia* (6405.0).

PRICES JUSTIFICATION TRIBUNAL

General

The Prices Justification Tribunal was established in August 1973 pursuant to the *Prices Justification Act* 1973. Amendments to the Act occurred in 1974, 1976 and 1979. The Act was repealed on 26 June, 1981. The functions of the Tribunal were to conduct inquiries in relation to prices charged for the supply of goods or services, by prescribed companies, and to report to the Minister for Business and Consumer Affairs the results of every such inquiry.

On 26 June 1981 the *Petroleum Products Pricing Act* 1981 was proclaimed. This Act established the Petroleum Products Pricing Authority, which assumed responsibility for price surveillance of the petroleum products industry.

PETROLEUM PRODUCTS PRICING AUTHORITY

General

The Petroleum Products Pricing Authority which was established on 26 June 1981 pursuant to the *Petroleum Products Pricing Act* 1981, took over from the Prices Justification Tribunal the responsibility for price surveillance of the petroleum products industry. The functions of the Authority are to conduct inquiries in relation to prices for the supply of petroleum products or related services within Australia, and to report to the Minister for Business and Consumer Affairs the results of every such inquiry.

Organisation

The Authority is constituted by a full-time Commissioner and is staffed by persons appointed or employed under the *Public Service Act* 1922.

Legislative Provisions

Inquiries conducted by the Authority at the request of the Minister or with his approval may be either:

- (a) A prices justification inquiry, that is to say an inquiry as to whether the price or prices at which a company or companies supply or supplies, or propose or proposes to supply, petroleum products or services of a particular description is or are justified, or
- (b) an inquiry not being a prices justification inquiry into such specified matter or matters relating to the prices at which petroleum products or services are supplied.

The Authority's enabling legislation also provides for the following:

- (i) In conducting a prices justification inquiry and making its reports on such an inquiry, the Authority shall have due regard to the need for the company or companies concerned to achieve a level of profitability that is sufficient to enable the company or companies to maintain an adequate level of investment and employment.
- (ii) Section 19 of the Act states that declared companies are guilty of an offence in raising prices of petroleum products or services without prior notice to the Authority and the occurrence of certain specified events. These events include the expiration of the prescribed period or the

servicing of a notice by the Authority on a company stating that the Authority does not intend holding an inquiry as to whether the proposed price is justified. A declared company means a company declared by the Minister by notice published in the Commonwealth of Australia Gazette.

- (iii) With certain exceptions, the prescribed period is the period of 21 days commencing on the day the Authority receives the notice under Section 19. In the case where, following receipt of a notice, a public inquiry is held, the prescribed period commences on the day the Authority receives the notice and ends on the earlier of the day the Authority's report on the proposed price is received by the company or fourteen days after the expiration of the 3 months period commencing on the date that the Authority served notice on the company that the public inquiry was to be held. Provision exists for the extension of prescribed periods in certain circumstances.
- (iv) The Authority on the application by companies is empowered to grant interim price increases to apply during the course of the Authority's consideration of proposed or existing prices.
- (v) Before commencing to hold an inquiry reasonable notice will be given in the Commonwealth of Australia Gazette and in newspapers specifying the matter that is the subject of the inquiry and the time and place at which the inquiry is to be commenced.
- (vi) Any person or body of persons may apply to the Authority to be made a party to an inquiry. If the application is granted such a party is entitled to give evidence or call witnesses to give evidence and to make submissions to the Authority.
- (vii) Subject to the Act and to any direction given to the Authority by the Minister, the procedures to be followed at an inquiry are at the discretion of the Commissioner. The Authority is not bound by the rules of evidence.
- (viii) Confidential submissions and evidence may be taken in private if the Authority considers that it is desirable to do so.
- (ix) The Commissioner or an associate Commissioner (for a particular inquiry) has the power to obtain information.
- (x) The Authority shall, as soon as practicable after 30 June, prepare and furnish to the Minister a report with respect to the operations of the Authority during the year ended on that date.

HOUSEHOLD EXPENDITURE SURVEYS

During the financial years 1974-75 and 1975-76, the ABS conducted two surveys in order to obtain information about the expenditure patterns of private households. The 1974-75 survey was confined to a sample of households in the six State capital cities and Canberra (collection in Darwin being suspended in December 1974 due to cyclone Tracy), while the coverage of the 1975-76 survey was extended to include other urban and rural regions. Apart from limited attempts in 1910-11 and 1913 to assess the spending patterns of Australian households, these surveys were the first official collections of household expenditure statistics conducted in this country.

Surveys of household expenditure and related topics have formed an integral part of the statistical programmes of a number of other countries for many years. Perhaps the most important reason for the collection of data relating to expenditure at the household level is to provide information for use in improving the representativeness of the items and the weighting pattern used to compile the Consumer Price Index (*see* page 117). Household expenditure statistics also provide a rich source of data needed for a wide range of policy and research purposes. These include the planning of welfare services; assessing the need for, and effect of, programmes in fields such as housing, education and health; assessing the impact of taxation and government benefits; and improving estimates of private final consumption expenditure in the National Accounts.

Further details about the 1974-75 and 1975-76 surveys are contained in Year Book No. 63, pages 119-123.

CHAPTER 8

MANPOWER

The principal subjects covered in this chapter are the labour force and unemployment, wage rates, earnings, hours of work, industrial disputes and labour organisations. Further detail on these subjects is contained in *Labour Statistics, Australia* (6101.0) and in other publications which are referred to in the various sections of this chapter. Due to an increasing divergence between the monthly estimates of civilian employees and the corresponding estimates from the labour force survey, the publication of the civilian employees series was suspended after the issue of the April 1980 figures, pending the outcome of a review of sources, methods and procedures. Following that review, it was decided to replace the monthly civilian employees series with estimates obtained from a quarterly survey of 20,000 business units in the private sector, supplemented by information collected from all government bodies. It was expected to take between one and two years to develop the survey. Further details are contained in *Information Paper, Review of ABS Employment Statistics* (6239.0). The collection of employment statistics in the government sector has continued and a table showing employees of government bodies at June 1981 is on page 145.

THE LABOUR FORCE

This section contains a number of series relating to the labour force and its components. The labour force comprises two categories of persons: those who are employed and those who are unemployed. In the first category are included employers, self-employed persons, wage and salary earners, and unpaid family helpers. Comprehensive details for each State and Territory and for Australia as a whole in respect of persons in the labour force, classified according to industry, occupation, occupational status (i.e. whether employers, self-employed persons, wage and salary earners or unpaid family helpers) and personal characteristics such as age, sex, marital status and birthplace, are obtained only at a general census of population.

In addition to the population censuses, estimates of the labour force are obtained through the population survey, which is now conducted monthly by means of personal interviews at a sample of households throughout Australia (see below). The survey provides particulars of the demographic and labour force characteristics of the population.

The population census

Statistics on the labour force from the Census of Population and Housing, conducted on 30 June 1976, are contained in the publications *Population and Dwellings: Summary Tables* (2409.0 to 2417.0) and *Population and Dwellings: Cross-Classified Tables* (2416.0 to 2426.0). More detailed tables are available on microfiche and are listed in the *Catalogue of 1976 Census Tables* (2103.0). Statistics on the labour force from the 1981 Census will become available from mid 1982.

The population survey

The population survey is the general title given to the household sample survey which since February 1978 has been conducted monthly in all States and Territories. Although emphasis in the survey is placed on the regular collection of data on demographic and labour force characteristics of the population, supplementary and special surveys of particular aspects of the labour force or of other subjects are carried out from time to time. Statistics from supplementary surveys are released in publications which are available free on request.

The survey is based on a multi-stage area sample of private dwellings (about 30,000 houses, flats, etc.) and non-private dwellings (hotels, motels, etc.), and covers about two-thirds of one per cent of the population of Australia. The information is obtained from the occupants of selected dwellings by carefully chosen and specially trained interviewers, the interviews generally being conducted during the two weeks beginning on the Monday between the 6th and 12th of each month. The information obtained relates to the week before the interview (i.e. the survey week).

The labour force survey

A description of the labour force survey and a selection of principal statistics obtained from it are given in this section. The first Australia-wide labour force survey was carried out in February 1964 and surveys were conducted quarterly until February 1978. Estimates are published in the monthly publications, *The Labour Force, Australia (Preliminary)* (6202.0), *The Labour Force, Australia* (6203.0), and *Unemployment, Australia (Preliminary Estimates)* (6201.0). Comprehensive statistics are published in annual publications entitled *The Labour Force, Australia* (6204.0), *Labour Statistics, Australia* (6101.0) and in *Unemployment, Underemployment and Related Statistics, Australia, February 1978 to February 1980* (6236.0). However, because of recent revisions to survey estimates (see below), figures in monthly publications prior to February 1978 and in annual publications to 1977 are not directly comparable with current estimates shown in the following tables.

Scope and definitions

The survey includes all persons aged 15 years and over except members of the permanent defence forces; certain diplomatic personnel of overseas governments, customarily excluded from census and estimated populations; overseas visitors holidaying in Australia; and members of non-Australian defence forces (and their dependants) stationed in Australia.

The labour force category to which a person is assigned depends on his actual activity (i.e. whether working, looking for work, etc.) during the survey week. This is determined from answers given to a set of questions designed for this purpose. For further information see *Information Paper: Questionnaires used in the Labour Force Survey* (6232.0). The following definitions relate only to those persons within the scope of the survey.

Employed persons comprise all those aged 15 years and over who, during the survey week:

- (a) worked for one hour or more for pay, profit, commission or payment in kind in a job or business, or on a farm (including employees, employers and self-employed persons); or
- (b) worked for 15 hours or more without pay in a family business or on a farm (i.e. unpaid family helpers); or
- (c) were employees who had a job but were not at work and were: on paid leave; on leave without pay for less than four weeks up to the end of the survey week; stood down without pay because of bad weather or plant breakdown at their place of employment for less than four weeks up to the end of the survey week; on strike or locked out; on workers' compensation and expected to be returning to their job; or receiving wages or salary while undertaking full-time study; or
- (d) were employers or self-employed persons who had a job, business or farm, but were not at work.

Unemployed persons are those aged 15 years and over who were not employed during the survey week, and

- (a) had actively looked for full-time or part-time work at any time in the four weeks up to the end of the survey week and:
 - (i) were available for work in the survey week, or would have been available except for temporary illness (i.e. lasting for less than four weeks to the end of the survey week); or
 - (ii) were waiting to start a new job within four weeks from the end of the survey week and would have started in the survey week if the job had been available then; or
- (b) were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the survey week (including the whole of the survey week) for reasons other than bad weather or plant breakdown.

The *labour force* comprises all persons who, during the survey week, were employed or unemployed, as defined above.

These definitions conform closely to the international standard definitions specified by the International Labour Organisation (ILO).

Revision of series

The survey estimates are calculated in such a way as to conform to the independently estimated distribution of the population by age and sex. As a consequence, whenever these population benchmarks are revised it becomes necessary to revise the labour force estimates also. Survey estimates in this section are based on revised population estimates derived from the 1971 and 1976 population census results adjusted for under-enumeration. For information concerning these population estimates see *Population and Vital Statistics; June Quarter 1977* (3212.0).

Survey estimates back to August 1966 have been revised to make them comparable with estimates for February 1978 and subsequent months, which have been obtained by using a new sample and revised questionnaire. Revised estimates were first published in the February 1978 issue of *The Labour*

Force, Australia (6203.0), which contains information concerning the methods used in the revision. Figures of total population 15 years of age and over for each sex are derived from the official population estimates which, in turn, are based on results of population censuses. However, the population benchmarks used in the survey are revised at infrequent intervals and may differ from official estimates of the population and other demographic statistics. Figures of marital status and all labour force characteristics of these populations are derived from the sample survey data. For this and other reasons, including differences in timing, methods of collection (personal interview in the survey, self-enumeration in the census) and, in some cases, concepts and definitions, the survey estimates of marital status and labour force characteristics may not agree closely with the corresponding census figures. In addition it should be noted that the published census labour force estimates have not been adjusted for any under-enumeration of the population.

Reliability of the estimates

Since the estimates in the following tables are based on information obtained from the occupants of a sample of dwellings, the estimates and the movements derived from them are subject to sampling variability; that is, they may differ from the figures that would have been produced if all dwellings had been included in the surveys. One measure of the likely difference is given by the standard error, which indicates the extent to which an estimate might have varied by chance because only a sample of dwellings was included. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all dwellings had been included, and about nineteen chances in twenty that the difference will be less than two standard errors.

Space does not allow for the separate indication of the standard errors of all estimates in this section. A table of standard errors which is intended to be of general application is therefore given below.

An example of the use of the table is as follows: if the estimate for Australia obtained from the sample is 100,000, the standard error is 3,900; there are then about two chances in three that the true figure is within the range 96,100 to 103,900 and about nineteen chances in twenty that this figure is between 92,200 and 107,800.

STANDARD ERRORS OF ESTIMATES FOR AUSTRALIA

<i>Size of estimate</i>	<i>Number</i>	<i>Per cent of estimate</i>	<i>Size of estimate</i>	<i>Number</i>	<i>Per cent of estimate</i>
4,500	970	21.6	200,000	5,100	2.6
5,000	1,000	20.0	300,000	6,000	2.0
10,000	1,400	14.0	500,000	7,200	1.4
20,000	2,000	10.0	1,000,000	9,100	0.9
50,000	2,900	5.8	2,000,000	11,000	0.6
100,000	3,900	3.9	5,000,000	15,000	0.3

The standard errors of estimates relating to agricultural employment are generally somewhat higher than the standard errors of other estimates of the same magnitude. Estimates for females also tend to have higher standard errors than estimates of equivalent size for males in similar categories.

The reliability of an estimated percentage, computed by using sample data for both numerator and denominator, depends upon both the size of the numerator and the size of the denominator. However, the per cent standard error of the estimated percentage will generally be lower than the per cent standard error of the estimate of the numerator. The per cent standard errors of the numerators can be obtained from the table above.

As the standard errors in the table above show, the smaller the estimate the higher is the relative standard error. Very small estimates are thus subject to such high standard errors (relative to the size of the estimate) as to detract seriously from their value for most reasonable uses. In the following tables, estimates less than 4,500 have not been included. Although figures for these small components can in some cases be derived by subtraction, they should not be regarded as reliable.

The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of imperfections in reporting by interviewers and respondents. Inaccuracies of this kind are referred to as the *non-sampling error*, and they may occur in any enumeration, whether it be a full count or only a sample. Every effort is made to reduce the non-sampling error to a minimum by careful design of questionnaires, intensive training and supervision of interviewers and efficient operating procedures.

CIVILIAN POPULATION AGED 15 YEARS AND OVER, BY EMPLOYMENT STATUS(a)

May—	Unemployed			Total	Labour force	Not in labour force	Civilian population aged 15 years and over	Unemployment rate(b)	Labour force participation rate(c)
	Employed	Looking for full-time work	Looking for part-time work						
				—'000—				—per cent—	
MALES									
1976	3,886.9	127.2	14.6	141.8	4,028.6	947.6	4,976.2	3.5	81.0
1977	3,891.5	163.0	21.7	184.7	4,076.2	985.8	5,062.0	4.5	80.5
1978(d)	3,863.5	194.8	14.4	209.1	4,072.6	1,087.2	5,159.8	5.1	78.9
1979	3,908.3	197.7	13.0	210.6	4,118.9	1,132.4	5,251.3	5.1	78.4
1980	3,981.2	201.0	18.9	219.9	4,201.1	1,140.6	5,341.6	5.2	78.6
1981	4,064.2	175.5	17.3	192.9	4,257.1	1,190.7	5,447.8	4.5	78.1
MARRIED FEMALES									
1976	1,346.6	32.2	30.8	63.0	1,409.6	1,956.0	3,365.5	4.5	41.9
1977	1,382.0	42.7	31.9	74.6	1,456.6	1,950.4	3,407.0	5.1	42.8
1978(d)	1,356.5	49.8	34.1	83.9	1,440.4	1,958.7	3,399.1	5.8	42.4
1979	1,356.3	40.0	32.2	72.2	1,428.5	2,035.9	3,464.4	5.1	41.2
1980	1,394.7	39.5	34.1	73.6	1,468.2	1,992.9	3,461.1	5.0	42.4
1981	1,423.3	44.0	34.5	78.4	1,501.7	2,030.2	3,531.9	5.2	42.5
ALL FEMALES									
1976	2,095.5	86.7	47.4	134.1	2,229.6	2,860.4	5,090.0	6.0	43.8
1977	2,132.7	112.8	56.3	169.1	2,301.8	2,878.4	5,180.2	7.3	44.4
1978(d)	2,135.3	136.8	49.3	186.2	2,321.4	2,964.5	5,285.9	8.0	43.9
1979	2,135.0	137.5	48.5	186.0	2,321.0	3,061.3	5,382.3	8.0	43.1
1980	2,256.6	141.6	52.1	193.7	2,450.3	3,027.2	5,477.5	7.9	44.7
1981	2,313.0	132.1	50.5	182.6	2,495.6	3,089.8	5,585.4	7.3	44.7
PERSONS									
1976	5,982.3	213.8	62.0	275.9	6,258.2	3,808.0	10,066.2	4.4	62.2
1977	6,024.2	275.8	78.0	353.8	6,378.0	3,864.2	10,242.2	5.5	62.3
1978(d)	5,998.7	331.6	63.7	395.3	6,394.0	4,051.7	10,445.7	6.2	61.2
1979	6,043.3	335.1	61.4	396.6	6,439.9	4,193.6	10,633.5	6.2	60.6
1980	6,237.8	342.6	71.0	413.6	6,651.4	4,167.7	10,819.1	6.2	61.5
1981	6,377.2	307.7	67.8	375.5	6,752.7	4,280.5	11,033.2	5.6	61.2

(a) For definitions and scope of estimates see page 136. (b) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (c) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group. (d) See page 136 for change in timing of survey from February 1978 which may have affected the level of the figures.

CIVILIAN LABOUR FORCE, BY EMPLOYMENT STATUS, BIRTHPLACE AND PERIOD OF ARRIVAL IN AUSTRALIA, MAY 1981

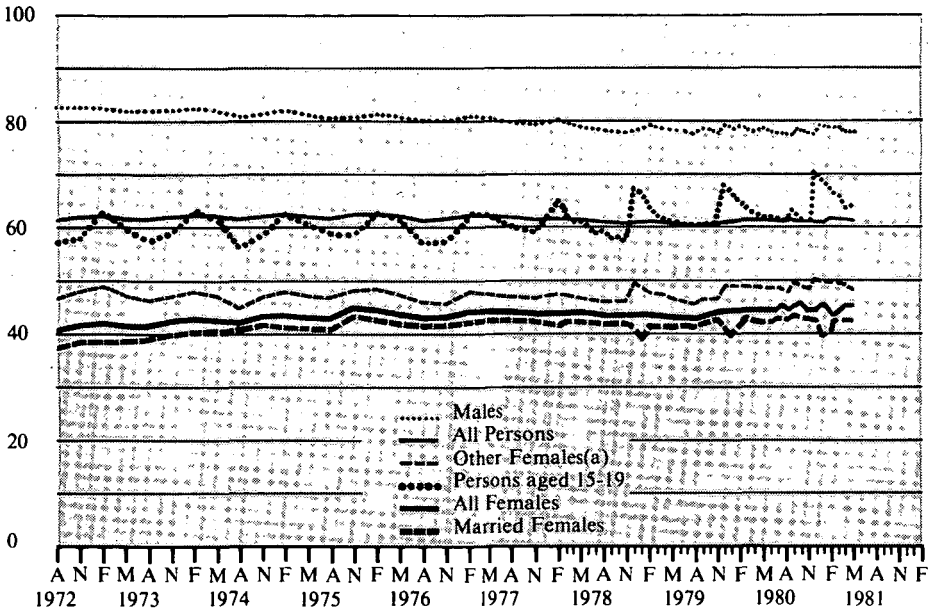
	Employed		Unemployed		Labour force	Unemployment rate(a)	Labour force participation rate(b)
	Full-time	Total	Looking for full-time work	Total			
MALES							
Born in Australia	2,801.3	2,969.8	120.0	134.8	3,104.6	4.3	78.8
Born outside Australia	1,041.5	1,094.3	55.5	58.1	1,152.4	5.0	79.0
Arrived before 1961	393.3	413.0	13.1	13.5	426.5	3.2	70.0
1961-1965	152.6	160.5	8.5	8.6	169.1	5.1	85.5
1966-1970	228.1	238.1	11.3	11.6	249.7	4.7	87.3
1971-1979	222.5	234.1	15.7	16.8	250.9	6.7	85.3
Jan. 1980 to May 1981	45.1	48.7	7.0	7.6	56.2	13.4	79.1
MARRIED FEMALES							
Born in Australia	530.1	1,016.6	25.1	48.0	1,064.6	4.5	41.4
Born outside Australia	257.3	406.7	18.8	30.4	437.1	7.0	46.1
Arrived before 1961	76.1	137.6	*	5.2	142.8	3.6	36.9
1961-1965	42.1	67.5	*	*	71.2	*	49.6
1966-1970	58.5	87.6	*	6.7	94.2	7.1	53.2
1971-1979	74.3	104.8	6.6	10.7	115.5	9.3	57.0
Jan. 1980 to May 1981	6.4	9.2	*	*	13.4	*	34.9
ALL FEMALES							
Born in Australia	1,107.7	1,750.6	97.0	132.4	1,883.0	7.0	45.2
Born outside Australia	384.5	562.4	35.1	50.2	612.6	8.2	46.2
Arrived before 1961	102.8	171.6	*	7.2	178.9	4.0	33.8
1961-1965	63.3	92.2	*	6.3	98.5	6.4	52.2
1966-1970	94.7	131.4	7.7	11.4	142.8	8.0	55.6
1971-1979	108.7	147.2	12.5	17.6	164.8	10.7	56.8
Jan. 1980 to May 1981	15.0	20.0	6.6	7.6	27.6	27.6	45.8
PERSONS							
Born in Australia	3,908.9	4,720.5	217.0	267.2	4,987.6	5.4	61.5
Born outside Australia	1,426.0	1,656.7	90.7	108.3	1,765.0	6.1	63.4
Italy	145.2	160.9	*	6.1	167.0	3.7	63.0
Greece	82.2	93.6	5.3	6.1	99.7	6.1	64.8
Yugoslavia	96.7	104.5	5.7	6.2	110.7	5.6	68.5
U.K. and Ireland	517.0	620.6	30.4	35.1	655.7	5.4	61.3
New Zealand	77.9	91.5	7.2	8.7	100.2	8.6	73.7
Other	507.0	585.6	37.9	46.1	631.7	7.3	63.3
Arrived before 1961	496.0	584.6	17.1	20.8	605.4	3.4	53.2
1961-1965	215.9	252.8	12.8	14.9	267.6	5.6	69.2
1966-1970	322.8	369.5	19.0	23.0	392.5	5.9	72.3
1971-1979	331.2	381.2	28.2	34.5	415.7	8.3	71.1
Jan. 1980 to May 1981	60.1	68.7	13.6	15.2	83.8	18.1	63.8

(a) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (b) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group. Excludes persons in institutions.
* Less than 4,500 or based on a figure less than 4,500. See page 137.

LABOUR FORCE PARTICIPATION RATES

(The labour force in each group as a percentage of the civilian population aged 15 years and over in the same group.)

Per cent

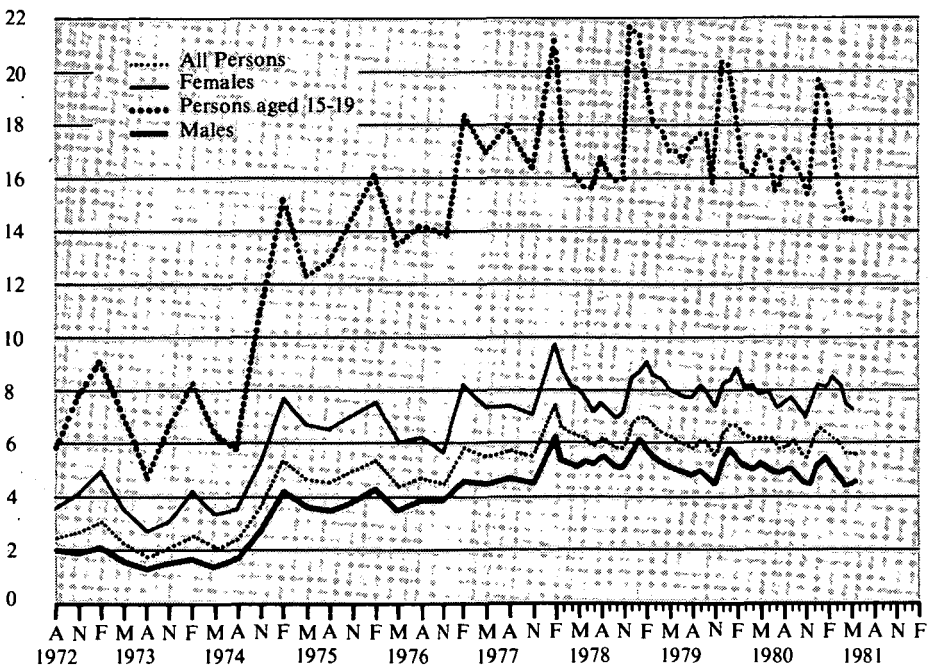


(a) Never married, widowed and divorced.

UNEMPLOYMENT RATES

(The unemployed in each group as a percentage of the civilian labour force in the same group.)

Per cent



CIVILIAN LABOUR FORCE, BY AGE, MAY 1981

Age groups (years)	Number ('000)				Labour force participation rate (a) (per cent)			
	Males	Married females	All females	Persons	Males	Married females	All females	Persons
15-19	438.8	12.0	376.5	815.3	67.4	47.5	60.4	64.0
20-24	581.3	161.2	438.6	1,019.8	91.3	55.1	70.0	80.8
25-34	1,129.0	469.2	634.1	1,763.1	95.4	48.2	53.4	74.3
35-44	891.4	456.6	521.7	1,413.0	95.6	57.6	58.6	77.5
45-54	704.5	293.1	360.2	1,064.7	90.8	47.3	48.8	70.3
55-59	298.0	79.2	109.9	407.9	80.5	27.6	29.6	55.0
60-64	147.7	20.5	34.0	181.7	50.3	9.4	10.9	29.9
65 and over	66.4	9.8	20.7	87.1	11.0	3.0	2.5	6.1
Total	4,257.1	1,501.7	2,495.6	6,752.7	78.1	42.5	44.7	61.2

(a) The labour force expressed as a percentage of the civilian population aged 15 years and over in the same group.

EMPLOYED PERSONS BY INDUSTRY AND AVERAGE WEEKLY HOURS WORKED, MAY 1981

Industry	Number ('000)			Average weekly hours worked (a)		
	Males	Females	Persons	Males	Females	Persons
Agriculture and services to agriculture	293.2	101.4	394.6	50.8	29.8	45.4
Forestry and logging, fishing and hunting	28.0	*	30.9	43.9	*	41.4
Mining	83.4	7.7	91.1	39.1	32.9	38.5
Manufacturing	945.0	317.3	1,262.3	38.6	33.3	37.3
Food, beverages and tobacco	126.9	48.0	174.9	37.2	32.4	35.9
Metal products	207.3	28.9	236.1	39.0	31.4	38.1
Other manufacturing	610.8	240.5	851.3	38.8	33.7	37.3
Construction	436.9	52.1	488.9	39.1	22.2	37.3
Wholesale and retail trade	715.6	550.2	1,265.8	40.4	29.0	35.5
Transport and storage	293.6	51.7	345.3	39.3	31.0	38.1
Finance, property and business services	306.7	252.5	559.2	38.3	30.8	34.9
Community services	384.7	620.6	1,005.3	34.5	27.1	29.9
Recreation, personal and other services	171.8	222.9	394.7	39.7	26.3	32.2
Other industries	405.2	133.8	539.0	34.8	30.4	33.7
Total	4,064.2	2,313.0	6,377.2	39.2	29.0	35.5

(a) Figures relate to hours worked, not hours paid for. The figures may be affected by public holidays, leave, absenteeism, absence from work due to sickness, injury, accident, industrial disputes, plant breakdown, etc. * Less than 4,500 or based on a figure less than 4,500. See page 137.

EMPLOYED PERSONS BY OCCUPATION, MAY 1981
(*000)

Occupation	Males	Married females	All females	Persons
Professional, technical, and related workers	488.6	234.0	400.0	888.6
Administrative, executive and managerial	342.0	44.8	59.3	401.3
Clerical	330.3	440.7	795.9	1,126.2
Sales	279.6	165.8	294.1	573.7
Farmers, fishermen, timber-getters, etc.	364.4	82.6	101.5	465.9
Transport and communication	283.0	30.1	47.1	330.1
Tradesmen, production-process workers and labourers, n.e.c.; and miners, quarrymen, etc.	1,760.5	182.1	253.3	2,013.8
Service, sport and recreation	215.8	243.3	361.9	577.7
Total employed	4,064.2	1,423.3	2,313.0	6,377.2

**PART-TIME WORKERS: WHETHER PREFERRED TO WORK MORE HOURS AND WHETHER
LOOKING FOR FULL-TIME WORK, BY AGE, MAY 1981**
(*000)

	<i>Age group (years)</i>						<i>Total</i>
	<i>15-19</i>	<i>20-24</i>	<i>25-34</i>	<i>35-44</i>	<i>45-54</i>	<i>55 and over</i>	
MALES							
Total	62.3	34.4	28.3	21.1	22.6	52.7	221.4
Preferred not to work more hours	48.3	25.4	20.4	16.1	17.6	48.9	176.7
Preferred to work more hours	14.0	9.0	7.9	4.9	5.0	*	44.6
Had actively looked for full-time work (a)	5.1	4.5	-6.3-		*	*	19.0
MARRIED FEMALES							
Total	*	33.7	197.7	217.3	131.6	52.9	635.8
Preferred not to work more hours	*	27.5	179.4	195.0	121.5	51.2	576.2
Preferred to work more hours	*	6.2	18.4	22.3	10.1	*	59.6
Had actively looked for full-time work (a)	*	-5.9-		-5.5-		*	12.1
ALL FEMALES							
Total	87.9	66.9	219.6	230.2	145.2	71.1	820.9
Preferred not to work more hours	64.9	51.7	195.4	204.3	133.4	68.0	717.7
Preferred to work more hours	23.0	15.3	24.2	25.9	11.7	*	103.1
Had actively looked for full-time work (a)	9.6	6.7	5.9	4.9	*	*	29.6
PERSONS							
Total	150.2	101.4	247.9	251.3	167.8	123.7	1,042.2
Preferred not to work more hours	113.2	77.1	215.8	220.5	151.0	116.9	894.5
Preferred to work more hours	37.0	24.3	32.1	30.8	16.8	6.9	147.8
Had actively looked for full-time work (a)	14.7	11.2	9.6	7.5	-5.6-		48.6

(a) In the four weeks up to the end of the survey week. * Less than 4,500. See page 137.

EMPLOYED PERSONS, BY HOURS WORKED (a), MAY 1981
(*000)

	<i>Males</i>	<i>Married females</i>	<i>Other females (b)</i>	<i>All females</i>	<i>Persons</i>
Weekly hours worked (a)—					
0(c)	283.6	125.1	59.7	184.8	468.4
1-15	123.0	278.3	106.6	384.9	507.9
16-29	202.5	270.8	78.5	349.3	551.8
30-34	302.7	133.4	83.1	216.5	519.2
35-39	437.3	166.8	163.8	330.6	767.9
40	1,320.6	288.9	280.1	569.0	1,889.5
41-44	248.0	38.2	48.8	87.0	335.0
45-48	352.9	37.7	31.6	69.3	422.2
49 and over	793.5	84.0	37.7	121.8	915.3
Total	4,064.2	1,423.3	889.8	2,313.0	6,377.2

(a) The figures relate to hours worked, not hours paid for. (b) Never married, widowed or divorced. (c) Persons who had a job from which they were absent for the whole of the survey week.

**UNEMPLOYED PERSONS, BY INDUSTRY AND OCCUPATION OF LAST FULL-TIME JOB,
MAY 1981**

Industry division or sub-division(a)	Unemployment		Occupation group	Unemployment	
	Total ('000)	rate(b) (per cent)		Total ('000)	rate(b) (per cent)
Had worked for two weeks or more in a full-time job in the last two years	215.0	3.3	Had worked for two weeks or more in a full-time job in the last two years	215.0	3.3
Agriculture and services to agriculture	12.0	3.0	Professional, technical, etc.	12.4	1.4
Manufacturing	55.4	4.2	Administrative, executive and managerial	4.7	1.2
Food, beverages and tobacco	11.6	6.2	Clerical	29.1	2.5
Metal products	7.4	3.0	Sales	22.2	3.7
Other manufacturing	36.4	4.1	Farmers, fishermen, timber-getters, etc.	14.4	3.0
Construction	25.8	5.0	Miners, quarrymen, etc.	*	*
Wholesale trade	13.8	3.4	Transport and communication	9.6	2.8
Retail trade	37.5	4.1	Tradesmen, production-process workers and labourers, n.e.c.	97.5	4.7
Transport and storage	8.6	2.4	Service, sport and recreation	23.4	3.9
Finance, property and business services	10.5	1.8			
Community services	14.6	1.4			
Recreation, personal and other services	20.8	5.0			
Other industries	16.0	2.4			
Stood down(c)	6.2	..			
Other(d)	154.3	..			
Total	375.5	5.6			

(a) Classified according to the Australian Standard Industrial Classification, 1978. (b) The number of unemployed expressed as a percentage of the labour force (i.e. employed and unemployed) in the same group. (c) Persons who were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than four weeks up to the end of the survey week (including the whole of the survey week) for reasons other than bad weather or plant breakdown. (d) Had never worked for two weeks or more in a full-time job, or had not done so in the last two years. Industry and occupation were not obtained for these persons. * Less than 4,500 or based on a figure less than 4,500. See page 137.

**UNEMPLOYED PERSONS, BY AGE AND WHETHER LOOKING FOR
FULL-TIME OR PART-TIME WORK, MAY 1981**

Age (years)	Number unemployed ('000)				Unemployment rate (a) (per cent)			
	Married		All		Married		All	
	Males	females	females	Persons	Males	females	females	Persons
LOOKING FOR FULL-TIME WORK								
Total	175.5	44.0	132.1	307.7	4.4	5.3	8.1	5.5
15-19	44.2	*	51.8	96.0	12.1	*	18.6	14.9
Attending school	*	*	*	6.8	n.a.	n.a.	n.a.	n.a.
20-24	36.8	9.1	32.2	69.0	6.8	7.5	8.8	7.6
25 and over	94.5	32.5	48.1	142.7	3.0	4.6	4.9	3.5
LOOKING FOR PART-TIME WORK								
Total	17.3	34.5	50.5	67.8	7.3	5.1	5.8	6.1
15-19	9.9	*	10.6	20.6	13.7	*	10.8	12.0
Attending school	7.2	*	6.7	13.9	16.8	*	13.3	14.9
20-24	*	5.1	7.2	9.7	*	13.1	9.7	8.8
25 and over	4.9	28.8	32.6	37.5	3.8	4.6	4.7	4.5
TOTAL								
Total	192.9	78.4	182.6	375.5	4.5	5.2	7.3	5.6
15-19	54.1	*	62.5	116.6	12.3	*	16.6	14.3
Attending school	10.2	*	10.5	20.7	21.0	*	18.6	19.7
20-24	39.3	14.2	39.4	78.7	6.8	8.8	9.0	7.7
25 and over	99.5	61.3	80.7	180.2	3.1	4.6	4.8	3.7

(a) See footnote (b) to table above.

UNEMPLOYED PERSONS, BY DURATION OF UNEMPLOYMENT (a), BY AGE, ETC., MAY 1981

Duration of unemployment (weeks)	Age (years)				Total (b)	Married	Looking for—		
	15-19	20-24	25-34	35-54			Not married (c)	Full- time work	Part- time work
MALES									
—'000—									
Under 2	4.7 }	5.6 {	7.1 }	6.6 {	18.0	6.6	11.4	14.2	6.7
2 and under 4	7.7 }		* }		19.2	5.2	13.9	16.3	
4 and under 8	9.0	4.6	6.0 }	7.8 {	25.1	8.3	16.9	23.1	*
8 and under 13	5.3	5.0	6.0 }		21.8	8.4	13.3	20.0	5.7
13 and under 26	15.0	9.0	9.0 }	5.3 {	40.4	12.0	28.5	36.5	
26 and under 39	4.6	6.0 }			20.0	8.1	12.2	19.4	*
39 and under 52	*	*	6.8 }	5.0 {	4.5 }	6.0	*	*	*
52 and under 65	*	*			10.4 }		6.5	10.1	*
65 and over	4.7	5.7	6.5	10.9	33.2	14.1	19.1	31.7	*
Total	54.1	39.3	45.4	37.9	192.9	68.6	124.2	175.5	17.3
—weeks—									
Average (mean) duration	22.3	33.1	32.0	58.1	37.2	42.6	34.2	38.4	25.0
Median duration	13.4	19.3	12.8	24.0	17.0	19.3	16.0	18.1	7.8
FEMALES									
—'000—									
Under 2	* }	6.6 {	4.9 }	* {	15.5	8.9	6.6	8.0	7.6
2 and under 4	5.9 }		7.6 }	6.2 {	24.6	13.7	10.9	13.3	11.3
4 and under 8	8.9	7.7	5.8 }	5.1 {	27.7	13.5	14.2	19.1	8.6
8 and under 13	6.7	*	7.9 }	4.5 {	23.2	10.6	12.5	16.9	6.3
13 and under 26	18.2	7.7	5.6 }	6.0 {	38.0	12.3	25.6	30.2	7.8
26 and under 39	7.2				18.0 }	7.1	10.9	14.2	6.5
39 and under 52	6.0 }	7.0 {	7.6 }	4.7 {	4.7 }	6.0	*	*	
52 and under 65	6.0 }				10.6 }		6.4	8.4	
65 and over	5.4	6.8	*	5.2	20.5	6.3	14.2	18.0	*
Total	62.5	39.4	41.7	35.6	182.6	78.4	104.2	132.1	50.5
—weeks—									
Average (mean) duration	24.4	37.2	20.7	31.6	28.0	23.5	31.5	32.8	15.6
Median duration	16.9	16.1	9.6	10.8	13.1	9.5	17.0	16.8	7.0
PERSONS									
—'000—									
Under 2	8.9	4.7	12.0	7.3	33.5	15.5	18.0	22.1	11.4
2 and under 4	13.6	7.6	11.4	9.5	43.8	18.9	24.9	29.5	14.2
4 and under 8	17.8	12.3	11.9	9.2	52.8	21.7	31.1	42.2	10.6
8 and under 13	12.0	8.6	13.9	8.1	44.9	19.1	25.9	36.8	8.1
13 and under 26	33.2	16.7	14.6	11.3	78.4	24.3	54.1	66.7	11.7
26 and under 39	11.7	10.1	6.9	6.3	38.3	15.2	23.1	33.6	4.7
39 and under 52	*	*	*		9.2 }	*	5.3	8.6	7.1
52 and under 65	6.7	4.5	5.1 }	5.6 {	21.0 }	8.1	12.9	18.4	
65 and over	10.1	12.5	8.8	16.0	53.7	20.4	33.3	49.7	
Total	116.6	78.7	87.0	73.5	375.5	147.0	228.4	307.7	67.8
—weeks—									
Average (mean) duration	23.4	35.2	26.6	45.2	32.7	32.4	33.0	36.0	18.0
Median duration	15.3	17.8	11.0	15.9	15.1	12.6	16.5	17.5	7.1

(a) Period from the time the person began looking for work, or was laid off, to the end of the survey week. Periods of unemployment are recorded in complete weeks and this results in a slight understatement of duration. (b) Includes persons aged 55 years and over, details for whom are not shown separately. (c) Never married, widowed and divorced. * Less than 4,500. See page 137.

Government employees

Government employees comprise not only administrative employees but also all other employees of government bodies (Commonwealth, State, local and semi-government) on services such as railways, road transport, banks, postal and telecommunications, air transport, education (including universities, colleges of advanced education, etc.), radio, television, police, public works, factories, marketing authorities, public hospitals (other than those run by charitable or religious organisations) and departmental hospitals and institutions.

GOVERNMENT EMPLOYEES (a): JUNE 1981

(Excluding defence forces and employees in agriculture and services to agriculture)
('000)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Commonwealth									
Males	86.9	69.3	31.0	29.6	16.4	7.3	2.7	34.6	277.8
Females	39.5	28.8	13.8	8.3	7.5	2.3	1.2	23.5	125.0
Persons	126.4	98.1	44.8	37.9	23.9	9.7	3.9	58.1	402.8
State									
Males	195.2	154.4	96.5	53.6	62.0	20.2	..	..	582.0
Females	143.8	112.6	56.4	47.1	44.1	16.0	..	..	420.0
Persons	339.0	267.1	152.8	100.7	106.1	36.2	..	..	1002.0
Northern Territory									
Males . . . . .	..	..	..	..	..	..	7.7	..	7.7
Females . . . . .	..	..	..	..	..	..	6.6	..	6.6
Persons . . . . .	..	..	..	..	..	..	14.3	..	14.3
Local									
Males	47.7	21.0	18.5	5.4	7.1	2.6	0.4	..	102.5
Females	8.4	12.5	2.7	1.5	1.9	0.5	0.1	..	27.7
Persons	56.1	33.5	21.2	6.9	8.9	3.1	0.5	..	130.2
Total									
Males	329.8	244.7	146.0	88.5	85.5	30.2	10.7	34.6	970.0
Females	191.7	153.9	72.8	57.0	53.5	18.8	8.0	23.5	579.3
Persons	521.5	398.6	218.8	145.5	139.0	49.0	18.7	58.1	1549.3

(a) Includes semi-government bodies.

Overtime

From July 1979 to June 1981 the ABS conducted a monthly sample survey of employers, by telephone, to obtain information about overtime hours worked by employees. In this two year period the survey did not show sufficient month-to-month variation to warrant the continuation of the survey as a monthly collection therefore, the survey is now conducted quarterly, in August, November, February and May of each year. The survey is generally conducted in respect of the last pay period ending on or before the third Friday of each survey month.

A summary of the results of the surveys to June 1981 is shown in the tables below. More detailed information and explanatory notes, including definitions of standard error, are contained in *Overtime, Australia* (6330.0).

Month	Average weekly overtime hours								
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
PER EMPLOYEE IN THE SURVEY									
1980—									
May	1.58	1.34	1.08	0.99	1.51	1.18	2.53	0.93	1.37
June	1.49	1.30	1.24	0.91	1.38	1.07	2.34	0.87	1.32
July	1.65	1.40	1.31	1.00	1.34	1.07	2.48	0.97	1.43
August	1.62	1.37	1.22	0.92	1.25	1.08	2.38	1.00	1.38
September	1.57	1.37	1.25	0.89	1.32	1.10	2.47	0.96	1.37
October	1.67	1.39	1.41	0.91	1.36	1.12	2.09	0.92	1.44
November	1.83	1.48	1.40	1.05	1.57	1.15	2.22	0.84	1.55
December	1.94	1.53	1.30	1.18	1.64	1.30	2.18	0.88	1.61
1981—									
January	1.41	0.97	1.06	0.80	1.19	1.15	2.38	0.72	1.16
February	1.67	1.46	1.20	0.99	1.39	1.19	2.52	0.82	1.44
March	1.71	1.58	1.23	1.07	1.82	1.23	2.27	0.83	1.54
April	1.57	1.33	1.15	0.99	1.73	1.61	2.14	0.88	1.41
May	1.68	1.46	1.42	1.03	1.64	1.06	2.17	0.87	1.49
June	1.71	1.49	1.44	1.05	1.54	0.96	2.13	0.81	1.50
Standard error of June 1981 estimates	.07	.08	.06	.05	.10	.08	.20	.05	.04
PER EMPLOYEE WORKING OVERTIME									
1980—									
May	7.26	6.91	6.00	6.01	7.78	6.38	9.51	8.13	6.96
June	6.95	6.48	6.53	5.62	7.16	6.50	9.14	7.85	6.71
July	7.34	6.81	6.39	5.91	7.03	6.50	7.31	7.33	6.92
August	7.18	6.86	6.23	5.56	6.94	6.47	7.62	7.68	6.83
September	7.11	6.89	6.16	5.73	6.91	6.57	8.43	8.50	6.83
October	7.31	6.89	6.45	5.65	7.09	6.59	7.66	8.02	6.94
November	7.49	6.94	6.63	6.05	7.58	6.38	8.13	6.98	7.11
December	7.64	7.05	6.38	6.10	7.70	6.68	7.98	6.93	7.19
1981—									
January	7.35	6.60	6.42	5.99	7.10	8.23	8.95	7.06	6.97
February	6.90	7.10	6.25	5.53	7.41	6.92	8.82	6.98	6.83
March	7.08	7.68	6.36	5.77	8.03	7.13	8.93	6.94	7.15
April	6.81	6.88	6.24	5.57	8.07	8.39	8.19	7.34	6.84
May	7.15	7.36	6.64	5.47	8.00	6.37	7.66	7.05	7.06
June	7.23	7.54	6.89	5.59	7.54	6.46	7.96	6.31	7.14
Standard error of June 1981 estimates	.13	.18	.14	.13	.31	.23	.34	.21	.08

(a) Movement from the previous month is not statistically significant.

Job vacancies

Sample surveys of job vacancies were conducted by the Australian Bureau of Statistics in March each year (by mail) from 1974 to 1978 and quarterly (by telephone) from May 1977 to May 1978. The annual and quarterly surveys were suspended in March and May 1978 respectively as part of the measures necessary to bring the activities of the ABS within the resources available to it at that time. The quarterly surveys were re-introduced in May 1979. A summary of the results of these surveys is shown in the table below; the results of the resumed quarterly surveys are not directly comparable with those of surveys conducted up to May 1978, because of a change of the treatment of vacancies in the government sector.

Standard errors of the estimated numbers of job vacancies are included in the table; for a definition of standard error *see* page 137.

	Number of vacancies ('000)					Total	Job vacancy rate (a) (per cent)
	For males	For females	For males or females	Manu- facturing (b)	Other industries (c)		
1980—							
February	15.0	5.0	16.9	11.3	25.7	36.9	0.9
May	12.5	3.6	13.7	9.1	20.7	29.8	0.7
August	12.6	4.3	13.2	9.7	20.4	30.1	0.7
November	13.3	5.4	15.5	9.2	25.1	34.3	0.8
1981—							
February	12.6	6.0	14.9	10.4	23.1	33.5	0.8
May	14.4	5.1	16.2	10.0	25.7	35.7	0.8
Standard error of estimates and of quarterly movements	1.4	1.0	1.4	1.1	2.0	2.2	0.06

(a) The job vacancy rate is calculated by expressing the number of job vacancies as a percentage of employees plus vacancies. (b) Australian Standard Industrial Classification (ASIC) Division C. (c) ASIC Divisions A to L *excluding* Division C (Manufacturing), Subdivisions 01 and 02 (agriculture, etc.), 94 (private households employing staff) and defence forces.

INCOME, EARNINGS AND HOURS

Industrial Conciliation and Arbitration

General

Legal minimum rates of pay for most Australian wage and salary earners (90 per cent in 1976) are prescribed in awards and determinations of Federal and State industrial arbitration tribunals or in collective agreements registered with them. (In 1976 less than one per cent of employees were affected by unregistered collective agreements.)

Determination of rates of pay

The awards, etc. of the various Federal and State tribunals prescribe minimum rates of pay, standard hours of work and other conditions of employment for particular occupations. Most awards also prescribe a minimum wage for adult males and for adult females, i.e. the minimum amount which must be paid to an adult employee, regardless of occupation, for working the standard weekly hours of work. In all awards, etc. except those of Western Australian tribunals, the minimum wage is the same amount for adult females and adult males. The concept of equal pay for the sexes is applicable in most Federal and State awards. In recent years the wage fixing principles of the Australian Conciliation and Arbitration Commission have generally been followed by State tribunals.

In April 1975, the Australian Conciliation and Arbitration Commission decided to introduce wage indexation in the form of quarterly adjustments to rates of pay prescribed in awards of the Commission (including rates of minimum wage for adults) based on increases in the Consumer Price Index (CPI) (*see* Year Book No. 61, page 298). At 31 July 1981, the six capital cities' minimum wage was \$144.90 a week.

Following the completion of the Wage Fixation Principles Inquiry, a Full Bench of the Commission decided on 14 September 1978 to hold future wage indexation hearings at six-monthly intervals, in each April and October, beginning in October 1978. Indexation increases of 4.0 per cent, 3.2 per cent, 4.5 per cent, 4.2 per cent and 3.7 per cent were granted in December 1978, June 1979, January 1980, July 1980 and January 1981 respectively. These increases were applied to all rates of pay prescribed in awards of the Commission, including rates of minimum wage for adults.

Following its January 1981 decision the Commission held a public inquiry into the wage fixing principle. As a result it announced on 7 April 1981 that there would be 'two national wage cases in each year; one to be known as the First Review and the second to be known as the Final Review'.

The First Review would allow for the automatic adjustment (except in special circumstances) of wages and salaries by 80 per cent of the percentage movement in the CPI for the December and March quarters. The Final Review would give consideration to applying 'the remaining 20 per cent of the CPI movement carried over from the First Review, the CPI movements of the June and September quarters CPI and any movement in productivity'.

In May 1981, in line with its revised guidelines, the Commission granted an increase of 3.6 per cent to all awards under its jurisdiction.

From time to time since 1975, the Commission had pointed to the fragility of the centralized system of wage fixation based on indexation, the viability of which depended on the voluntary co-operation of all participants in industrial relations. On 31 July 1981 the Commission announced that it felt that the commitment of the participants to the system was not strong enough to sustain the requirements for its continued operation and formally decided to abandon the indexation system.

State tribunals have generally granted similar wage increases to those of the Australian Commission, including wage indexation increases. Following the May 1981 National Wage Decision, however, the South Australian Industrial Commission granted to South Australian State Awards a further 0.9 per cent, effective from the first pay period on or after 3 July 1981, where wages were less than \$250.00 a week prior to 7 May 1981. For details of increases in Federal and State awards, etc., and for rates of minimum wage for adult males and adult females, see *Wage Rates, Australia* (6312.0).

For details of wage determination in earlier periods see previous issues of the Year Book, the *Labour Report* (last issue 1973) and the 1975 to 1979 issues of *Labour Statistics* (6101.0).

Rates of wage

This section contains indexes (with base: year 1954 = 100.0) of minimum weekly and hourly rates of wage for adult males and adult females for Australia and each State. Some figures for earlier years, in particular the mining and quarrying industry group, have been revised as a result of recent clarification of the method of calculating weekly wages in some awards. Revised monthly figures for the period affected are available from ABS on request.

Because the indexes are designed to measure movements in prescribed minimum rates of 'wages' as distinct from 'salaries', those awards, etc. which relate solely or mainly to salary earners are excluded. In the new indexes, currently under development on a more up-to-date weighting pattern, consideration is being given to inclusion of salary earners covered by awards and determinations.

Further particulars of wage rates and index numbers will be found in publications *Minimum Wage Rates*, March 1939 to June 1965 (6313.0), *Wage Rates Indexes*, June 1965 to June 1968 (6314.0) and *Wage Rates Indexes*, June 1968 to June 1972 (6314.0). Current figures are published in the monthly publications *Wage Rates, Australia* (6312.0) and *Wage Rates Indexes, Australia (Preliminary)* (6311.0) and may include revisions of figures shown in the following tables.

Weighted average minimum weekly wage rates for adult males and adult females covered by Federal awards, etc. and those covered by State awards, etc. (as defined below) are shown separately in the following table. For the purposes of the index, Federal awards, etc. include awards of or collective agreements registered with the Australian Conciliation and Arbitration Commission, and determinations of the Australian Public Service Arbitrator. State awards, etc. include awards or determinations of or collective agreements registered with State industrial tribunals, together with certain unregistered collective agreements when these are dominant in the particular industries to which they refer.

WEEKLY WAGE RATES: ALL GROUPS(a)WEIGHTED AVERAGE MINIMUM WEEKLY RATES(b) PAYABLE FOR A FULL WEEK'S WORK
(EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

<i>End of December—</i>	<i>Rates of wage (\$)</i>			<i>Index Nos.</i> <i>(Base</i> <i>1954 = 100.0)</i>	
	<i>Federal</i> <i>awards, etc.</i>	<i>State</i> <i>awards, etc.</i>	<i>All</i> <i>awards, etc.</i>	<i>All</i> <i>awards, etc.</i>	<i>All</i> <i>awards, etc.</i>
ADULT MALES					
1975	r118.81	116.39	r117.72	r416.8	
1976	r135.50	134.45	r135.02	r478.1	
1977	r148.87	148.67	r148.78	r526.8	
1978	r162.09	159.59	r160.96	r569.9	
1979	170.75	166.46	168.81	597.7	
1980p	188.18	185.40	186.92	661.9	
ADULT FEMALES					
1975	102.76	113.69	108.61	545.6	
1976	119.14	131.49	125.75	631.7	
1977	131.94	144.84	138.85	697.4	
1978	141.57	155.27	148.90	r748.0	
1979	147.02	160.75	154.37	775.4	
1980p	165.14	181.49	173.89	873.7	

(a) Excludes rural industry.

(b) As prescribed in awards, determinations and collective agreements.

The following table shows for Australia the weighted average minimum weekly rates of wage and index numbers in each industry group and for all groups (excluding rural industry) at the dates specified.

WEEKLY WAGE RATES: ADULT MALES, INDUSTRIES

WEIGHTED AVERAGE MINIMUM WEEKLY RATES^(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

Industry	End of December—					
	1975	1976	1977	1978	1979	1980 ^p
RATES OF WAGE^(b) (\$)						
Mining and quarrying ^(c)	r139.76	r159.74	r176.24	189.46	201.87	221.81
Manufacturing—						
Engineering, metals, vehicles, etc.	110.38	126.83	140.00	153.62	163.36	179.10
Textiles, clothing and footwear	108.41	124.27	137.09	147.24	152.03	173.01
Food, drink and tobacco	114.90	132.39	145.89	157.21	163.81	182.06
Sawmilling, furniture, etc.	111.77	128.15	141.49	151.27	156.33	177.64
Paper, printing, etc.	119.16	136.74	150.26	161.24	169.42	187.34
Other manufacturing	112.99	129.92	143.36	154.74	161.94	180.34
<i>All manufacturing</i>	<i>111.96</i>	<i>128.64</i>	<i>141.93</i>	<i>154.11</i>	<i>162.12</i>	<i>179.65</i>
Building and construction	127.14	146.11	160.38	174.22	181.80	201.20
Railway services	108.96	124.40	138.31	148.38	155.99	170.67
Road and air transport	116.52	133.29	146.68	159.32	168.28	185.01
Shipping and stevedoring ^(d)	144.80	164.17	179.58	192.54	200.96	222.65
Communication	141.67	160.85	175.98	186.95	198.35	216.00
Wholesale and retail trade	117.58	134.99	148.84	160.81	166.84	186.35
Public authority n.e.i. and community and business services	120.15	138.34	151.95	162.54	168.88	187.69
Amusement, hotels, personal service, etc.	108.96	124.98	137.89	148.20	153.29	171.94
All industries^(e)	r117.72	r135.02	r148.78	160.96	168.81	186.92

INDEX NUMBERS

(Base: Weighted Average Minimum Weekly Wage Rate for Australia, Year 1954=100.0)

Mining and quarrying ^(c)	r494.9	r565.6	r624.0	670.8	714.8	785.4
Manufacturing—						
Engineering, metals, vehicles, etc.	390.8	449.1	495.7	543.9	578.4	634.2
Textiles, clothing and footwear	383.9	440.0	485.4	521.4	538.3	612.6
Food, drink and tobacco	406.9	468.4	516.6	556.7	580.0	644.6
Sawmilling, furniture, etc.	395.8	453.8	501.0	535.6	553.6	629.0
Paper, printing, etc.	421.9	484.2	532.1	570.9	599.9	663.3
Other manufacturing	400.1	460.0	507.6	547.9	573.4	638.6
<i>All manufacturing</i>	<i>396.4</i>	<i>455.5</i>	<i>502.6</i>	<i>545.7</i>	<i>574.0</i>	<i>636.1</i>
Building and construction	450.2	517.4	567.9	616.9	643.7	712.4
Railway services	385.8	440.5	489.7	525.4	552.3	604.3
Road and air transport	412.6	471.9	519.4	564.1	595.9	655.1
Shipping and stevedoring ^(d)	512.7	581.3	635.9	681.7	711.6	788.4
Communication	501.6	569.6	623.1	662.0	702.3	764.8
Wholesale and retail trade	416.3	478.0	527.0	569.4	590.8	659.8
Public authority n.e.i. and community and business services	425.4	489.8	538.0	575.5	598.0	664.6
Amusement, hotels, personal service, etc.	385.8	442.5	488.3	524.8	542.8	608.8
All industries^(e)	r416.8	r478.1	r526.8	569.9	597.7	661.9

(a) As prescribed in awards, determinations and collective agreements. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (c) For mining, rates of wage used are those prescribed for the principal mining centres and include lead bonuses, etc. (d) Includes rates of wage (and value of keep) for occupations in the coastal shipping service, other than masters, officers and engineers. (e) Excludes rural industry.

The following table shows for Australia weighted average minimum weekly rates of wage and index numbers in each of the industry groups in which the number of females employed is important, and the weighted average for all groups combined, at the dates specified.

WEEKLY WAGE RATES: ADULT FEMALES, INDUSTRIES

WEIGHTED AVERAGE MINIMUM WEEKLY RATES(a) PAYABLE FOR A FULL WEEK'S WORK (EXCLUDING OVERTIME) AND INDEX NUMBERS OF WAGE RATES

Industry	End of December—					
	1975	1976	1977	1978	1979	1980 ^p
RATES OF WAGE(b) (\$)						
Manufacturing—						
Engineering, metals, vehicles, etc.	106.85	123.32	136.19	147.95	156.19	173.61
Textiles, clothing and footwear	101.11	118.55	131.07	140.18	144.66	165.04
Food, drink and tobacco	107.29	124.30	137.30	147.64	153.42	173.08
Other manufacturing	107.04	123.32	136.20	146.07	151.46	170.93
<i>All manufacturing</i>	<i>104.22</i>	<i>121.19</i>	<i>133.91</i>	<i>143.82</i>	<i>149.35</i>	<i>168.90</i>
Transport and communication	112.49	129.26	142.31	150.58	156.33	171.33
Wholesale and retail trade	115.21	133.28	147.14	157.81	162.79	184.40
Public authority n.e.i. and community and business services	113.77	131.49	144.77	155.33	162.22	179.49
Amusement, hotels, personal service, etc.	105.06	120.36	133.09	142.76	147.68	166.43
All industries(c)	108.61	125.75	138.85	148.90	154.37	173.89
INDEX NUMBERS						
(Base: Weighted Average Minimum Weekly Wage Rate for Australia, Year 1954=100.0)						
Manufacturing—						
Engineering, metals, vehicles, etc.	536.7	619.5	683.9	743.2	784.6	872.1
Textiles, clothing and footwear	507.9	595.5	658.4	704.1	726.7	829.0
Food, drink and tobacco	538.9	624.4	689.7	741.6	770.6	869.4
Other manufacturing	537.7	619.4	684.2	733.7	760.8	858.6
<i>All manufacturing</i>	<i>523.5</i>	<i>608.7</i>	<i>672.6</i>	<i>722.4</i>	<i>750.2</i>	<i>848.4</i>
Transport and communication	565.1	649.3	714.9	756.4	785.3	860.6
Wholesale and retail trade	578.7	669.5	739.2	792.7	817.7	926.3
Public authority n.e.i. and community and business services	571.5	660.5	726.7	780.3	814.8	901.6
Amusement, hotels, personal service, etc.	527.7	604.6	668.5	717.1	741.8	836.0
All industries(c)	545.6	631.7	697.4	748.0	775.4	873.5

(a) As prescribed in awards, determinations and collective agreements. averages, but as an index expressed in money terms, indicative of trends.

(b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends.

(c) Excludes rural industry; mining and quarrying; and building and construction.

The average rates of wage in the preceding tables are based on the minimum rates prescribed for selected occupations in awards, etc. for a full week's work, excluding overtime. However, the number of hours constituting a full week's work differs in some instances between the various occupations in each State, and between the same occupations in the several States. For some purposes a better comparison may be obtained by reducing the results in the preceding paragraphs to a common basis, namely the rate of wage per hour. The particulars of weighted average minimum hourly rates of wage for adult males given in the following tables relate to all industries except the rural industry and shipping and stevedoring; for adult females the rates exclude rural industry, mining and quarrying, and building and construction.

HOURLY WAGE RATES: ALL GROUPS^(a)
WEIGHTED AVERAGE MINIMUM HOURLY RATES PAYABLE AND INDEX NUMBERS OF
HOURLY RATES

End of December—	Adult males		Adult females	
	Rates of wage (cents)(b)	Index numbers(c)	Rates of wage (cents)(b)	Index numbers(c)
1975	293.43	414.7	273.78	545.7
1976	336.97	476.3	316.99	631.8
1977	371.64	525.3	350.00	697.6
1978	402.20	568.5	375.35	748.2
1979	421.99	596.5	389.14	775.6
1980p	467.26	660.4	438.33	873.7

(a) See text above. (b) The amounts shown should not be regarded as actual current averages, but as an index expressed in money terms, indicative of trends. (c) Base: weighted average minimum hourly wage rate, Australia, 1954=100.0.

Standard hours of work

In the fixation of weekly wage rates, most industrial tribunals prescribe the number of hours constituting a full week's work (excluding overtime) for the wage rates specified. The hours of work so prescribed form the basis of the compilation of the weighted averages shown below. The main features of the reduction of hours to forty-four, and later to forty, per week were summarised in previous issues of the Year Book. Since January 1948, practically all employees in Australia have had a standard working week of forty hours or less. However, the number of hours constituting a full week's work (excluding overtime) differs between occupations and/or States. The weighted average standard hours of work (excluding overtime) prescribed in awards, determinations and collective agreements for a full working week in respect of adult male workers in all industry groups except rural industry and shipping and stevedoring, at 30 June 1981, were: New South Wales, 39.68; Victoria, 39.90; Queensland, 39.82; South Australia, 39.90; Western Australia, 39.78; Tasmania, 39.87; Australia, 39.80. Corresponding figures for adult female workers at 30 June 1981, were: New South Wales, 39.53; Victoria, 39.81; Queensland, 39.70; South Australia, 39.77; Western Australia, 39.78; Tasmania, 39.63; Australia, 39.67.

Evening and night work

In November 1976, a survey based on the quarterly population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the type of work being done in the evening and at night. Results of this survey are published in *Evening and Night Work, November 1976* (6329.0).

Working conditions and employment benefits

During the period February to May 1979 a special survey based on a sample of private and non-private dwellings was conducted throughout Australia in order to obtain information about selected aspects of working conditions and a range of benefits provided by employers to employees. Results of these surveys were published in *Employment Benefits, Australia, February to May 1979* (6334.0) and *Working Conditions, Australia, February to May 1979* (6335.0).

Average weekly earnings

The figures in this section are derived from particulars of employment and wages and salaries recorded on payroll tax returns, from other direct collections and from estimates of the unrecorded balance. The figures relate to civilian male wage and salary earners. Earnings comprise award and over-award wages and salaries, the earnings of employees not covered by awards, overtime earnings, bonuses and allowances, commissions, directors fees and payments made retrospectively or in advance during the quarter.

Particulars of wages and salaries paid are not available for males and females separately from the sources used for this series; average weekly earnings have therefore been calculated in terms of *male units*, i.e. total male employees plus a proportion of female employees, the proportion being derived from the estimated ratios of female to male average earnings. Different ratios of female to male average

earnings, based on information from surveys of earnings and hours and from other sources, are used for individual States and Territories. Ratios used for the June 1981 quarter are as follows: New South Wales 67 per cent, Victoria 67, Queensland 66, South Australia 66, Western Australia 62, Tasmania 64, Northern Territory 63 and the Australian Capital Territory 66. As the number of male units used in calculating Australian average weekly earnings is the sum of the estimates for the States and Territories, a separate ratio for Australia is not used, but the weighted average of the State ratios is approximately 66 per cent. Changes in these ratios may be necessary from one quarter to the next to reflect, for example, appreciable and sustained changes in the levels of male overtime earnings or changes in the occupational structure. However, small differences in these ratios have relatively little effect on the earnings figures: if the ratio is understated by one per cent, then the average weekly earnings of \$250 would be overstated by about \$1.00.

Annual averages for each State, Territory and Australia are shown in the table below.

AVERAGE WEEKLY EARNINGS PER EMPLOYED MALE UNIT(a)
(\\$)

Period	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.(b)	A.C.T.(b)	Aust.
1975-76 . . .	172.70	170.50	163.50	158.50	169.10	157.80	190.00	209.00	169.60
1976-77 . . .	193.60	191.10	184.50	179.50	190.80	181.20	216.70	237.10	190.70
1977-78 . . .	213.40	209.30	202.20	197.40	209.20	199.00	240.70	259.10	209.50
1978-79 . . .	230.20	226.60	217.40	210.30	223.30	211.60	259.60	279.50	225.60
1979-80 . . .	254.40	248.80	234.40	230.30	245.30	237.90	290.10	303.00	247.90
1980-81 . . .	288.40	280.60	269.80	262.10	279.10	271.00	344.10	337.50	281.40

(a) See explanation above. (b) Estimates for the Northern Territory and the Australian Capital Territory have been calculated on a basis which excludes the effect of varying numbers of Australian Government pay-days in each quarter.

For annual averages for the years 1966-67 to 1974-75, other than for the Northern Territory and the Australian Capital Territory (which were not compiled separately before 1974-75), see the 1979 issue of the Year Book. For current statistics in this series, reference should be made to the quarterly publication *Average Weekly Earnings, Australia* (6302.0).

SURVEYS OF INCOME, EARNINGS AND HOURS

Since 1960 a number of statistical surveys have been undertaken by the ABS in order to obtain information on income, earnings and hours of work in Australia. Particulars of most of the surveys from 1960 to 1979 were shown in earlier issues of the Year Book. Information on the most recent surveys is given below.

Earnings and hours of employees (distribution and composition), May 1981

Preliminary results of the May 1981 survey contained in the tables below relate to the pay-period which included 11 May 1981. Similar surveys have been conducted in May each year from 1974. The results of these surveys are published in *Earnings and Hours of Employees, Distribution and Composition, Australia* (6306.0).

Scope of survey

All wage and salary earners were represented in the survey except (i) members of the permanent defence forces, (ii) employees in agriculture, (iii) employees in private households employing staff, (iv) waterside workers employed on a casual basis, (v) employees on worker's compensation and (vi) persons employed by private employers (other than hospitals) not subject to payroll tax. At the time of sample selection, payroll tax was payable by employers paying in wages and salaries more than \$150,000 a year in Queensland and the Northern Territory, more than \$96,600 a year in Victoria, more than \$72,000 a year in New South Wales, South Australia, Western Australia and the Australian Capital Territory, and more than \$60,000 a year in Tasmania. In general, Australian Government bodies, religious and benevolent institutions, public hospitals and other similar organisations were specifically exempted under the Australian and State Payroll Tax Acts.

Coverage

The survey covered stratified random samples of government departments and authorities, non-government hospitals not subject to payroll tax and other private employers subject to payroll tax.

Survey design

The majority of employers selected were requested to supply relevant details, on separate questionnaires, for only a sample of their employees. Individual employees were randomly selected by the employers in accordance with instructions supplied by the ABS. Employers with fewer than 10 employees were required to complete a questionnaire for every employee.

Definitions

Employees comprise male and female wage and salary earners within the survey scope who received pay for the specified pay-period.

Full-time employees are employees who received pay for the specified pay-period and whose standard (or rostered) weekly hours of work for that pay-period were at least 30 hours. Included are full-time employees who began or ceased work during the pay-period and full-time employees on paid annual leave, paid sick leave and paid holidays. Some employees (e.g. aircrews, teachers, university lecturers), although paid for a weekly attendance of less than 30 hours, were classified as full-time.

Non-managerial employees were defined to include minor supervisory employees, leading hands, clerical and office staff as well as ordinary wages employees. They exclude *managerial, executive, professional and higher supervisory staff* generally defined as those employees who (i) were ineligible to receive payment for overtime, or (ii) although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments). The basis of allocation of employees to these two categories may have varied between individual private employers and between employers in the private and government sectors, with consequent effects on survey results. For some occupations in government employment, such as school teachers and doctors, there is no general payment for overtime. In these cases, managerial, etc. staff were determined according to the degree of supervision exercised or in relation to the pay structure of associated administrative employees.

Weekly hours paid for refers to the hours for which payment was made. It comprises *ordinary time hours* defined below and *overtime hours*, which are those in excess of ordinary time hours.

Weekly hours paid for were not reported for managerial, executive, professional and higher supervisory staff.

Ordinary time hours refers to award, standard or agreed hours of work. It includes stand-by or reporting time which are part of standard hours, and that part of paid annual leave, paid sick leave and long-service leave taken during the specified pay-period.

Weekly earnings refers to gross earnings before taxation and other deductions have been made. It includes *overtime earnings*, which refers to payment for overtime hours as defined above, and *ordinary time earnings*, as defined below. It includes one week's proportion of payments made other than on a weekly basis, e.g. salary paid fortnightly or monthly and paid annual or other leave taken during the specified pay-period. Pay in advance, retrospective pay and annual or periodical bonuses, etc. are excluded.

Ordinary time earnings refers to that part of weekly earnings which is attributable to ordinary time hours, as defined above. It comprises award or agreed base rates of pay for ordinary time hours paid for, including all allowances (other than overtime) specified in the award, etc.; payment by measured result, i.e. payment by piecework, task bonus, commission, etc.; and other earnings, i.e. attendance and good timekeeping bonuses, profit-sharing and any other forms of over-award, etc. pay.

Median earnings is the amount which divides the distribution into two equal groups, one having earnings above the median and the other having earnings below it. Medians were calculated from grouped data, linear interpolation being used within the class interval in which the median fell.

Mean (or average) earnings is the amount obtained by dividing the total earnings of a group (e.g. full-time employees) by the number of employees in that group.

Reliability of the estimates

Since the estimates from this survey are based on a sample they may differ from the figures that would have been produced if the information had been obtained for all employees. One measure of the likely difference is given by the *standard error*, which indicates the extent to which an estimate might have varied by chance because only a sample was included in the survey. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if all employers had been included and about nineteen chances in twenty that the difference will be less than two standard errors.

The figures in Table A below provide an indication of the magnitude of the standard error of estimates of numbers of persons (distribution of weekly earnings) shown in the table on page 157. An example of the use of Table A is as follows: if the estimate for Australia obtained from the sample is 30,000, the standard error is 1,800 (6 per cent), i.e. there are about two chances in three that the true figure is within the range 28,200 to 31,800 and about nineteen chances in twenty that this figure is between 26,400 and 33,600.

Table B indicates the relative standard errors of average weekly earnings for full-time non-managerial employees. An example of the use of this table is as follows: the tables on the composition of average weekly earnings indicates that average overtime earnings of full-time male non-managerial employees aged 21 years and over (Australia) were \$28.90. Table B below shows the approximate standard error for this estimate to be 3.7 per cent (i.e. about \$1.10). There are about two chances in three that the true figure is within the range \$27.80 to \$30.00, and about nineteen chances in twenty that the true figure is between \$26.70 and \$31.10.

The percentage standard errors in Table B relate only to estimates for Australia. Estimates for the States and Territories have higher standard errors, those for New South Wales and Victoria being about twice, and those for the other States and Territories about 3 to 5 times, as great as those for Australia.

The smaller the estimate the higher is the relative standard error. Estimates with a standard error greater than 15 per cent have not been published, except those relating to overtime earnings and hours; for these categories all estimates with a standard error less than 20 per cent have been published. Estimates with standard errors 20 per cent but not greater than 30 per cent have also been published if the standard errors are not greater than \$1.00 or 0.5 hours respectively.

Relative standard errors for average weekly *hours paid for* are generally much lower than for the corresponding relative standard errors for average weekly *earnings* shown in Table B.

Relative standard errors for mean and median weekly earnings of 'all employees' are less than 1.5 per cent.

Note. Estimates of average weekly earnings shown in the tables are rounded to the nearest 10 cents, and those of average weekly hours paid for are rounded to the first decimal place. Any discrepancies between sums of components and totals in tables are due to rounding.

TABLE A. APPROXIMATE STANDARD ERRORS OF ESTIMATES OF NUMBERS OF PERSONS

Standard error	Size of estimate (persons)						
	5,000	10,000	20,000	30,000	40,000	60,000	100,000
Number	650	900	1,400	1,800	2,000	2,400	4,000
Per cent	13	9	7	6	5	4	4

TABLE B. APPROXIMATE RELATIVE STANDARD ERRORS OF AVERAGE WEEKLY EARNINGS, FULL-TIME NON-MANAGERIAL EMPLOYEES, AUSTRALIA (Per cent)

Industry	Aged 21 years and over						Aged under 21 years	
	Males			Females			Males	Females
	Overtime	Ordinary time	Total	Overtime	Ordinary time	Total	Total	Total
Manufacturing	3.6	0.8	0.8	6.5	0.7	0.7	2.0	2.2
Non-manufacturing	5.6	1.2	0.9	8.3	2.1	2.0	1.1	1.0
Total all industries	3.7	0.9	0.7	6.2	1.9	1.8	1.1	0.9

COMPOSITION OF AVERAGE WEEKLY EARNINGS AND HOURS PAID FOR, FULL-TIME
NON-MANAGERIAL EMPLOYEES: INDUSTRIES, AUSTRALIA, MAY 1981
(\$)

Industry	Aged 21 years and over						Aged under 21 years	
	Males			Females			Males	Females
	Overtime	Ordinary time	Total	Overtime	Ordinary time	Total	Total	Total
AVERAGE WEEKLY EARNINGS (\$)								
Manufacturing . . .	35.80	249.50	285.40	9.50	205.20	214.70	170.60	148.90
Non-manufacturing . .	25.60	279.10	304.70	4.50	241.90	246.40	170.30	154.80
Total all industries . .	28.90	269.50	298.40	5.70	233.40	239.00	170.40	153.90
AVERAGE WEEKLY HOURS PAID FOR								
Manufacturing . . .	3.6	38.8	42.4	1.2	38.5	39.7	40.9	39.6
Non-manufacturing . .	2.3	38.5	40.8	0.5	37.5	37.9	40.1	38.7
Total all industries . .	2.7	38.6	41.3	0.6	37.7	38.3	40.4	38.8

AVERAGE WEEKLY EARNINGS AND HOURS PAID FOR, FULL-TIME NON-MANAGERIAL
EMPLOYEES, MAY 1981

State or Territory	Earnings (\$)			Hours paid for				
	Males		Females	Males			Females	
	Overtime	Ordinary time	Total	Total	Overtime	Ordinary time	Total	Total
AGED 21 YEARS AND OVER								
New South Wales . . .	32.50	271.90	304.40	238.80	3.0	38.3	41.2	38.1
Victoria	27.90	266.40	294.30	236.90	2.8	38.7	41.5	38.7
Queensland	29.50	273.90	303.30	242.20	2.7	38.4	41.1	38.5
South Australia . . .	19.40	258.30	277.80	235.00	2.0	39.3	41.4	38.6
Western Australia . .	29.80	268.80	298.60	236.00	2.9	38.9	41.8	38.6
Tasmania	18.10	265.00	283.10	242.10	1.7	39.0	40.7	38.1
Northern Territory . .	66.40	299.60	366.10	270.00	6.1	38.3	44.3	38.4
Australian Capital Territory	22.20	304.60	326.80	262.70	2.1	37.9	40.0	37.0
Australia	28.90	269.50	298.40	239.00	2.7	38.6	41.3	38.3
AGED UNDER 21 YEARS								
New South Wales . . .	11.90	164.30	176.20	152.10	1.6	38.6	40.2	38.5
Victoria	10.50	158.00	168.40	158.30	1.6	39.1	40.7	39.1
Queensland	12.20	153.50	165.70	151.70	1.7	38.5	40.2	39.3
South Australia . . .	8.00	153.00	161.00	151.20	1.3	39.1	40.4	38.5
Western Australia . .	12.00	153.00	165.00	154.90	1.8	39.1	40.9	39.1
Tasmania	9.20	157.20	166.40	148.70	1.2	39.3	40.4	39.5
Northern Territory . .	*	198.30	*	172.40	*	37.9	*	39.7
Australian Capital Territory	*	163.30	170.70	185.30	1.3	38.5	39.8	38.4
Australia	11.10	159.30	170.40	153.90	1.6	38.8	40.4	38.8

* Subject to sampling variability too high for most practical uses.

ALL EMPLOYEES(a): WEEKLY EARNINGS, MAY 1981

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia(b)
MALES							
— Per cent of employees—							
Weekly earnings (\$)—							
Under 60	1.7	1.8	2.4	2.6	3.2		1.9
60 and under 80	0.9	0.8					0.8
80 " " 100	1.4	1.2	2.0	2.5	2.3		1.3
100 " " 120	2.0	1.3	1.6				1.6
120 " " 140	2.1	1.8	1.7	2.0			1.9
140 " " 160	1.9	1.8	2.1	1.7	3.1		1.8
160 " " 180	2.6	2.3	2.4	3.1	3.3		2.6
180 " " 200	4.6	4.8	6.0	6.4	6.5	5.6	5.2
200 " " 220	7.9	8.3	9.4	11.7	8.0	9.5	8.6
220 " " 240	8.8	8.5	9.3	11.9	9.5	10.5	9.1
240 " " 260	9.0	9.2	9.7	10.7	8.5	9.3	9.2
260 " " 280	7.8	8.1	7.5	8.0	7.8	10.6	7.9
280 " " 300	7.6	8.2	7.4	7.3	6.2	7.5	7.6
300 " " 320	6.3	6.2	6.1	6.4	6.5	6.7	6.2
320 " " 340	4.9	6.3	5.6	5.8	5.9		5.6
340 " " 360	4.4	5.9	3.4	3.6	4.8	8.8	4.7
360 " " 380	4.4	4.5	3.0	2.8	4.0		4.1
380 " " 400	3.9	3.8	3.6	2.1	3.3	6.2	3.6
400 " " 440	5.5	5.8	4.5	4.2	5.1		5.3
440 " " 480	3.9	3.0	3.1	2.4	3.5	6.0	3.4
480 " " 520	2.6	2.2	2.2				2.4
520 " " 560	1.7	1.3	2.1	2.6	4.0	5.3	1.6
560 and over	4.0	3.0	4.9	2.0	4.2		3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

—number ('000)—							
Total employees	895.5	723.9	335.2	238.3	240.0	77.0	2,570.4
—dollars—							
Median earnings	278.20	280.50	269.10	255.00	274.00	262.00	275.30
Mean earnings	299.20	295.50	296.70	275.10	295.90	275.60	295.80

FEMALES

— Per cent of employees—							
Weekly earnings (\$)—							
Under 40	3.6	2.8	3.1	4.3	6.0		3.6
40 and under 60	1.9	2.5					2.3
60 " " 80	2.4	2.7	3.9	6.1	6.3		2.6
80 " " 100	4.1	3.5	4.6	3.9	5.4		4.1
100 " " 120	4.6	4.7	5.4	6.4	4.7		4.8
120 " " 140	5.4	5.1	5.8	6.4	6.2		5.5
140 " " 160	5.7	5.5	6.0	6.6	5.3		5.6
160 " " 180	8.7	9.7	8.4	9.3	8.4		8.7
180 " " 200	11.2	10.2	10.2	11.5	13.1	11.9	11.0
200 " " 220	14.5	12.1	13.6	14.7	12.0	11.1	13.4
220 " " 240	9.7	11.4	9.9	9.4	8.4		10.2
240 " " 260	7.2	7.6	8.1	5.0	6.3		7.1
260 " " 280	5.3	5.9	5.8		4.5		5.3
280 " " 300	3.7	4.7	4.5	8.3			3.9
300 " " 320	2.9	3.4			5.9		3.0
320 " " 360	5.3	4.8	7.3				5.0
360 " " 400	2.1	1.8		5.0	3.8		2.0
400 and over	1.7	1.6	3.3	3.1	3.7		1.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

—number ('000)—							
Total employees	552.5	412.7	155.0	127.6	123.0	40.7	1,453.1
—dollars—							
Median earnings	203.50	205.50	203.70	192.30	191.60	192.00	202.50
Mean earnings	203.00	204.20	200.90	190.70	188.90	184.80	201.30

(a) Full-time and part-time employees including managerial, etc. staff. See page for particulars of employees excluded from the survey.
 (b) Includes A.C.T. and N.T. not separately shown.

Earnings and hours of employees, October 1980

Results of this survey, which was conducted in respect of the pay-period which included 20 October 1980, are shown below. More detailed results were published in the bulletin *Earnings and Hours of Employees, Australia, October 1980* (6304.0).

Scope of survey

The scope of this survey is the same as that for the May 1981 survey given earlier in this chapter.

Coverage

The survey covered stratified random samples of government departments and authorities, non-government hospitals not subject to payroll tax and other private employers subject to pay-roll tax.

Although the sample was not designed to provide estimates of the number of employees represented, it has been calculated that the survey was representative of approximately 2,708,000 male and 1,480,000 female wage and salary earners, comprising 1,754,000 males and 940,000 females in private employment.

Definitions

Adult employees comprises employees 21 years of age and over and employees under 21 years of age who are paid at the adult rate for their occupation.

Junior employees are all other employees under 21 years of age.

Weekly earnings refers to gross earnings before taxation and other deductions have been made. It comprises overtime earnings and ordinary time earnings (defined as per May 1981 survey). Where payments are made other than on a weekly basis, e.g. salary paid fortnightly or monthly; paid annual or other leave taken during the specified pay period; periodic payments under incentive, piece-work, profit-sharing, etc. schemes; commissions; annual or periodical bonuses, etc., one week's proportion of such payments are included. Retrospective payments are excluded.

Non-managerial employees were defined to include minor supervisory employees, leading hands and clerical and office staff, as well as ordinary wages employees. They exclude *managerial, executive, professional and higher supervisory staff*, who were generally defined as those employees who (i) were ineligible to receive payment for overtime, or (ii) although subject to payment for overtime, were in charge of a significant number of employees in a separate establishment (or establishments).

Definitions for other items are the same as those for the May 1981 survey shown earlier in this chapter.

Reliability of the estimates

Since the estimates from the survey are based on information which, in some instances, was obtained from samples of employers (*see* Coverage above), they may differ from the figures that would have been produced if the information had been obtained from all employers. One measure of the likely difference is given by the *standard error* (for definition *see* May 1981 survey).

Relative standard errors for the published estimates of average weekly ordinary time earnings and average weekly total earnings are generally less than 3 per cent. Relative standard errors for the figures of average weekly overtime earnings and hours are generally less than 10 per cent.

**AVERAGE EARNINGS AND HOURS: FULL-TIME NON-MANAGERIAL EMPLOYEES, INDUSTRIES,
OCTOBER 1980**

<i>Manufacturing</i>											
<i>Metal products, machinery and equipment</i>											
	<i>Food, beverages and tobacco</i>	<i>Textiles, clothing and footwear</i>	<i>Paper, printing, etc.</i>	<i>Chemical, petroleum and coal products</i>	<i>Basic metal products</i>	<i>Fabricated metal products; other machinery, etc.</i>	<i>Transportation equipment</i>	<i>Total</i>	<i>Other</i>	<i>Total manufacturing</i>	
AVERAGE WEEKLY EARNINGS (\$)											
Adult males	255.80	236.80	308.50	302.30	302.30	247.90	250.80	261.70	254.30	264.80	
Junior males	152.30	136.90	153.60	166.90	165.10	135.30	146.50	143.20	126.90	141.90	
Adult females	203.20	181.20	209.20	217.30	231.00	191.70	207.80	197.60	205.50	197.00	
Junior females	134.70	119.50	142.10	152.20	152.40	132.60	141.90	135.60	126.60	130.80	
AVERAGE WEEKLY HOURS PAID FOR											
Adult males	41.5	42.2	42.0	40.9	42.3	41.3	41.0	41.5	42.0	41.6	
Junior males	40.4	40.4	40.5	38.7	40.1	40.0	40.5	40.1	39.9	40.1	
Adult females	39.1	39.7	40.1	39.0	40.4	38.8	39.4	39.1	39.4	39.3	
Junior females	40.0	38.8	39.4	37.6	39.6	39.0	39.9	39.2	39.6	39.2	
AVERAGE HOURLY EARNINGS (\$)											
Adult males	6.16	5.61	7.34	7.39	7.15	6.00	6.12	6.31	6.06	6.37	
Junior males	3.77	3.39	3.80	4.32	4.12	3.39	3.62	3.57	3.18	3.53	
Adult females	5.20	4.57	5.22	5.58	5.71	4.94	5.27	5.06	5.22	5.01	
Junior females	3.37	3.08	3.61	4.05	3.85	3.40	3.55	3.46	3.19	3.34	
<i>Non-manufacturing</i>											
	<i>Mining</i>	<i>Electricity, gas and water</i>	<i>Construction</i>	<i>Wholesale trade</i>	<i>Retail trade</i>	<i>Transport and storage; communication</i>	<i>Finance, business services</i>	<i>Public administration, etc.</i>	<i>Other</i>	<i>Total non-manufacturing</i>	<i>Total all industries</i>
AVERAGE WEEKLY EARNINGS (\$)											
Adult males	396.40	296.50	268.70	246.40	223.30	282.50	267.40	291.20	260.80	278.50	274.10
Junior males	213.10	159.60	162.90	138.70	132.80	157.00	150.60	156.20	146.00	148.70	146.20
Adult females	250.90	235.60	208.40	202.90	194.30	237.60	214.00	246.60	200.10	228.90	221.40
Junior females	161.10	156.40	133.50	133.60	126.70	155.30	142.30	150.70	125.90	139.70	138.40
AVERAGE WEEKLY HOURS PAID FOR											
Adult males	42.3	40.6	41.7	41.0	41.1	41.1	39.8	39.1	41.4	40.6	40.9
Junior males	40.3	39.4	40.0	40.1	41.2	39.6	39.4	38.1	42.1	40.1	40.1
Adult females	38.8	37.3	37.9	38.9	39.3	38.7	38.0	37.8	38.3	38.1	38.4
Junior females	38.6	37.4	38.2	39.0	39.8	38.4	38.8	37.7	40.5	38.8	38.9
AVERAGE HOURLY EARNINGS (\$)											
Adult males	9.37	7.31	6.44	6.01	5.43	6.87	6.71	7.45	6.30	6.85	6.70
Junior males	5.29	4.05	4.07	3.46	3.22	3.96	3.82	4.10	3.46	3.71	3.65
Adult females	6.47	6.32	5.49	5.21	4.94	6.15	5.63	6.53	5.22	6.00	5.76
Junior females	4.18	4.18	3.49	3.43	3.19	4.04	3.67	3.99	3.11	3.60	3.56

**AVERAGE WEEKLY OVERTIME^(a) AND ORDINARY TIME EARNINGS AND HOURS: FULL-TIME
NON-MANAGERIAL EMPLOYEES, STATES, OCTOBER 1980**

	<i>Adult males</i>			<i>Junior males</i>			<i>Adult females</i>			<i>Junior females</i>		
	<i>Over- time</i>	<i>Ordin- ary time</i>	<i>Total</i>	<i>Over- time</i>	<i>Ordin- ary time</i>	<i>Total</i>	<i>Over- time</i>	<i>Ordin- ary time</i>	<i>Total</i>	<i>Over- time</i>	<i>Ordin- ary time</i>	<i>Total</i>
AVERAGE WEEKLY EARNINGS (\$)												
New South Wales	28.90	254.00	282.80	9.40	142.60	152.00	6.50	216.70	223.20	3.20	139.00	142.20
Victoria	22.30	244.60	266.90	7.20	134.50	141.70	5.80	214.10	219.80	*	136.10	139.50
Queensland	25.90	241.30	267.20	8.50	134.90	143.40	4.30	214.50	218.80	*	130.60	134.00
South Australia	19.10	240.00	259.10	7.10	137.70	144.80	4.30	211.00	215.20	2.60	134.60	137.20
Western Australia	31.80	248.80	280.50	9.30	134.80	144.10	4.20	212.30	216.50	2.00	130.60	132.60
Tasmania	21.90	248.90	270.70	8.60	136.00	144.60	3.60	220.80	224.40	4.20	125.40	129.60
Northern Territory Australian Capital Territory	52.10	270.70	322.90	14.00	142.70	156.70	7.30	241.60	248.90	*	142.70	150.00
Australia	25.80	248.30	274.10	8.40	137.80	146.20	5.60	215.80	221.40	3.20	135.20	138.40
AVERAGE WEEKLY HOURS PAID FOR												
New South Wales	2.9	38.1	41.0	1.5	38.4	40.0	0.8	37.6	38.4	0.5	38.2	38.7
Victoria	2.3	38.6	40.9	1.4	38.7	40.0	0.7	38.0	38.7	*	38.3	39.0
Queensland	2.6	38.1	40.7	1.4	38.6	40.1	0.5	37.5	38.1	*	38.1	38.8
South Australia	2.1	38.7	40.8	1.2	38.6	39.8	0.5	37.7	38.2	0.5	38.0	38.5
Western Australia	3.1	38.4	41.5	1.8	39.2	41.0	0.5	38.0	38.5	*	38.9	39.3
Tasmania	2.2	38.6	40.8	1.6	38.7	40.3	0.4	37.9	38.4	0.8	38.8	39.6
Northern Territory Australian Capital Territory	4.7	37.7	42.4	2.3	38.9	41.2	0.8	37.5	38.4	1.1	37.0	38.1
Australia	2.6	38.3	40.9	1.5	38.6	40.1	0.7	37.8	38.4	0.6	38.3	38.9

(a) Average overtime earnings and hours paid for are averages for all employees represented in the survey.

* Subject to sampling variability too high for most practical uses.

Weekly earnings of employees (distribution) August 1980

In August 1980 a survey based on the population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about weekly earnings of all persons aged 15 years and over who were employed as wage or salary earners in their main job.

Some results on weekly earnings of wage and salary earners are presented below. Additional details may be obtained from the publication *Weekly Earnings of Employees (Distribution), Australia, August 1980* (6310.0).

In many cases the answer to the question on earnings was based on the knowledge of one person, generally the housewife. Some understatement in the estimates may be expected because of imperfect recall of minor or irregular sources of earnings.

Definitions

Weekly earnings refers to gross weekly wages and salaries from all jobs (i.e. before taxation and other deductions have been made). For persons paid other than weekly, earnings were converted to a weekly equivalent.

Median weekly earnings is the amount which divides the distribution of individuals into two equal groups, one having earnings above the median and the other having earnings below it. Medians were calculated from grouped data with linear interpolation being used within the class interval in which the median fell.

Mean weekly earnings is the amount obtained by dividing the total earnings of a group by the number of units in that group.

Full-time workers are those who usually work 35 hours a week or more and others who, although usually part-time workers, worked 35 hours or more during the survey week.

Part-time workers are those who usually work less than 35 hours a week and who did so during the survey week. When recording hours of work, fractions of an hour were disregarded.

Reliability of estimates

Since the estimates from this survey are based on information obtained from the occupants of a sample of dwellings, they may differ from the figures that would have been produced if the information had been obtained from occupants of all dwellings. One measure of the likely difference is given by the *standard error* (for definition see page 154).

The following estimates have not been shown as they are subject to sampling variability too high (more than approximately 20 per cent) for most practical uses; less than 4,500 for Australia, New South Wales and Victoria; less than 3,500 for Queensland; less than 2,500 for South Australia and Western Australia; less than 1,500 for Tasmania; and less than 2,000 for the Northern Territory and the Australian Capital Territory.

Means and medians are also subject to sampling variability. Standard errors vary according to the size and distribution of the population for which the mean and median have been obtained. Standard errors of means and medians in the tables below could generally be expected to be below 6 per cent. For populations of 100,000, the standard errors of the means and median would both be about 2 per cent.

FULL-TIME EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND AGE, AUGUST 1980

	Age group (years)							60 and over	Total 20 and over	Total
	15-19	20-24	25-34	35-44	45-54	55-59				
MALES										
Weekly earnings (\$)—										
—'000—										
Under 100	71.6	6.0	8.6	7.0	*	4.5		33.2	104.8	
100 and under 110	29.6	*		7.0	5.1	*	6.9	18.8	48.3	
110 " " 120	28.5	6.8	6.3					16.5	45.0	
120 " " 130	22.3	8.5	8.4	4.7				27.5	49.8	
130 " " 140	19.5	11.5	6.7	6.1	8.2	5.0		33.7	53.2	
140 " " 150	19.4	16.8	7.0	5.2	9.9	5.1	6.0	46.7	66.1	
150 " " 160	17.4	28.8	18.3	11.9	14.7	5.7		82.7	100.1	
160 " " 170	10.8	29.1	27.6	17.3	18.7	10.4	8.0	111.2	122.0	
170 " " 180	10.8	27.7	28.8	19.9	16.6	8.2	4.7	105.9	116.7	
180 " " 190	9.4	35.1	38.5	27.2	26.9	16.0	9.3	153.1	162.5	
190 " " 200	8.2	33.6	38.9	26.0	25.5	14.3	7.3	145.7	153.9	
200 " " 210	7.5	43.7	79.4	51.0	50.2	18.4	10.2	252.8	260.4	
210 " " 220		27.4	46.7	34.9	31.4	12.9	6.0	159.3	162.8	
220 " " 230	6.6	25.3	46.2	30.9	32.0	12.5	7.2	154.1	157.1	
230 " " 240		17.8	42.9	28.4	22.1	8.9	5.0	125.1	127.0	
240 " " 250		21.3	43.0	33.5	23.8	11.2	*	137.2	139.0	
250 " " 260		22.9	50.7	30.0	24.5	8.4	5.3	141.8	142.6	
260 " " 280		19.0	63.4	39.7	31.9	11.2	*	169.3	170.7	
280 " " 300		13.6	57.5	33.2	26.2	9.0	6.0	145.6	147.1	
300 " " 320		12.7	60.1	38.8	28.6	10.3	4.6	155.2	156.7	
320 " " 340		6.3	38.0	30.0	19.3	7.1		102.8	103.8	
340 " " 360	11.7	6.1	27.3	27.2	16.1	8.2	4.8	87.7	87.8	
360 " " 380		6.6	22.6	20.1	12.2			64.8	65.3	
380 " " 400		6.6	18.4	18.9	13.4	8.2	4.9	59.1	59.3	
400 " " 450		6.7	25.8	29.9	15.3	8.4		84.2	84.2	
450 " " 500		6.7	15.4	17.8	12.0	*		52.5	53.1	
500 and over		4.6	27.8	38.1	31.3	10.5	*	116.7	117.1	
Total	273.3	442.3	854.4	634.6	519.9	222.6	109.1	2,783.0	3,056.3	
—dollars—										
Median earnings	123	203	245	255	238	225	213	234	225	
Mean earnings	134	215	266	282	271	257	238	261	249	
Standard error of mean	1.70	2.10	1.90	2.30	2.40	3.50	4.70	1.00	0.90	
FEMALES										
Weekly earnings (\$)—										
—'000—										
Under 100	62.8	7.5	*	5.0	4.5			25.7	88.4	
100 and under 110	25.8	*		4.5	5.7	6.7	5.3	13.9	39.7	
110 " " 120	29.2	7.2	6.0					15.4	44.6	
120 " " 130	26.1	9.4	9.1	6.4	*			26.9	53.0	
130 " " 140	21.9	16.1		7.7	5.1			35.9	57.7	
140 " " 150	14.6	19.5	9.5	8.4	7.6	6.6		48.5	63.1	
150 " " 160	10.8	27.3	17.5	18.1	15.2	5.8	5.1	82.6	93.4	
160 " " 170	7.7	27.3	21.7	14.8	13.4	5.8		84.5	92.2	
170 " " 180	6.1	29.2	20.8	17.1	12.6	6.2		84.2	90.4	
180 " " 190		26.7	19.8	14.8	13.0			78.2	80.9	
190 " " 200	4.6	33.0	21.7	12.4	12.0	6.9		83.4	85.4	
200 " " 210		25.9	31.3	17.3	12.8			91.8	93.2	
210 " " 220		19.7	21.0	13.1	8.3		4.7	66.2	67.1	
220 " " 230		10.4	20.5	9.8	8.5	5.1		51.8	52.0	
230 " " 240	6.0	10.9	13.5	9.7				39.3	39.3	
240 " " 250		8.2	10.8	6.2	9.7	*		32.7	32.8	
250 and over		32.1	89.9	49.5	28.9	8.3	*	211.9	215.1	
Total	215.7	313.8	317.2	214.9	161.2	46.9	18.8	1,072.7	1,288.4	
—dollars—										
Median earnings	117	184	209	198	190	184	179	195	183	
Mean earnings	122	190	223	217	203	204	189	208	193	
Standard error of mean	1.70	2.20	2.60	3.00	3.30	6.00	8.90	1.30	1.10	

*Subject to sampling variability too high for most practical uses.

ALL EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND FULL-TIME OR PART-TIME STATUS, STATES AND TERRITORIES, AUGUST 1980

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
MALE FULL-TIME EMPLOYEES									
—'000—									
Weekly earnings(\$)—									
Under 80	14.0	11.3	7.9	5.0	4.6	*			45.0
80 and under 100	18.0	16.5	10.9	5.8	5.9	2.3			59.8
100 " " 110	15.8	13.2	9.5	4.1	3.4	2.0			48.3
110 " " 120	15.9	10.9	7.3	4.0	4.2	1.9			45.0
120 " " 130	12.5	16.1	8.9	5.5	3.8	2.3			49.8
130 " " 140	20.2	14.3	8.1	3.8	4.5	1.8			53.2
140 " " 150	21.6	20.6	9.3	7.2	5.0	1.6			66.1
150 " " 160	34.5	24.7	16.4	10.8	9.0	3.0			100.1
160 " " 170	38.0	38.3	19.7	11.7	9.5	3.8			122.0
170 " " 180	35.8	35.2	18.8	11.5	9.4	3.6			116.7
180 " " 190	53.2	47.1	26.2	15.7	13.8	3.9			162.5
190 " " 200	50.1	44.1	26.1	14.6	12.1	4.0			153.9
200 " " 210	94.2	73.0	36.8	23.3	21.3	7.4	2.0	2.4	260.4
210 " " 220	58.9	44.6	23.4	16.8	12.2	5.4		*	162.8
220 " " 230	58.0	40.0	24.1	13.5	13.5	4.7	2.2	2.2	157.1
230 " " 240	52.6	31.2	17.3	9.8	9.4	3.5		2.3	127.0
240 " " 250	54.9	38.3	17.3	10.8	9.8	4.7		2.4	139.0
250 " " 260	54.4	37.8	15.3	12.5	13.5	4.7	2.7	2.6	142.6
260 " " 280	64.9	45.0	20.7	14.0	15.6	4.9	2.2	3.3	170.7
280 " " 300	51.9	39.8	19.9	14.4	13.0	4.9	*	2.5	147.1
300 " " 320	56.5	44.0	21.9	11.8	13.0	4.1	2.5	2.9	156.7
320 " " 340	40.6	25.3	13.0	9.7	8.9	1.8		2.6	103.8
340 " " 360	32.5	19.8	13.2	7.6	7.4	2.8		2.8	87.8
360 " " 380	25.0	14.8	8.7	4.4	6.5	*	2.5	2.0	65.3
380 " " 400	21.7	16.8	6.7	4.5	4.3	1.8		2.8	59.3
400 " " 450	32.3	16.5	11.1	5.7	11.1	2.5		3.5	84.2
450 " " 500	20.5	15.1	6.1	3.8	4.6			3.0	53.1
500 " " 550	15.1	8.2	4.7	*	4.0	2.1		3.1	37.6
550 " " 600	10.8	5.6	*	*	*	*		2.7	23.4
600 and over	21.4	14.7	8.1	3.4	4.5	*			56.2
Total	1,095.6	822.6	440.0	268.0	260.1	89.5	27.8	52.7	3,056.3
—dollars—									
Median earnings	231	220	216	217	228	221	297	271	225
Mean earnings	255	245	241	237	253	239	308	300	249
Standard error of mean	1.80	2.00	2.30	2.40	2.50	3.30	9.80	7.10	0.90

MALE PART-TIME EMPLOYEES(a)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
—'000—									
Weekly earnings (\$)—									
Under 20	7.3	9.0	*	2.5	2.7				26.2
20 and under 40	9.8	7.2	4.4	*	*				26.5
40 " " 60	6.2	5.4							17.3
60 " " 80	*								10.6
80 " " 100	6.0	5.6	3.7	4.2	3.1		*	2.3	11.8
100 " " 200	12.1	8.3	5.3	2.6	2.7				32.2
200 and over	8.2	6.9	*	*	3.2	*	*	*	23.9
Total	53.8	42.3	18.9	13.0	13.9	2.3	*	3.1	148.5
— dollars —									
Median earnings	78	58	59	57	86	102	*	60	68
Mean earnings	108	102	109	84	121	116	*	101	106
Standard error of mean	3.50	3.80	4.90	3.90	5.20	10.00	..	9.60	1.80

**ALL EMPLOYEES: WEEKLY EARNINGS IN ALL JOBS AND FULL-TIME OR PART-TIME STATUS,
STATES AND TERRITORIES, AUGUST 1980—continued**

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
FEMALE FULL-TIME EMPLOYEES									
— '000 —									
Weekly earnings (\$) —									
Under 80	8.3	7.5	5.0	2.9	*	1.7			28.4
80 and under 100	18.9	14.1	14.7	4.8	4.6	1.8			60.0
100 " " 110	16.0	9.8	6.4	3.3	3.0		2.1	2.0	39.7
110 " " 120	17.0	11.5	5.5	3.5	5.0				44.6
120 " " 130	16.2	16.5	7.3	5.5	4.4	1.9			53.0
130 " " 140	22.1	17.2	7.1	3.1	5.8	*			57.7
140 " " 150	23.0	19.3	7.6	5.3	4.7	1.5			63.1
150 " " 160	30.2	34.6	11.3	7.3	6.8	1.8			93.4
160 " " 170	35.8	24.4	12.2	8.8	6.7	2.4			92.2
170 " " 180	33.1	23.7	13.4	8.0	7.2	2.1	2.6	2.1	90.4
180 " " 190	27.7	21.9	12.1	7.7	7.5	2.1			80.9
190 " " 200	31.8	22.6	11.3	9.5	5.7	2.3		2.8	85.4
200 " " 210	33.3	27.5	11.1	9.1	6.3	2.5		2.4	93.2
210 " " 220	22.7	22.6	6.9	5.8	4.6	1.8		2.1	67.1
220 " " 230	18.4	17.7	6.2	2.8	4.2		1.6	3.7	52.0
230 " " 240	14.2	12.0	4.8	3.3	3.2				39.3
240 " " 250	12.8	9.4	*	*	2.9				32.8
250 " " 260	12.8	10.4	4.3	3.5	3.6	2.1		2.1	37.1
260 " " 280	17.3	15.3	4.4	3.9	4.1		2.3		48.4
280 " " 300	14.6	7.6	4.6	3.2	*			3.6	34.6
300 " " 320	9.9	7.3	*	*	2.6	1.8		2.0	27.4
320 and over	28.2	16.5	8.6	4.6	4.6			3.4	67.7
Total	464.2	369.1	170.6	110.2	102.5	32.9	10.9	27.9	1,288.4
— dollars —									
Median earnings	184	183	176	183	181	180	203	208	183
Mean earnings	196	192	188	190	192	183	211	221	193
Standard error of mean	2.20	2.40	2.80	3.00	3.00	4.20	11.00	7.00	1.10
FEMALE PART-TIME EMPLOYEES(a)									
— '000 —									
Weekly earnings (\$) —									
Under 20	15.3	17.7	8.7	4.4	7.1	*			55.9
20 and under 40	22.6	22.0	14.0	9.2	9.1	2.2			81.2
40 " " 60	22.8	17.8	10.7	6.5	7.7	2.6			69.2
60 " " 80	24.6	18.4	12.9	7.3	8.6	2.7			76.0
80 " " 100	25.9	24.0	12.0	8.0	10.1	2.2		2.0	83.1
100 " " 110	18.2	14.8	7.0	5.1	5.1				52.2
110 " " 120	13.1	9.9	5.2	3.3	2.9	2.1			36.0
120 " " 130	13.4	8.3	4.4	4.2	2.9				35.4
130 " " 140	7.3	7.9	*	2.8	2.5	1.9			25.3
140 " " 160	14.3	11.6	4.7	3.8	3.5				40.4
160 " " 180	11.2	8.4	3.8	*	*	1.6			28.4
180 and over	20.4	16.2	7.1	3.5	4.6	*	*	*	55.2
Total	209.1	177.0	93.6	60.0	65.5	17.2	4.0	11.8	638.3
— dollars —									
Median earnings	95	90	81	87	80	81	126	105	89
Mean earnings	101	96	90	90	88	90	140	107	96
Standard error of mean	1.60	1.70	1.80	1.90	1.70	2.80	12.00	5.20	0.80

(a) Since part-time employees are defined as those who usually work less than 35 hours and who did so in the survey week, these figures may include school teachers, academic staff in universities, aircrew, etc. * Subject to sampling variability too high for most practical uses.

Income distribution surveys

In November 1974, a survey based on the population survey (see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the distribution of personal and family income within Australia. Details of the income of individuals, families, and income units can be obtained from the publication *Income Distribution, 1973-74 Part 1* (6502.0) individuals, *Part 2* (6503.0) families, and *Part 3* (6504.0) individuals, families, and income units.

A similar survey was conducted in November 1969 in respect of individual and family income received during 1968-69. Results of this survey were published in *Income Distribution, 1968-69, Consolidated and Revised Edition* (6505.0).

A further survey was conducted in respect of the year 1978-79. Some results on the income of income units are shown below. Additional details are available from the publications *Income Distribution, Australia, 1978-79, Individuals* (6502.0), *Income Units* (6523.0), and *Supplementary Tables* (6504.0), the last of which contains tables for individuals, income units, and families.

ALL INCOME UNITS: TOTAL INCOME, TYPE OF INCOME UNIT AND NUMBER OF DEPENDENT CHILDREN, AUSTRALIA, 1978-79

	Married couple income units						One parent income units				
	With dependent children										
	No depend-ent child- ren	One depend-ent child	Two depend-ent child- ren	Three or more depend-ent child- ren	Total with depend-ent child- ren	Total married couple income units	One depend-ent child	Two or more depend-ent child- ren	Total	One person income units	All income units
— '000 —											
Total income (\$)—											
Nil	6.2	*	*	*	*	6.2	*	*	*	34.7	41.6
1 and under 2,000	8.7	*	8.4	6.0	19.5	28.2	*	*	9.2	161.4	198.8
2,000 " " 3,000	22.9	14.8	10.8	7.2	10.3	28.0	26.1	8.6	34.7	520.8	557.7
3,000 " " 4,000	17.7										
4,000 " " 5,000	159.2	16.7	12.3	6.5	17.9	177.1	14.8	30.5	45.4	195.7	418.2
5,000 " " 6,000	113.5										
6,000 " " 7,000	78.5	15.4	11.4	11.9	38.6	117.1	*	9.3	14.5	169.3	300.9
7,000 " " 8,000	47.8	16.1	17.7	16.1	49.9	97.7	6.4	23.4	29.8	178.2	357.0
8,000 " " 9,000	59.3	24.2	29.9	18.6	72.7	132.0	7.3	7.3	10.7	176.5	284.8
9,000 " " 10,000	63.3	24.7	28.2	18.0	70.9	134.3	6.5		10.4	200.1	342.5
10,000 " " 11,000	71.5	40.9	49.1	25.9	115.8	187.4	7.7	6.3	10.4	167.6	312.3
11,000 " " 12,000	57.8	33.1	47.9	32.9	113.9	171.7	7.7		*	10.1	151.4	348.8
12,000 " " 13,000	61.9	39.3	52.3	35.9	127.5	189.4		7.7		13.0	82.3	276.7
13,000 " " 14,000	51.0	33.2	53.6	29.6	116.5	167.5	6.1		7.9		57.9	228.9
14,000 " " 15,000	52.6	35.2	36.4	31.2	102.8	155.5		6.1		7.9	44.3	203.4
15,000 " " 16,000	57.5	38.4	50.6	38.0	127.0	184.5	6.1		7.9		37.1	225.2
16,000 " " 18,000	114.1	52.2	88.0	56.8	197.1	311.2		6.1		7.9	14.0	39.2	352.8
18,000 " " 20,000	110.8	47.2	65.8	49.5	162.5	273.3	6.1		7.9		14.0	18.9	296.5
20,000 " " 25,000	180.9	77.3	115.2	74.5	267.0	447.9		6.1		7.9	14.0	19.4	470.3
25,000 " " 30,000	82.3	27.3	36.4	30.3	94.0	176.4	6.1		7.9		14.0	182.2
30,000 " " 40,000	38.9	21.9	27.5	25.7	75.1	114.0		6.1		7.9	14.0	14.9	121.1
40,000 and over	23.2	10.3	14.9	9.6	34.8	58.0	6.1		7.9		6.3	63.4
Total	1,479.9	573.1	756.5	524.3	1,853.9	3,333.8	109.4	109.3	218.7	2,773.5	6,325.9
— dollars —											
Median total income	12,540	14,660	15,400	15,590	15,240	14,350	5,350	5,330	5,330	5,400	9,610
Mean total income	14,150	15,940	16,760	17,010	16,580	15,500	7,270	7,370	7,320	6,590	11,310

* Subject to sampling variability too high for most practical uses.

Questions were asked in respect of each person aged 15 years or over, except those attending school full-time, on the amount of income received in 1978-79 from each of the following sources: wages or salary; own business, profession, farm, etc. (net income); share in a partnership (net income); government social security and welfare cash benefits; superannuation; interest, dividends, rent, etc.; other sources.

Although some respondents referred to personal records, in many cases answers were based on memory. Some understatement in the estimates may be expected because of imperfect recall, particularly of minor or irregular sources of income, or because of misunderstanding of the questions.

Definitions

Median income is the amount which divides the distribution into two equal groups, one having incomes above the median and the other having incomes below it. Medians were calculated from grouped data with linear interpolation being used within the class interval in which the median fell.

Mean income is the amount obtained by dividing the total income of a group by the number in that group.

Total income is the sum of income received from each of the sources listed above.

Married couple income units consist of a husband, wife and dependent children (if any), as defined.

One parent income units consist of a parent and at least one dependent child; they cannot include a married couple.

One person income units consist of persons not included in units defined in the above paragraphs. Non-dependent children living with their parents are classed as one person income units.

Dependent children are all unmarried persons living with their parent(s) and either under 15 years of age, or full-time students aged 15-20 years whose earned income in 1978-79 was less than \$1,600.

Reliability of the estimates

Since the estimates are based on information from occupants of a sample of dwellings, they may differ from the figures that would have been produced if all dwellings had been included in the survey. One measure of the likely difference is given by the *standard error* (for definition see page 154). All estimates in the tables below have standard errors of less than 20 per cent. An estimate of 100,000 persons or income units would have a standard error of approximately 5.5 per cent. Standard errors of the medians and means are less than 1 per cent.

ALL INCOME RECIPIENTS : TOTAL INCOME, AUSTRALIA, 1978-79

	Number ('000)			Cumulative per cent of total			
	Males	Females	Persons	Males	Females	Persons	
Total income (\$)				Total income (\$)			
1 and under 250	27.7	295.7	323.4	Under 250	0.6	6.2	3.4
250 " " 500	18.9	361.8	380.8	" 500	1.0	13.8	7.3
500 " " 750	24.7	140.9	165.5	" 750	1.5	16.7	9.1
750 " " 1,000	22.0	213.5	235.5	" 1,000	1.9	21.2	11.5
1,000 " " 2,000	125.2	369.3	494.5	" 2,000	4.5	28.9	16.7
2,000 " " 2,500	217.3	320.6	537.9	" 2,500	9.1	35.6	22.3
2,500 " " 3,000	230.1	491.4	721.5	" 3,000	13.8	45.9	29.8
3,000 " " 3,500	168.3	329.6	497.9	" 3,500	17.3	52.8	35.0
3,500 " " 4,000	124.0	183.1	307.1	" 4,000	19.9	56.6	38.2
4,000 " " 4,500	108.4	180.1	288.5	" 4,500	22.2	60.4	41.2
4,500 " " 5,000	92.8	144.7	237.5	" 5,000	24.1	63.4	43.7
5,000 " " 6,000	225.7	252.5	478.1	" 6,000	28.8	68.7	48.7
6,000 " " 7,000	192.6	245.5	438.1	" 7,000	32.8	73.8	53.3
7,000 " " 8,000	247.9	234.2	482.1	" 8,000	37.9	78.7	58.3
8,000 " " 9,000	319.4	262.6	581.9	" 9,000	44.6	84.2	64.4
9,000 " " 10,000	344.2	209.2	553.4	" 10,000	51.7	88.6	70.1
10,000 " " 11,000	397.3	163.0	560.3	" 11,000	60.0	92.0	76.0
11,000 " " 12,000	310.3	104.7	414.9	" 12,000	66.4	94.2	80.3
12,000 " " 13,000	320.6	74.1	394.7	" 13,000	73.1	95.8	84.4
13,000 " " 14,000	241.6	49.3	290.9	" 14,000	78.1	96.8	87.4
14,000 " " 15,000	205.2	40.2	245.4	" 15,000	82.4	97.6	90.0
15,000 " " 16,000	170.5	33.0	203.5	" 16,000	85.9	98.3	92.1
16,000 " " 18,000	248.0	34.4	282.3	" 18,000	91.1	99.0	95.1
18,000 " " 20,000	141.2	16.6	157.9	" 20,000	94.0	99.4	96.7
20,000 " " 25,000	164.8	16.1	180.9	" 25,000	97.5	99.7	98.6
25,000 and over	122.1	13.8	135.9				
Total	4,810.9	4,779.6	9,590.4	Total	100.0	100.0	100.0
	—dollars—						
Median income	9,740	3,300	6,290				
Mean income	10,170	4,720	7,450				

Annual leave and long service leave

The majority of employees in Australia at present receive four weeks paid annual leave.

Four weeks annual leave was granted to State government employees in New South Wales in 1964, in South Australia in 1971 and in Tasmania in October 1972. Australian Government employees received the entitlement in 1973, as did State Government employees in Victoria, Queensland and Western Australia. (Northern Territory Government employees are entitled to four weeks annual leave.)

In December 1973, Queensland day workers employed under State awards were granted four weeks paid annual leave. Subsequently, workers covered by State awards in other States were granted similar benefits.

In May 1974, the Australian Conciliation and Arbitration Commission granted four weeks paid annual leave to persons employed under the Metal Industry Award, to accrue from 1 January 1974. As a result, this benefit was extended to other Federal awards. In addition to the leave entitlement, workers also received a leave bonus which varies in amount (but a 17½ per cent addition to leave pay is a frequent provision in awards).

Paid long service leave, i.e. leave granted to workers who remain with the one employer over an extended period of time, has been included in the provisions of Federal and State industrial legislation and industrial awards. Most employees in Australia are now entitled to at least thirteen weeks paid long service leave after fifteen years continuous employment with the one employer. Four employees in certain industries and for some employees of the Australian and State Governments, long service leave entitlements are more generous. In all cases the transfer of ownership of a business does not constitute a break in continuity of service with the same employer.

In May 1979, a survey based on the monthly population survey (*see the section The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the incidence and extent of annual and long-service leave-taking within Australia. Results of this survey were published in *Annual and Long-service Leave, May 1979* (6317.0).

INDUSTRIAL DISPUTES

The tables in this section refer to disputes involving stoppages of work of ten man-days or more: statistics of persons affected at establishments other than those at which the stoppages occurred are *not* included.

The statistics are compiled according to the Australian Standard Industrial Classification (ASIC), described in the ABS publication *Australian Standard Industrial Classification, 1978*, Vol. 1 (1201.0). Prior to 1980 the statistics were compiled using the Preliminary Edition, 1969.

Detailed information, including explanatory notes, definitions, etc. on industrial disputes involving stoppages of work, is given in the annual publication *Labour Statistics, Australia* (6101.0). A table showing statistics of industrial disputes for each year from 1913 is contained in the Appendix to *Labour Report* No. 58, 1973. Current statistics are published in the monthly publication *Industrial Disputes, Australia* (6321.0). Quarterly and annual figures are published in *Industrial Disputes, Australia* (6322.0).

The annual figures contained in tables on pages 168, 169, 170 and 172 relate to disputes *in progress* in the year, whilst figures in tables on page 171 relate only to disputes which *ended* in the reference year.

INDUSTRIAL DISPUTES: INDUSTRIES, 1975 TO 1980

Year	Manufacturing				Transport and storage; Communication			Other industries (a)	All industries
	Mining		Metal products, machinery and equipment	Other	Construction	Stevedoring services	Other		
	Coal	Other							
NUMBER OF DISPUTES									
1975	175	188	681	388	309	279	183	229	2,432
1976(b)	172	203	510	341	302	139	179	209	2,055
1977	247	194	501	361	258	85	203	241	2,090
1978	287	238	584	355	178	161	192	282	2,277
1979	256	221	598	266	136	94	176	295	2,042
1980	260	353	709	240	186	116	204	361	2,429
WORKERS INVOLVED (DIRECTLY AND INDIRECTLY) ('000)									
1975	49.5	33.0	553.5	190.5	158.4	46.9	125.5	240.7	1,398.0
1976(b)	65.7	73.4	484.4	426.2	264.8	35.4	294.7	545.5	2,189.9
1977(c)	48.2	31.4	111.3	101.9	51.5	19.2	105.1	127.6	596.2
1978	52.3	45.3	465.3	163.9	57.1	65.2	100.0	126.3	1,075.6
1979	107.9	58.2	395.6	276.3	134.4	48.4	201.6	639.1	1,862.9
1980	79.7	49.6	322.1	153.0	60.0	35.5	100.8	372.1	1,172.8
WORKING DAYS LOST ('000)									
1975	343.3	90.0	1,279.2	464.1	497.0	46.2	146.7	643.5	3,509.9
1976(b)	159.1	215.0	775.0	856.5	535.8	37.1	388.0	832.6	3,799.2
1977(c)	102.8	170.9	204.4	455.7	215.2	39.9	172.6	293.3	1,654.8
1978	142.3	125.1	732.1	490.2	134.1	122.9	166.9	217.2	2,130.8
1979	232.6	283.6	929.7	749.0	359.7	114.3	435.8	859.7	3,964.4
1980	710.7	197.7	615.9	728.4	217.9	73.4	142.5	633.7	3,320.2
ESTIMATED LOSS IN WAGES (\$'000)									
1975	11,457	2,808	33,073	11,990	14,861	1,181	3,737	16,655	95,761
1976(b)	6,165	7,780	22,235	23,866	18,659	1,003	11,573	23,271	114,552
1977(c)	4,591	7,300	6,906	14,714	8,218	1,307	6,386	10,252	59,674
1978	7,228	5,513	24,988	17,396	5,345	4,331	5,806	7,796	78,404
1979	10,370	12,634	32,860	26,993	13,700	4,266	15,791	32,000	148,614
1980	39,270	10,287	25,804	31,087	10,898	2,970	5,883	25,823	152,022

(a) ASIC divisions A, D, F, I to L. (b) Includes Medibank stoppages in June and July which involved an estimated 1,570,000 workers and resulted in a loss of 2,060,000 working days and \$59,060,000 in wages. (c) Excludes an estimated 150,000 Victorian workers stood down as a result of the electricity supply dispute in October in that State (but at establishments other than those at which the stoppage occurred). These workers lost an estimated 2.1 million working days.

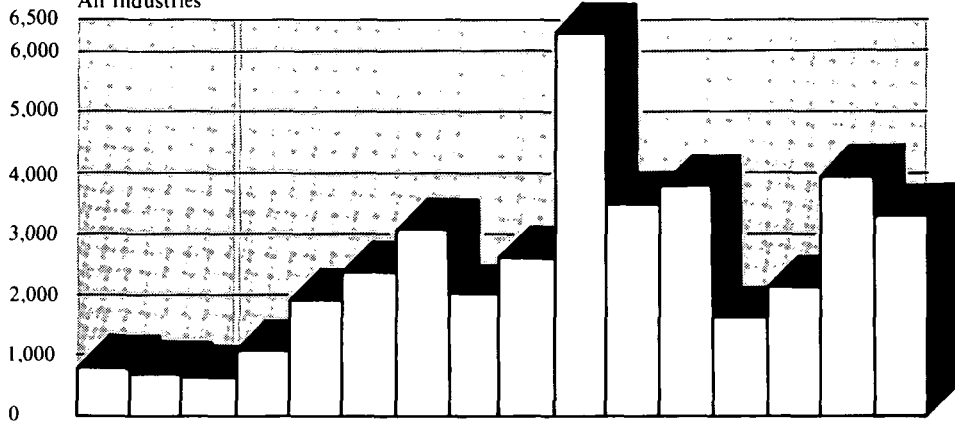
INDUSTRIAL DISPUTES: WORKING DAYS LOST, INDUSTRIES
(*000)

<i>ASIC</i> <i>division</i>	<i>ASIC industry</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
A	Agriculture, forestry, fishing and hunting	-	54.5	4.5
B	Mining	267.4	516.2	908.5
	Coal mining	142.3	232.6	710.7
	Other mining	125.1	283.6	197.7
C	Manufacturing	1,222.3	1,678.7	1,344.3
	Food, beverages and tobacco	349.3	379.8	494.9
	Textiles; Clothing and footwear	3.1	70.7	11.4
	Textiles	0.7	23.5	3.7
	Clothing and footwear	2.4	47.3	7.7
	Wood, wood products and furniture	0.5	45.7	6.3
	Paper and paper products, printing and publishing	67.2	90.7	109.9
	Chemical, petroleum and coal products	35.7	85.6	58.9
	Metal products, machinery and equipment	732.1	929.7	615.9
	Basic metal products	166.5	208.2	156.4
	Fabricated metal products	168.2	171.1	74.8
	Transport equipment	123.2	272.9	264.4
	Other machinery and equipment	274.1	277.6	120.3
	Other manufacturing	34.4	76.4	47.1
	Non-metallic mineral products	22.7	33.6	18.3
	Miscellaneous manufacturing	11.7	42.8	28.8
D	Electricity, gas and water	71.2	99.7	98.6
	Electricity and gas	52.6	77.7	58.8
	Water, sewerage and drainage	18.6	21.9	39.8
E	Construction	134.1	359.7	217.9
F	Wholesale and retail trade	33.4	207.2	184.5
	Wholesale trade	10.9	85.5	106.1
	Retail trade	22.5	121.7	78.4
G,H	Transport and storage; Communication	289.9	550.1	215.9
	Railway transport; Air transport	70.1	223.5	103.3
	Railway transport	45.8	146.2	84.5
	Air transport	24.3	77.3	18.9
	Water transport	131.3	123.3	85.1
	Stevedoring services	122.9	114.3	73.4
	Water transport (except stevedoring services)	8.3	9.0	11.7
	Road transport; Other transport and storage; Communication	88.5	203.3	27.5
	Road transport	56.9	105.3	20.3
	Other transport and storage; Communication	31.6	98.0	3.4
I	Finance, insurance, real estate and business services	7.8	70.6	12.1
J,K	Public administration and defence; community services	72.8	328.7	236.0
	Health	8.2	65.9	9.6
	Education, libraries, museums and art galleries	43.1	154.7	81.4
	Other	21.6	108.1	144.9
L	Entertainment, recreation, restaurants, hotels and personal services	31.9	99.1	98.0
	Total	2,130.8	3,964.4	3320.2

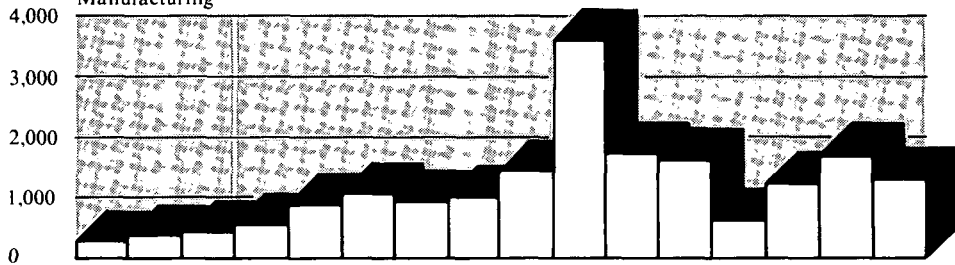
INDUSTRIAL DISPUTES: AUSTRALIA

Working Days Lost—Industries

All Industries



Manufacturing



Transport and Storage: Communication



Mining



Construction



Other Industries



Note: A break exists in the series between 1967 and 1968 due to the adoption of the Australian Standard Industrial Classification (ASIC).

The following table shows, for the years 1978 to 1980, working days lost in industrial disputes which ended in those years, classified according to duration, causes and methods of settlement. Causes (i.e. the direct causes of stoppages of work) are grouped as follows:

Wages—claims involving general principles relating to wages, including combined claims relating to wages, hours or conditions of work. *Hours of work*—claims involving general principles relating to hours of work. *Leave, pensions, compensation provisions, etc.*—claims involving general principles relating to these provisions. *Managerial policy*—disputes concerning managerial policy of employers including computation of wages, hours, leave, etc. in individual cases; docking pay, etc.; dismissals, etc.; principles of promotion, etc.; employment of particular persons and personal disagreements; production limitations, etc. *Physical working conditions*—disputes concerning physical working conditions including safety issues; protective clothing and equipment, etc.; amenities; shortage of, or condition of, equipment or material; new production methods, etc.; arduous physical tasks, etc. *Trade unionism*—disputes concerning employment of non-unionists; inter-union and intra-union disputes; sympathy stoppages; recognition of union activities, etc. *Other*—disputes concerning protests directed against persons or situations other than those dealing with employer-employee relationship; non-award public holidays; accidents and funerals; no reason given for stoppage; etc.

INDUSTRIAL DISPUTES: DURATION, CAUSES AND METHODS OF SETTLEMENT, WORKING DAYS LOST, 1978 TO 1980(a)

(*000)

	1978	1979	1980
DURATION			
Up to 1 day	352.3	1,096.8	228.6
Over 1 to 2 days	494.4	275.7	713.7
Over 2 to 3 days	178.6	188.7	204.4
Over 3 to less than 5 days	269.7	1,002.4	242.1
5 to less than 10 days	308.7	495.6	407.7
10 to less than 20 days	295.6	554.9	447.6
20 to less than 40 days	133.3	247.8	500.2
40 days and over	96.4	52.3	318.0
Total	2,128.9	3,887.1	3,062.4
CAUSES(b)			
Wages	1,029.7	2,041.8	1,101.8
Hours of work	41.4	114.7	230.6
Leave, pensions, compensation provisions, etc.	24.9	16.9	463.0
Managerial policy	596.9	502.3	701.8
Physical working conditions	111.4	151.7	167.1
Trade unionism	94.2	98.0	103.4
Other	230.4	961.8	294.6
Total	2,128.9	3,887.1	3,062.4
METHODS OF SETTLEMENT(c)			
Negotiation	325.5	643.8	788.6
Mediation	26.6	28.0	25.0
State legislation—			
Under State conciliation, etc., legislation	130.0	179.2	255.5
Intervention, etc. of State Government officials	3.3	0.6	—
Federal and joint Federal State legislation (d)	272.8	277.2	140.4
Filling the places of workers on strike or locked out	0.1	—	—
Closing down the establishment permanently	0.1	0.5	8.3
Resumption without negotiation	1,370.7	2,757.4	244.1
Other methods	—	0.5	—
Total	2,128.9	3,887.1	3,062.4

(a) Refers to disputes which ended in the year. See page 167. (b) For nature of classification, see text above. (c) Method directly responsible for ending the stoppage of work. (d) Includes Industrial Tribunals under (i) Conciliation and Arbitration Act, (ii) Coal Industry Acts, (iii) Stevedoring Act, (iv) Other Acts, and intervention, etc. of Federal government officials.

The following table shows the number of working days lost per 1,000 employees in the years 1975 to 1980. For classification of causes *see* grouping on page 178. The figures to 1979 are based on estimates of employees as published in *Civilian Employees, Australia* (6213.0). As this series was suspended from April 1980, estimates for 1980 have been calculated by using estimates of employees from the labour force survey. For purposes of comparison, figures for 1979 have been shown on both bases.

INDUSTRIAL DISPUTES: WORKING DAYS LOST PER 1,000 EMPLOYEES							
	1975	1976	1977	1978	1979	1979(a)	1980(a)
All causes	717	773	336	434	787	788	650
All causes excluding those not involving employer/employee relationship	676	344	323	387	594	594	592

(a) Based on estimates from the labour force survey.

INDUSTRIAL ACCIDENTS

Statistics of industrial accidents and diseases and workers' compensation are currently available only on a State basis and are included in the various State Year Books and publications. Some work to develop a collection including national totals and estimates on a uniform basis throughout the States began in 1978 and is continuing. Work is proceeding with respect to improving coverage, especially under jurisdictions other than the principal Workers' Compensation Act in each State.

LABOUR ORGANISATIONS

Labour organisations in Australia

Trade unions

For the purpose of these statistics a *trade union* is defined as an organisation, consisting predominantly of employees, whose principal activities include the negotiation of rates of pay and conditions of employment for its members. Returns showing membership by States and Territories at 31 December each year are obtained for all trade unions and employee organisations. Results of this collection are published in the annual bulletin *Trade Union Statistics, Australia* (6323.0). The following table shows the position at the end of each of the years 1975 to 1980. The figures shown have been revised following a review of the collection. For a more detailed explanation of the revisions, see *Trade Union Statistics, Australia, December 1980* (6323.0).

TRADE UNIONS: NUMBER, MEMBERSHIP AND PROPORTION OF TOTAL EMPLOYEES

End of December—	Number of separate unions (a)	Number of members ('000)		Proportion of total employees (per cent)
		Males	Females	
1975	323	1,986.5	846.8	56
1976	319	1,958.0	841.9	55
1977	321	1,942.5	855.3	55
1978	325	1,966.7	858.9	56
1979	323	1,969.3	899.7	56
1979	323	1,969.3	899.7	55 (b)
1980	316	2,005.8	938.1	55 (b)

(a) Without inter-State duplication. (b) Based on estimates from the labour force survey, *see* below.

In the table above the approximate percentages of wage and salary earners in employment who were members of trade unions are shown. The estimates of employees have been derived by adding figures for employees in agriculture and in private households employing staff to the estimates of employees in all other industries as at the end of each year. Estimates of the proportion of total employees for 1975 to 1979 are based on estimates of employees as published in *Civilian Employees, Australia* (6213.0). As this series was suspended as from April 1980 the proportions of total employees shown for December 1980 have been calculated by using estimates of employees from the labour force survey. For purposes of comparison figures for December 1979 have been shown on both bases. The percentages shown should be regarded as giving only a broad indication of the extent of union membership among wage and salary earners because they are based on estimates of *employed* wage and salary earners which are subject to revision and because the degree of unemployment of reported union members will affect the percentages for a particular year and comparison over time.

TRADE UNIONS: CLASSIFICATION ACCORDING TO NUMBER OF MEMBERS, 1980

Number of members	Separate unions		Members	
	Number	Proportion of total (per cent)	Number ('000)	Proportion of total (per cent)
Under 100	36	11.4	1.9	0.1
100 and under	41	13.0	6.6	0.2
250 " "	23	7.3	8.6	0.3
500 " "	46	14.6	31.3	1.1
1,000 " "	46	14.6	64.8	2.2
2,000 " "	43	13.6	145.5	4.9
5,000 " "	19	6.0	143.7	4.9
10,000 " "	21	6.6	317.7	10.8
20,000 " "	11	3.5	256.3	8.7
30,000 " "	7	2.2	243.9	8.3
40,000 " "	9	2.8	422.5	14.4
50,000 " "	7	2.2	466.4	15.8
80,000 and over	7	2.2	834.8	28.4
Total	316	100.0	2,943.9	100.0

In November 1976 a survey based on the population survey (for details see the section *The Population Survey* earlier in this chapter) was conducted throughout Australia in order to obtain information about the industry and occupation, and some demographic characteristics, of wage and salary earners who were members of trade unions. Results of the survey are published in *Trade Union Members, November 1976* (6325.0).

Employer and employee organisations registered under Industrial Arbitration Acts, etc.

The Federal *Conciliation and Arbitration Act* 1904 and a number of State industrial arbitration Acts provide for the registration of employer and employee organisations as outlined below. In general, registration is necessary before an organisation may appear before the relevant industrial arbitration tribunal.

In Victoria and Tasmania, where wages and conditions of work in the State sphere are determined by Wages Boards and Industrial Boards respectively, there is no provision in industrial arbitration legislation for registration of trade unions or employer organisations.

Federal. At the end of 1980 the number of employers' organisations registered under the provisions of the *Conciliation and Arbitration Act* 1904 was 81. The number of unions registered at the end of 1980 was 150, with membership of 2,428,300, representing 82 per cent of the total membership of all trade unions in Australia. Lists of organisations of employees and employers registered under this Act are contained in the *Industrial Information Bulletin*, Vol. 30 No. 1, January 1975 published by the former Department of Labour and Immigration. (Branches of employer organisations and unions may also register under various State Acts, as outlined below.)

New South Wales. At 30 June 1980 there were 112 employee unions and 296 employer unions registered under provisions of the *Industrial Arbitration Act* 1940, and 132 employee unions, 11 employer unions, and 2 other unions registered under the *Trade Union Act* 1881. (Unions may register under either or both Acts.) Lists of unions registered under these Acts are included in the *New South Wales Industrial Gazette*. (See Vol. 219 for details at 30 June 1980.)

Queensland. At 31 December 1980 there were 74 employee unions registered under the *Industrial Conciliation and Arbitration Act* 1961-1980 with a reported membership of 361,379. At the same date, 39 employer unions with a reported membership of 35,698 employers were registered. Lists of registered employee and employer unions are published in the annual report of the President of the Industrial Court.

South Australia. At the end of December 1980 there were 9 employer associations and 72 employee associations registered under the provisions of the *Industrial Conciliation and Arbitration Act* 1972 as amended. Membership of these employee associations totalled approximately 177,000.

Western Australia. At 30 June 1981 there were 68 unions of workers, with an aggregate membership of 170,414, registered under the provisions of the *Industrial Arbitration Act*, 1912-1976. At the same date there were 14 registered unions of employers with a reported aggregate membership of 2,139 employers. Lists of registered unions of workers and of employers, together with membership figures, are published in the *Annual Report of the Chief Industrial Commissioner of the Western Australian Industrial Commission*.

Central Labour Organisations

At the end of September 1981 there remained in Australia two main central labour organisations: the *Australian Council of Trade Unions* (ACTU), which came into being in 1927 and at the end of September 1981 had affiliated with it 148 trade unions with a combined membership of approximately 2.3 million (in January 1980 and September 1981 the ACTU accepted the affiliation of respectively the *Australian Council of Salaried and Professional Associations* (formed in 1956 and with a membership of approximately 30,000 at the end of 1978) and the *Council of Australian Government Employee Organisations* (formed in 1969 and with a membership of approximately 228,000 at the end of March 1979)); and the *Council of Professional Associations* which was formed in 1956 and as at January 1981 had 9 organisations affiliated with it with an aggregate membership of approximately 27,500 affiliated with it.

International Labour Organisation

The International Labour Organisation (ILO) was established on 11 April 1919, as an autonomous institution associated with the League of Nations. Its original constitution was adopted as Part XIII of the Treaty of Versailles. With certain amendments this constitution remains the charter of ILO to this day, bringing governments, employers and trade unions together to discuss international labour and social problems. A new definition of the aims and purposes of the ILO known as the Declaration of Philadelphia, which was added to the constitution at the 1944 Session of the International Labour Conference, asserted the responsibility of ILO in combating poverty and insecurity. In 1946 the Organisation became the first of the specialised agencies of the United Nations. Under the terms of agreement, the United Nations recognises the ILO as a specialised agency having responsibility in the field defined by its constitution, which embraces labour conditions, industrial relations, employment organisation, social security and other aspects of social policy.

The ILO operates through a tripartite structure which enables governments, employers and workers to participate directly in its activities. The Organisation consists of the International Labour Conference, which is responsible for the formulation of international labour standards, and is composed of four representatives (2 government, one employers' and one workers') from each of the 145 Member States; the Governing Body, which decides numerous matters relating to the overall direction of the ILO and which consists of the representatives of 28 governments, 14 employers' and 14 workers' representatives; and the International Labour Office, which collects and distributes information on all subjects relating to the international adjustment of conditions of work and provides the secretariat. Particulars of the proceedings of International Labour Conferences up to the 58th Session and details of ILO conventions ratified by Australia are given in *Labour Report* No. 58, 1973, pages 255-9.

ILO publications on labour statistics include *International Recommendations on Labour Statistics*, *An Integrated System of Wages Statistics*, the quarterly *Bulletin of Labour Statistics* and the *Year Book of Labour Statistics*.

One of the functions of the ILO is to sponsor the International Conferences of Labour Statisticians at which the ABS is usually represented. Since 1923, the ILO has conducted 12 International Conferences of Labour Statisticians and the 13th such conference will be held in Geneva in October 1982. These conferences are responsible for recommending and reviewing standards which the ABS adopts wherever practicable.

CHAPTER 9

SOCIAL SECURITY AND WELFARE

The Commonwealth Government, the State Governments and voluntary welfare organisations all provide social welfare services. This chapter concentrates on the benefits and services provided by the Commonwealth Government, principally those of the Departments of Social Security and Veterans' Affairs but mention is also made of the services provided by the Departments of Aboriginal Affairs and Immigration and Ethnic Affairs.

Details of services administered by the Commonwealth Department of Health are given in Chapter 10, Health. Details of pension and superannuation schemes for government and semi-government employees, mine workers, parliamentarians and employees of private business are included in Chapter 21, Private Finance.

Commonwealth Government expenditure on social security services

This section deals with various government payments for the relief of the aged, indigent, infirm, widowed, orphaned and unemployed; assistance to families; etc. For summary statements of cash payments to persons made by public authorities under various functional heads, see *Commonwealth Government Finance, Australia* (5502.0) and other annual publications listed at the end of this chapter.

Under the provisions of section 51 of the Constitution, the Commonwealth Government is empowered to legislate on:

'(xxiii) Invalid and old age pensions:

(xxiiiA) The provision of maternity allowances, widows' pensions, child endowment, unemployment, pharmaceutical, sickness and hospital benefits, medical and dental services (but not so as to authorize any form of civil conscription), benefits to students and family allowances;'

On 1 July 1947, with the passage of the *Social Services Consolidation Act 1947*, all Acts providing social service benefits were amalgamated. The Act is at present styled the *Social Services Act 1947*.

The social security benefits provided by the Commonwealth Government under the *Social Services Act 1947*, and the date on which each came into operation, are shown on page 421 of Year Book No. 61. In addition, a supporting parent's benefit, replacing the supporting mother's benefit, was introduced in November 1977.

AUTHORITIES OF THE COMMONWEALTH GOVERNMENT, SOCIAL SECURITY AND WELFARE CASH BENEFITS TO PERSONS

(\$'000)

	1978-79	1979-80	1980-81
Assistance to aged persons—			
Aged pensions	3,229,013	3,508,755	3,935,796
Delivered meals	2,280	2,493	3,624
Personal care	13,375	14,468	19,645
Telephone concessions	14,392	16,515	17,635
<i>Total</i>	<i>3,259,060</i>	<i>3,541,694</i>	<i>3,976,700</i>
Assistance to incapacitated and handicapped persons—			
Invalid pensions	690,357	796,367	880,795
Sheltered employment allowances	18,733	22,778	27,527
Handicapped children's benefits	18,235	20,809	20,811
Rehabilitation services	16,885	20,145	23,313
<i>Total</i>	<i>744,210</i>	<i>860,099</i>	<i>952,446</i>
Assistance to unemployed and sick persons—			
Unemployment benefits	910,012	925,195	995,748
Sickness benefits	113,263	126,631	174,477
Special benefits	37,660	52,932	69,988
<i>Total</i>	<i>1,060,935</i>	<i>1,104,758</i>	<i>1,240,213</i>

AUTHORITIES OF THE COMMONWEALTH GOVERNMENT, SOCIAL SECURITY AND WELFARE
CASH BENEFITS TO PERSONS—*continued*

(\$'000)

	1978-79	1979-80	1980-81
Assistance to ex-servicemen(a) —			
Disability and dependants pensions and allowances	851,525	957,179	1,182,796
Other benefits	8,704	8,893	10,385
<i>Total</i>	<i>860,229</i>	<i>966,072</i>	<i>1,193,181</i>
Assistance to widows and single parents—			
Widows' pensions	499,349	561,393	641,792
Supporting parents' benefits	226,680	259,596	412,399
<i>Total</i>	<i>726,029</i>	<i>820,989</i>	<i>1,054,191</i>
Assistance to families and children—			
Family allowances	974,866	1,035,447	950,406
Maternity allowances	3,231	(b)	(b)
Orphans' pensions	1,948	2,052	2,125
<i>Total</i>	<i>1,002,759</i>	<i>1,014,783</i>	<i>952,538</i>
Other social security and welfare programs—			
Funeral benefits	1,461	1,451	1,509
Telephone rental concessions n.e.c.	2,388	2,884	3,339
Compassionate allowances	80	83	87
Assistance to homeless persons	974	1,072	1,760
Other	1,361	1,461	1,500
<i>Total</i>	<i>6,265</i>	<i>6,951</i>	<i>8,195</i>
Total social security and welfare	7,580,694	8,331,912	8,427,241

(a) For details see section on Veterans' Affairs in this Chapter. (b) Maternity allowances were abolished from 1 November 1978.

Age and invalid pensions and associated payments

Age pensions are payable to men and women who have reached the ages of 65 and 60 respectively. They are subject to certain residence qualifications and an income test unless the person is permanently blind or has reached the age of 70. For persons over 70 years of age, increases above the base rate are subject to an income test. These payments are subject to tax.

To be residentially qualified for age pension a person must generally be living in Australia on the date of application for the pension and have lived in Australia for ten years continuously at some time.

Invalid pensions are payable to persons sixteen years of age and over who are permanently incapacitated for work to the extent of at least 85 per cent, or permanently blind. Invalid pension is paid subject to an income test. However, if the pension is paid due to blindness, payment for the pensioner and one dependant child or student child (16-24 years of age) is free of the income test.

There is no residence qualification for invalid pension if the incapacity or permanent blindness occurred within Australia (including an external Territory other than Norfolk Island) or during temporary absence from Australia. As a result, some people not residentially qualified for age pension but who have reached age pension age receive an invalid pension.

A wife's pension is payable to the wife of a pensioner not entitled, in her own right, to an age, invalid or repatriation service pension. There is no residence qualification, but an income test applies. A wife's pension is taxable only if her husband has reached the age of 65.

Rates of pension. The maximum standard rate was increased to \$66.65 a week from May 1981. This is payable to a single, widowed or divorced pensioner, or a married pensioner whose spouse is not receiving a pension or a tuberculosis allowance. The standard rate may also be paid to each of a married pensioner couple who are living apart for an indefinite period due to illness or infirmity of either or both. The maximum rate for married pensioner couple (known as the married rate) was increased to \$111.10 a week from May 1981 (\$55.55 a week each). For a married person whose spouse receives a tuberculosis allowance or a service pension, the maximum rate is also \$55.55 a week.

For qualified persons over the age of 70, the base standard rate is \$51.45 a week and the base married rate is \$85.80 a week. Subject to an income test, these persons can qualify for further amounts not exceeding the rates applicable to those under 70 years of age.

Additional pension for each dependent child under 16 years is payable, subject to the income test, at the rate of up to \$10.00 a week. Widowed or other unmarried age or invalid pensioners with a dependent child may receive a guardian's allowance of up to \$6 a week, or up to \$8 a week if the child is under 6 years of age or is an invalid child requiring full-time care. A guardian's allowance is also subject to the income test. Eligibility for the additional pension for children is extended to include a child over sixteen and under the age of 25 years provided he is wholly or substantially dependent on the pensioner and is receiving full-time education at a school, college or university. Supplementary assistance of up to \$5 a week (standard rate pensioners) and \$2.50 a week (married rate pensioners) subject to a special income test, is available to pensioners if they pay rent or pay for board and lodging or for lodging.

On the death of one member of a married pensioner couple, the surviving pensioner spouse becomes entitled to receive, for up to six fortnightly instalments, the equivalent of the two pensions that would have been paid if the spouse had not died. For the purpose of this provision the term 'pensioner' includes a person in receipt of age, invalid, wife's or repatriation service pension, or a sheltered employment allowance.

A table showing the maximum rates of pension operating since 1 July 1909 at dates prior to 14 October 1965 is included on page 608 of Year Book No. 51. Details of the respective rates and allowances payable in recent years are shown in the Annual Reports of the Department of Social Security.

The *income test* is the same for age and invalid pension purposes. As already noted, it does not apply to the permanently blind or, in the case of age pensions, to people who have reached 70 years of age unless they wish to claim payment above the base rate. In other cases, the income test operates to reduce pension payable if a claimant's *income as assessed*—in effect, the claimant's annual income—exceeds prescribed limits. In the case of a person entitled to the standard rate of pension, the limit is \$1,040; in other cases, it is \$897. If income as assessed exceeds these figures, half the excess is subtracted from the appropriate maximum rate of pension. If income as assessed does not exceed these figures, the appropriate maximum rate is payable.

The effect of the income test is to preclude from entitlement to any pension a person subject to the income test and whose income exceeds \$153.30 a week. The corresponding figure for a married couple without children is \$128.35 a week (each partner).

Supplementary assistance is subject to a special income test, the effect of which is to reduce the maximum annual rate by the excess of a person's income as assessed over \$52 (standard rate pensioner) or half the excess of income as assessed over \$52 (married rate pensioners). The amount of supplementary assistance payable cannot exceed the amount of rent paid.

Certain types of income are exempted. The main exemptions are: gifts or allowances from children, parents, brothers, or sisters; benefits from friendly societies; family allowances; Commonwealth Government health benefits and amounts received from registered hospital or medical benefit organisations. The amount of a pensioner's income included in income as assessed may also be reduced by up to \$6 per week for each dependent child under sixteen years or full-time dependent student in the pensioner's care.

For the purposes of the income test, the income as assessed of a married person is normally taken to be half of the combined income as assessed of the married couple. Exceptions may be made where the spouses are legally separated or where other special circumstances exist.

AGE PENSIONERS: 30 JUNE

Age	1979	1980	1981
		- '000-	
60-64 years	159.6	156.2	157.6
65-69 years	341.7	345.7	343.1
70-74 years	339.9	349.4	358.4
75 years and over	451.2	470.7	488.3
Total	1,292.5	1,321.9	1,347.4
Percent of aged population (a) %	78.0	77.5	76.6
Number admitted during year (b)	96,184	96,488	93,801
Total payments during year (c) \$'000	3,229,013	3,508,755	3,935,796

INVALID PENSIONERS: 30 JUNE

Age	1979	1980	1981
		-'000-	
16-19 years	7.8	7.9	7.6
20-39 years	45.3	48.1	48.1
40-59 years	119.3	124.7	119.9
60-64 years	42.9	43.8	42.1
65 years and over	4.5	4.8	4.3
Total	219.8	229.2	222.0
Number admitted during year	43,804	40,356	25,458
Total payments during year (c) \$'000	690,357	796,367	880,795

(a) Per cent of persons of pensionable age (males aged 65 years and over and females aged 60 years and over). (b) Excludes transfers from wives pensions. (c) Includes allowances, supplementary assistance and wives pensions where applicable.

Sheltered employment allowance and associated payments

Sheltered employment allowance is payable to disabled people who are employed in sheltered workshops and are otherwise qualified to receive an invalid pension or would become so qualified if they ceased to be provided with sheltered employment. The allowance is subject to the same income test as applies to invalid pension and is paid at the same rate. It is payable in the form of a supplement to the sheltered employee's wages. The allowance is not axable unless the sheltered employee has reached age pension age.

A sheltered employee is entitled to the same additional payments as an invalid pensioner except that no supplementary assistance is payable. Instead, all people in receipt of sheltered employment allowance receive an incentive allowance of \$5 a week. There is no income test on the allowance, but a person precluded by his or her income from receiving sheltered employment allowance is not entitled to incentive allowance.

All sheltered workshops are required to pay sheltered employment allowances on behalf of the Department of Social Security. At 30 June 1981, 168 workshops were paying the allowance to 8,339 disabled employees. Expenditure during the year 1980-81 was \$27,527,000.

Widows' pensions and associated payments

There are three categories of widow pensioners:

Class 'A'. A widow who has the custody, care and control of one or more qualifying children under the age of sixteen years or dependent full time student aged 16-24;

Class 'B'. A widow who, because she has no qualifying children or students in her custody, care and control, is not eligible for a Class 'A' widow's pension but is either at least 50 years of age or, after having reached the age of 45, has ceased to receive a Class 'A' pension by reason of ceasing to have the custody, care and control of a qualifying child or student; and

Class 'C'. A widow not eligible for Class 'A' or Class 'B' widow's pension, who is under 50 years of age and is in necessitous circumstances following her husband's death. In normal circumstances, the Class 'C' pension is not payable after 26 weeks have elapsed from the death of the husband, but if the widow is pregnant the period is extended until the child's birth, whereupon the widow may then become eligible for a Class 'A' widow's pension.

For classes 'A' and 'B', the term 'widow' includes: a wife who has been deserted by her husband for a period of at least six months; a divorcee; a woman whose husband has been in prison for at least six months and a woman who, although not legally married to him, lived with a man on a *bona fide* domestic basis and was wholly or mainly maintained by him for at least three years immediately preceding the man's death, may qualify for a widow's pension.

A residence qualification applies unless the claimant and her husband were residing permanently in Australia, or an external territory other than Norfolk Island, when she became a widow.

A widow's pension is not payable to a woman receiving an age or invalid pension, a supporting parent's benefit, an unemployment, sickness or special benefit, a sheltered employment allowance, or a war widow's pension.

Current rates of pension. With effect from May 1981, the maximum rate of pension for all classes of widow is \$66.65 a week plus, in the case of widows with children, a mother's allowance of \$6 a week or \$8 a week where at least one child is under 6 or is an invalid requiring full-time care, plus \$10 a week for each dependent child who is under 16 years or is a dependent full-time student. Supplementary assistance of up to \$5 a week is also available to widows who pay rent, or for board and lodgings or for lodgings, and who are wholly or substantially dependent on their pension. The amount of this assistance cannot exceed the amount of rent paid.

Income test. Widows' pensions are subject to an income test and are taxable. Class 'A' and Class 'B' widows' pensions are subject to the same income test as applies to age and invalid pensions. A test of hardship applies in the case of Class 'C' widows' pensions.

In September 1980, the Commonwealth Government accepted responsibility for women supporting children alone. The previous arrangement under the States Grants (Deserted Wives) Act was cancelled at that time. Since then, deserted wives with children can be paid supporting parents benefits for the first six months of their desertion; deserted wives without children can be assisted by unemployment benefit or special benefit. A woman qualified for Class 'A' or Class 'B' widow's pension may transfer to widow's pension after being deserted for six months.

CLASS A AND B WIDOW PENSIONERS, BY AGE: 30 JUNE 1981

Category	Under 20	20-29	30-39	40-49	50-59	60 and over	Total	Per cent
	-'000-							
Class 'A'	0.1	15.8	37.0	23.8	10.8	0.2	87.8	53.1
Class 'B'	-	-	-	3.1	57.2	17.4	77.7	46.9
Total Class 'A' and 'B'	0.1	15.8	37.0	26.9	68.1	17.6	165.5	100.0
	-per cent-							
	0.1	9.6	22.3	16.2	41.1	10.5	100.0	..

At 30 June 1981, 88,287 widow pensioners were receiving additional pension for 168,751 children.

WIDOWS' PENSIONS

Year	Number admitted —all classes (a)	Pensions current at end of year				Average weekly pension at end of year (b)	Amount paid in pensions during year (b) (c)
		Class 'A'	Class 'B'	Class 'C'	All classes		
1975-76	27,609	71,009	58,408	74	129,491	49.90	\$ 325,260
1976-77	32,468	76,059	63,329	97	139,485	55.71	370,201
1977-78	34,624	82,392	67,461	103	149,956	59.90	439,497
1978-79	36,233	88,683	71,941	123	160,747	61.53	499,349
1979-80	34,319	91,142	74,922	118	166,182	69.17	561,393
1980-81	30,587	87,837	77,700	124	165,661	77.52	641,792

(a) Excludes transfers from one class to another and from age pension. (b) Includes supplementary assistance and allowances.
(c) Includes payments to benevolent homes for maintenance of pensioners.

Supporting parent's benefit

Supporting parent's benefit was introduced in November 1977 to extend to supporting fathers the same benefit as had previously been available to supporting mothers through supporting mother's benefit. From September 1980, payment to supporting parents was made from the pension payday following date of lodgement of the claim. The benefit is for any lone mother who is supporting a child, and who is either not entitled to, or does not wish to claim widows pension, and to lone fathers who are supporting a child, parents who are the deserted or deserting partner of a de facto relationship, de facto spouses of prisoners or separated spouses. There is a residence qualification if the claimant was not living in Australia at the time of becoming a supporting parent. To be eligible for the benefit a person must be supporting a qualifying child under the age of sixteen years, or an older, dependent, full-time student. The rate of supporting parent's benefit, including guardian's allowance and payments for children, is the same as for the Class 'A' widow's pension. It is also subject to the same income test as the Class 'A' widow's pension and is taxable.

SUPPORTING PARENTS BY AGE AND TYPE: 30 JUNE 1981

Type of beneficiary	Under 20	20-29	30-39	40-49	50 and over	Total	Per cent
Unmarried mother	7.2	22.3	5.0	—'000—	0.2	35.5	33.3
Separated wife	1.0	23.3	21.0	6.5	1.3	53.2	49.8
Defacto wife	1.1	7.0	3.3	1.2	0.3	12.9	12.1
Father	—	0.8	2.1	1.4	0.8	5.0	4.7
Total	9.3	53.4	31.4	10.0	2.6	106.6	100.0
	8.7	50.1	29.4	—per cent—	9.4	2.4	100.0

At 30 June 1981, 106,631 supporting parents were receiving additional benefit for 185,034 children.

SUPPORTING PARENT'S BENEFIT

	1978-79	1979-80	1980-81
Number admitted during year	26,451	28,581	71,280
Beneficiaries current at end of year—			
Females	59,365	66,604	101,583
Males	3,133	3,821	5,048
Total	62,498	70,425	106,631
Average weekly benefit at end of year (a)	\$ 70.99	78.97	91.04
Amount paid in benefits during year (a)	\$'000 226,680	259,596	412,399

(a) Includes supplementary assistance and allowances.

Fringe benefits

The Commonwealth Government makes available to pensioners and recipients of supporting parent's benefits several 'fringe benefits'. In most cases these are subject to a special income test requiring that the person's income, apart from pension or benefit, be less than \$40 a week in the case of a single person, or \$68 a week combined in the case of a pensioner couple. These benefits include:

- free medical treatment if the doctor bulk bills (otherwise 85 per cent of the Schedule fee is refunded up to a maximum of \$5 for each service);
- a comprehensive range of pharmaceuticals free of charge;
- a one-third reduction in telephone rental;
- reduced fares for Commonwealth Government railway and shipping services;
- certain postal concessions;
- a 10 per cent discount on book purchases from Australian Government Publishing Service Bookshops;
- free hearing aids; and
- free optometrical consultations.

State Governments, local government authorities and private organisations also provide certain fringe benefits. The most valuable of these are reductions in local government rates and in public transport charges.

Funeral benefits

A funeral benefit of up to \$20 is payable to any person liable for the funeral costs of an age or invalid pensioner. A higher benefit of up to \$40 is payable to an age, invalid, wife, widow pensioner or supporting parent beneficiary liable for the funeral cost of a spouse, a child or another such pensioner. For those benefits 'pensioner' means a person who satisfies, or has satisfied, the pensioner fringe benefits income test.

FUNERAL BENEFITS GRANTED

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
\$20 grants in respect of—						
Age or invalid pensioners	24,190	25,436	23,905	22,168	21,645	21,247
Others	17	13	20	23	62	28
<i>Total</i>	<i>24,207</i>	<i>25,449</i>	<i>23,925</i>	<i>22,191</i>	<i>21,707</i>	<i>21,275</i>
\$40 grants in respect of—						
Age or invalid pensioners	24,195	24,720	24,590	24,022	24,230	23,608
Others	1,898	1,447	1,294	944	894	685
<i>Total</i>	<i>26,093</i>	<i>26,167</i>	<i>25,884</i>	<i>24,966</i>	<i>25,124</i>	<i>24,294</i>
Total grants	50,300	51,616	49,809	47,157	46,831	45,569

Total cost of funeral benefits granted during 1980-81 was \$1,509,000.

Unemployment and sickness benefits and associated payments

Unemployment and sickness benefits are paid to men over sixteen and under sixty-five years of age, and to women over sixteen and under sixty years of age, who are unemployed or temporarily incapacitated for work. They must have been living in Australia during the preceding twelve months or be likely to remain permanently in Australia. Both benefits are subject to an income test. A person cannot receive both benefits simultaneously, nor can a person receive either benefit at the same time as an invalid, widow's, repatriation service pension or supporting parent's benefit.

For unemployment benefit purposes, a person must establish that he is unemployed, that his unemployment is not due to industrial action by himself or by members of a union of which he is a member, that he is capable and willing to undertake suitable work, and that he has taken reasonable steps to obtain such work. Registration for employment with the Commonwealth Employment Service is necessary. For sickness benefit purposes, a person must establish that he is temporarily incapacitated for work because of sickness or accident and that he has thereby suffered a loss of salary, wages or other income.

Rates of Benefit. The maximum weekly rates of unemployment and sickness benefit payable in respect of benefit periods which commenced after the introduction of increased benefits in May 1981, are as follows:

	<i>Maximum Weekly Rate</i>	
	<i>Unemployment benefit</i>	<i>Sickness benefit</i>
	\$	\$
Married person (including additional benefit for spouse)	111.10	111.10
Single person aged 18 or more with dependants	66.65	66.65
Single person aged 18 or more, no dependants	53.45	66.65
Single person under 18 years	36.00	36.00

These amounts are increased by \$10.00 for each child under sixteen years in the beneficiary's custody, care and control, or for any full-time student wholly or substantially dependant on the beneficiary.

After the benefit has been paid for six consecutive weeks a sickness beneficiary who is paying rent or is paying for lodging or board and lodging may be entitled to a supplementary allowance of up to \$5.00 a week. The amount of any such allowance cannot exceed the amount of rent paid.

The weekly rate of benefit is withdrawn on a 50 per cent basis for private income within the ranges \$3 to \$40 a week for single persons aged 16 and 17 with a parent in Australia, and \$6 to \$50 a week in all other cases. Benefits are withdrawn on a dollar for dollar basis for all private income in excess of these upper limits. The income of the spouse is also taken into account unless the claimant and his spouse are permanently separated. For sickness benefit purposes the income from an approved friendly society or other similar approved body in respect of the incapacity for which sickness benefit is payable is disregarded. 'Income' does not include family allowance or other payments for children, Commonwealth health benefits and payments from registered health benefit organisations, or an amount paid in reimbursement of medical, dental or similar expenses. The supplementary allowance is reduced by the amount by which a beneficiary's other income exceeds \$1.00 a week in the case of a single person and by half of the excess of the beneficiary's income over \$2.00 a week in the case of a married person.

The amount of compensation, damages or similar payment, or war pension, if paid in respect of the same incapacity as that for which sickness benefit is claimed, is deducted from the sickness benefit if it is paid in respect of the same period. If it is not paid in respect of the same incapacity, compensation in respect of the same period is regarded as income and war pension is ignored.

Special benefit

A special benefit may be granted to a person not qualified for unemployment or sickness benefit who is not receiving an age, invalid or widow's pension, a supporting parent's benefit, a service pension or a tuberculosis allowance and who, because of age, physical or mental disability or domestic circumstances, or any other reason, is unable to earn a sufficient livelihood for himself and his dependants. Recipients of special benefits include, among others, unmarried women for a period before and after the birth of a child, persons caring for invalid parents or sick relatives/children, and persons ineligible for a pension because of lack of residence qualifications.

Special benefits are also paid to immigrants who are in Commonwealth Government centres or hostels awaiting their first placement in employment in Australia. During this time they receive a short instruction in English and in Australian conditions to facilitate their assimilation into the community and employment.

The benefit is designed to meet cases of special need and may also be paid as income support over a period if no other social security benefits is payable.

The rate paid may not exceed the rate of unemployment or sickness benefit which could be paid if the claimant were qualified to receive it.

UNEMPLOYMENT, SICKNESS, AND SPECIAL BENEFITS

Year	Number admitted to benefit during year			Average number of persons on benefit at end of each week			Amount paid in benefits		
	Unem- ployment	Sickness	Special (a)	Unem- ployment	Sickness	Special (a)	Unem- ployment	Sickness	Special (a)
1975-76	891,904	153,869	35,085	191,723	28,081	6,628	513,923	92,215	16,746
1976-77	803,461	148,508	40,299	215,871	32,385	8,039	618,074	105,408	21,657
1977-78	879,637	145,910	42,706	265,828	34,724	9,795	794,144	117,929	29,743
1978-79	810,500	133,000	48,700	306,200	33,400	12,000	910,012	113,263	36,491
1979-80	792,300	142,100	66,850	306,300	36,100	15,850	925,195	126,631	49,273
1980-81	782,500(b)	140,900(b)	72,700(b)	310,000(b)	44,500(b)	19,550(b)	995,748	174,477	66,100

(a) Excludes special benefits to migrants in accommodation centres. (b) Estimated.

Family allowances

A family allowance is paid to a person caring for children under sixteen years or full-time students aged 16-24 years who are wholly or substantially dependent on that person. Family allowance is not paid for students receiving Tertiary Education Assistance Scheme or other related Commonwealth education allowances. Payment is usually made to the mother. Approved charitable, religious or government institutions are paid family allowances for children in their care.

Twelve months residence in Australia is required if the claimant and the child were not born here, but this requirement is waived if the Department of Social Security is satisfied that they are likely to remain in Australia permanently. Under certain conditions, family allowance may be paid to Australians who are temporarily absent overseas.

Rates of allowance. The monthly rates are \$15.20 for the first or only child; \$21.70 for the second; \$26.00 for the third; \$26.00 for the fourth; and \$30.35 for each subsequent child. The rate payable for each child or student in an approved institution is \$21.70 a month.

Some details of family allowance payments are shown in the following table.

FAMILY ALLOWANCES: 1980-81

Number of children and students in family	Number of families								
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Total(a)
1	254,270	187,840	108,242	66,605	61,988	21,275	6,515	11,603	718,368
2	284,745	224,987	123,796	77,103	76,069	24,161	6,855	15,875	833,610
3	130,464	106,082	61,182	30,837	35,100	11,390	3,620	7,666	386,353
4	38,414	31,966	20,117	7,618	9,951	3,401	1,467	2,179	115,116
5	8,861	7,522	5,287	1,503	2,090	786	546	462	27,057
6	2,681	2,135	1,684	377	585	196	218	123	7,999
7	801	634	585	123	190	60	65	29	2,487
8	252	249	200	41	60	16	21	22	861
9	102	77	67	14	31	4	6	2	303
10 or more	42	32	33	5	11	5	5	2	135
Total	720,632	561,524	321,193	184,226	186,075	61,294	19,318	37,963	2,092,289
No. of children in approved institutions	3,562	2,541	1,936	454	1,706	153	53	13	10,418
No. of approved institutions	145	185	95	42	70	15	9	1	562
Amount paid during year (\$'000)	341,612	258,358	149,385	88,928	84,338	27,765	(b)	(b)	950,406

(a) Includes family allowances paid to Australians temporarily abroad. (b) Expenditure for N.T. and A.C.T. included in expenditure for S.A. and N.S.W. respectively.

Double orphan's pension

This pension is payable to the guardian of a child whose parents or adoptive parents are both dead, or one of whom is dead and the other missing. It is also payable in cases where one parent is dead and the other is a long-term inmate of a prison or mental hospital. Payment is made for orphans who are under sixteen years or who are full-time students under twenty-five. There is no income test. The pension is payable at the rate of \$55.70 a month for each eligible child. A double orphan's pension is not payable if the child attracts a war orphan's pension under the Repatriation Act. The number of double orphan's pensions at 30 June 1981 was 3,988. The expenditure on these pensions during the year 1980-81 was \$2,125,000.

Handicapped child's allowance

Parents or guardians of a child under sixteen years or a dependent full-time student who is severely handicapped mentally and/or physically, is living in the family home, and needs constant care and attention, are entitled to a handicapped child's allowance of \$73 a month. The allowance is not subject to an income test, but a residence qualification similar to that for family allowance applies. The allowance is also available to persons on low income who are caring for a substantially handicapped child and are suffering severe financial hardship as a result of expenditure associated with the child's disability. The number of handicapped child's allowances being paid at 30 June 1981 was 25,998. The total amount paid through these allowances during the year 1980-81 was \$19,060,000.

Portability of social service payment

Age, invalid and widows' pensions and supporting parent's benefits continue in force for recipients who have left Australia unless they left before 8 May 1973 or their pension or benefit is subject to the provisions of either of the reciprocal agreements with New Zealand or the United Kingdom. In certain cases of hardship, the pension or benefit may continue for people who left before 8 May 1973. The number of Australian pensions being paid overseas under the general portability provisions at 30 June 1981, was 17,230.

Reciprocal social services agreements with other countries

New Zealand. An agreement between the Governments of Australia and New Zealand for reciprocity in social services came into operation on 3 September 1943 and was amended from 1 July 1949. The reciprocal arrangements cover age and invalid pensions, widow's pensions, family allowance and unemployment and sickness benefits, and apply to both permanent and temporary changes of residence. Residence in one country may be treated as residence in the other country in relation to entitlement to benefits in which a residential qualification applies. Persons from one country taking up a permanent residence in the other country become eligible for any of the specified benefits of the new country under the same conditions (with one or two exceptions) as apply to residents of that country. Persons in receipt of any of the specified benefits in one country may continue to receive those benefits while temporarily absent in the other country. There is a limit of thirteen weeks on payment of New Zealand benefits in Australia.

United Kingdom. Under a reciprocal agreement on social services between the United Kingdom and Australia, residence in one country may be treated as residence in the other country as the basis for entitlement to benefits in which a residential qualification applies. Australians going to the United Kingdom for permanent residence are treated in the United Kingdom as if they have been insured under the National Insurance Scheme while in Australia, so that they can qualify for various National Insurance benefits. There is also provision for the safeguard of social service rights for persons going from one country to the other for temporary residence.

Commonwealth Rehabilitation Service (CRS)

The Commonwealth Rehabilitation Service assists people with a long-term disability who are within the broad working age group. It aims to help disabled people to reach their maximum physical, mental, social and vocational usefulness and to assist them to live as independently as possible. Towards this aim, it provides co-ordinated programs of treatment and training to meet the special needs of each disabled person. Responsibility for the delivery of these services rests with the ten residential and day-attendance rehabilitation centres, three work adjustment centres, two work preparation centres, and the fifteen regional rehabilitation units. Five further work preparation centres are in the process of being established.

Rehabilitation may also be made available to people aged 14 or 15 years who, without treatment or training, would be likely to qualify for invalid pension at age sixteen.

For those eligible, payment of pension or benefit continues during treatment. When vocational training begins, pension or benefit is suspended and replaced by training allowance. This allowance is determined by the Director-General, Department of Social Security, having regard to the adult male average award wage. Living-away-from-home allowance is paid where necessary. Fares and living expenses (including those of an attendant where required) in connection with treatment, training or attendance for an interview or for medical examination may also be paid. Necessary aids, appliances and modifications may be provided free of charge to a person receiving treatment and training or who needs them to assist him to engage in a suitable vocation after the discontinuance of his treatment and training or who needs them otherwise to assist in his rehabilitation.

Treatment, training and assessment programs are undertaken at rehabilitation centres where occupational therapists, vocational counsellor, qualified tradesmen and teachers determine the skills which make best use of ability and which are best adapted to the person's needs. In addition to the services provided at each centre, technical schools, business colleges, universities, training on-the-job in commerce or industry and correspondence courses are all used for training purposes. Essential text books and equipment may be provided during treatment or training; alternatively, these may be supplied after treatment or training is discontinued to enable a rehabilitee to engage in employment.

As at June 1981, the CRS had a total staff of 1,225 which included 956 full-time, 134 part-time and 135 sessional staff.

Between its inception in 1948 and 30 June 1981, the Rehabilitation Service has assisted some 69,088 severely handicapped people.

Other services of the Department of Social Security

The Department of Social Security provides a professional social work service and Ethnic and Aboriginal Liaison Office Schemes. It administers grants to major national welfare organisations such as: Australian Council of Social Service, Australian Council on the Ageing, Australian Council for Rehabilitation of Disabled, Australian Early Childhood Association and to non-government welfare agencies providing emergency relief or in financial difficulties.

To assist in its role of advising the government on welfare policy, the Department of Social Security initiates, develops and evaluates experimental projects in social welfare and undertakes research studies.

The Department supports the work of the Social Welfare Research Centre at the University of New South Wales and provides a grant to the Social Welfare Research Unit of the Australian Council of Trade Unions (ACTU).

Commonwealth Government assistance through welfare organisations

Accommodation for aged and disabled people

The *Aged or Disabled Persons Homes Act 1954* is designed to encourage the provision of homes in which aged persons may reside in conditions approaching normal domestic life.

To be eligible for assistance under the Act an organisation must be:

- (i) carried on otherwise than for the purposes of profit or gain to the individual members; and

- (ii) a religious organisation, an organisation of which the principal objects or purposes are charitable or benevolent, an organisation of former members of the defence forces established in every State or a State branch of such an organisation, an organisation approved by the Governor-General for the purposes of the Act, or a local governing body.

An organisation conducted or controlled by, or by persons appointed by, the Commonwealth or any State Government is not eligible for assistance under the Act.

The Director-General of the Department of Social Security or his delegate may make a grant of money to an organisation as assistance towards meeting the cost of the construction or purchase of a home, including land, to be used permanently for the accommodation of aged persons. The grant is made on a basis of \$2 for each \$1 raised by the organisation but is limited to \$12,100 for a single unit of accommodation and \$14,035 for a double unit plus up to \$1,920 per unit for land. Money which the organisation received from a governmental body other than a local governing body does not attract subsidy.

Before a grant is made the Director-General must be satisfied that the sum of the money expended and the money at present available for expenditure by the organisation towards the capital cost of the home, together with the amount of the grant, will be not less than the capital cost of the home.

The following table gives information regarding grants approved for each of the past six years. The amounts granted in each year include new grants approved in that year together with adjustments made during the year in respect of grants originally approved in earlier years.

AGED OR DISABLED PERSONS HOMES ACT: GRANTS AND AMOUNTS APPROVED AND BEDS PROVIDED

		1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Grants approved	No.	33	71	126	74	108	161
Amount approved	\$'000	10,531	21,381	23,719	20,357	20,127	39,154
Beds provided—							
Self-contained	No.	385	233	505	376	294	396
Hostel	"	181	769	428	310	456	990
Nursing	"	52	1,015	1,225	884	1,083	1,676
Total	"	618	2,017	2,158	1,570	1,833	3,062

Since the commencement of the Act in December 1954, 3,711 grants amounting to \$360,070,101 have been approved, and accommodation has been provided for 67,392 aged and disabled persons.

The Aged or Disabled Persons Homes Act also provides a *personal care subsidy* of \$20 a week paid to eligible organisations for persons of eighty years of age or over and other persons requiring and receiving approved personal care while living in hostel-type accommodation provided by organisations eligible under the Aged or Disabled Persons Homes Act. Approximately sixty per cent of hostel residents qualify for payment of the subsidy. The following table gives details of the premises approved, payments made and number of residents aged eighty years or over residing in the approved premises.

AGED OR DISABLED PERSONS HOMES ACT: PERSONAL CARE SUBSIDIES, 30 JUNE 1981

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Approved premises	No.	230	199	128	90	74	21	3	6	751
Residents qualifying	No.	5,997	5,055	3,825	2,543	2,276	568	56	109	20,429
Subsidies paid, 1980-81	\$'000	5,880	4,870	3,441	2,600	2,194	535	25	100	19,645

The *Aged Persons Hostels Act 1972* was introduced to stimulate the provision of more hostel-type accommodation for needy aged people.

Under the scheme the Commonwealth Government meets the full cost of providing new hostel accommodation for two aged people for every one at present in an eligible unsubsidised home, or for one additional person for every two in a home previously subsidised on a dollar-for-dollar basis between 1954 and 1957. The organisation is not required to make any contribution from its own resources unless the capital cost exceeds \$18,150 per person accommodated, or the bed capacity of the new home exceeds the number of 'free' beds to which the organisation is entitled. A further grant of up to \$250 for each person accommodated is available for furnishing the new hostel plus an additional \$2,400 per person for land and/or site development where applicable.

The scheme was limited to a period of three years expiring on 27 September 1975 to encourage organisations to move quickly in taking advantage of the benefits the scheme offered.

This Act had the effect of placing the old established organisations which conducted homes prior to the introduction of the \$2 for \$1 scheme in the same relative position as that achieved by newer organisations which had received a \$2 for \$1 subsidy, i.e. where two-thirds of their accommodation was provided by the Government.

Admission to these homes is based strictly on need with regard to the applicant's health, age, accommodation and financial situation. Since the commencement of the Act, 320 grants have been approved, totalling \$166,530,690 as at 30 June 1980.

Although the Act was terminated for the purposes of approving new projects, amending legislation has preserved the rights of organisations whose projects have been accepted under the Act, but which for one reason or another did not proceed.

AGED PERSONS HOSTELS ACT

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Number of grants during year	12	51	53	36	20	20
Beds provided—						
Hostel beds	393	1,574	1,704	1,463	680	621
Staff beds	17	56	56	34	13	14
Total	410	1,630	1,760	1,497	693	635
Amount paid during year—						
Capital grants	11,527	26,562	28,658	27,399	12,186	12,218
Furnishings grants	104	396	442	390	125	159
Total	11,631	26,957	29,100	27,789	12,311	12,377

Handicapped people

The *Handicapped Persons Assistance Act 1974-76* replaced both the *Sheltered Employment (Assistance) Act 1967* and the *Handicapped Children (Assistance) Act 1970*. Under this legislation, eligible organisations may apply for subsidies towards the cost of providing capital projects, maintenance and equipment. Grants are also available in respect of rental and certain salary payments.

Grants on purchases of buildings, equipment etc. take the form of a \$4 subsidy for each \$1 raised by an eligible organisation from non-government sources. Rent is subsidised at a rate equal to 80 per cent of the approved rental paid subject to certain conditions. Salary costs may be subsidised to an amount equal to 100 per cent of salary paid to staff employed in new ventures, but this is reduced to 50 per cent after the premises have been providing the service for 2 years or more.

As well as assisting organisations with establishment and running costs, the legislation also provides financial encouragement to sheltered workshop administrations to provide the type of training for the handicapped which will prepare them, where possible, for open employment. A *training fee* of \$500 is paid to organisations providing approved sheltered employment for each handicapped employee who, having received at least 6 months training in the workshop, graduates to open employment and remains there for at least 12 months.

Introduction of the Handicapped Persons Assistance Act in December 1974 also saw the legal transfer of the administration of Handicapped Children's Benefit from the Commonwealth Department of Health to the Department of Social Security. Where an organisation provides approved residential accommodation for mentally or physically handicapped children under 16 years, it becomes entitled to receive a Commonwealth benefit of \$5.00 per day in respect of each resident child.

HANDICAPPED PERSONS ASSISTANCE ACT

	1978-79	1979-80	1980-81 (f)
Approved premises (a)	1,000	1,061	1107
Number of capital grants during year (b)	2,459	1,901	n.a.
Total expenditure during year (c)—		-\$'000-	
New South Wales (d)	14,280	14,093	17,325
Victoria	11,849	8,699	11,834
Queensland	6,521	4,646	7,550
South Australia (e)	8,284	6,467	8,553
Western Australia	5,065	3,899	5,680
Tasmania	1,600	1,512	1,957
Total	47,599	39,317	52,899

(a) Total approved sheltered workshops, activity therapy centres, training centres and residentials as at 30 June. (b) Residential and non-residential buildings, equipment and maintenance. (c) Includes capital and recurrent expenditure. (d) Includes Australian Capital Territory. (e) Includes Northern Territory. (f) Includes Handicapped Childrens Benefit. n.a. Not available. No longer collected in this form.

HANDICAPPED CHILDREN'S BENEFIT

	1978-79	1979-80	1980-81
Approved handicapped persons homes(a)	106	115	129
Handicapped children accommodated(a)	1,151	1,625	1,416
Days of benefit paid during year	340,431	332,706	350,197
Total amount paid during year \$000	1,703	1,667	1,762

(a) As at 30 June.

Homeless people

The Homeless Persons Assistance Act was introduced in December 1974 to help non-profit organisations and local governing bodies which provide accommodation, food and social welfare services for homeless men and women.

The Act enables grants to be made to eligible organisations to meet the cost of purchasing, constructing, altering or renting buildings to be used as homeless persons' assistance centres, as well as to meet the cost of purchasing furniture, furnishings and equipment for such centres. Grants also meet half the salary of a social welfare worker employed at a centre. The amount of grants made for these purposes during 1980-81 was \$5,910,846.

A subsidy is also available to help meet the cost of providing food and accommodation for homeless persons at an approved centre, or of meals provided at such centres for non-resident homeless persons. The rate of the food and accommodation subsidy has been prescribed at \$1.20 cents per day and the rate of meals subsidy as 40 cents per meal. During 1980-81 the amount of this subsidy totalled \$1,759,953.

The *Delivered Meals Subsidy Act* 1970 helps organisations to establish, maintain, expand and improve 'meals on wheels' services. The subsidy is at the rate of 45 cents for every meal provided on approved vitamin C supplement and 40 cents for each other meal provided by approved organisations. At 30 June 1981, 714 organisations had received a total subsidy of \$18,639,067 under the Act. During 1980-81 the amount of this subsidy totalled \$3,623,797. Organisations eligible for grants under the Act are the same as those specified under the Aged or Disabled Persons Homes Act.

Children's Services

The Children's Services Program is administered by the Office of Child Care, within the Department of Social Security. It provides grants to State, and local governments and community organisations for a flexible network of services for children and their families mainly concentrating on day care and pre-school centres. The general principle guiding approval of grants is one of directing assistance on a needs basis.

Other services funded under the program include support services for families and adolescents, special services for migrants, Aborigines and disabled children and research, evaluation and information projects.

Two components of the Program which are administered jointly with State Governments have been identified as the Family Support Services and the Youth Services Schemes. While these are identified separately as schemes, they are an integral part of the Children's Services Program.

EXPENDITURE ON CHILDREN'S SERVICES PROGRAM
(S'000)

Year	To or for the States		Direct to organisations		Total
	Pre-school	Other Child care	Pre-school	Other Child care	
1976-77	49,018	3,118	-	14,951	67,086
1977-78	45,994	7,006	-	18,197	71,197
1978-79	32,750	9,227	-	21,859	63,836
1979-80	33,090	11,090	-	25,046	69,226
1980-81	31,183	13,857	-	29,994	74,034

Social Security Appeals Tribunals

The Social Security Appeals System provides for persons who are aggrieved by decisions of the Department of Social Security to have a right of appeal to a Social Security Appeals Tribunal. The Tribunals operate in each State and in the Australian Capital Territory and the Northern Territory.

Before any appeal is initiated, when a client of the Department of Social Security is informed of an adverse decision he is also informed that, if he is dissatisfied, he may contact a Review Officer in the Department personally or by telephone, who will be pleased to discuss the case and, if necessary, will review the decision without delay. If the client remains dissatisfied, the Review Officer will explain the Appeals System and, if required, assist the client to lodge an appeal with a Tribunal.

Each Tribunal consists of a full-time member seconded from, but independent of, the Department and two part-time members—one a lawyer and one experienced in the welfare field and for appeals involving medical criteria—a legally qualified medical practitioner. A Tribunal considers the substantial merits of each case without regard to legal forms and technicalities and seeks to ensure that justice is done between the appellant and the Department.

The Tribunals have no power to change decisions but may make recommendations to the Director-General of Social Services that a departmental decision should be changed. The final decision lies with the Director-General who may, but need not, accept the recommendation of a Tribunal.

Jurisdiction is vested in the Administrative Appeals Tribunal and provides for clients of the Department of Social Security to have a further right of appeal to the Administrative Appeals Tribunal where the client is dissatisfied with the outcome of the departmental consideration of a Social Security Appeals Tribunal recommendation (whether or not that recommendation was favourable to the client), or where the Director-General has, at the request of a client who has not appealed to an SSAT, certified in writing that the case involves an important principle of general application under the Social Services Act.

International Year of Disabled Persons (IYDP)

International Year of Disabled Persons (IYDP) was launched on 31 December 1980. The Minister for Social Security is responsible for co-ordinating the Commonwealth Government's observance of IYDP.

The United Nation's theme of "Full Participation and Equality" has been interpreted in Australia under the theme of 'Break Down the Barriers', the granting of access for disabled persons to all aspects of community life.

To co-ordinate national activities for IYDP a special Unit was established in the Department of Social Security. It also provides support services to the Council of Commonwealth, State and Territory Ministers responsible for IYDP. Activities in the non-government sector are co-ordinated by a National Committee of Non-Government Organisations for IYDP, established in conjunction with the Australian Council for Rehabilitation of Disabled (ACROD).

Commonwealth, State and Local Governments and non-Government Organisations have all examined their programs and priorities for IYDP and have generated a number of new and innovative programs for disabled persons. An initial seeding grant of \$400,000 (\$50,000 to each State and Territory) was made by the Commonwealth Government to help disabled children and families. This was supplemented by assistance from State Governments.

A major contribution to IYDP was the conduct in 1981 of the first comprehensive Australian national survey of handicapped persons by the Australian Bureau of Statistics. The survey obtained information about the nature and extent of various disabilities and handicaps in the Australian community.

World Assembly on Ageing

The United Nations resolved that a World Assembly on Ageing be held in Vienna in the latter half of 1982. The purpose of the Assembly is to prepare a plan of action for assistance to, and support of, the elderly over the coming decade.

In planning for the Assembly, the Department of Social Security is co-ordinating Australia's policy input on the two main areas of concern:

- humanitarian issues: guarantees to older persons of economic and social security, including health, housing and environment, social welfare, income security, education, the family; and
- developmental issues: opportunities for older persons to contribute to national development.

Social Welfare Policy Secretariat

The Secretariat commenced operation in March 1978 and has a staff of 21 officers, some of whom have been seconded from relevant Departments. As a consequence of the new administrative arrangements announced by the Prime Minister on 2 November 1980, the Head of the Secretariat now reports to the Minister for Social Security.

The Social Welfare Policy Secretariat is responsible for the provision of advice on, and the integrated development of plans, policies and programs in the broad field of health and welfare. It is responsible also for ensuring the co-ordinated development and review of health and welfare policies and for ensuring that appropriate research activities are directed to these ends.

In developing its policy proposals the Secretariat consults with relevant Commonwealth Departments. Whenever appropriate the views of interested organisations and individuals are also sought.

National Working Party on Welfare Statistics (WELSTAT)

All State and Territory welfare departments, the Australian Bureau of Statistics and the Commonwealth Department of Social Security are co-operating in the WELSTAT project which is developing standardised national social welfare statistics and, more generally, assessing the adequacy of social welfare statistics in Australia. National standards have been developed in a number of areas relating to Child Welfare. In particular, Statistics have been published on '*Persons under Guardianship and Children in Substitute Care*', (4405.0) and '*Adoptions*', (4406.0). Standards have also been developed for '*Persons in Juvenile Corrective Institutions and Children in Prison*'; Statistics in this area are published monthly by the Australian Institute of Criminology.

Standards are being developed for collections on *Emergency and Supplementary Assistance* and *Child Abuse*. Work has also commenced in the Australian Bureau of Statistics, under the auspices of WELSTAT, on the development of a classification of welfare activities.

State and local government

State Governments are the main providers of direct personal welfare services. Welfare services provided through State departments can be broadly summarised as follows:

- emergency relief and supplementary assistance to people in need;
- preventative, remedial and rehabilitative services for children, young people and families;
- child protection services;
- community and residential care services for dependent and delinquent young people;
- services related to the adoption and foster care of children;
- services related to the development and regulation of early childhood services;
- domiciliary care for the aged.

State departments also provide consultative, developmental and advisory services in the field of community welfare, including funding of some non-government services. State authorities share with the Commonwealth, responsibility for service provision to the young, families, the aged and special groups such as Aborigines and migrants.

Services provided by local government authorities vary between and within states. Generally local governments either provide, subsidise or coordinate service provision for children and for the aged. Services most commonly undertaken by local government include the establishment of infant welfare centres, the provision and maintenance of parks, kindergartens, day nurseries, home help, and emergency services including meals delivered to the aged.

The States also provide services such as domestic assistance for aged persons in their homes in cooperation with the Commonwealth.

Under the States Grants (Home Care) Act 1969 the Commonwealth Government will share with a participating State on a \$1 for \$1 basis the cost of the provision of approved home care services wholly or mainly for aged persons in their homes.

The Commonwealth Government will also share on a \$2 for \$1 basis with participating States up to a maximum of two-thirds of the capital cost for the establishment, extension and equipping of approved senior citizens' centres as well as meeting on a \$1 for \$1 basis with the States the cost of the salary of a welfare officer employed in conjunction with a senior citizens' centre. All States participate in this scheme.

PAYMENTS TO STATES FOR HOME CARE SENIOR CITIZENS CENTRES AND WELFARE OFFICERS 1980-81

State	Home Care Services	Senior Citizens Centres	Welfare Officers	Total
New South Wales	3,610,375	1,791,341	383,056	5,784,772
Victoria	4,330,805	1,117,853	620,191	6,068,849
Queensland	1,873,168	489,953	57,722	2,420,843
South Australia	1,006,034	190,637	96,355	1,293,026
Western Australia	57,250	360,961	96,587	514,798
Tasmania	630,068	49,255	-	679,323
Total	11,507,700	4,000,000	1,253,911	16,761,611

Voluntary Agencies

A wide range of social welfare services are provided within the Australian community by voluntary agencies. These include:

- personal counselling for families and individuals;
- emergency relief;
- home care and visitation services;
- family support services;
- child and family day care;
- sheltered employment for the handicapped;
- crisis accommodation for youth, families, women and single men;
- accommodation and support services for the aged and handicapped.

While many services delivered by voluntary agencies are subsidised or supported by government funding, other activities rely on more direct forms of community financial support such as donations and public appeals. Voluntary agencies employ substantial numbers of professional welfare workers but also rely heavily on the contributions of volunteers.

The range and scope of voluntary welfare activity has increased greatly in recent years. Self-help organisations which provide personal support to people suffering particular social or physical disabilities are becoming more prevalent as are agencies which direct assistance to particular target groups such as Aborigines and ethnic communities. A recent study by the Social Welfare Research Centre of the University of New South Wales has estimated that there are about 37,000 agencies in Australia.

Aboriginals

A referendum in May 1967 led to the repeal of section 127 of the Constitution which provided that, in reckoning the numbers for census purposes, Aborigines should not be counted, and to the deletion of the words 'other than the Aboriginal race in any State' from section 51 (xxvi) which relates to the power of the Commonwealth Parliament to make laws in respect to people of any race. The Commonwealth Government's aim is to help Aborigines become self-managing and self-sufficient while, at the same time, to preserve and to develop their own distinctive culture. The Commonwealth Government has assumed responsibility for policy, planning and co-ordination in respect of Aboriginal affairs at the national level. The Commonwealth Department of Aboriginal Affairs has regional offices in all States and the Northern Territory. In December 1973 the National Aboriginal Consultative Committee (NACC) was established, its 41 members being elected by Aborigines and Torres Strait Islanders throughout Australia. The role of the NACC was to advise the Minister for Aboriginal Affairs on Aboriginal needs, desires and policies.

A committee of four (three of whom were Aborigines) was set up in April 1976 to inquire into the role and functions of the NACC and it was on the basis of the committee's recommendations that the Government, in May 1977, announced the establishment of a group of interrelated bodies to replace the NACC.

These bodies were the National Aboriginal Conference (NAC), the national executive of the NAC and the Council for Aboriginal Development (CAD).

The first elections for the 35-member NAC were held in November 1977. Representation is balanced between tradition-oriented rural and urban communities. NAC membership increased to 36 with the election of Tasmania's first separate representative in September 1980. Members meet annually at the national level and at least four times each year in their State or Territory as State or Territory Branches of the NAC.

The executive is comprised of eleven delegates of whom ten are chosen by State Branches. The chairman is elected by the full NAC. The role of the NAC is to provide a forum in which Aboriginal views can be expressed at State and national level and, in particular, to express Aboriginal views on the long term goals and objectives which the Government should pursue, the programs it should adopt in Aboriginal affairs, and on the need for new programs in Aboriginal affairs. It also advises the Government on matters referred to it. The CAD was the formal advisory body to the Minister for Aboriginal Affairs and other Ministers on policies which affect the Aboriginal community. In April 1981, the Government accepted the recommendation of the NAC that its national executive assume the advisory functions and powers of the CAD, which was abolished.

Migrants

Rising intake

Since the Second World War, about 3.6 million migrants from all over the world have come to Australia. Since 1945, Australia's population has almost doubled, to 14.9 million, with one in five Australians born overseas. Post-war immigration peaked in 1969-70 with 185 000 settler arrivals. In the early 1970s, the net population gain through migration generally declined. This trend has now been reversed, with a net gain in 1979-80 of 77 000 and in 1980-81 of 119 000. If expected trends continue, Australia will have a population at the end of the century of about 19.5 million, some two million more than it would be without a contribution from migration.

Accommodation of migrants

Migrants must be assured of accommodation on arrival, unless they have sufficient funds to be independent. For those migrants nominated by relatives or friends, this initial accommodation has usually been in private homes. Assisted migrants and refugees nominated by the Commonwealth Government are provided with transitory accommodation in migrant centres operated by Commonwealth Accommodation and Catering Services Ltd, a non-profit-making Government-sponsored company. These centres provide a range of services to help migrants to settle in Australia, including child minding centres, English language classes, youth recreation activities, welfare officers and assistance in obtaining permanent accommodation.

The total capacity of the centres is about 9,600. Additionally 396 two and three bedroom self-contained flats can accommodate migrants nominated by the Commonwealth Government.

British assisted migrants nominated by State Governments are, in most cases, provided with initial accommodation in reception centres operated by the State authorities.

Ethnic affairs and migrant settlement

The Department of Immigration and Ethnic Affairs provides services to facilitate the successful settlement and welfare of migrants, and these services are currently being modified and extended in accordance with the *Report of the Review of Post-Arrival Programs and Services for Migrants* (1978) (the 'Galbally' Report).

In addition, the Department is responsible, through its Ethnic Affairs and Citizenship Branch for advancing policies designed to secure the integration of migrants. In particular, through the Ethnic Liaison Officer Scheme under which Ethnic Liaison Officers are appointed in Commonwealth Government departments and authorities, it seeks to ensure that Commonwealth Government policies, programs and services take account of the needs and aspirations of migrants.

Departmental social workers and welfare officers provide information and advice, and, in more complex cases, professional counselling for migrants in their own language. They operate from the Regional Offices of the Department in the State capital cities and some are outposted to voluntary welfare organisations, and other centres in areas of high migrant density. They are also involved in community development work and provide consultancy services to other agencies assisting migrant settlement.

Departmental activities are complemented by those of social workers and welfare officers employed by voluntary agencies funded by Commonwealth grants administered by the Settlement Branch. In many respects, these voluntary agencies are best placed to assist migrants.

The recommendations of the Galbally Report envisaged a greater emphasis being placed on the role of non-government agencies. The Commonwealth is therefore increasing the number of grants to agencies and will reduce its own direct services as the latter become effective. Its own professional staff, released from this responsibility, will give greater attention to consultancy and community development in support of the agencies.

The Department provides a translation and interpreting service for migrants during the settlement period and offers a translation service to other Commonwealth departments. At the present time translation units are operating in Canberra, Sydney and Melbourne.

In 1973 a Telephone Interpreter Service (TIS) was introduced to help overcome communication problems by providing over the telephone, in a wide range of languages, a general interpreting, information and referral service for migrants and others having dealings with migrants. Where necessary and especially in emergency situations, arrangements may be made for the personal attendance of an interpreter. TIS currently operates in Canberra, all State capitals, Darwin (on a limited scale) and most major provincial centres of migrant population. During the year ended 30 June 1981, a total of 214,089 calls was received by TIS. The aggregate number of calls received since the inception of the Service in 1973 is 933,419.

Cost-sharing agreements have been concluded with the Governments of New South Wales, Victoria and South Australia for the establishment or extension of State operated interpreting and translation services, in accordance with a recommendation of the Galbally Report.

A National Accreditation Authority for Translators and Interpreters (NAATI) was established by the Commonwealth Government in 1977 to develop standards of competence for translators and interpreters in Australia and to test and accredit at those standards. State/Territory Panels for Translators and Interpreters have been established in all States and Territories to administer tests to those seeking accreditation.

In keeping with the recommendations of the Galbally Report, Settlement Centres are being established in migrant accommodation centres, and progressively, over a three-year period, in the community where there are high concentrations of migrants. These centres provide on-arrival English instruction and orientation courses and activities concerning various aspects of life in Australia such as employment, housing, education and health and welfare services. They also provide counselling concerning immediate settlement needs. The new programs incorporate previously existing programs, including those developed for refugees. These initial, on-arrival programs are overseen by new consultative mechanisms, including Migrant Settlement Councils in each State and Territory.

Twenty-three migrant resource centres have been established over a period of three years. These resource centres will provide support for all agencies (both government and voluntary) which assist migrants, and also provide a focus for community participation and development of local resources to meet migrant needs.

The settlement of refugees particularly from Indo-China has become an important element in the Commonwealth Government's overall migrant settlement program. Most of these refugees are accommodated initially at Commonwealth Government migrant centres where they are able to participate in an initial settlement program designed to facilitate their settlement in the community. In addition, under the Community Refugees Settlement Scheme, numbers of refugees are moved directly from the refugee camps overseas into the Australian community where they are in the care of families, groups and organisations which have undertaken to provide a range of support and assistance.

In 1980-81, expenditure on the adult migrant education program was a record \$28,773,040, allowing continued growth in the on-arrival phase to benefit 15,000 adults from non-English speaking backgrounds, compared with 11,500 in 1979-80 and 3,000 in 1977-78.

Further information is contained in the *Department of Immigration and Ethnic Affairs Annual Review, Review '81*.

VETERANS' AFFAIRS

The Repatriation Commission, established under the *Repatriation Act* 1920, consists of three full-time members. It is responsible for the administration of the Repatriation Act and associated legislation, all matters of policy, and the general administration and overall supervision of the provision of benefits under the legislation. The Chairman of the Commission is also the Secretary of the Department of Veterans' Affairs (formerly the Department of Repatriation), which provides the administrative machinery through which the Commission operates. The central office is in Canberra and there is a branch office, under the control of a Deputy Commissioner, in each State.

The principal functions of the Department are: the payment of disability and dependants' pensions (previously called war pensions) and service pensions and allowances to eligible veterans and their dependants; the provision of medical treatment for veterans for injuries and illnesses accepted as service-related; the provision of medical treatment in certain circumstances for veterans who are suffering from injuries and illnesses whether service-related or not; the provision of medical treatment for war/defence widows and certain dependants of deceased veterans; and provision of a wide range of other benefits for eligible persons. Since 5 October 1976, the *Defence Service Homes Act* 1918 has been administered by the Defence Service Homes Corporation (previously the Australian Housing Corporation) within the departmental framework. At the same time, the Department was given responsibility for the Office of Australian War Graves.

Repatriation benefits are provided in respect of service not only in the 1914-18 and 1939-45 Wars but also in the South African War 1899-1902, in the Korea and Malaya operations, in prescribed areas with the British Commonwealth Far East Strategic Reserve and the Special Overseas Forces and, in certain circumstances, in the Regular Defence Forces.

For information on war service land settlement see Year Book No. 61 (Chapter 13, Agricultural Industries) and for statistics relating to defence service homes see Chapter 19, Housing and Construction, of this Year Book.

For detailed information about repatriation pensions, allowances, benefits and services, reference should be made to the annual reports of the Repatriation Commission.

REPATRIATION: TOTAL EXPENDITURE^(a)
(S'000)

Class	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Pensions, allowances and other benefits	568,068	662,876	799,264	860,229	966,072	1,193,181
Medical treatment	201,488	223,058	251,589	268,539	310,327	357,219
Administration	37,130	39,556	41,999	44,441	49,539	54,971
Works, rent and maintenance	19,332	14,020	17,477	21,301	27,881	24,587
Total expenditure	826,018	939,510	1,110,329	1,194,511	1,353,819	1,629,958

(a) Includes expenditure by Departments other than Veterans' Affairs as follows: 1975-76, \$18,846,000; 1976-77, \$13,710,296; 1977-78, \$15,718,166; 1978-79, \$18,819,531; 1979-80, \$25,072,835; 1980-81, \$21,270,359.

Disability and dependants' pensions

The first provision for the payment of disability pensions to veterans and pensions to their dependants was made by the Commonwealth Parliament in the *War Pensions Act* 1914. This Act was repealed in 1920 by the *Australian Soldiers' Repatriation Act* 1920 (amended from 31 December 1950 to the Repatriation Act). Amendments to the Act in 1943 considerably widened the eligibility provisions, to the benefit mainly of members of the Citizen Military Forces who had not served outside Australia during the 1939-45 War.

Main pension rates vary twice each year; current rates are available from Department of Veterans' Affairs Branch Offices.

Summary of disability and dependants' pensions

The following table provides a summary of disability and dependants' pensions according to the veteran's war/area of service. Statistics relating to miscellaneous disability and dependants' pensions are included collectively in each table, with further details being provided later in this section.

DISABILITY AND DEPENDANTS' PENSIONS: 1980-81

	1914-18 War	1939-45 War ^(a)	Korea, Malaya and F.E.S.R.	Special Overseas Service	Peace time forces	Miscel- laneous	Total
Pensions in force at 30 June 1981							
(b) No.	34,443	352,011	9,832	20,751	5,825	472	423,334
Annual pension liability at 30 June 1981 \$'000	77,105	393,701	6,429	6,137	1,843	714	485,929
Amount paid in pensions during the year 1980-81 \$'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	496,310
New claims granted "	63	3,590	214	1,200	1,656	9	6,732
Restorations "	7	1,437	122	128	74	2	1,770
Pensions cancelled (gross) "	60	7,074	631	576	388	11	8,740
Deaths of pensioners "	3,501	8,037	82	25	13	22	11,680

(a) Includes Interim Forces. (b) At 30 June 1981 includes 5,626 student children over 16 years of age.

Classes of disability and dependants' pensions

The following tables provide an analysis of the number of pensions in force, veteran's class of pension, new claims and deaths for 1980-81.

DISABILITY AND DEPENDANTS' PENSIONS IN FORCE: 30 JUNE 1981

Class	1914-18 War	1939-45 War ^(a)	Korea, Malaya and F.E.S.R.	Special Overseas Service	Peace time forces	Miscel- laneous	Total (b)
Veterans	6,075	155,168	3,940	6,635	2,293	167	174,278
Wives	13,421	146,452	3,215	5,055	1,496	169	169,808
Children (b)	13	14,385	2,269	8,653	1,925	16	27,261
War widows	14,613	32,871	267	154	70	115	48,090
Children of deceased veterans	3	537	60	168	38	1	807
Orphans	2	22	-	1	3	1	29
Other dependants	316	2,576	81	85	-	3	3,061
Total	34,443	352,011	9,832	20,751	5,825	472	423,334

(a) Includes Interim Forces. (b) Includes 5,626 student children over 16 years of age.

**DISABILITY PENSIONS FOR INCAPACITATED VETERANS IN FORCE: BY CLASS OF PENSION
30 JUNE 1981**

<i>Class</i>	<i>1914-18 War</i>	<i>1939-45 War</i>	<i>Korea, Malaya and F.E.S.R.</i>	<i>Special Overseas Service</i>	<i>Peace time forces</i>	<i>Miscel- laneous</i>	<i>Total</i>
Special Rate (T & P I) or equivalent	1,505	12,736	176	72	21	18	14,528
Intermediate Rate	74	1,932	33	15	3	2	2,059
General Rate—from 10 per cent to 100 per cent assessed disability	4,496	140,500	3,731	6,548	2,269	147	157,691
Total	6,075	155,168	3,940	6,635	2,293	167	174,278

DISABILITY AND DEPENDANTS' PENSIONS: NEW CLAIMS GRANTED, 1980-81

<i>Class</i>	<i>1914-18 War</i>	<i>1939-45 War(a)</i>	<i>Korea, Malaya and F.E.S.R.</i>	<i>Special Overseas Service</i>	<i>Peace time forces</i>	<i>Miscel- laneous</i>	<i>Total</i>
Veterans	16	1,254	58	243	657	5*	2,233
Wives and widows of veterans	42	1,904	86	290	402	4	2,728
Children	1	405	67	663	597	-	1,733
Other dependants	4	27	3	4	-	-	38
Total	63	3,590	214	1,200	1,656	9	6,732

(a) Includes Interim Forces.

DISABILITY AND DEPENDANTS' PENSIONS: DEATHS 1980-81

<i>Class</i>	<i>1914-18 War</i>	<i>1939-45 War(a)</i>	<i>Korea, Malaya and F.E.S.R.</i>	<i>Special Overseas Service</i>	<i>Peace time forces</i>	<i>Miscel- laneous</i>	<i>Total</i>
Veterans	1,175	5,261	57	19	9	9	6,530
Wives and widows of veterans	2,307	2,554	21	3	4	10	4,899
Children	-	6	-	3	-	1	10
Other dependants	19	216	4	-	-	2	241
Total	3,501	8,037	82	25	13	22	11,680

(a) Includes Interim Forces.

Number of disability and dependants' pensions and expenditure, States, and Australia.

The following table shows the number of pensions in force and expenditure to 30 June 1981, according to place of payment.

DISABILITY AND DEPENDANTS' PENSIONS: NUMBER OF PENSIONS AND ANNUAL EXPENDITURE

<i>Place of payment</i>	<i>Number of disability and dependants' pensions in force at 30 June 1981 (a)</i>				<i>Annual expenditure (b) (\$'000)</i>
	<i>Incapacitated veterans</i>	<i>Dependants of incapacitated veterans</i>	<i>Dependants of deceased veterans</i>	<i>Total</i>	
New South Wales(c)	63,268	69,662	19,301	152,231	190,226
Victoria	42,390	49,075	14,111	105,576	124,808
Queensland	29,915	34,348	7,625	71,888	81,439
South Australia(d)	16,191	18,424	4,414	39,029	40,926
Western Australia	14,492	16,753	3,675	34,920	33,411
Tasmania	7,222	8,183	1,814	17,219	21,964
Overseas	800	1,158	513	2,471	3,536
Total	174,278	197,603	51,453	423,334	496,310

(a) Includes Interim Forces 1939-45 War. Territory. (d) Includes Northern Territory.

(b) Includes domestic allowance payable to widows.

(c) Includes Australian Capital Territory.

Summary of disability and dependants' pensions, 1975-76 to 1980-81

The following table shows the number of pensions granted, pensions in force and the expenditure for disability pensions in each of the years ended 30 June 1976 to 1981.

DISABILITY AND DEPENDANTS' PENSIONS

Year	Pensions granted	Deaths	Number of disability and dependants' pensions in force at 30 June (a)			Total	Annual expenditure (b) \$'000
			Incapacitated veterans	Dependants of incapacitated veterans	Dependants of deceased veterans		
1975-76	10,417	12,323	197,463	245,682	55,716	498,861	340,839
1976-77	9,856	11,637	193,123	237,237	54,804	485,164	371,459
1977-78	8,039	11,390	187,427	220,968	54,291	462,686	419,033
1978-79	7,257	11,500	182,988	212,177	53,136	448,301	415,329
1979-80	6,141	11,151	178,471	204,265	52,031	434,767	432,001
1980-81	6,732	11,680	174,278	197,603	51,453	423,334	496,310

(a) Includes Interim Forces 1939-45 War.

(b) Includes domestic allowance payable to widows.

Miscellaneous disability and dependants' pensions

The Commission is also responsible for the payment of pensions and allowances to beneficiaries under the *Seamen's War Pensions and Allowances Act 1940*, the *Papua New Guinea (Members of the Forces Benefits) Act 1957* and Cabinet decisions granting eligibility to persons who were attached to the armed forces during war-time.

The following table shows the number and class of pensions and the annual liability at 30 June 1981.

MISCELLANEOUS DISABILITY AND DEPENDANTS' PENSIONS: NUMBER OF PENSIONS AND ANNUAL LIABILITY, 30 JUNE 1981

Class	Number of pensions in force at 30 June 1981				Total	Annual liability (b) \$'000
	Veterans (a)	Dependants of incapacitated veterans	Dependants of deceased veterans			
Act of grace	96	106	41		243	327
Seamen's war pension	69	79	41		189	227
New Guinea civilians	2	-	38		40	160
Total	167	185	120		472	714

(a) 'Veterans', in this context, are persons in respect of whose war-time experience a pension is paid.

(b) Includes domestic allowances payable to widows.

Service pensions

The *Repatriation Act 1920* provides for a service pension to be paid (subject to an income test unless the person is blind) to the following persons:

male veterans who served in a theatre of war (or in a designated *Operational* or *Special Overseas Service* area) and have attained the age of sixty years or are permanently unemployable;

female veterans who served in a theatre of war, or served abroad or embarked for service abroad and have attained the age of fifty-five years, or are permanently unemployable;

veterans of the South African War 1899-1902 who were members of a naval or military force or contingent raised in Australia for active service in that war;

veterans of other British Commonwealth Forces who served outside the country of enlistment or within that country if a campaign medal has been awarded in respect of such service. Ten years residence in Australia is a necessary qualification.

Veterans who served in formally raised allied forces in conflicts in which Australia participated, who served in a theatre of war and at no time served in enemy forces. Ten years residence in Australia is also necessary.

If otherwise eligible, persons aged 70 years or over receive the service pension free of the income test at the rate of \$51.45 per week if single or \$42.90 per week each if married. Higher rates of pension may be payable subject to the income test.

A veteran in receipt of a service pension is entitled, subject to an income test, to free medical benefits for disabilities not service-related. These benefits include general practitioner service, specialist service where necessary, full pharmaceutical benefits, surgical aids and appliances (including spectacles), dental treatment, and treatment in Repatriation General Hospitals.

Main pension rates vary twice each year; current rates are available from the Department of Veterans' Affairs' Branch Offices.

The following table provides a summary of Service Pensions according to the veteran's war/area of service.

SERVICE PENSIONS 1980-81

		1914-18 War	1939-45 War	Korea- Malaya operations	Special Overseas Service	Act of Grace	Allied Forces	British Common- wealth	Total
New claims granted	No.	257	37,778	351	106	30	1,444	6,223	46,189
Restorations	"	9	162	3	3	-	1	24	202
Cancellations (gross)	"	291	4,938	53	13	6	39	490	5,830
Deaths	"	1,882	6,780	48	5	8	15	228	8,966
Pensions in force at 30 June 1981	"	11,997	239,275	1,407	243	209	2,195	16,752	272,078
Annual liability at 30 June 1981	\$'000	32,127	646,426	3,693	595	544	5,881	44,483	733,739
Amount paid in pen- sions during 1980-81	\$'000	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	686,487

Class of service pensions

The following tables give an analysis of the total number of new claims granted and pensions in force for 1980-81.

SERVICE PENSIONS: NUMBER IN FORCE, 30 JUNE 1981

Class	1914-18 War	1939-45 War	Korea- Malaya operations	Special Overseas Service	Act of Grace	Allied Forces	British Common- wealth	Total
Veterans—								
old age	7,956	113,204	361	25	116	1,176	8,911	131,749
permanently unemployable	1,029	27,824	518	114	11	60	817	30,373
Tuberculosis (a)	21	1,065	17	1	1	-	10	1,115
Total	9,006	142,093	896	140	128	1,236	9,738	163,237
Wives and widows	2,991	97,182	511	103	81	959	7,014	108,841
Total	11,997	239,275	1 407	243	209	2 195	16,752	272,078

(a) Eligibility on these grounds ceased on 2 November 1978.

SERVICE PENSIONS: NEW CLAIMS GRANTED 1980-81

Class	1914-18 War	1939-45 War	Korea- Malaya operations	Special Overseas Service	Act of Grace	Allied Forces	British Common- wealth	Total
Veterans	71	20,756	201	61	17	809	3 403	25,318
Wives and widows	186	17,022	150	45	13	635	2,820	20,871
Total	257	37,778	351	106	30	1,444	6,223	46,189

SERVICE PENSIONS: DEATHS 1980-81

Class	1914-18 War	1939-45 War	Korea- Malaya operations	Special Overseas Service	Act of Grace	Allied Forces	British Common- wealth	Total
Veterans	1,717	5,775	44	5	8	13	189	7 751
Wives and widows	165	1,005	4	-	-	2	39	1 215
Total	1,882	6,780	48	5	8	15	228	8,966

Number of Service Pensions and Expenditure, States and Total.

The following table shows the number of pensions in force and expenditure to 30 June 1981 according to place of payment.

SERVICE PENSIONS: NUMBER IN FORCE AT 30 JUNE 1981 AND ANNUAL EXPENDITURE 1980-81

State	Pensions in Force			Annual expenditure (\$'000)
	Veterans	Wives and widows	Total	
New South Wales(a)	54,059	35,844	89,903	229,799
Victoria	40,114	26,655	66,769	167,025
Queensland	30,538	20,913	51,451	130,548
South Australia(b)	17,104	11,563	28,667	71,267
Western Australia	14,471	9,233	23,704	59,328
Tasmania	6,599	4,418	11,017	27,440
Overseas	352	215	567	1,080
Total	163,237	108,841	272,078	686,487

(a) Includes Australian Capital Territory.

(b) Includes Northern Territory.

The following table provides a summary of Service Pensions.

SERVICE PENSIONS

	Pensions granted	Deaths	Pensions in Force			Annual expenditure (\$'000)
			Veterans	Wives and widows	Total	
1975-76	29,989	7,131	94,080	47,595	141,675	218,926
1976-77	32,404	6,875	105,685	58,030	163,715	283,280
1977-78	37,491	7,092	118,955	69,562	188,517	372,100
1978-79	36,607	7,827	131,792	80,630	212,422	436,196
1979-80	40,735	7,952	146,370	93,594	239,964	525,178
1980-81	46,189	8,966	163,237	108,841	272,078	686,487

Medical treatment for veterans and dependants of veterans

Medical treatment is provided for all disabilities which have been accepted as service-related, and for pulmonary tuberculosis and cancer not related to service. In addition, and subject to certain conditions, treatment is provided for most non-service-related disabilities for: incapacitated veterans receiving disability pensions at or above the maximum (100 per cent) General Rate; veterans or nurses who served in the 1914-18 War; veterans of the Boer War; ex-prisoners-of-war; war widows and certain other dependants of deceased male veterans whose deaths have been accepted as service-related, and of deceased Special Rate pensioners; and certain service pensioners.

Treatment is provided at six Repatriation general hospitals (one in each State) and three auxiliary hospitals and an ANZAC hostel in Victoria. The total number of available beds for patients in wards or parts of wards open for use in all these institutions at 30 June 1981 was 2,878 and expenditure during 1980-81 amounted to \$155,303,546. In addition, expenditure of \$201,915,528 was incurred during 1980-81 on medical services outside these institutions.

Community patients

Where spare bed capacity exists in the Repatriation hospitals, patients may be admitted from the general community (mainly veterans with conditions that are not service-related, hospital staff and the local community).

Repatriation hospitals and institutions

Details of full-time staff in Repatriation general hospitals and other Repatriation institutions are given in the following table.

REPATRIATION HOSPITALS AND INSTITUTIONS: FULL-TIME OPERATIVE STAFF 30 JUNE 1981

<i>Type of institution</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.</i>	<i>Aust.</i>
General hospitals . . .	2,370	1,446	1,078	722	830	211	-	6,657
Other in-patient institutions	276	132	80	-	-	-	-	488
Out-patient clinics	-	16	-	-	-	-	-	16
Limb and appliance centres	73	78	29	20	19	10	3	232
Total	2,719	1,672	1,187	742	849	221	3	7,393

The following table gives details of in-patients treated at Repatriation general hospitals and other Repatriation institutions in each State. The figures shown refer to treatment episodes, e.g. a person who is admitted to hospital twice during a year is counted twice.

REPATRIATION GENERAL HOSPITALS AND INSTITUTIONS: IN-PATIENTS TREATED, 1980-81

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
REPATRIATION GENERAL HOSPITALS							
In-patients at beginning of year	720	443	347	244	327	66	2,147
Admissions and re-admissions during year	21,969	14,068	10,663	6,364	7,920	1,995	62,979
<i>Total in-patients treated</i>	<i>22,689</i>	<i>14,511</i>	<i>11,010</i>	<i>6,608</i>	<i>8,247</i>	<i>2,061</i>	<i>65,126</i>
Discharges	21,243	13,458	10,234	6,137	7,598	1,891	60,561
Deaths	743	649	409	244	332	100	2,477
In-patients at end of year	703	404	367	227	317	70	2,088
Average daily beds occupied	676	404	325	217	282	67	1,971
OTHER REPATRIATION INSTITUTIONS							
In-patients at beginning of year	182	101	101	-	17	-	401
Admissions and re-admissions during year	1,991	717	853	-	-	-	3,561
<i>Total in-patients treated</i>	<i>2,173</i>	<i>818</i>	<i>954</i>	<i>-</i>	<i>17</i>	<i>-</i>	<i>3,962</i>
Discharges	1,905	595	811	-	17	-	3,328
Deaths	83	115	88	-	-	-	286
In-patients at end of year	185	108	55	-	-	-	348
Average daily beds occupied	176	96	111	-	-	-	383

In addition to the repatriation institutions, eligible patients are treated in other country and metropolitan hospitals and nursing homes at departmental expense. During 1980-81, 39,158 Repatriation in-patients were accommodated and treated in country and metropolitan hospitals and 7,238 in nursing homes.

Repatriation psychiatric patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department of Veterans' Affairs in separate wings of psychiatric hospitals administered by the State authorities. Excluding 42 on trial leave, there were 488 repatriation patients in these hospitals at 30 June 1981.

Out-patient treatment is provided throughout Australia at repatriation hospitals and clinics and through the Repatriation Local Medical Officer Scheme. During 1980-81, 739,096 out-patients were treated at Repatriation institutions, and local medical officers consultations totalled 2,795,634. The number of Repatriation local medical officers in Australia at 30 June 1981 was 9,849.

Artificial limb and appliance services

A wide range of artificial limbs and other surgical aids is supplied by the artificial limb and appliance centre in each State capital and Darwin. In addition, the Department maintains the Central Development Unit located in Melbourne, and engages in research and development in the prosthetic and orthotic field.

Since 1973, artificial limbs have been provided free of charge to all members of the community who need them, either through the Department's artificial limb and appliance centres or on order through commercial limb-makers. The number of limbs supplied through the Department has increased significantly as the community has taken advantage of the free-limbs scheme.

Details of production at all centres during 1980-81 are as follows: arms, 297; legs, 3,364; surgical and adapted footwear, 5,872; other surgical appliances, 1,039; and repairs, 27,862.

General Repatriation benefits and miscellaneous

Other activities of Department of Veterans' Affairs

In addition to the payment of pensions and the provision of medical treatment, the Department also provides various benefits and allowances designed to meet the needs of special classes of veterans and their dependants. These include the Soldiers' Children Education Scheme.

In addition, gift cars and an annual allowance for their upkeep are provided for veterans who, as a result of service, have suffered the amputation of both legs above the knees or amputation of one leg above the knee plus any two other amputations (above the ankle or at or above the wrist) or complete paraplegia resulting in the total loss of the use of both legs. A grant of up to \$300 may be made towards the funeral expenses of eligible veterans and certain of their dependants. As from 13 November 1980, Temporary Incapacity Allowance may be paid to a veteran whose stay in hospital together with post-hospital convalescence or other treatment on a full-time basis exceeds 28 days. Payment of up to \$10 may be made to provide such necessities as meals, sleeping accommodation, etc., for veterans in need of immediate relief. Also, certain concessions in telephone rental charges are provided for some classes of veterans and their dependants, including blinded veterans, war and defence widows and certain service and Special Rate disability pensioners. Veterans who have been blinded as a result of service may be issued with talking book machines. The Australian Red Cross Society supplies 'book' records or cassettes for these machines free of charge, thus enabling the blind to enjoy a wide range of literature.

Expenditure in 1980-81 on general Repatriation benefits for all wars was \$10,384,000 comprising Soldiers' Children Education Scheme, \$2,368,000; recreation transport allowance, \$953,000; and other benefits, \$7,063,000.

As at 30 June 1981, trust and other funds administered by the Department of Veterans' Affairs held \$26,899,000 in securities (face value) and \$2,169,000 in cash, a total of \$29,068,000.

Reciprocal arrangements with the United Kingdom, New Zealand and other countries provide for the payment of pensions, etc., to eligible Australian veterans living overseas and to eligible veterans from overseas who are living in Australia.

Soldiers' Children Education Scheme

The Soldiers' Children Education Scheme was established in 1921 and operates with the assistance of the honorary Education Boards in each State. These Boards consist of representatives of government and non-government education authorities and of ex-service and other organisations which have a general interest in the welfare of the children of veterans. The objects of the Scheme are to assist and encourage eligible children in acquiring a standard of education compatible with their aptitude and ability, and to prepare them to enter an agricultural, commercial, professional, or industrial calling of their own choice. Eligible children are children of veterans whose deaths have been accepted as service-related; or of veterans who died from causes not service-related but who were receiving at the date of death a disability pension at a Special Rate for blindness, total and permanent incapacity, or amputation of two or more limbs; or of veterans who, as a result of service, are blinded totally and permanently incapacitated. From the commencement of primary education until the child reaches twelve years of age, school requisites and fares are provided. From the commencement of secondary education or from the age of twelve years, whichever is earlier, an education allowance is payable while the child is undertaking primary or secondary education. Assistance beyond secondary education is provided where an approved beneficiary continues with a course of specialised education or training necessary for a career. At this stage of training, in addition to the education allowance, fees are paid and text books, essential equipment and other minor benefits are provided.

All education allowances are subject to an income test, i.e. the amount of education allowance payable depends on the amount of income a child receives over the allowed limit. Weekly rates of allowances vary from time to time; current rates are available from the Department of Veterans' Affairs' Branch Offices.

The following tables show the costs of education under the scheme for the year ended 30 June 1981, and the number of children in receipt of benefit at 30 June 1980.

SOLDIERS' CHILDREN EDUCATION SCHEME: EXPENDITURE, 1980-81
(S'000)

	<i>N.S.W.(a)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(b)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust.</i>
Cost of education of beneficiaries—							
Under 12 years of age	1.7	1.6	4.0	1.1	0.3	1.0	9.7
12 years of age and over	938	636	375	174	139	88	2,350
Total expenditure	939.7	637.6	379.0	175.1	139.3	89.0	(c)2,359.7

(a) Includes Australian Capital Territory. (b) Includes Northern Territory. (c) Excludes overseas expenditure of \$8,000.

SOLDIERS' CHILDREN EDUCATION SCHEME: NUMBER RECEIVING BENEFITS(a) AT 30 JUNE 1981

<i>Type of training</i>	<i>N.S.W.(b)</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(c)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Over-seas</i>	<i>Total</i>
At school—								
Aged under 14 years (<i>d</i>)	107	77	75	37	14	21	8	339
Aged 14 and under 16 years	204	118	114	46	30	32	6	550
Aged 16 and under 18 years	162	121	73	33	20	17	3	429
<i>Total at school</i>	<i>473</i>	<i>316</i>	<i>262</i>	<i>116</i>	<i>64</i>	<i>70</i>	<i>17</i>	<i>1,318</i>
Professional	258	173	86	44	41	24	4	630
Agricultural	—	—	—	—	—	—	—	—
Industrial	—	—	—	—	—	—	—	—
Grand total	731	489	348	160	105	94	21	1,948

(a) Refers only to children in receipt of an education allowance. (b) Includes Australian Capital Territory. (c) Includes Northern Territory. (d) From 12 years of age or the commencement of secondary education, whichever is the earlier.

Re-establishment benefits for former regular and former national servicemen

Subject to prescribed conditions, vocational training and business loans are provided for former regular and former national servicemen with a view to ensuring that they are not at a disadvantage when they return to civil life. Loans from \$5,000 (business and professional) and \$10,000 (agricultural) may be granted to veterans in these categories who satisfy prescribed requirements in respect of suitability of their proposed business propositions and adequacy of security. Agricultural loans are administered by the Department of Primary Industry. Vocational training is provided for by the Department of Employment and Youth Affairs.

Survey of Ex-service personnel, widows and children

In November 1971, a survey based on the quarterly population survey (*see* Chapter 8, Manpower) was conducted at the request of the then Department of Repatriation and the Services Canteen Trust Fund. Details of the survey were published in Year Book No. 59, page 112 and in the publication *Ex-service Personnel, Widows and Children (November 1971)* (4403.0). A similar survey was conducted in October 1979, and included questions relevant to the Defence Service Homes function. Results were published in April 1980.

The Services Canteens Trust Fund

The Services Canteens Trust Fund was established under the *Services Trust Funds Act* 1947. Its funds are derived from the assets and profits of wartime services canteens, mess and regimental funds of disbanded units, and several other sources.

The total amount transferred to the Fund to 31 December 1980 was \$11,066,086. The Act prescribed that of this, \$5 million and such further amounts as the trustees of the Fund might from time to time decide should be devoted to the provision of education facilities for the children of eligible veterans, and that the balance of the Fund should be used to provide relief for veterans and their dependants in necessitous circumstances.

The Fund is administered by seven honorary trustees appointed by the Governor-General. The trustees have power to determine the persons or groups of persons to benefit from the Fund and the extent of the benefits to be granted within the provisions of the Act, and to appoint regional committees to assist with the administration. Members of regional committees are all persons who served in the 1939-45 War or are widows of men who served during the war. The trustees and members of regional committees serve in an honorary capacity.

Assistance from the Fund

Persons eligible for assistance from the Fund are those who, between 3 September 1939 and 30 June 1947, served in the Australian Naval, Military or Air Forces, including members of the canteens staff of any ship of the Royal Australian Navy, persons duly accredited to any part of the Defence Forces who served in an official capacity on full-time paid duty, and their dependants.

The trustees have introduced various schemes for providing financial assistance to needy eligible veterans and their dependants. The total cash assistance granted to individuals under all schemes from the inception of the Fund to 31 December 1980 was \$16,276,902 (\$459,941 during 1980) distributed as follows:

- welfare relief, \$5,450,950 (\$255,564 during 1980)
- children's education, \$10,438,560 (\$202,214 during 1980)
- other schemes, \$387,392 (\$2,163 during 1980)

For detailed information on the operation of the Fund, reference should be made to the annual reports of the Services Canteens Trust Fund.

Further information—ABS publications

Further information on subjects dealt with in this chapter is included in the annual *Australian National Accounts, National Income and Expenditure* (5204.0); *Commonwealth Government Finance* (5502.0); *State and Local Government Finance, Australia* (5504.0); and *Social Indicators, Australia* (4101.0). Current and summarised information on Commonwealth Government social services is contained in the *Monthly Summary of Statistics, Australia* (1304.0).

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CHAPTER 10

HEALTH

This chapter is concerned with activities of the Commonwealth relating to health including quarantine, national health benefits programs and health insurance; grants for health purposes; activities of national health services organisations, Commonwealth Government health advisory organisations and organisations associated with public health such as the Royal Flying Doctor Service and the National Heart Foundation of Australia. Also included are statistics of personal health benefit payments, notifiable diseases, health related surveys, causes of death, perinatal deaths and cremations.

Further information about the administration of public health services is contained in the annual reports of the Director-General of Health; the annual reports of the State health authorities; and in the Year Books and annual publications published by the Australian Bureau of Statistics.

NATIONAL HEALTH SERVICES

Prior to an amendment to the Constitution in 1946, the only health function of the Commonwealth Department of Health was in relation to quarantine. Consequent upon this amendment, the Commonwealth Government was given powers to make laws about pharmaceutical, hospital and sickness benefits and medical and dental services. The Commonwealth Government also has used its powers under *Section 96* of the Constitution to make grants to the States for health purposes. In addition, the Commonwealth Government gives financial assistance to certain organisations concerned with public health matters. A number of Commonwealth Government health organisations have been established; detailed information on the functions and operations of these organisations is given in this and previous Year Books and in the annual reports of the Commonwealth Director-General of Health.

Quarantine

The *Quarantine Act 1908* is administered by the Commonwealth Department of Health and provides for the taking of measures to prevent the introduction or spread of diseases affecting humans, animals and plants.

Human quarantine

The masters of all ships and aircraft arriving in Australia from overseas are required to notify medical officers acting on behalf of the Commonwealth Department of Health of all cases of illness on board their vessel at the time of arrival. Passengers or crew members who are believed to be suffering from a quarantine illness may be examined by Quarantine Medical Officers located at all ports of entry.

The main concern of examining officers is the detection of quarantine diseases including cholera, yellow fever, plague, typhus fever and viral haemorrhagic fevers. These diseases are not endemic to Australia and it is of great importance to prevent their entry. Sufferers or suspected sufferers may be isolated to prevent the possible spread of the disease.

A valid International Certificate of Vaccination is required of travellers to Australia over one year of age who have been in *yellow fever* endemic zones within the past 6 days.

All passengers, whether they arrive by sea or air, are required to give their intended place of residence in Australia so that they may be traced if a case of disease occurs among the passengers on the ship or aircraft by which they travelled to Australia.

Isolation. Under the Quarantine Act, airline and shipping operators are responsible for the expenses of isolation of all travellers who disembark from their aircraft or ship and who fail to meet Australia's vaccination requirements.

Animal quarantine

The objectives of animal quarantine being developed within the Department in consultation with Australia's agricultural and livestock groups, seek to combine the need to provide improved genetic material for Australia's livestock industries, with the maximum practical protection against the entry of exotic livestock diseases.

Importation of animals is restricted to certain species from designated overseas countries whose diseases status and pre-entry quarantine facilities meet Australia's stringent requirement. With few exceptions all imported animals are required to serve a period in quarantine on arrival.

Animal quarantine stations are located at most capital cities. A high security animal quarantine station on the Cocos (Keeling) Islands provides the means whereby the safe importation of a wide range of animals is possible. Applications to import animals through the Cocos station are now being sought.

Measures to prevent the entry of exotic diseases are also applied through the recently enhanced Northern Surveillance program and the rigorous screening of applications to import biological materials and animal products.

Plant quarantine

Arising from both its dependence upon exotic plant species for agriculture, horticulture and forestry and its island continental isolation, Australia is free of numerous plant pests and diseases that occur elsewhere in the world. Since 1 July 1909, the importation into Australia of plant materials has been subject to an increasingly stringent quarantine: some materials are admitted only under certain conditions while others are prohibited altogether. The quarantines are designed to exclude from the country unwanted pests and plant diseases. It is not possible to predict how a new plant pest or disease will perform when introduced to a new environment free of its natural enemies. Hence the general objective is to keep any pest or disease out of the country which could cause serious economic losses to Australia's agriculture, horticulture or forests.

For further details *see* Year Book No. 61, page 449.

Personal health services and subsidies

On 29 April 1981 the Minister for Health announced major changes to the Australian health care financing arrangements. Except where indicated otherwise, these arrangements became effective from 1 September 1981.

National Health Benefits

Pensioners with pensioner health benefit (PHB) entitlement and people who satisfy the Commonwealth Government defined criteria as being in 'special need' are eligible to participate in special arrangements. People in special need include migrants and refugees in their first six months in Australia; current unemployment and special beneficiaries who meet the pensioner health benefit income test; and other persons who meet a specified income test. Dependants of those eligible pensioners and persons in special need are also covered by the special arrangements. All other persons must meet any health care costs incurred either through health insurance or by way of personal payments.

Medical

Commonwealth medical benefits at the rate of 30 per cent of the Schedule fee for each Schedule medical service are payable in respect of all persons insured with a registered medical benefits organisation. All other persons, excluding eligible pensioners and people in special need, and their dependants, must meet the full cost of their medical treatment—that is the Commonwealth medical benefits of 30 per cent of the Schedule fee are not payable.

Pensioners with PHB entitlement (and their dependants) continue to be eligible to receive Commonwealth medical benefits at the rate of 85 per cent of the Schedule fee for each Schedule medical service or the Schedule fee less \$5 whichever is the greater amount. If the doctor bulk-bills the Commonwealth he will receive this 85 per cent/\$5 Commonwealth medical benefit direct from the Commonwealth and he may require the patient to pay the balance of the fee. If the doctor does not bulk-bill, the patient can claim the same level of Commonwealth benefit from a registered medical benefits fund and the doctor may also require the patient to pay the balance of the fee.

People who satisfy the Commonwealth defined criteria as people in special need (and their dependants) are also eligible to receive Commonwealth medical benefits at 85 per cent of the Schedule fee for each Schedule medical service or the Schedule fee less \$5 whichever is the greater amount. Where the doctor bulk-bills the Commonwealth to obtain benefits, the 85 per cent Commonwealth benefit must be accepted by the doctor in full settlement. If the doctor does not bulk-bill then the patient claims Commonwealth benefit at the 85 per cent/\$5 rate from a health fund.

Where the doctor does not bulk-bill he may require the patient to make a personal contribution above the 85 per cent/\$5 level of Commonwealth benefit towards his fee.

Hospital

The Commonwealth Government requires that States provide free hospital treatment (both inpatient and outpatient services) in public hospitals, including the provision of medical services by doctors engaged by the hospital, to PHB pensioners and people in special need and their dependants.

State Governments are however free to extend these benefits from their own resources to other people in the community. Subject to decisions individual State Governments may make in this regard, all other patients must meet any charges raised either through health insurance or from their own resources. The process of determining the actual level of hospital charges, and to whom they should apply (beyond pensioners and those in special need specified by the Commonwealth), is the responsibility of State health authorities.

Private insurance

Inpatient charges in recognised public hospitals increased in all States with effect from 1 September 1981. Shared room accommodation charges increased to \$80 per day in all States and Territories except South Australia and Western Australia where the charge is \$85 per day. Single room charges are \$110 per day except for South Australia where the charge is as for a shared room, \$85 per day.

As a result of these increased charges hospital insurance contribution rates and benefits payable increased. All registered hospital benefits organisations are required to operate a basic benefits table which provides: benefits equal to the declared standard fee for accommodation in a shared room; benefits equal to the professional service fee charged by the hospital where a patient chooses to utilise the services of hospital doctors; benefits for long term nursing home patients in hospitals (having regard to the requirement that such patients must contribute towards the cost of their care and accommodation in the same way as patients in nursing homes); and benefits equal to charges raised for services provided at the outpatient facilities of recognised public hospitals.

From 1 September 1981 all registered medical benefits funds have been required to provide medical benefits in their basic tables which, when combined with the flat Commonwealth medical benefit of 30 per cent, covers 85 per cent of the Schedule fee for each medical service, with the maximum payment by the patient of \$10 for each service, where the Schedule fee is charged. The funds continue to pay Commonwealth medical benefits on behalf of the Commonwealth Government.

The scope of other tables offered by the registered health insurance organisation remains a matter essentially for organisations to determine. However, as from 1 September 1981 optional (variation-to-basic) benefit tables (e.g. whereby contributors personally meet a fixed amount of their own health care costs say, the first \$200 before benefits become payable), have been prohibited.

A tax rebate of 32 cents in the dollar, separate from the existing concessional rebate arrangements, was introduced for the cost of basic hospital and basic medical insurance with registered health benefits funds in respect of contributions paid since, and in respect of coverage from, 1 July 1981.

Financing

From 1 July 1981 in all States and the Northern Territory, except South Australia and Tasmania, the hospital cost sharing agreements were terminated. The Commonwealth, under new arrangements, now provides funds to these States and the Northern Territory in the form of an identifiable general purpose grant, within tax sharing arrangements for the operation of their public hospitals and/or services previously funded under the *Community Health Program* and the *School Dental Scheme*. The level of the grant is based on the funding provided by the Commonwealth in 1980-81, plus 10 per cent, less a share of the revenue that the States can reasonably be expected to raise by the application of appropriate inpatient and outpatient charges from 1 September 1981 having regard to the new health insurance arrangements to operate from that date.

South Australia and Tasmania also receive an identifiable general purpose health grant for services previously funded under the *Community Health Program* and the *School Dental Scheme*. For hospitals in these two States, the cost sharing arrangements continue with the Commonwealth meeting 50 per cent of the agreed net operating costs of recognised public hospitals.

In respect of approved private hospitals the Commonwealth since 25 June 1981 has paid a bed day subsidy of \$28 in respect of all patients undergoing prescribed surgical procedures—for all other patients a bed day subsidy of \$16 continues to be payable.

The Section 34 (Health Insurance Act) arrangements which provided for the Commonwealth to fund fully the operational costs of 'public hospital beds' in private hospitals were abolished from 1 September 1981.

The *Hospital Benefits Reinsurance Trust Fund* arrangements continue with the Commonwealth's contribution set as \$100 million for 1981-82.

Administration

The Department of Health continues to be responsible for administering the Commonwealth medical benefit payments to the registered medical benefits organisations, bulk-billing arrangements, hospital payments and subsidies, nursing home benefits and health program grants.

Nursing home benefits

Since 1 September 1981 there have been two forms of Commonwealth benefit payable in respect of patients accommodated in premises approved as nursing homes under the National Health Act. These benefits are as follows:

(i) *Basic Nursing Home Benefit*

Basic nursing home benefit is payable in respect of all qualified nursing home patients other than those patients who are eligible to receive payment of fees from some other source such as the Department of Veterans' Affairs, compensation, third party insurance, etc. The amount of basic benefit payable varies between States so that, when combined with the minimum patient contribution (as explained below) the resultant amount will fully cover the approved fees of 70 per cent of patients in non-government nursing homes in each State. The benefit is reviewed and adjusted annually on this basis, the last such adjustment taking effect on 6 November 1980.

As at 6 November 1980, the maximum amount of basic nursing home benefit payable per day in each State was: New South Wales \$18.10; Victoria \$26.80; Queensland \$16.85; South Australia \$24.30; Western Australia \$16.00; and Tasmania \$18.65.

(ii) *Extensive Care Benefit*

The extensive care benefit is payable at the rate of \$6 a day, in addition to the basic benefit, in respect of patients who need and receive 'extensive care' as defined in the National Health Act. As in the case of the basic benefit, the extensive care benefit is payable in respect only of qualified patients who are not entitled to receive such payment of fees from the Department of Veterans' Affairs, workers' compensation or third party insurance.

Since 1 September 1981 all nursing home benefits have been paid by the Commonwealth, irrespective of insurance status.

Generally speaking all nursing home patients are required to make a minimum contribution towards the approved nursing home fee charged (while an exception to this rule is provided for, that exception relates basically to certain circumstances involving handicapped children in nursing homes). The minimum patient contribution is calculated as 87.5 per cent of the single rate pension plus supplementary assistance.

As at 7 May 1981, the minimum patient contribution payable by patients accommodated in nursing homes approved under the National Health Act was \$8.95 a day.

Where the fees charged by a nursing home are in excess of the combined total of nursing home benefits plus the patient contribution, the difference must be met by the patient. Conversely, where the nursing home fee is less than this combined total, the basic benefit is reduced by that amount.

Long Term patients

Long-term patients accommodated in all hospitals who no longer require hospital treatment are reclassified as nursing home type patients and required to contribute towards their care and accommodation in the same way as patients in nursing homes. A 'nursing home type patient' is an inpatient whose hospitalisation exceeds 60 days, unless a certificate has been issued by a medical practitioner to certify that a patient is in need of further acute care. The Governments of New South Wales, South Australia and The Northern Territory have not yet agreed to implement these arrangements in their public hospitals.

Deficit financing arrangements

As an alternative to the provision of patients benefits under the National Health Act (as outlined above) the *Nursing Homes Assistance Act, 1974* provides for an arrangement whereby the Commonwealth Government may meet the net operating deficits of charitable and benevolent nursing homes.

All organisations wishing to participate in the deficit financing arrangements must enter into a formal agreement with the Commonwealth Government for that purpose.

Commonwealth nursing home benefits as provided under the National Health Act are not payable to a nursing home during any period in respect of which that nursing home participates under the deficit financing arrangements and qualified patients are charged only a prescribed fee equivalent to the minimum patient contribution.

Domiciliary nursing care benefit

The rate of the domiciliary nursing care benefit which is payable to persons who are willing and able to care in their own homes for relatives who would otherwise qualify for admission to a nursing home, is \$42 a fortnight. The basic criteria for the payment of the benefit are that the patient must be aged sixteen years or over and be in need of continuing nursing care and receiving regular visits by a registered nurse.

This benefit is not subject to a means test and is payable, under the National Health Act, in addition to any entitlements that persons may have under the Social Services Act or the Repatriation Act for pensions or other supplementary allowances.

Health program grants

Health program grants, authorised under the Health Insurance Act, are payable to eligible organisations to meet the cost, or such proportion of the cost as the Minister may determine, of approved health services provided outside of hospitals by medical practitioners employed on a salaried or sessional basis. Eligible organisations are required to impose charges, where appropriate, for services involving privately insured patients. Generally, the grant covers the cost of Schedule medical services provided to patients in respect of whom a doctor in private practice would bulk-bill, i.e. Pensioner Health Benefits cardholders and their dependants, and eligible people in special need. The total amount paid to approved organisations during 1980-81 was \$4.4 million.

Commonwealth Authorities Expenditure

Pharmaceutical benefits

A person receiving treatment from a medical practitioner or a participating dental practitioner registered in Australia is eligible for benefits on a wide range of drugs and medicines when they are supplied by an approved pharmacist upon presentation of a prescription or by an approved private hospital when that person is receiving treatment at the hospital. Special arrangements exist to cover the supply of pharmaceutical benefits in situations where the normal conditions of supply do not apply, e.g. in remote areas.

For each supply of a pharmaceutical benefit a patient contribution of \$3.20 is payable from 1 December 1981 by the general public other than persons in possession of either a Pensioner Health Benefits Card or a Health Benefits Card (e.g. eligible pensioners and certain sickness beneficiaries) and their dependants who are eligible to receive their benefits free of charge.

Under the Pharmaceutical Benefit Scheme the total cost, including patient contributions, for prescription drugs was \$391.0 million in 1979-80 and \$428.9 million in 1980-81. These figures do not include benefits supplied by certain hospitals and miscellaneous services or retrospective adjustments of chemists' remunerations.

Summary of personal benefit payments

For an analysis by purpose and economic type of expenditure by all Commonwealth Government authorities see Chapter 22, Public Finance.

Most Commonwealth Government health benefits are financed through the National Welfare Fund and the Health Insurance Commission. The following table shows personal benefit payments by Commonwealth Authorities for 1979-80.

COMMONWEALTH AUTHORITIES: PERSONAL BENEFIT PAYMENTS—HEALTH 1979-80
(\$'000)

	N.S.W. (a)	Vic.	Qld	S.A. (a)	W.A.	Tas.	N.T. (a)	A.C.T. (a)	Total
Hospital and clinical services—									
Hospital benefits reinsurance	11,600	28,849	6,005	10,276	-3,378	-928	-	-	52,424
Private hospital daily bed payments	20,254	19,501	12,839	8,262	5,481	1,913	593	889	69,732
Hospital benefits, n.e.c.	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)-102
Nursing home benefits	115,470	70,443	43,379	35,913	31,149	10,066	-	5,067	311,487
Tuberculosis campaign allowances	394	466	209	35	49	19	25	10	1,207
Rehabilitation of ex-servicemen	159	140	53	20	57	21	-	42	492
<i>Total</i>	<i>147,877</i>	<i>119,399</i>	<i>62,485</i>	<i>54,506</i>	<i>33,358</i>	<i>11,091</i>	<i>618</i>	<i>6,008</i>	<i>(b)435,240</i>

For footnotes see end of table.

COMMONWEALTH AUTHORITIES: PERSONAL BENEFIT PAYMENTS—HEALTH 1979-80—*continued*
(\\$'000)

	N.S.W. (a)	Vic.	Qld	S.A. (a)	W.A.	Tas.	N.T. (a)	A.C.T. (a)	Total
Other health services—									
Medical benefits	270,101	152,988	77,845	49,375	40,845	13,519	4,514	11,852	621,039
Isolated patients travel and accommodation assistance	305	212	926	159	352	84	283	—	2,321
Pharmaceutical benefits for pensioners	70,915	39,130	25,844	13,936	11,047	4,571	99	819	166,361
Pharmaceutical benefits, n.e.c.	42,814	28,649	15,895	8,611	7,670	2,692	312	1,630	108,274
Domiciliary care	3,125	2,363	1,846	878	900	650	—	—	9,762
Health Insurance Commission—									
State cheques	-448	-253	-129	-82	-68	-22	-7	-20	-1,029
Total	386,812	223,089	122,227	72,877	60,746	21,494	5,201	14,281	906,727
Total health	534,689	342,488	184,712	127,383	94,104	32,585	5,819	20,289	(b)1,341,967

(a) State totals for New South Wales and South Australia also include most of the unallocatable expenditure on personal benefit payments to residents in the Australian Capital Territory and the Northern Territory respectively. (b) A State and Territory dissection of the total for Hospital benefits, n.e.c. is not available and therefore the sum of each of the State and Territory figures do not add to the total for Australia.

Tuberculosis

An arrangement between the Commonwealth and the States under which the Commonwealth reimbursed the States for all approved capital expenditure on tuberculosis and for net maintenance expenditure to the extent that it exceeded that for 1947-48 was discontinued from 31 December 1976. The National Tuberculosis Advisory Council, however, has been retained to keep abreast of advances and to advise the Minister for Health and, through him, the State Ministers for Health on the best means of prevention, diagnosis and control of tuberculosis. There are eleven members of the Council, the chairman being the Director-General of the Commonwealth Department of Health.

To reduce the spread of infection the Commonwealth Government pays allowances to persons suffering from infectious tuberculosis so that they may give up work and undergo treatment. Commonwealth Government Expenditure on Tuberculosis Allowances over the last three years has been \$746,000 in 1978-79, \$1,207,200 in 1979-1980 and \$1,317,000 in 1980-81.

Immunisation campaigns

Continuing immunisation programs against poliomyelitis, measles, rubella, diphtheria, tetanus, and whooping cough are maintained in all States and Territories.

Mass campaigns for rubella immunisation are routinely undertaken only on girls aged between 10 and 14 years. Rubella immunisation is also available when appropriate to females during their reproductive years. Whooping cough immunisation is currently given only to infants less than 1 year of age.

National health services organisations

The Commonwealth Department of Health Pathology Laboratory Service provides clinical diagnostic and investigational facilities at laboratories situated in Albury, Bendigo, Cairns, Hobart, Kalgoorlie, Launceston, Lismore, Port Pirie, Rockhampton, Tamworth, Toowoomba and Townsville. Their primary role is to assist medical practitioners in the diagnosis of illness and disease and to provide facilities for investigations into public health and aspects of preventive medicine. During 1980-81, these laboratories carried out approximately 5.3 million pathology tests and investigations in respect of 1.0 million patient requests.

The Commonwealth Serum Laboratories Commission (CSL) produces pharmaceutical products for human and veterinary use and is one of Australia's foremost scientific institutes. The Commission's main function is to produce and sell prescribed pharmaceutical products used for therapeutic purposes and to ensure the supply of essential pharmaceutical products in accordance with national health needs. The Commission's functions also include research and development relating to many kinds of human and veterinary diseases covering the fields of bacteriology, biochemistry, immunology and virology. The Commission's laboratories and central administration are located at Parkville, Victoria, with storage and distribution facilities in all States.

For over sixty years, CSL has been Australia's chief supplier of biological medicines, insulins, vaccines, penicillin, human blood fractions, Bacillus Calmette-Guerin (BCG) and an increasing range of

veterinary biological products needed by Australia's sheep, cattle, pig and poultry industries. The role of CSL has expanded as a result of amendments to the CSL Act from 1 July 1980 that allow CSL to produce, buy, import, supply, sell or export prescribed pharmaceutical products (either of a biological or non-biological nature).

The Commission employs more than 1,000 people, including medical officers, veterinarians, bacteriologists, biochemists, physicists, engineers, accountants, laboratory assistants, skilled tradesmen and experienced marketing staff to promote the sale of its products.

The *Australian Radiation Laboratory* is concerned with:

- (a) The formulation of policy, development of codes of practice, national surveillance and provision of scientific services relating to the public and occupational health implications of ionising and non-ionising radiation; and
- (b) The maintenance of national radiation measurement standards and quality evaluation and assurance of radioactive materials used for medicine diagnosis and treatment.

The *National Acoustic Laboratories* undertake scientific investigations into hearing and problems associated with noise as it affects individuals, and advise Commonwealth Government Departments and instrumentalities on hearing conservation and the reduction of noise. A free audiological service is provided for pensioners with medical benefit entitlements and their dependants, persons under 21, war widows, Social Security rehabilitees and Veterans' Affairs patients. During 1980-81 the number of appointments provided was 143,263 and the number of hearing aids fitted was 41,457.

The *Ultrasonic Institute* conducts research and provides advisory services on the use of ultrasonic radiation in the diagnosis and treatment of disease. The Institute is recognised as a world leader in its field.

Commonwealth Government health advisory organisations

The *National Health and Medical Research Council* advises the Commonwealth Government and State Governments on all matters of public health legislation and administration, on matters concerning the health of the public and on medical research. It also advises the Commonwealth Government and State Governments on the merits of reputed cures or methods of treatment which are from time to time brought forward for recognition. The Council advises the Commonwealth Minister for Health on the application of funds from the Medical Research Endowment Fund which provides assistance to Commonwealth Government Departments, State Departments, Universities, Institutions and persons for the purposes of medical research and for the training of persons in medical research. The Commonwealth Government makes annual appropriations to the fund. The allocation for 1981-82 is \$23.3 million. The secretariat for the Council and its Committees is provided by the Commonwealth Department of Health and is located in Canberra.

The *Commonwealth Institute of Health* (formerly the *School of Public Health and Tropical Medicine*) is located in the University of Sydney and provides teaching, research and consultation in all fields relating to health and its maintenance and promotion including resources devoted to the study of health problems of the tropics and developing nations. The Institute's academic and research functions are under the direction of the University, whilst its various training, consultative and professional service roles are maintained by the Commonwealth Department of Health which funds the Institute's activities.

The Institute has an important new role as a resource and data collection centre for the nation and it is endeavouring to promote health and a better understanding of health care and its delivery throughout Australia and neighbouring countries.

The Institute offers undergraduate and postgraduate training in a wide range of Public Health specialties, the largest programme being the Master of Public Health.

Costs for the Institute paid by the Commonwealth Government during 1980-81 were \$2,575,390 for administration and \$175,964 for plant and equipment.

The *Institute of Child Health* is associated with the Commonwealth Institute of Health located at the University of Sydney and with the Royal Alexandra Hospital for Children at Camperdown. Its activities include research into medical and social problems of childhood, undergraduate and postgraduate teaching at the University of Sydney, collaboration with other national and international organisations concerned with child health and disease, and the training of United Nations Colombo Plan Fellows. Costs of the Institute paid by the Commonwealth Government during 1980-81 were \$544,433 for administration and \$9,595 for plant and equipment.

The *Australian Dental Standard Laboratory* is concerned with the quality, standards, and research related to dental and medical materials and devices. The number of samples tested in 1980-81 was 127.

The *National Biological Standards Laboratory* is responsible for the development of standards for therapeutic goods and for testing such products for compliance with standards to ensure that they are safe, pure, potent and efficacious. Other responsibilities, including the inspection of manufacturing premises, the evaluation of new and modified products and the investigation of complaints, make it the linchpin of a uniform national system of control over therapeutic goods.

The British Pharmacopoeia, the British Pharmaceutical Codex and the British Veterinary Codex are specified as primary standards. In addition, the Minister has powers to make orders setting standards for specific types of goods and general classes of goods which are imported, or the subject of interstate trade, or supplied to the Commonwealth Government. Standards developed by the National Biological Standards Laboratory are submitted to a statutory committee, the Therapeutic Goods Standards Committee, which advises the Minister on their suitability.

The Laboratory, jointly with State officials and the pharmaceutical industry, prepares and revises an Australian Code of Good Manufacturing Practice which is the criterion employed by inspectors for the licensing of pharmaceutical manufacturers.

The Laboratory has sections which deal with viral products, bacterial products, pharmaceutical products, antibiotics and pharmacology. Administrative costs for 1980-81 were \$3,334,853 and a further \$146,484 was expended on plant and equipment.

The *Australian Drug Evaluation Committee* makes medical and scientific evaluations both of such goods for therapeutic use as the Minister for Health refers to it for evaluation and of other goods for therapeutic use which, in the opinion of the Committee, should be so evaluated, and advises the Minister for Health as it considers necessary relating to the importation into and the distribution within Australia of goods for therapeutic use that have been the subject of evaluation by the Committee. It has the powers to co-opt and seek advice from specialist medical colleges and associations and from the medical and allied professions, drug manufacturers and other sources. During 1980-81 ninety-two applications for approval to market new drugs and thirty applications to extend the indications or amend dosage regimes for currently marketed drugs were considered by the Committee. Ninety-three applications were approved, twenty-six rejected and three deferred pending production of further information on safety and efficacy. Under the Committee's control are the Australian Registry of Adverse Reactions to Drugs, which provides an early warning system based on reports of reactions to drugs forwarded voluntarily by medical practitioners, pharmacists, hospitals, etc; the Adverse Drug Reaction Advisory Committee, which gives initial consideration to the adverse drug reaction reports received by the Registry and arranges feedback to the medical profession; the Vaccines Sub-Committee; the Endocrinology Sub-Committee; the Congenital Abnormalities Sub-Committee; the Parenteral Nutrition Sub-Committee; the Anti-Cancer Drugs Sub-Committee; the Radiopharmaceuticals Sub-Committee; and the National Drug Information Advisory Sub-Committee, formed to oversee administrative aspects of the technical input to the National Drug Information Service.

The *Therapeutic Goods Advisory Committee* considers, and advises the Minister for Health on, any matters relating to standards applicable to goods for therapeutic use and the administration of the Therapeutic Goods Act. The *Therapeutic Goods Standards Committee*, under the same Act, advises the Minister for Health on standards applicable to goods for therapeutic use and requirements relating to the labelling and packaging of any such goods.

The *National Therapeutic Goods Committee* comprises Federal and State representatives. Its function is to make recommendations to the Commonwealth and State Governments on action necessary to bring about co-ordination of legislation and administrative controls on therapeutic goods. Sub-committees have been formed to consider specific matters, notably advertising, establishment of a National Product Register, a Code of Good Manufacturing Practice, and standards for disinfectants.

The *Standing Committee of the Health Ministers Conference* was established by the 1980 Australian Health Ministers' Conference to carry out any tasks or directions referred to it by the Conference. The Committee's membership consists of representatives from the Commonwealth Departments of Health and Veterans' Affairs, each State health authority, the Northern Territory Department of Health and the Capital Territory Health Commission.

Other Commonwealth Government subsidies and grants to States

Home nursing subsidy scheme

The *Home Nursing Subsidy Scheme* provides for an annual Commonwealth subsidy to approved home nursing services. Organisations eligible for the subsidy are those which are non-profit making, employ registered nurses, and receive assistance from a State Government or from local government bodies. During 1980-81 subsidies totalling \$13.5m were paid to 191 organisations providing home nursing services in the States. Home nursing services in the Northern Territory were provided by the Com-

monwealth Department of Health until 1 January 1979, when responsibility was transferred to the Northern Territory Government. In the Australian Capital Territory, these services have been provided by the Capital Territory Health Commission.

Paramedical services

The *States Grants (Paramedical Services) Act 1969* provides for the Commonwealth Government to share on \$1 for \$1 basis with participating States the cost of approved paramedical services such as chiropody, occupational therapy, physiotherapy and speech therapy provided wholly or mainly for aged persons in their homes. Matching grant payments during 1980-81 amounted to \$984,000.

Community health program

There are fifteen non-government organisations which receive Commonwealth financial assistance as national projects under the *Community Health Program*. The Commonwealth provides funds to these organisations in respect of specific activities approved under the program.

The largest of these national projects is the *Family Medicine Program of the Royal Australian College of General Practitioners*, which provides vocational training for recently graduated doctors who intend to enter general medical practice. The other national projects are national co-ordinating secretariats of non-government health-related organisations operating in several States or health-related projects which have national application.

A total of \$6,691,000 has been appropriated for these national projects by the Commonwealth for 1981-82.

Program of aids for disabled people

The *Program of Aids for Disabled People* is intended to provide a range of aids to daily living to people with disabilities of a permanent or indefinite duration who are ineligible for such assistance under other government-funded programs. The primary aim of the program is to increase the level of independence of disabled people in the community (i.e. non-institutional) setting. The program is operated through the health services networks administered by the health authorities in participating States and Territories.

A range of aids, including home modifications, wheelchairs, domiciliary oxygen, surgical footwear and walking aids, may be provided under this program.

In addition to meeting the cost of aids, the Commonwealth finances a handling charge of up to 15 per cent on the cost of aids issued.

For the period 1 April-30 June 1981, \$700,000 was appropriated for this program. In 1981-82, \$2.4 million has been appropriated.

Commonwealth Government grants to organisations associated with public health

In addition to providing the services already mentioned in this Chapter, the Commonwealth Government gives financial assistance to certain organisations concerned with public health. Examples of organisations included in this category are given in the following text.

The *Royal Flying Doctor Service* is a non-profit organisation providing medical services in remote areas of Australia. It is distinct from, but co-ordinates with, the Aerial Medical Service which, while formerly operated by the Commonwealth Department of Health, has been operated by the Northern Territory Government since 1 January 1979. The Royal Flying Doctor Service is financed mostly from donations and government contributions. For the year ended 30 June 1981 the Commonwealth Government paid grants totalling \$3,313,000 towards operational costs and matching assistance of \$625,000 towards an approved program of capital expenditure. The Service made flights during 1980-81 totalling 4.9 million kilometres and transported 8,712 patients. In the same period medical staff conducted a total of 92,669 consultations and dental treatment was given to 2,013 patients.

The *Red Cross Blood Transfusion Service* is conducted by the Australian Red Cross Society throughout Australia. The operating costs of the Service in the States are met by the State Governments paying 60 per cent, the Society 5 per cent of net operating costs or 10 per cent of donations, whichever is the lesser, and the Commonwealth Government meeting the balance. In the Northern Territory the Society contributes to operating costs as it does in the States, and the Commonwealth met the balance prior to 1 January 1979. After this date the Northern Territory is in the same position as the States. Approved capital expenditure by the Service in the States is shared on a \$1 per \$1 basis with the States and after 1 January 1979, with the Northern Territory Government. Commonwealth Government expenditure for each State and the Northern Territory during 1980-81 was \$8,045,505, made up as follows: New South Wales, \$2,225,695; Victoria, \$2,574,850; Queensland, \$1,050,029; South Australia, \$1,094,131; Western Australia, \$826,300; Tasmania, \$189,500; and Northern Territory, \$85,000.

The *National Heart Foundation of Australia* is a voluntary organisation, supported almost entirely by public donations, established with the objective of reducing the toll of heart disease in Australia. It approaches this objective by programs sponsoring research in cardiovascular disease, community and professional education directed to prevention, treatment and rehabilitation of heart disease and community service programs including rehabilitation of heart patients, risk assessment clinics and surveys and documentation of various aspects of heart disease and treatment of heart disease in Australia. The Foundation's income in 1980 was \$5,073,036 of which \$4,352,946 was from public donations and bequests. The Commonwealth Government made grants of \$112,365 for specific projects conducted by the Foundation. Since the inception of the Foundation research has been a major function and a total of \$12,803,000 has been expended in grants to university departments, hospitals and research institutes and for fellowships tenable in Australia and overseas. It is notable however that with increasing opportunities for prevention and control of heart disease, the Foundation's education and community service activities are increasing significantly. In 1980 the expenditure on research was \$1,470,000 while expenditure on education and community service was \$825,000.

The *World Health Organization* (WHO) is a specialised agency of the United Nations having as the objective the attainment by all peoples of the highest level of health. Australia is assigned to the Western Pacific Region, the headquarters of which is at Manila and is represented annually at both the World Health Assembly in Geneva and the Regional Committee Meeting in Manila. Australia's contribution to WHO for 1980-81 was \$3,106,273.

The *International Agency for Research on Cancer* (IARC) was established in 1965 within the framework of the World Health Organization. The headquarters of the Agency are located in Lyon, France. The objectives and functions of the Agency are to provide for planning, promoting and developing research in all phases of the causation, treatment and prevention of cancer. Australia's contribution to the IARC for 1980-81 was \$436,169.

The *Isolated Patients Travel and Accommodation Assistance Scheme* commenced on 1 October 1978. The purpose of the Scheme is to financially assist patients living in isolated areas with costs incurred where they need to travel in excess of 200 kilometres to obtain specialist medical treatment from the nearest suitable medical specialist or consultant physician. The scheme has now been extended to include referral for specialist oral surgery as well as special provisions for isolated cleft lip and/or cleft palate patients. For the 12 months up to 30 June 1981, 40,653 patients had been approved for benefit under the Scheme with a cost to the Commonwealth of \$4,837,000.

Public health legislation and administration

For a comprehensive account of the administration of health services in each State, the Northern Territory and the Australian Capital Territory, see the annual reports of the respective health departments and health commissions. For details of legislation and administrative changes in previous years see earlier issues of the Year Book.

Supervision and care of infant life

Because the health of mothers and infants depends largely on pre-natal care as well as after-care, government, local government and private organisations provide instruction and treatment for mothers before and after confinement. The health and well-being of mother and child are looked after by infant welfare centres, baby clinics, crèches, etc.

In all States, Acts have been passed with the object of supervising the conditions of infant life and reducing the rate of mortality. Stringent conditions regulate the adopting, nursing and maintaining of children placed in foster-homes by private persons.

HOSPITALS AND NOTIFIABLE DISEASES

Repatriation hospitals

A full range of services for the medical care and treatment of eligible veterans and certain dependants is available from the Department of Veterans' Affairs hospital system. Patients from the general community may also receive treatment at Repatriation hospitals provided bed capacity is available above the needs of the entitled veteran and the hospital facilities are appropriate to the treatment required.

In-patient treatment is provided at the six acute-care Repatriation General Hospitals (one in each State) and three auxiliary hospitals. In-patient treatment may also be provided in non-departmental public and private hospitals at the Department's expense in certain circumstances.

Mental patients requiring custodial care are, by agreement with the State Governments, accommodated at the expense of the Department in mental hospitals administered by the State authorities.

Details of patients, staff and expenditure on Repatriation institutions and other medical services are given in Chapter 9, Social Security and Welfare.

Hansenide hospitals

The two isolation hospitals in Australia for the care and treatment of persons suffering from Hansen's Disease (leprosy) are at Little Bay in New South Wales and Derby in Western Australia. In North Queensland, a leprosy annexe is attached to the Palm Island Hospital near Ingham and in the Northern Territory leprosy sufferers are treated and cared for at the East Arm Hospital in Darwin. Treatment is also provided at a number of other hospitals in Australia which do not have facilities set aside specifically for leprosy patients.

In Australia, new cases of leprosy notified to the Commonwealth Department of Health numbered 55 in 1978, 59 in 1979 and 35 in 1980.

Mental health institutions

The presentation of meaningful statistics of mental health services has become increasingly difficult because of changes in recent years in the institutions and services for the care of mental patients. The emphasis has shifted from institutions for care of patients certified insane to a range of mental health services provided for in-patients and out-patients at psychiatric hospitals, admission and reception centres, day hospitals, out-patient clinics, training centres, homes for the mentally retarded and geriatric patients, psychiatric units in general hospitals, and the like. Numbers of institutions, beds available, staff and patients treated at locations catering only for the mentally ill in 1973-74 were published in Year Book No. 61, page 465. More recent figures indicate that fewer patients were treated as in-patients in nearly every State, but this should not be considered as an indication of improved mental health; it is rather a more advanced method of treatment, allowing patients greater contact with the outside world.

Hospital morbidity statistics

A major factor in the cost of health care in Australia is hospital treatment of patients. Attempts to measure the number of in-patients treated and bed-days involved for each disease or injury have been going on for some years, but as coverage is incomplete it is not yet possible to present national statistics. Figures for New South Wales, Queensland, Western Australia and Tasmania, however, are published in the ABS publications *Hospital In-patient Statistics* (4306.1), *Patients Treated in Hospitals* (4303.3), *Hospital In-patient Statistics* (4301.5) and *Hospital Morbidity* (4301.6) respectively. Statistics for New South Wales are also published by the State Health Commission in its publication, *Hospital Inpatients Statistics New South Wales*.

An examination of the New South Wales figures for 1978, which include psychiatric hospitals, indicates that the largest numbers of patients were treated for conditions of pregnancy, childbirth and the puerperium (10.7 per cent), genito-urinary diseases (9.9 per cent) and injury (9.9 per cent) but, in terms of hospital bed-days, the greatest occupancy rate was caused by mental disorders (28.4 per cent) followed by diseases of the circulatory system (14.7 per cent) and injury (6.8 per cent). Of the principal operations performed the largest number was for female genital organ surgery (16.2 per cent) followed by abdominal surgery (15.4 per cent) and obstetric surgery (12.2 per cent).

Notifiable diseases

Although State and Territory health authorities are responsible for the prevention and control of infectious diseases within their areas of jurisdiction, certain powers and responsibility may be delegated to local authorities within each State. These usually involve such activities as personal health services, environmental sanitation and local communicable disease control.

The Commonwealth Department of Health receives notification figures from the States and Territories on a monthly basis which are published in *Communicable Diseases Intelligence*. The national totals for the year are published in the annual report of the Director-General of Health.

The following table shows, by State and Territory, the number of cases notified in 1980 for those diseases which are notifiable in all States and Territories. The table does not include diseases which are notifiable only in certain States or Territories. Factors such as the following affect both the completeness of the figures and the comparability from State to State and from year to year: availability of medical and diagnostic services; varying degrees of attention to notification of diseases; and enforcement and follow up of notifications by health authorities.

NOTIFIABLE DISEASES(a), NUMBER OF CASES NOTIFIED 1980

Disease	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Brucellosis	10	4	5	27	3	—	—	—	49
Cholera	—	1	2	—	—	—	—	—	3
Diphtheria	—	—	1	—	—	—	—	—	1
Gonorrhoea	3,643	2,744	1,838	866	1,208	197	722	269	11,487
Hepatitis A (infectious)	558	332	142	115	59	26	125	28	1,385
Hepatitis B (serum)	181	172	61	189	16	4	13	10	646
Hydatid	25	2	1	7	—	2	—	4	41
Leprosy	9	4	5	1	9	—	7	—	35
Leptospirosis	2	24	16	11	9	1	—	1	64
Malaria	113	90	207	54	50	4	7	16	541
Ornithosis	—	—	—	15	—	—	1	1	17
Salmonella	250	508	254	731	219	31	271	28	2,292
Syphilis	1,007	128	805	258	184	—	504	16	2,902
Tetanus	3	2	3	1	—	—	—	—	9
Tuberculosis	462	432	291	130	167	15	26	31	1,554
Typhoid fever	7	5	1	1	4	1	—	—	19

(a) There were no cases of plague, smallpox, yellow fever, poliomyelitis or any form of typhus.

NOTE: Excluded from the figures in the table are 8 cases of "Carriers" in Victoria where the persons did not suffer from the illness reported: 2 cases of Diphtheria and 6 cases of Typhoid fever.

Health-related surveys conducted by the ABS

Alcohol and Tobacco Consumption Survey

A survey conducted by ABS in February 1977 into alcohol and tobacco consumption patterns of the Australian population aged 18 years and over showed that 2.2 per cent of them drank over 80 grams of alcohol per day (considered by health authorities to be heavy drinking) and 35.9 per cent currently smoked cigarettes.

Consumption patterns by State and by such personal characteristics as sex, age, marital status and occupation are published in the publications *Alcohol and Tobacco Consumption Patterns, February 1977* (4308.0 and 4312.0).

Australian Health Survey

A survey was conducted by ABS during the period July 1977–June 1978 to obtain information on the health of Australians and the use of and need for various health services and facilities. Topics covered by the survey included recent and chronic illness, accidents, use of medicines, and use of doctors, dentists, and other health workers and facilities, as well as a range of personal characteristics. The items are described more fully in *Australian Health Survey Information Paper* (4340.0). Summary results of the survey have been published in *Australian Health Survey 1977–1978* (4311.0); detailed results are published in a series of publications (4313.0 to 4322.0) dealing with the special topics of the survey.

The main features of the survey results are:

- Approximately 45.1 per cent of the Australian population reported having one or more chronic conditions, the most frequently reported being Arthritis, Hayfever and Hypertensive disease.
- Of the 6.2 million persons with a chronic condition, 1.4 million reported being limited in their activities because of illness. This comprises 10.3 per cent of the population aged 2 years and over.
- Approximately 64.2 per cent of persons reported consulting a doctor in the 6 months before interview; 17.7 per cent reported consulting a doctor in the 2 weeks before interview.
- 49.8 per cent of persons reported taking medication in the two days before interview; 32.7 per cent of the population indicated that some or all of their medications were prescribed. The types of medications ranged from vitamins and tonics through to medicines for heart conditions and blood pressure.
- Approximately 7.0 per cent of persons aged 2 years or more had one or more days in bed due to illness or injury in the two weeks before interview.
- 12.7 per cent of persons reported one or more hospital episodes (admissions and discharges) in the twelve months before interview.
- Of the Australian population aged 2 to 5 years, 3.5 per cent had NOT received any immunisation against Poliomyelitis (Sabin vaccine) and 2.2 per cent had NOT received any doses of Triple Antigen vaccine for immunisation against Diphtheria, Tetanus and Whooping Cough.

Health Insurance Survey

In March 1981 the ABS conducted a survey throughout Australia to obtain information about levels of health insurance cover in the Australian community. The survey obtained, in respect of contributor units, details of the hospital and medical insurance arrangements they had at the time of the survey, and their arrangements 12 months previously.

The survey found that as at March 1981, 56.2 per cent of all possible contributor units had some type of private health insurance. This represents 3.2 percentage points less than in March 1980 and 6.2 percentage points less than in March 1979. A further 16.6 per cent were identified as being covered by Special Commonwealth Health benefits (i.e. as pensioners, veterans or disadvantaged), leaving 27.2 per cent of all possible contributor units without health insurance nor identified access to special Commonwealth health benefits.

Results of the survey showing such details as type and level of health insurance cover; income and composition of contributor units; age of head of contributor unit; special Commonwealth health benefits and changes in health insurance cover in the previous 12 months are published in *Health Insurance Survey, Australia, March 1981* (4335.0).

Hearing Survey

In September 1978 the ABS conducted a survey to obtain information about hearing problems for persons aged 15 years or more. Details included the cause and extent of their problem, whether a hearing aid was used, and if not, the reason for not using an aid. It also contained data on whether persons have had their hearing tested in the last 5 years.

The main features of this survey were:

- Approximately 7 per cent of the total Australian population aged 15 years or more reported some form of hearing problem.
- The two main causes of hearing problems for these persons are constant noise and disease or illness.
- Of persons reporting a hearing problem, 20 per cent possess a hearing aid.
- Approximately 16 per cent of the population aged 15 years or more had their hearing tested in the last 5 years.

Results of the survey have been published in the publication *Hearing and the Use of Hearing Aids (Persons aged 15 years or more) September 1978* (4336.0).

A similar survey was conducted for persons aged 2 to 14 years but contained data only on cause of hearing problem and whether persons have had their hearing tested in the last 5 years. Results of this survey are contained in the publication *Sight, Hearing and Dental Health (Persons aged 2 to 14 years) February–May 1979* (4337.0).

Sight Survey

During February to May 1979 the ABS conducted a survey to obtain information on sight problems and the use of glasses/contact lenses for the Australian population aged 2 years or more. Details included type of sight problems, reason glasses/contact lenses are worn, how often they are worn and whether persons have had their sight tested in the last 5 years.

The main features of the survey were:

- Approximately 39 per cent of the population reported having some loss of sight. However only 3 per cent of all persons aged 2 years or more reported that the loss of sight could not be helped by glasses/contact lenses.
- Approximately 38 per cent of the population have glasses/contact lenses. Almost 40 per cent of persons with glasses/contact lenses wear them for more than 8 hours a day. However, approximately 4 per cent wear their glasses/contact lenses less than once a week or never.
- The most frequently reported reason for using glasses/contact lenses was 'to help see close up only' reported by 52 per cent of persons with glasses/contact lenses.

Results of the survey for persons aged 2 to 14 years have been published in the publication *Sight, Hearing and Dental Health (persons aged 2 to 14 years) February–May 1979* (4337.0). For persons aged 15 years or more the relevant publication is *Sight Problems and the Use of Glasses/Contact Lenses (persons aged 15 years or more) February–May 1979* (4338.0).

Dental Survey

During February to May 1979 the ABS conducted a survey to obtain information on the dental health of the Australian population aged 2 years or more. Information collected included time since last visit to a dentist; number of visits in the last 12 months, treatment received at last visit and usual number of check-ups per year. Data were also collected for persons aged 15 years or more as to whether false teeth were worn.

The main features of the survey were:

- Approximately 48 per cent of the population had their most recent visit to a dentist within the last 12 months.
- The most frequently reported type of treatment received at the last visit reported by persons who visited a dentist in the last 12 months was Filling(s), reported by 44 per cent of these persons.
- Approximately 32 per cent of the population usually have a dental check-up at least once a year.
- Of persons aged 15 years or more, over 40 per cent (42.3 per cent) have some false teeth, although only 45 per cent of persons with some false teeth have full sets for both upper and lower jaws.

Results of the survey for persons aged 2 to 14 years have been published in the publication *Sight, Hearing and Dental Health (persons aged 2 to 14 years) February–May 1979* (4337.0). For persons aged 15 years or more the relevant publication is *Dental Health (persons aged 15 years or more) February–May 1979* (4339.0).

Survey of Handicapped Persons

During February to May 1981 a survey was conducted throughout Australia to obtain information about the nature and extent of various disabilities and handicaps in the Australian community.

The survey examined the needs of and the kinds of problems experienced by persons with different types of handicaps. The areas examined in respect of handicapped persons included causes, disabling conditions, services, aids, accommodation, employment, education, income, transport, recreation and institutionalised care.

The sample for the survey consisted of two distinct parts. In the first part, a sample of 33,000 households was selected from all households in Australia and in the second part, a sample of 5,300 patients or residents was selected from 723 randomly selected health establishments throughout Australia.

For the purposes of the survey, a disabled person was defined as a person who had one or more of a set of selected disabilities or impairments (e.g. loss of sight, loss of hearing, slowness at learning or understanding, incomplete use of arms and fingers, restriction in physical activities). These had to have lasted or be likely to last for 6 months or more.

A handicapped person was defined as a disabled person who was further identified as being limited to some degree in his/her ability to perform certain activities or tasks in relation to one or more of the following five areas: self care, mobility, communication, schooling, employment. Since the measurement of handicap could not be readily applied to children under 5 years of age, all disabled persons in this age group were regarded as being handicapped.

The main features of the survey results are:

- 1,264,600 Australians or 8.6 per cent of the population are handicapped. A further 4.6 per cent of the population are disabled but suffer no subsequent handicap.
- Of the 1,264,600 handicapped persons, 295,800 were mildly handicapped, 253,700 were moderately handicapped and 513,900 were severely handicapped. (Severity of handicap was not determined for 201,200 persons with only a schooling or employment limitation, or aged less than 5 years).
- Of those who are handicapped, 111,000 are residents of health establishments and 1,153,600 are resident in households.
- The handicaps of persons in health establishments tended to be more severe than those of persons in households. For example, over 90 per cent of handicapped persons in health establishments were severely handicapped compared with 36 per cent of handicapped persons in households.
- As age increases the likelihood of being handicapped also generally increases. For example, in the age range 15 to 24 years, there were 66,200 handicapped persons (2.6% of persons aged 15 to 24) whilst in the age range 65 to 74 years there were over 220,000 (24.1% of persons aged 65 to 74).

DEATHS

Causes of Death and Perinatal Deaths

Causes of death in Australia are currently classified according to the Ninth Revision of the International Classification of Diseases (ICD) produced by the World Health Organization (WHO). For the years 1968 to 1978, causes of death were classified according to the Eighth Revision of the ICD. Detailed statistics are published in the publication *Causes of Death, Australia* (3303.0), and only broad groupings of causes of death are shown in the table below. The statistics in the table relate to 1979 and represent the number of deaths registered that year rather than the number of deaths which actually occurred in 1979.

The major causes of death in the community in 1979 were ischaemic heart disease (accounting for 29.0 per cent), malignant neoplasms (cancers) (20.8 per cent), cerebrovascular disease (strokes) (12.6 per cent) and external causes of injury or poisoning (7.9 per cent). Infectious diseases have caused few deaths in Australia in recent years, largely as a result of quarantine activities, immunisation campaigns and similar measures. In 1979, only 0.5 per cent of all deaths were due to such diseases.

The relative importance of groups of causes of death varies with age. Heart disease, cancer and strokes are predominant in middle and old age. Accidents, particularly those involving motor vehicles, are the primary cause of death in childhood and early adulthood. The majority of infant deaths (67 per cent in 1979) occur within 28 days after birth. Nearly all of these neonatal deaths are due to congenital anomalies, birth injury or other conditions present from birth.

CAUSES OF DEATH IN EACH AGE GROUP, AUSTRALIA, 1979

Causes of death	Age group (years)									Total (a)
	Under one	1-14	15-24	25-34	35-44	45-54	55-64	65-74	75 and over	
NUMBER OF DEATHS										
Malignant neoplasms	11	163	147	337	728	2,355	4,918	6,877	6,602	22,138
Ischaemic heart disease	-	1	6	73	516	2,116	5,468	9,501	13,251	30,937
Cerebrovascular disease	-	8	37	73	190	546	1,344	3,056	8,178	13,432
Other diseases of the circulatory system	20	24	42	92	161	489	1,045	2,156	7,162	11,193
Congenital anomalies	713	101	36	27	18	33	22	21	14	985
Certain conditions originating in the perinatal period	1,093	2	1	-	-	-	-	-	-	1,096
Bronchitis, emphysema and asthma	1	20	28	26	31	132	336	649	936	2,159
Other diseases of the respiratory system	84	53	27	36	60	214	549	1,280	2,711	5,015
Motor vehicle accidents	15	323	1,333	596	325	296	295	255	207	3,648
Other accidents	56	276	313	273	213	274	271	259	815	2,751
Suicides and self-inflicted injuries	-	3	305	358	279	307	232	143	48	1,677
All other causes (b)	541	261	318	386	462	1,053	1,648	2,458	4,399	11,537
All causes	2,534	1,235	2,593	2,277	2,983	7,815	16,128	26,655	44,323	106,568
RATE (c)										
Malignant neoplasms	5	5	6	15	43	154	380	783	1,371	154
Ischaemic heart disease	-	-	-	3	30	139	423	1,082	2,752	215
Cerebrovascular disease	-	-	1	3	11	36	104	348	1,698	93
Other diseases of the circulatory system	9	1	2	4	9	32	81	246	1,487	78
Congenital anomalies	320	3	1	1	1	2	2	2	3	7
Certain conditions originating in the perinatal period	490	-	-	-	-	-	-	-	-	8
Bronchitis, emphysema and asthma	-	1	1	1	2	9	26	74	194	15
Other diseases of the respiratory system	38	2	1	2	4	14	42	146	563	35
Motor vehicle accidents	7	9	53	26	19	19	23	29	43	25
Other accidents	25	8	12	12	12	18	21	29	169	19
Suicides and self-inflicted injuries	-	-	12	16	16	20	18	16	10	12
All other causes	242	8	13	17	27	69	127	280	914	80
All causes	1,136	36	103	99	175	512	1,247	3,035	9,205	739
PERCENTAGE (d)										
Malignant neoplasms	0.4	13.2	5.7	14.8	24.4	30.1	30.5	25.8	14.9	20.8
Ischaemic heart disease	-	0.1	0.2	3.2	17.3	27.1	33.9	35.6	29.9	29.0
Cerebrovascular disease	-	0.6	1.4	3.2	6.4	7.0	8.3	11.5	18.5	12.6
Other diseases of the circulatory system	0.8	1.9	1.6	4.0	5.4	6.3	6.5	8.1	16.2	10.5
Congenital anomalies	28.1	8.2	1.4	1.2	0.6	0.4	0.1	0.1	-	0.9
Certain conditions originating in the perinatal period	43.1	0.2	-	-	-	-	-	-	-	1.0
Bronchitis, emphysema and asthma	-	1.6	1.1	1.1	1.0	1.7	2.1	2.4	2.1	2.0
Other diseases of the respiratory system	3.3	4.3	1.0	1.6	2.0	2.7	3.4	4.8	6.1	4.7
Motor vehicle accidents	0.6	26.2	51.4	26.2	10.9	3.8	1.8	1.0	0.5	3.4
Other accidents	2.2	22.3	12.1	12.0	7.1	3.5	1.7	1.0	1.8	2.6
Suicides and self-inflicted injuries	-	0.2	11.8	15.7	9.4	3.9	1.4	0.5	0.1	1.6
All other causes	21.3	21.1	12.3	17.0	15.5	13.5	10.2	9.2	9.9	10.8
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Total includes 25 deaths where age is not known. (b) Includes 396 deaths from external causes and 503 deaths from infectious diseases. (c) Rates are per 100,000 of population at risk, except for children under one year of age which are per 100,000 live births registered. (d) Percentage of all deaths within each age group.

Perinatal deaths

Since deaths within the first four weeks of life (neonatal deaths) are mainly due to conditions originating before or during birth, and the same conditions can cause fetal death (stillbirth), special tabulations are prepared combining the two. These are termed 'perinatal deaths'. The statistical definition of perinatal deaths in Australia has been amended for 1979 from that previously used, in accordance with a recommendation of the Ninth Revision Conference (1975) of the World Health Organization "that national perinatal statistics should include all fetuses and infants delivered weighing at least 500 grams (or, when birthweight is unavailable, the corresponding gestational age (22 weeks) or body length (25 cm crown-heel)), whether alive or dead". The following table incorporates a further recommendation of the Conference in that it shows for 1979 the number of fetal, neonatal and total perinatal deaths in Australia classified by both the main condition in the fetus/infant and the main condition in the mother;

The perinatal death rate for Australia continues to decline. In 1979 the rate (on the new definition) was 14.96 per 1,000 total births whereas, on the same definition, it was 16.11 in 1978 and 21.51 in 1974.

Of the conditions in the child, the two main groups responsible for perinatal deaths were *Hypoxia, birth asphyxia and other respiratory conditions* (34.1 per cent of the total) and *Congenital anomalies* (23.3 per cent). Forty-six per cent of all perinatal deaths did not mention any condition in the mother as contributing to the death. Of those deaths where maternal conditions were reported, 51 per cent were reported as being due to *Complications of placenta, cord and membranes*.

PERINATAL DEATHS BY CAUSE, AUSTRALIA, 1979

Cause of death	Number of deaths			Rate		
	Fetal	Neonatal	Perinatal	Fetal(a)	Neonatal (b)	Perinatal (a)
<i>Conditions in fetus/infant—</i>						
Slow fetal growth, fetal malnutrition and immaturity	122	217	339	0.54	0.97	1.51
Birth trauma	12	62	74	0.05	0.28	0.33
Hypoxia, birth asphyxia and other respiratory conditions	703	445	1,148	3.13	2.00	5.11
Fetal and neonatal haemorrhage	36	118	154	0.16	0.53	0.69
Haemolytic disease of fetus and newborn	19	9	28	0.08	0.04	0.12
Other conditions originating in the perinatal period	612	128	740	2.72	0.57	3.29
Congenital anomalies	242	540	782	1.08	2.42	3.48
Infectious and parasitic diseases	8	7	15	0.04	0.03	0.07
All other causes	3	79	82	0.01	0.35	0.36
<i>Conditions in mother—</i>						
Maternal conditions which may be unrelated to present pregnancy	232	115	347	1.03	0.52	1.54
Maternal complications of pregnancy	184	252	436	0.82	1.13	1.94
Complications of placenta, cord and membranes	730	200	930	3.25	0.90	4.14
Other complications of labour and delivery	43	59	102	0.19	0.26	0.45
No maternal condition reported	568	979	1,547	2.53	4.39	6.88
All causes—1979	1,757	1,605	3,362	7.82	7.20	14.96
1978	1,904	1,737	3,641	8.43	7.75	16.11
1977	1,896	1,869	3,765	8.31	8.26	16.51
1976	2,121	2,165	4,286	9.23	9.51	18.65
1975	2,178	2,217	4,395	9.27	9.52	18.70
1974	2,596	2,732	5,328	10.48	11.15	21.51

(a) Per 1,000 births registered (live births and stillbirths) weighing 500 grams or more at birth. (b) Per 1,000 live births registered weighing 500 grams or more at birth.

Note: The statistics for the years 1974 to 1978 in this table are also based on the revised definition used for 1979.

Cremations

The first crematorium in Australia was opened in South Australia in 1903. At 31 December 1980 there were thirty-eight crematoria in Australia, situated as follows: New South Wales, 17; Victoria, 4; Queensland, 9; South Australia, 2; Western Australia, 3; Tasmania, 2; Australian Capital Territory, 1. There is no crematorium in the Northern Territory. The number of cremations carried out in 1978 was 50,103 (46.2 per cent of all deaths); in 1979 it was 49,568 (46.5 per cent of all deaths) and in 1980 the number was 50,629 (46.6 per cent of all deaths).

CHAPTER 11

LAW AND ORDER

THE LAW IN AUSTRALIA

Composition

Law is the common body of rules, whether proceeding from formal enactment or from custom, which a State or community recognises as binding on its subjects or members, and enforceable by judicial means. In Australia, the law consists of

- Acts passed by the Commonwealth Parliament, within the scope of its constitutional powers (including Acts and Ordinances passed in respect of the Northern Territory and the Australian Capital Territory) together with regulations, rules, and orders, etc. made thereunder.
- Acts passed by State Parliaments together with regulations, rules and orders, etc. made thereunder.
- So much of the common or statute law of England, and Imperial law as remains unrepealed by subsequent Acts or practice.
- Case (Common) law, consisting of judicial decisions.

and relates to a spectrum of subject areas, including criminal, civil, family and industrial matters.

Federal and State responsibilities

The Commonwealth is empowered to make laws in relation to certain matters as specified in the Commonwealth Constitution, e.g. in relation to trade, defence, external affairs. In some of these areas the powers of the Commonwealth are concurrent with State/Territorial powers in that they may be exercised by either the Commonwealth or the States. In other areas, Commonwealth power is absolute. In all areas of Commonwealth jurisdiction, Commonwealth laws are binding on the States and Territories.

The States and Territories have independent jurisdiction in all matters not invested in the Commonwealth, and it is the common law and statute laws made by the States and Territories which primarily govern the day-to-day lives of most Australians. With certain exceptions, such as traffic laws, State and Territorial law normally only applies to persons usually resident in the State and to things located or events occurring within the State.

Common law is uniform throughout Australia. However, statute law often varies between States and Territories. The problems arising from these differences have become increasingly recognised over recent years and moves are being made towards the enactment of uniform laws in areas of State/Territory jurisdiction where possible.

Administration of the law

Administration of the law is undertaken by the responsible governments, principally through Federal, State and Territorial police and judiciaries, and State and Territorial corrective or welfare services. There is no independent Federal corrective service, and the relevant State/Territorial agencies provide corrective services for Federal offenders.

The agencies involved in the administration of law operate as a continuum, such that the activities of one agency may affect the activities of another, e.g. a criminal offence reported to the police may lead to the apprehension, charge and court appearance of the offender, and subsequent provision of corrective (e.g. imprisonment, probation) or welfare services. The agencies involved, and the flows through and between them may vary according to the laws, agencies and types of matters or offenders involved.

Reform of the law

Reform of the law is undertaken principally through State and Commonwealth Parliaments and Attorneys-General acting on recommendations provided by State and the Australian Law Reform Commissions, and by State Supreme and Federal Courts.

Law Reform Commissions have been established as statutory authorities in all States (except South Australia) to undertake review of State laws, and report findings and recommendations for reform of those laws, to State Parliaments and Attorneys-General. (In South Australia, a Law Reform Committee was established by proclamation to perform similar functions in that State.) In addition, in Victoria a Statute Law Revision Committee, and a Chief Justice's Law Reform Committee; and in South Australia, a Criminal Law and Penal Methods Reform Committee also operate in the field of law reform, usually with more restricted terms of reference than State Commissions. None of these agencies have the power to implement recommendations for law reforms.

The Australian Law Reform Commission

The Australian Law Reform Commission (ALRC), which commenced operations in 1975 under the *Law Reform Commission Act 1973*, was established to report on the review, simplification and modernisation of those laws concerning matters consigned by the Australian Constitution to the jurisdiction of the Commonwealth Parliament, and to consider proposals for the uniformity of laws of the States and Territories. The Commission is required to make reports to the Attorney-General arising out of such review or consideration, and to make such recommendations as it thinks fit.

The ALRC has assumed the functions formerly undertaken by the A.C.T. Law Reform Commission, and has the responsibility for review of Territorial law operating in both the Australian Capital Territory and Northern Territory.

In undertaking its functions, the Commission follows the normal procedure of law commissions where possible. Upon receipt of a reference, the Commission advertises and calls for public submissions in relation to the reference, and prepares a working paper examining the issues for distribution among groups thought to have a special interest in the subject matter. Public sittings are conducted, and in the light of submissions received, a final report containing draft legislation is prepared for submission to the Attorney-General. The Commission, which consisted of four full-time, and eight part-time members at 30 June 1980, makes extensive use of consultants' services in its operation.

To 30 June 1980, the Commission had completed reports on the following references—Criminal Investigation; Alcohol, Drugs and Driving; Consumers in Debt; Defamation; Sentencing of Federal Offenders; and Human Tissue Transplants. Legislation following the recommendations contained in these reports has been enacted in some cases, although the majority are still under consideration by Parliament or the Attorney-Generals Department. Current references include—Privacy; Consumer Debt, Stage II; Access to Courts (Standing to Sue and Class Actions); Aboriginal Customary Laws; Lands Acquisitions; and Child Welfare.

LAW ENFORCEMENT—CRIME, THE POLICE AND COURTS

Crime: Reported and Unreported Offences

The traditional source of information about crime and the criminal justice system has been information generated as by-product of administrative process. By its very nature, such information relates only to those matters known to, or dealt with by such administrations.

The following table, based on information from a national survey of Crime Victims conducted by the ABS in 1975, shows that in total, of those selected types of offences surveyed, less than half of the offences known to victims were reported, or otherwise became known to police.

NUMBER OF INCIDENTS OF SELECTED OFFENCES: AUSTRALIA

<i>Types of offences</i>	<i>Number of incidents (a) (‘000)</i>	<i>Percentage of incidents reported or becoming known to police</i>
Break and Enter (dwellings)	146.5	62.1
Motor Vehicle Theft	62.7	89.3
Assault	191.0	44.0
Robbery	14.2	54.2
Theft	609.9	34.7
Fraud, Forgery, False Pretences	214.1	23.9
Rape	7.8	28.2
Total	1,246.1	40.4

(a) Reported by victims as occurring during the 12 months to May 1975.
More detailed results of this survey were published in Year Book No. 63.

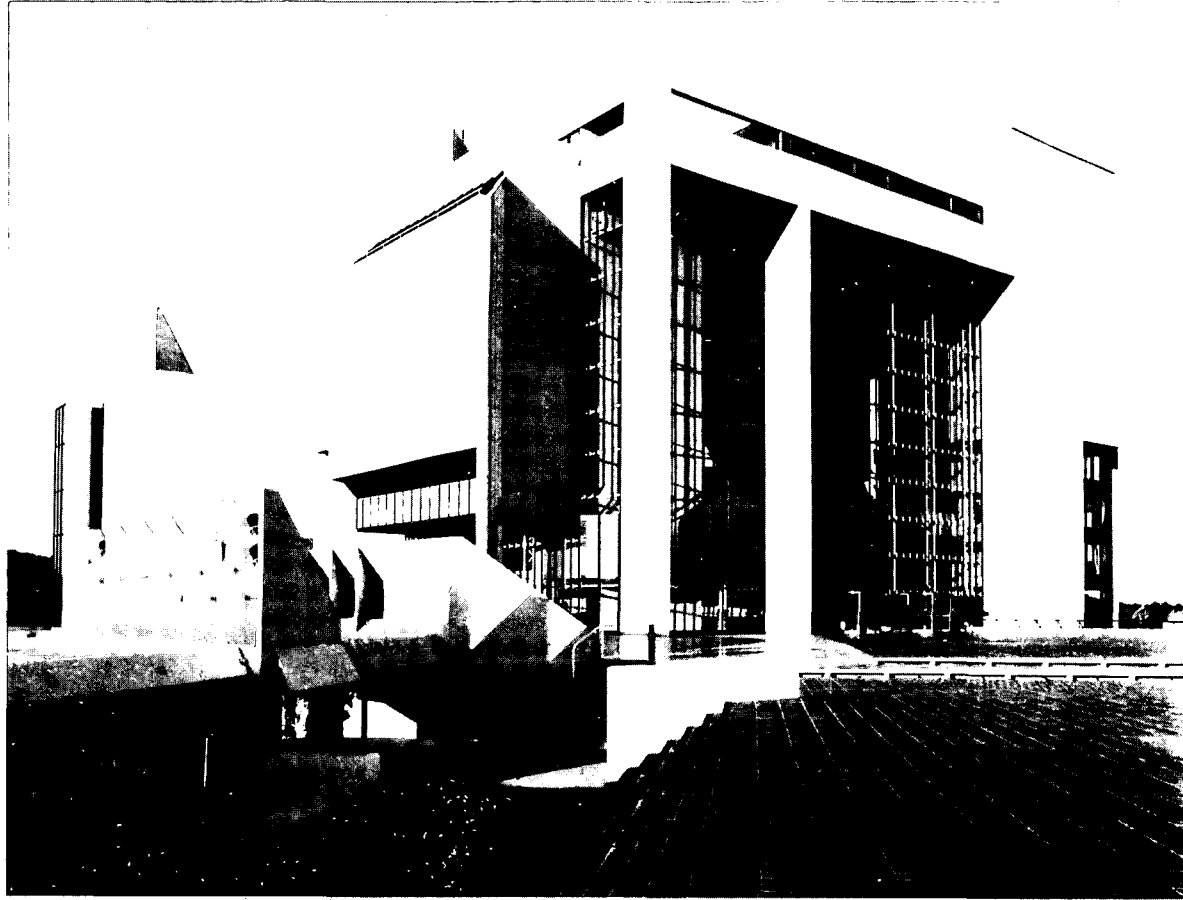
Since 1964, the ABS has compiled a series of “*Selected Offences Reported or Becoming Known to Police*”. This series is derived from police records, and is based as far as possible on definitions and procedural arrangements uniformly determined for all States and Territories. Definitions and explanatory notes relating to the following statistics are contained in Year Book, No. 61, p. 475-7.

The following table shows, for each State and Territory, the number of offences in each of the seven categories included in the series, reported or becoming known to police. The table includes offences reported to and investigated by the Australian Federal Police.

SELECTED OFFENCES REPORTED OR BECOMING KNOWN TO POLICE (a)
NUMBER OF OFFENCES (b)

Type of Offence	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust. No.	Rate (c)
Homicide(d)—										
1977-78	301	139	121	49	25	9	21	5	670	4.7
1978-79	303	183	167	65	39	8	18	1	784	5.5
1979-80	385	155	137	75	35	14	24	-	825	5.7
Serious assault—										
1977-78	1,076	1,531	738	262	367	85	42	53	4,154	29.3
1978-79	1,134	1,775	968	351	292	89	258	56	4,923	34.3
1979-80	1,274	1,910	1,263	482	445	142	530	52	6,098	42.0
Robbery—										
1977-78	1,716	1,110	318	213	155	26	24	15	3,577	25.3
1978-79	1,699	1,170	281	328	127	51	13	14	3,683	25.7
1979-80	1,990	1,227	312	494	143	49	16	24	4,255	29.3
Rape—										
1977-78	365	233	72	172	98	16	17	10	983	13.9
1978-79	419	215	61	165	96	22	13	7	998	14.0
1979-80	491	247	105	222	112	16	29	8	1,230	17.0
Breaking and entering—										
1977-78	49,392	45,573	16,366	15,273	14,550	3,145	1,111	1,746	147,156	1,039.1
1978-79	50,815	52,613	18,053	17,970	16,073	3,454	1,341	1,677	161,996	1,130.2
1979-80	54,706	57,382	20,023	23,873	17,009	3,614	1,457	1,689	179,753	1,238.2
Motor vehicle theft (e)—										
1977-78	27,018	15,487	5,709	5,516	6,394	933	645	593	62,295	894.2
1978-79	30,978	15,833	6,052	6,492	6,347	780	706	550	67,738	936.1
1979-80	33,237	16,906	5,991	5,850	6,427	972	712	456	70,551	944.9
Fraud, forgery and false pretences—										
1977-78	16,578	16,453	10,446	3,072	7,844	1,298	409	1,529	57,629	406.9
1978-79	19,723	16,423	11,476	4,644	9,160	853	615	1,753	64,647	451.0
1979-80	17,903	22,915	14,609	4,597	7,311	1,721	419	(f)712	(f)70,187	483.5

(a) Figures shown for each State include offences reported or becoming known to the Australian Federal Police in that State. (b) Includes attempts and a relatively small number of unfounded reports. (c) Rate per 100,000 of population, except for Rape which is rate per 100,000 of female population, and Motor Vehicle Theft, which is rate per 100,000 registered motor vehicles. (d) Comprising murder, attempted murder, and manslaughter, including manslaughter arising from motor vehicle accidents. (e) Includes illegal, unlawful or unauthorised use, etc. (f) Excludes Commonwealth offences in A.C.T.



High Court of Australia, Canberra
PLATE 35

Offences cleared and persons involved

The tables which follow show for the various categories of offences, the numbers of offences reported or becoming known to police, the numbers cleared, by charge or otherwise, and the numbers of persons involved according to age and sex. Sub-divisions of the categories homicide, breaking and entering, and fraud, etc., are provided.

**HOMICIDE: OFFENCES REPORTED OR BECOMING KNOWN, OFFENCES CLEARED
AND PERSONS INVOLVED: AUSTRALIA**

	<i>Murder</i>			<i>Attempted murder</i>			<i>Manslaughter(a)</i>			<i>All homicide</i>		
	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Numbers reported or becoming known . . .	243	258	268	130	179	187	297	347	370	670	784	825
Total number cleared . . .	212	227	234	119	171	170	292	350	364	623	748	768
Persons involved in offences cleared—												
males	181	186	198	98	135	130	245	300	307	524	621	635
females	30	42	28	19	23	24	12	17	17	61	82	69
Aged (b)—												
16 yrs and under	3	16	8	2	8	10	5	9	7	10	33	25
17 and 18 years	9	15	14	11	13	5	34	40	37	54	68	56
19 and 20 years	32	15	20	11	7	12	40	51	47	83	73	79
21 years and over	167	182	184	93	130	127	178	217	233	438	529	544
Total persons involved	211	228	226	117	158	154	257	317	324	585	703	704

(a) Includes manslaughter arising from motor vehicle accidents.

(b) Age last birthday at time of clearance.

**SERIOUS ASSAULT, ROBBERY, RAPE: OFFENCES REPORTED OR BECOMING KNOWN, OFFENCES
CLEARED AND PERSONS INVOLVED: AUSTRALIA**

	<i>Serious assault</i>			<i>Robbery</i>			<i>Rape</i>		
	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Numbers reported or becoming known	4,154	4,923	6,098	3,577	3,683	4,255	983	998	1,230
Total number cleared	3,059	3,618	4,465	973	1,017	1,118	496	454	548
Persons involved in offences cleared—									
males	2,902	3,200	4,162	1,060	1,134	1,180	572	522	565
females	184	231	328	97	69	124	1	3	4
Aged (a)—									
16 years and under	262	300	424	187	176	216	67	56	76
17 and 18 years	355	402	565	224	203	258	103	108	97
19 and 20 years	393	425	579	206	199	195	111	94	97
21 years and over	2,076	2,304	2,922	540	625	635	292	267	299
Total persons involved	3,086	3,431	4,490	1,157	1,203	1,304	573	525	569

(a) Age last birthday at time of clearance.

**BREAKING AND ENTERING: OFFENCES REPORTED OR BECOMING KNOWN, OFFENCES CLEARED
AND PERSONS INVOLVED: AUSTRALIA**

	Dwellings			Shops			Other buildings			All breaking and entering		
	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
Numbers reported or becoming known	73,029	84,039	94,081	27,219	28,738	30,312	46,908	49,219	55,360	147,156	161,996	179,753
Total number cleared	10,433	11,732	12,161	5,094	5,728	5,895	7,073	7,820	8,338	22,600	25,280	26,394
Persons involved in offences cleared—												
males	6,427	6,871	7,471	5,056	5,307	5,484	6,322	6,760	7,685	17,805	18,938	20,640
females	693	660	698	147	196	195	207	187	245	1,047	1,043	1,138
Aged (a)—												
16 years and under	4,155	4,065	4,613	2,583	2,540	2,731	3,928	4,091	4,799	10,666	10,696	12,143
17 and 18 years	955	1,051	1,088	953	1,080	1,024	946	1,043	1,094	2,854	3,174	3,206
19 and 20 years	598	714	665	513	607	615	504	543	664	1,615	1,864	1,944
21 years and over	1,412	1,701	1,803	1,154	1,276	1,309	1,151	1,270	1,373	3,717	4,247	4,485
Total persons involved	7,120	7,531	8,169	5,203	5,503	5,679	6,529	6,947	7,930	18,852	19,981	21,778

(a) Age last birthday at time of clearance.

**MOTOR VEHICLE THEFT, FRAUD, ETC.: OFFENCES REPORTED OR BECOMING KNOWN,
OFFENCES CLEARED AND PERSONS INVOLVED: AUSTRALIA**

	Motor vehicle theft (a)			Fraud, forgery, false pretences		
	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80
Numbers reported or becoming known	62,295	67,738	70,551	57,629	64,647	70,187
Total numbers cleared	10,962	10,550	11,804	35,780	42,538	46,817
Persons involved in offences cleared—						
males	11,765	10,583	11,021	7,182	7,183	8,220
females	378	407	461	2,243	2,303	2,857
Aged (b)—						
16 years and under	5,615	4,888	4,965	718	764	984
17 and 18 years	2,878	2,746	2,905	929	895	1,078
19 and 20 years	1,466	1,291	1,375	1,032	985	1,237
21 years and over	2,184	2,065	2,237	6,746	6,842	7,778
Total persons involved	12,143	10,990	11,482	9,425	9,486	11,077

(a) Includes illegal, unlawful and unauthorised use, etc. (b) Age last birthday at time of clearance
The number of stolen vehicles recovered was: 1977-78, 52,623; 1978-79, 60,050; 1979-80, 60,346.

Drug offences

Australia is a signatory to the Single Convention of Narcotic Drugs which has as its main aim the limitation of narcotic drugs to legitimate medical and research purposes.

As its name implies, the Single Convention of Narcotic Drugs covers only the so-called narcotic drugs including cannabis and its derivatives. In recognition that there are other drugs of dependence, the member nations met during 1970 and 1971 and drew up a further Convention to impose controls on psychotropic substances such as hallucinogens, amphetamines, other central nervous system stimulants, barbiturates, tranquillisers and certain other sedatives.

For details of legislative provisions see Year Book No. 63, page 218.

Law enforcement in respect of drugs in Australia is handled mainly by the following bodies:

- State and Territory police forces who police State and Territory laws and Commonwealth laws in conjunction with Commonwealth authorities.
- The Australian Federal Police who police Commonwealth laws.
- The Bureau of Customs in the Department of Business and Consumer Affairs which has responsibility for the enforcement of laws controlling importing and exporting of drugs.

The National Standing Control Committee on Drugs of Dependence was established in 1969 by the Commonwealth Government to co-ordinate the activities of the various Commonwealth, State and Territories' bodies participating in the administration of drug laws and control. The role of the Com-

mittee is to consider further steps that can be taken by the national and State Governments together to combat all aspects of drug abuse in Australia, including addiction, trafficking, treatment and education.

The Australian Federal Police serve as the national agency for the systematic collection, collation, evaluation and dissemination of information concerning the illicit drug traffic in Australia. The following extracts are from the detailed statistics published by them in the annual report *Drug Abuse in Australia (A Statistical Survey)*.

DRUG OFFENCES: OFFENCE TYPE (a), CLEARED BY CHARGE: AUSTRALIA 1978 TO 1980

Year	Possess	Import	Use/ administer	Traffic	Steal	False pretences	Forged scripts	Other	Total
1978	10,527	156	5,044	1,379	311	114	570	1,847	19,948
1979	12,520	176	4,893	1,451	281	147	571	2,832	22,871
1980	13,752	135	5,177	1,841	168	259	270	2,913	24,515

(a) Includes drug and drug-connected charges.

DRUG AND DRUG-RELATED OFFENCES: NUMBER OF CHARGES (a) INVOLVING SPECIFIC DRUG TYPES: AUSTRALIA 1978 TO 1980

Year	Possess	Import	Use/ administer	Traffic	Steal	False pretences	Forged scripts	Other	Total
Narcotics—									
1978	1,394	30	1,469	483	222	89	257	318	4,262
1979	1,068	73	1,009	414	137	73	379	367	3,520
1980	877	36	783	352	85	114	136	228	2,611
Cannabis—									
1978	8,589	126	3,263	780	15	—	—	1,476	14,249
1979	10,688	102	3,472	862	23	2	—	2,352	17,501
1980	12,269	95	4,027	1,266	37	—	—	2,584	20,278
Amphetamines—									
1978	46	—	46	5	—	5	18	3	123
1979	94	1	57	12	12	20	37	12	245
1980	85	—	49	25	—	22	14	6	201
Barbiturates									
hypnotics—									
1978	200	—	156	46	12	8	51	30	503
1979	359	—	263	53	45	32	104	51	907
1980	224	—	197	59	11	30	65	44	630
Tranquillisers—									
1978	54	—	50	10	29	10	32	8	193
1979	79	—	40	29	34	12	36	18	248
1980	64	1	66	30	11	19	12	17	220
Hallucinogens—									
1978	191	—	46	45	1	—	—	3	286
1979	186	—	40	33	—	—	1	18	278
1980	183	3	32	58	—	—	2	12	290
Other—									
1978	53	—	14	10	32	2	212	9	332
1979	46	—	12	48	30	8	14	14	172
1980	50	—	23	51	24	74	41	22	285
Total—									
1978	10,527	156	5,044	1,379	311	114	570	1,847	19,948
1979	12,520	176	4,893	1,451	281	147	571	2,832	22,871
1980	13,752	135	5,177	1,841	168	259	270	2,913	24,515

(a) Charges arising from offences involving a number of different drug types have been counted under each drug type involved.

AGE DISTRIBUTION OF PERSONS CHARGED (a) WITH DRUG AND/OR DRUG RELATED OFFENCES: AUSTRALIA 1978 to 1980

Year	16 years and under	17	18-25	26-30	31-49	50 years and over	Total
1978	313	534	7,081	1,526	568	48	10,070
1979	311	534	7,743	1,783	825	37	11,233
1980	338	558	7,939	1,909	923	49	11,716

(a) Persons counted only once, regardless of the number of occasions on which charged during the year.

The Police

The primary duties of the police are the prevention and detection of crime, the protection of life and property, and the enforcement of law to maintain peace and good order. In addition, they may perform a variety of other duties in the service of the State, including the regulation of street traffic, acting as clerks of petty sessions, crown land bailiffs, foresters, mining wardens and inspectors under the Fisheries and various other Acts. With the exception of the Australian Federal Police, and the police force in the Northern Territory, police forces in Australia are under the control of State Governments, but their members perform certain functions for the Commonwealth Government, such as aliens registration officers, and in conjunction with the Australian Federal Police and other Commonwealth officers, they police various Commonwealth Acts and Regulations.

Australian Federal Police

The Australian Federal Police (AFP) was formed in October 1979. It performs normal police duties in the Australian Capital Territory, and is the principal agency for the enforcement of Federal laws, and the protection of Commonwealth Government property, and property and interests at buildings and establishments under Commonwealth Government control, and co-ordinates some of the work of other investigation and law enforcement agencies in Australia.

The AFP operates the Australian Police College at Manly, N.S.W., to provide training for officers of various police forces and other agencies in Australia and New Zealand. The force has its head office in Canberra, and district offices in each State capital.

The active strengths and ranks of non-civilian police personnel in police forces in Australia, are shown in the following table.

POLICE FORCES

Year/Rank	AFP	NSW	VIC	QLD	SA	WA	TAS	NT
At 30 June—								
1979	(a) 2,481	9,063	7,463	4,132	3,621	2,558	1,132	539
1980	2,614	9,400	7,603	4,387	3,423	2,643	1,041	534
1981—								
Executive officers	32	69	72	28	71	40	10	16
Inspectors	109	240	312	106	35	70	51	20
Sergeants	492	2,344	1,875	1,101	476	622	155	122
Constables including Trainees/cadets/probationary constables	2,022	6,815	5,937	3,197	2,638	1,924	813	385
Total	2,655	9,468	8,196	(b) 4,554	3,220	2,656	1,029	543

(a) From October 1979 the Commonwealth Police and the ACT Police combined to form the Australia Federal Police. At 30 June 1979 there were 581 A.C.T and 1,900 Commonwealth Police. (b) Includes 122 Technical and scientific officers not included in ranks.

Legal Aid

The purpose of providing Legal Aid is to ensure that no person involved in a legal dispute or action should be without legal assistance by reason of not being able to pay for it, and is based on the notion of justice and equity before the law.

Legal Aid in Australia is delivered through a variety of outlets and schemes (over 100 in all), operated by Federal and State governments, and private and volunteer agencies. In some cases, the agencies involved offer legal aid services as a subsidiary to their other functions, e.g. church groups, Citizen's Advice Bureaux, unions. However, the bulk of legal assistance provided is through agencies which have been established specifically for this purpose. Among these are the Aboriginal Legal Aid services, Australian Legal Aid Office, Law Society Legal Aid schemes, State and Territory Legal Aid Commissions and various voluntary and community agencies.

Historically, legal aid schemes in Australia were initiated by State governments with Public Solicitor or Public Defender schemes in Queensland, Victoria and New South Wales. The Law Society in South Australia began a legal assistance scheme in 1933, and Law Society schemes followed in other States. In 1973 the Australian Legal Aid Office was established to provide legal assistance in the Federal area, i.e. in matters involving Federal law or Federal persons such as migrants, aboriginals, servicemen and other recipients of social service benefits.

The policy of the Commonwealth Government envisages that legal aid would be provided in each State and Territory through a single statutory commission, established by State and Territory legislation. The commissions would take over the operations and staff of the Australian Legal Aid Office, and State and Law Society schemes. Under the policy, the provision of legal aid through both salaried and private lawyers would be funded by the Commonwealth in federal matters while the States would continue to fund legal assistance provided in relation to State matters. Provision is made in the Commonwealth Legal Aid Act for the establishment of a Commonwealth Legal Aid Council having the function, broadly, of advising the Attorney-General on matters relating to the provision of legal aid in Australia. The Council Secretariat is located in the Commonwealth Attorney-General's Department.

Aboriginal Legal services, which operate in all States and Territories through funding provided by the Department of Aboriginal Affairs, and those private and volunteer agencies operating legal aid schemes, are not within the scope of the policy.

Pursuant to agreements entered into between the Commonwealth and the States in accordance with this scheme, independent statutory commissions providing legal advice and assistance in both Commonwealth and State matters have been established in Queensland, South Australia, Victoria, Western Australia and the Australian Capital Territory. A statutory commission has also been established in New South Wales, but its functions do not extend to Commonwealth matters. Legal Aid commissions have not yet been established in Tasmania and the Northern Territory, and in these places, and in New South Wales, the Australian Legal Aid Office continues to provide legal advice and assistance in Commonwealth matters.

The Commonwealth Attorney-General administers a growing area of legal assistance in special federal areas outside the scheme of independent statutory commissions. This assistance is provided under various Commonwealth Acts, (such as the *Conciliation and Arbitration Act 1904*, *Administrative Tribunal Act 1975* and the *Trade Practices Act 1974*) and administrative schemes (e.g. aid for Public Interest and Test Cases and for cases involving the recovery of children removed overseas).

Selected details of the income and expenditure of major Australian Legal Aid schemes during 1979-80, are shown in the following tables. Further information on the operation of these schemes is available from Annual Reports of the Commonwealth Legal Aid Commission.

INCOME OF MAJOR LEGAL AID SCHEMES: 1979-80

Organisation	Period of operation (months)	Income (\$'000)					Total income
		C'wealth grant/funding	State grant/funding	Client contributions	Recovered costs	Other revenue	
New South Wales—							
Australian Legal Aid Office	12	5,720.2	—	23.7	6.8	1.4	5,752.1
Legal Aid Commissioner (a)	5	—	510.4	—	—	—	510.4
Legal Services Commission (b)	7	—	3,100.0	93.6	(c) 1,158.9	1,413.4	5,765.6
Aboriginal Legal Aid	12	1,142.0	—	—	—	—	1,142.0
Law Society (a)	5	130.0	—	91.6	(d) 1,154.6	1,077.8	2,459.0
Public Defender	12	—	567.0	—	—	—	567.0
<i>Total</i>		6,992.2	4,177.4	208.8	2,320.3	2,497.6	16,196.4
Victoria—							
Australian Legal Aid Office	12	4,432.3	—	5.1	113.6	44.4	4,595.4
Aboriginal Legal Aid	12	406.7	—	—	—	—	406.7
Law Institute	12	—	—	1,083.4	407.4	2,373.6	3,864.4
Public Solicitor	12	—	1,758.4	—	—	—	1,758.4
<i>Total</i>		4,839.0	1,758.4	1,088.5	521.0	2,418.0	10,624.9
Queensland—							
Australian Legal Aid Office	5	1,474.2	—	4.6	3.3	—	1,482.0
Legal Aid Commission	7	2,346.7	—	20.9	50.2	942.7	3,360.5
Aboriginal Legal Aid	12	1,047.5	—	—	—	—	1,047.5
Law Society (e)	5	—	—	—	117.9	767.5	885.3
Public Defender	12	—	1,541.1	—	—	—	1,541.1
<i>Total</i>		4,868.4	1,541.1	25.4	171.4	1,710.2	8,316.5
South Australia—							
Legal Aid Commission	12	2,017.8	441.5	77.3	140.4	346.8	3,023.9
Aboriginal Legal Aid	12	400.0	—	—	—	—	400.0
<i>Total</i>		2,417.8	441.5	77.3	140.4	346.8	3,423.9
Western Australia—							
Legal Aid Commission	12	2,987.8	374.2	120.9	32.3	359.9	3,875.1
Aboriginal Legal Aid	12	828.1	—	—	—	—	828.1
<i>Total</i>		3,815.9	374.2	120.9	32.3	359.9	4,703.3
Tasmania							
Australian Legal Aid Office	12	1,199.3	—	7.4	—	10.5	1,217.2
Aboriginal Legal Aid	12	122.3	—	—	—	—	122.3
Law Society		—	90.7	20.9	—	—	111.6
<i>Total</i>		1,321.6	90.7	28.3	—	10.5	1,451.1
Northern Territory—							
Australian Legal Aid Office	12	546.2	—	10.6	2.9	—	559.8
Aboriginal Legal Aid	12	1,036.8	—	—	—	—	1,036.8
<i>Total</i>		1,583.0	—	10.6	2.9	—	1,596.0
Australian Capital Territory—							
Legal Aid Commission	12	1,396.8	—	43.4	103.9	6.2	1,550.4
Total		27,234.7	8,383.4	1,603.4	3,302.8	7,338.9	47,863.1

(a) Incorporated into Legal Services Commission in December 1979. (b) Includes a full year of the Public Solicitors Office, and operations of the Law Society Legal Assistance Scheme from 21.12.1979. (c) Includes \$603,000 being a portion of clients verdicts and settlements retained. (d) Includes an estimated \$795,000, being a portion of clients verdicts and settlements retained to cover costs. (e) Ceased to operate on 2.12.1979 when incorporated into the Legal Aid Office (Qld).

EXPENDITURE BY MAJOR LEGAL AID SCHEMES: 1979-80

Organisation	Period of operation (months)	Expenditure (\$'000)					
		Salaries and related payments	Adminis-trative costs	Payments to private practitioners			Total expenditure
				Legal assistance	Advice/ Duty Council		
New South Wales—							
Australian Legal Aid Office	12	1,674.3	417.2	3,660.7	..	3,660.7	5,752.1
Legal Aid Commissioner (a)	5	..	..	510.4	..	510.4	510.4
Legal Services Commission (b)	7	2,339.8	504.6	2,519.4	528.2	3,047.6	5,892.0
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	1,142.0
Law Society (a)	5	159.0	126.2	2,224.3	383.8	2,608.1	2,893.3
Public Defender	12	438.8	128.2	..	..	..	567.0
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	16,756.8
Victoria—							
Australian Legal Aid Office	12	831.8	124.7	3,638.9	..	3,638.9	4,595.4
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	406.7
Law Institute	12	500.6	(d)481.9	2,392.3	..	2,392.3	3,374.8
Public Solicitor	12	502.1	153.4	1,102.9	..	1,102.9	1,758.4
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	10,135.3
Queensland—							
Australian Legal Aid Office	5	321.7	115.7	1,044.6	..	1,044.6	1,482.0
Legal Aid Commission	7	605.6	172.9	2,035.2	144.3	2,179.5	2,957.9
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	1,047.5
Law Society (c)	5	104.5	34.0	684.6	83.9	768.5	907.1
Public Defender	12	845.4	..	695.8	..	695.8	1,541.1
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	7,935.6
South Australia—							
Legal Aid Commission	12	1,087.6	305.8	1,916.4	..	1,916.4	3,309.8
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	400.0
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	3,709.8
Western Australia—							
Legal Aid Commission	12	1,041.2	379.6	2,205.3	85.0	2,290.2	3,711.1
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	828.1
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	4,539.2
Tasmania—							
Australian Legal Aid Office	12	306.7	81.0	829.5	..	829.5	1,217.2
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	122.3
Law Society . . . . .	..	..	18.0	93.6	..	93.6	111.6
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	1,451.0
Northern Territory—							
Australian Legal Aid Office	12	257.3	79.5	223.0	..	223.0	559.8
Aboriginal Legal Aid	12	n.a.	n.a.	n.a.	n.a.	n.a.	1,036.8
<i>Total</i>		n.a.	n.a.	n.a.	n.a.	n.a.	1,596.6
Australian Capital Territory—							
Legal Aid Commission	12	636.8	163.1	720.0	..	720.0	1,519.8
Total		n.a.	n.a.	n.a.	n.a.	n.a.	47,664.3

(a) Incorporated into Legal Services Commission in December 1979. (b) Includes a full year of the Public Solicitors Office, and operations of the Law Society Legal Assistance Scheme from 21/12/1979. (c) Ceased to operate on 2/12/79 when incorporated into the Legal Aid Office (Qld) (d) Includes \$55,522 refunds and \$295,250 disbursements. *Note: Figures do not include expenditure by other organisations on behalf of Legal Aid Schemes.

Courts: Structure and Functions

STATE AND TERRITORY COURTS

State and Territory Courts have original jurisdiction in all matters brought under common and State/Territory statute laws, and in matters arising under Federal laws, where such matters are not specifically reserved to courts of Federal jurisdiction. Most criminal matters arising under Federal law, are dealt with by State and Territory courts.

Each State and Territory court system is organised and operates independently. However, within each system, which comprises both courts of general jurisdiction, and specialist courts and tribunals, the courts are organised hierarchically according to the types and severity of matters with which they may deal.

Courts of General Jurisdiction are courts empowered to adjudicate on civil and/or criminal matters—Civil matters are those involving an alleged breach of the laws governing private rights and liabilities which embrace the laws of contract and tort (compensation for civil wrongs).—Criminal matters are those involving an alleged breach of the statute, code or common law, which may render a person liable to prosecution, mainly at the instigation of the Crown and liable to punishment if proof of such allegation is established according to law.

The various levels of State and Territory courts of general jurisdiction are outlined below;

Courts of Summary Jurisdiction

Local Courts: these courts operating in South Australia and Western Australia only, have jurisdiction over civil matters involving claims of limited value. In other States and the Territories, local court functions are performed by Magistrates or District Courts.

Children's Courts: these courts have jurisdiction over matters involving summary or less serious indictable offences, committed by, or against children or young persons under a certain age (the age limit for hearing in a Children's Court varies between States). The jurisdiction of Children's Courts also includes matters involving neglected, uncontrollable or truant children.

Children's Panels have been established in South Australia and Western Australia to deal with children alleged to have committed less serious offences, which may otherwise be dealt with by Children's Courts.

Magistrate's Court/Courts of Petty Sessions: these courts have jurisdiction over matters involving summary or less serious indictable offences and civil matters in some States and Territories, and are generally presided over by a stipendiary magistrate, or in some circumstances, a justice of the peace.

Preliminary hearing of matters involving more serious indictable offences (i.e. those offences triable before a judge and jury) are also undertaken by these courts. If the Court determines that a prima facie case exists against the accused, the matter is committed to a higher court for trial. In certain circumstances, persons convicted of an offence in a Magistrate's Court, may be committed to a higher court for sentence.

Higher Courts

County/District Courts: these courts have jurisdiction in matters involving more serious indictable offences, and civil matters (in some States) involving a claim above the limit allowable for lower court hearing. When hearing criminal cases, the Courts usually comprise a judge and jury, but usually comprise a Judge only for hearings of civil matters.

No County or District Courts operate in Tasmania, the Northern Territory or the Australian Capital Territory.

State and Territory Supreme Courts: these are the superior courts of record in, and for, each State or Territory. Their jurisdiction is unlimited in civil and criminal matters (except where a particular matter falls within reserved Commonwealth jurisdiction) and they perform a variety of other 'special court' judicial functions (e.g. in relation to equity, probate, administrative law, etc). Supreme Courts are constituted in the same way as County/District Courts.

Appeals

Both County/District Courts and State and Territory Supreme Courts have jurisdiction to hear appeals against determinations of the lower courts or specialist tribunals. Appeals may be lodged against a verdict and/or the severity of a sentence. The procedures concerning the right of appeal are laid down by statute in each State and Territory.

Appeal courts are generally constituted by a single judge. However, appeals against Supreme Court decisions are heard in most States by a Full Bench of the Supreme Court, which comprises three judges of the Supreme Court. Appeals from Supreme Court decisions may be taken to the Federal Court of Australia, or the High Court, depending on the nature of the matter involved.

Special Courts and Tribunals

Each State and Territory administers particular areas of the law through specialist courts or tribunals, such as Small Claims Courts, Licensing Courts, etc. These bodies primarily deal with matters of a civil or administrative nature.

Statistics

Due to the lack of uniformity between States in the information currently available, it has not been possible to include statistics on the operation of State and Territory Courts. Information relating to the operation of courts in particular States may be obtained from State Year Books.

FEDERAL COURTS

The judicial power of the Commonwealth is vested in the High Court of Australia, in the federal courts created by Parliament and in the State courts invested by Parliament with federal jurisdiction. The nature and extent of the judicial power of the Commonwealth is prescribed by Chapter III of the Australian Constitution. For details of Commonwealth of Australia Constitution Act see Year Book No. 62, pages 7-24.

High Court of Australia

The High Court consists of a Chief Justice and six other Justices. The *High Court of Australia Act 1979*, which came into operation on 21 April 1980, provides for such matters as the constitution and seat of the Court, its administration and Registry. The new High Court building in Canberra was opened by Her Majesty the Queen on 26 May 1980. The first sitting of the High Court in its new building was on 3 June 1980. The seat of the High Court was moved to the seat of Government in the Australian Capital Territory on 1 September 1980.

Sittings of the High Court will now be held at the seat of the Court and at other places as required.

The Constitution itself confers original jurisdiction on the High Court in all matters:

- (i) arising under any treaty;
- (ii) affecting consuls or other representatives of other countries;
- (iii) in which the Commonwealth, or a person suing or being sued on behalf of the Commonwealth is a party;
- (iv) between States, or between residents of different States, or between a State and resident of another State;
- (v) in which a writ of mandamus or prohibition, or an injunction, is sought against an officer of the Commonwealth.

The Parliament may, under the Constitution, confer certain additional original jurisdiction on the High Court. The High Court has been conferred with original jurisdiction in all matters arising under the Constitution or involving its interpretation and in trials of indictable offences against the law of the Commonwealth (*Judiciary Act 1903*, s.30). Since the Federal Court of Australia commenced to exercise federal jurisdiction on 1 February 1977, the only other statutory original jurisdiction which is still conferred on the High Court is its jurisdiction as a Court of Disputed Returns (*Commonwealth Electoral Act 1918*, s.184, *Australian Capital Territory Representation (House of Representatives) Act 1973*, s.21, *Northern Territory Representation Act 1922* s.8A, and *Referendum (Constitution Alteration) Act 1906*, s.29).

The High Court's jurisdiction is made exclusive of the jurisdiction of State courts in:

- (i) matters arising directly under any treaty;
- (ii) suits between States or between persons suing or being sued on behalf of different States, or between a State and a person suing or being sued on behalf of another State;
- (iii) suits by the Commonwealth, or any person suing on behalf of the Commonwealth, against a State, or any person being sued on behalf of a State;
- (iv) suits by a State, or any person suing on behalf of a State, against the Commonwealth or any person being sued on behalf of the Commonwealth;
- (v) matters in which a writ of mandamus or prohibition is sought against an officer of the Commonwealth or a federal court.

The High Court's exclusive jurisdiction no longer includes matters involving the limits *inter se* of the constitutional powers of the Commonwealth and those of the States. However, a cause or part of a cause arising under the Constitution or involving its interpretation that is pending in a federal court or in a court of a State or Territory may be removed into the High Court.

Under the Constitution the High Court has jurisdiction, with such exceptions and subject to such regulations as the Parliament prescribes, to hear and determine appeals from all judgments, decrees, orders and sentences of:

- (i) any Justice or Justices exercising the original jurisdiction of the High Court;
- (ii) any other federal court or court exercising federal jurisdiction; and
- (iii) the Supreme Court of any State or any other State court from which appeal lay to the Privy Council at the establishment of the Commonwealth.

Subject to the exception mentioned below, an appeal may be brought as of right from a final judgment of a Full Court of a State Supreme Court where the interpretation of the Constitution is involved, from judgments for the sum of \$20,000 or upwards, and from judgments in any proceedings in which the matter in issue amounts to or is of the value of \$20,000 or upwards or which involve a claim, demand or question relating to any property or civil right amounting to or of the value of \$20,000 or upwards. The exception to the generality of this statement is that an appeal on a ground relating to

quantum of damages for death or personal injury lies only with special leave of the High Court. In all other cases in which the High Court has appellate jurisdiction, appeals lie only by special leave of the Court.

Appeals to the Privy Council

The *Privy Council (Limitation of Appeals) Act 1968* which came into operation on 1 September 1968 restricts appeals to the Privy Council. Section 3 of the Act provides that special leave to appeal from a High Court decision can only be asked in a matter in which the decision of the High Court was a decision that was given on appeal from a Supreme Court not exercising federal jurisdiction and did not involve the application of the interpretation of the Constitution or a law made by the Commonwealth Parliament or an instrument made pursuant to such a law.

The *Privy Council (Appeals from the High Court) Act 1975*, which came into operation on 8 July 1975, further limits the matters in which special leave to appeal from the High Court may be asked. Special leave to appeal can not be asked from a decision of the High Court unless the decision was given before 8 July 1975. An exception to the generality of the foregoing is that under the Australian Constitution an appeal lies to the Privy Council in cases involving the limits *inter se* of the constitutional powers of the Commonwealth and those of the States if the High Court certifies that the question is one that ought to be determined by the Privy Council. No such certificate has in fact been granted since 1913.

Federal Court of Australia

The Federal Court of Australia was created by the *Federal Court of Australia Act 1976* and commenced to exercise jurisdiction on 1 February 1977.

For the purposes of its organisation and business, the Federal Court of Australia consists of two Divisions: an Industrial Division and a General Division. Matters arising under the *Conciliation and Arbitration Act 1904* and under the *Stevedoring Industry Act 1956* are dealt with in the Industrial division. All other matters are dealt with in the General Division of the Court. The Federal Court of Australia sits as required in each State and in the Australian Capital Territory and the Northern Territory.

The *Federal Court of Australia Act 1976* provides that the Court has such original jurisdiction as is invested in it by laws made by the Commonwealth Parliament.

In respect of matters the hearing of which commenced on or after 1 February 1977, the Court's original jurisdiction includes that formerly exercised by the Federal Court of Bankruptcy and the Australian Industrial Court. Important areas of original jurisdiction include jurisdiction in respect of matters under the *Administrative Decisions (Judicial Review) Act 1977* and certain matters under the *Trade Practices Act 1974*.

The Federal Court of Australia has appellate jurisdiction with respect to judgments of the Court constituted by a single judge, judgments of the Supreme Courts of the Territories, and certain judgments of State Supreme Courts exercising federal jurisdiction (for example, under the *Income Tax Assessment Act 1936* and the *Patents Act 1952*).

Australian Industrial Court and Federal Court of Bankruptcy

Matters, the hearing of which had commenced in the Australian Industrial Court or the Federal Court of Bankruptcy before 1 February 1977, continue to be heard in those Courts. With the exception of part-heard matters, the jurisdiction formerly exercised by these Courts is now vested in the Federal Court of Australia and each of the Courts is to be abolished when there ceases to be a person holding office as a Judge of the Court.

Family Law

The *Family Law Act 1975* commenced operation on 5 January 1976. It introduced a new law dealing with the dissolution and nullity of marriage, custody and welfare of the children, maintenance and the settlement of property between the parties to a marriage.

The law is administered by the Family Court of Australia and by certain other courts in the States and Territories. Except in Western Australia, courts of summary jurisdiction in the States and Territories have jurisdiction in all matrimonial causes, except proceedings for principal relief, subject to the agreement of the parties in the defended custody proceedings and property proceedings regarding property worth more than \$1,000. A State Family Court has been established in Western Australia to administer family law in that State.

Under the Act, great emphasis is placed on the counselling services available through the family courts to persons involved in proceedings and to any persons who have encountered marriage problems. It is not necessary to start proceedings to make use of these services.

The Act provides that there is only one ground for divorce—that of irretrievable breakdown of a marriage. Irretrievable breakdown of a marriage is established under the law if the husband and wife have separated and have lived apart from each other for 12 months and there is no reasonable likelihood of reconciliation. The main change made by the Act is that fault is no longer taken into account as a ground for divorce.

The Family Court of Australia

Applications can be made to the Family Court of Australia for custody and maintenance even if a divorce is not sought. People may approach the Court for counselling (and help) with regard to their marital problems whether or not they are contemplating proceedings for divorce or other relief.

The judges of the Family Court are chosen because of their suitability to deal with matters of family law by reason of their training, experience and personality. They do not wear wigs and gowns. Staff attached to the Court include trained counsellors and legally qualified registrars and deputy registrars.

In dealing with proceedings under the Act, the Family Court is required to have regard to the following principles:

- the need to preserve and protect the institution of marriage as the union of a man and a woman to the exclusion of all others voluntarily entered into for life;
- the need to give the widest possible protection and assistance to the family as the natural and fundamental group unit of society, particularly while it is responsible for the care and education of dependent children;
- the need to protect the rights of children and to promote their welfare; and
- the means available for assisting parties to a marriage to consider reconciliation or the improvement of their relationship to each other and to the children of the marriage.

The same principles apply to all courts exercising jurisdiction under the Family Law Act. Proceedings under the Act in the Family Court are heard in private. No publicity about any proceedings under the Act is permitted, unless otherwise directed by the court. The publication of law court lists and law reports, or other publications of a technical character directed to the legal or medical professions, is exempted from this prohibition.

The Family Court aims to be a 'helping' court. A Principal Director of Court Counselling and a staff of court counsellors are attached to the Court to help parties to a marriage settle their problems. Their help is available to parties who are not even contemplating divorce or other proceedings, but who may need counselling assistance. These services complement those already provided by voluntary marriage counselling agencies. People may approach the Court counselling service directly—in person, in writing, by telephone or through a legal advisor.

The Family Court has the important task of protecting and promoting the welfare and rights of children in proceedings regarding their guardianship or custody. The paramount consideration guiding the Court in all such proceedings is the welfare of the children. Further, a divorce decree will not become effective unless the Court is satisfied that proper arrangements have been made by parties for the welfare of their children.

A feature of the Act is that, in the absence of any court order, both the parties to a marriage have joint custody of a child of the marriage as a matter of law. However, one parent can ask the Court for sole custody of a child. In disputes over custody, the child may be separately represented. The wishes of children over 14 in such disputes must be taken into account unless there are special circumstances.

The right to maintenance under the Act is based on the needs of the party seeking it and the ability of the other party to pay. There are specific matters for the Court to consider when it is dealing with maintenance applications. These include:

- the age and state of health of the parties;
- the income, property and financial resources of each of the parties and their financial obligations;
- whether either party is entitled to a pension or superannuation;
- the length of the marriage and what is an appropriate standard of living for each party;
- whether persons seeking maintenance have to care for children;
- the extent to which the marriage has affected the earning capacity of the applicant; and
- the possibility of the applicant taking on a training course or further educational course to improve his or her employment prospects.

Both parties are liable to maintain their children according to their respective means and the Court is guided by similar considerations in deciding what order to make.

The Court has power to settle disputes about the family assets, including the power to order a transfer of legal interests in property. When dealing with these disputes the Court considers the interest each of the parties has in the property and the contribution made during the marriage. The Act directs the Court to look at the financial contributions made by the parties and at the contribution made by either party in the capacity of homemaker or parent.

Specific provision is made in the Act for legal assistance to be given by the Australian Legal Aid Office to persons who are assessed to be unable to afford legal representation.

The Court has pamphlets printed in Arabic, Finnish, German, Italian, Serbo-Croat, Spanish and Turkish to explain the operation of the new Family Law.

ADMINISTRATIVE REVIEW

Administrative Appeals Tribunal

The Administrative Appeals Tribunal was established by the *Administrative Appeals Tribunal Act 1975* and came into operation on 1 July 1976. The function of the Tribunal is to review, on the merits, where jurisdiction has been specifically conferred upon it, decisions made in the exercise of statutory powers. A written statement of reasons can be sought from the decision-maker by a person affected by a decision within the Tribunal's jurisdiction. The Tribunal now has jurisdiction in respect of decisions made in the exercise of powers conferred by over one hundred separate statutory provisions including decisions under the *Social Services Act 1947*, the *Migration Act 1958*, the *Customs Act 1901*, the *Homes Savings Grant Act 1964*, the *Export Market Development Act 1974* and the Air Navigation Regulations. Further additions to the Tribunal's jurisdiction are made from time to time.

The principal Registry of the Administrative Appeals Tribunal is in Canberra with District Registries in each State capital city and Darwin.

The Administrative Review Council was also established by the *Administrative Appeals Tribunal Act 1975*. The principal functions of the Administrative Review Council are to make recommendations to the Attorney-General on rights of review of administrative decisions and on the procedures of administrative tribunals.

Administrative Decisions (Judicial Review) Act 1977

The *Administrative Decisions (Judicial Review) Act 1977*, which came into operation on 1 October 1980, provides for judicial review in the Federal Court of Australia of administrative action taken under Commonwealth legislation. The Court is empowered, where an order of review is sought by an aggrieved person, to review the lawfulness of a decision, conduct leading up to the making of a decision or circumstances where there has been failure to make a decision. The grounds on which review may be sought and the powers of the Court are set out in the Act. In many cases, a person who is entitled to seek judicial review in respect of an administrative decision may seek a statement of reasons for the decision from the decision-maker.

Commonwealth Ombudsman

The office of the Commonwealth Ombudsman was established in mid-1977. The Ombudsman is empowered to investigate complaints concerning the administrative actions of Commonwealth Government Departments, statutory bodies and other authorities. Where the Ombudsman is of the opinion, after an investigation is completed, that an administrative action involved defective administration he is required to report to the body concerned and may include in his report any recommendations he thinks fit to make. In the event of a failure to comply with a recommendation contained in a report made by the Ombudsman, the Ombudsman may report to the Prime Minister and to the Parliament.

CORRECTIONAL TREATMENT OF OFFENDERS

The term 'corrections' (and its derivatives) as used here refers to the treatment of offenders within the justice system.

While there is a variety in the types of correctional activities employed in each State and Territory, such activities can be broadly categorised into three groups:

- non-continuing forms of treatment, where, if the offender meets the requirements set by court, then correctional agencies would not normally become actively involved. Examples of these forms of treatment are fines, bonds, recognisances without supervision.
- continuing forms of treatment, where the offender is subject to some form of control by a correctional agency, usually for a specified period. This control may take form of—
 - (i) full time custody, as in the case of persons detained in prisons, or other institutions, or
 - (ii) non-custodial treatment involving conditions to be observed by the offender, e.g. probation and parole. In recent years there has been a trend towards the greater use by courts of non-custodial treatment of offenders. This has seen the development of a range of programs such as periodic/weekend detention, attendance centre programs, and community service, under which the offender is at liberty in the community, but is required to report for weekend detention, training, counselling, or to perform unpaid work in the community.

Separate provisions exist in each State and Territory for the treatment of juvenile offenders, and courts and correctional agencies have a wide choice in the types of correctional treatments available to them. Both custodial and non-custodial correctional activities are employed, but greater flexibility allows treatment to be more closely aligned to individual requirements.

Each State and the Northern Territory operates its own prisons and other correctional services. Convicted adult prisoners from the A.C.T. serve their sentences in N.S.W. prisons, but local provision is made for the short-term custody of remand prisoners, and for probation and parole services. The Federal Government does not operate any prisons or other correctional services, and Federal offenders (i.e. persons convicted of offences under Federal laws) fall within the jurisdiction of State agencies for correctional purposes.

Prisons

This section presents information about persons detained in adult prison establishments, and includes where relevant, persons detained pending court hearing, outcome or sentence.

'Prison establishment' refers to all establishments operated or administered by State or Territory correctional agencies, and includes prisons, jails, detention/corrective/training centres, remand centres, forestry camps, prison farms and certain youth training centres.

NUMBER OF PRISONERS IN PRISON ESTABLISHMENTS

at 30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.
1979—							
under sentence	3,464	(a) 1,498	1,529	690	1,332	291	217
not under sentence	422	(b) 166	157	136	122	14	33
Total	3,886	1,662	1,686	826	1,454	305	250
1980—							
under sentence	2,962	(a) 1,700	1,542	769	1,359	251	246
not under sentence	464	(b) 84	157	140	65	19	43
Total	3,426	1,784	1,699	909	1,424	270	289
1981—							
under sentence	3,004	n.y.a.	1,538	700	1,256	236	251
not under sentence	503	n.y.a.	175	111	114	26	45
Total	3,507	n.y.a.	1,713	811	1,371	262	296

(a) convicted (b) unconvicted

DAILY AVERAGE NO. OF PRISONERS; PRISON ACCOMMODATION AND STAFF

State	Daily average (a)			At 30 June 1981	
	Year ended 30 June			Prison accom- modation (b)	Prison staff (c) Number
	1979	1980	1981		
New South Wales*	3843	3470	3384	3987	1789
Victoria	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.
Queensland	1612(a)	1648(a)	n.a.	2012(b)	947
South Australia	795	834	861	982	437
Western Australia	1368	1456	1447	1589	859
Tasmania	306	280	249	512	162
Northern Territory	202	255	280	259	177
Australia	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.

(a) Excludes periodic/weekend detainees, and prisoners serving sentences at attendance centres. (b) Permanent prisoner beds available in prison establishments, other than attendance centres and accommodations specifically for periodic/weekend detainees. (c) Actual strength of non-civilian prison staff (superintendents and wardens only). (d) Prisoners per staff member. * Includes prisoners convicted in A.C.T. courts.

Persons in Juvenile Corrective Institutions

Juvenile corrective institutions are those institutions designated by State/Territory welfare departments as residential child care establishments mainly for child offenders or children on remand for alleged offences, and that have, among their principal aims, the secure detention of the majority of their residents through active measures designed to prevent them leaving the grounds other than for the approved purposes. Excluded are establishments mainly for the detention of persons aged 18 years or over, even though these establishments may be called by names usually applied to establishments for children, eg: youth training centres.

The following tables present details of persons in juvenile corrective institutions as at 30 June 1981.

It should be noted, that these statistics relate only to those children detained in residential child care establishments as described above and not necessarily to all persons detained in residential child care establishments due to a proven or alleged offence.

PERSONS IN JUVENILE CORRECTIVE INSTITUTIONS BY AGE AND SEX: 30 JUNE 1981

Age	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
10	2	4	—	2	—	—	—	—	8
11	15	10	4	1	3	1	—	—	34
12	28	16	11	—	3	2	—	1	61
13	58	29	14	3	11	6	—	1	122
14	125	56	18	8	26	9	1	11	254
15	126	89	29	12	35	12	—	4	307
16	140	101	26	20	42	3	—	4	336
17	117	29	9	30	39	1	—	5	230
Total—									
10-17									
Males									
No.	521	253	89	71	145	26	1	13	1119
Rate(a)	147.4	89.6	55.1	75.6	154.2	81.4	10.1	75.6	107.2
Females									
No.	90	81	22	5	14	8	—	13	233
Rate(a)	27.1	30.2	14.3	5.7	15.8	26.1	—	80.9	23.6
Total persons	611	334	111	76	159	34	1	26	1352
18+	14	28	3	9	4	—	—	—	58
Total	625	362	114	85	163	34	1	26	1410

(a) Per 100,000 of population aged 10 to 17 years inclusive.

PERSONS AGED 10-17 IN JUVENILE CORRECTIVE INSTITUTIONS BY DETENTION STATUS (a), REASON FOR DETENTION (b) AND SEX: 30 JUNE 1981

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Detention status (a)									
Not awaiting hearing, etc—									
Males	420	226	58	48	129	21	1	13	916
Females	66	70	9	3	13	4	—	10	175
Awaiting hearing, etc—									
Males	101	27	31	23	16	5	—	—	203
Females	24	11	13	2	1	4	—	3	58
Reason for detention (b)									
Offender alleged offender—									
Males	476	204	68	70	143	26	1	12	1,000
Females	75	5	6	5	13	6	—	6	116
Non-offenders—									
Males	45	49	21	1	2	—	—	1	119
Females	15	76	16	—	1	2	—	7	117
Total—									
Males	521	253	89	71	145	26	1	13	1,119
Females	90	81	22	5	14	8	—	13	233
Persons	611	334	111	76	159	34	1	26	1,352

(a) Detention Status refers to whether or not, a person was detained awaiting the start, final outcome or penalty of a hearing or trial before a court or children's panel for a criminal (i.e. an offence) or other (eg: child welfare) type of matter. (b) Reason for Detention refers to whether the principal reason for a person being detained in a juvenile corrective institution was in respect of a criminal offence (alleged or proven), or for some other type of matter eg: a child welfare matter. (Australian Institute of Criminology)

Probation and Parole

The following table provides information on the number, and rates per 100,000 of population, of adult probationers and parolees under actual supervision.

ADULT PROBATIONERS (a) AND PAROLEES (b)									
Year at 1 July	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Probationers (a)—									
1979—Number	7,707	3,046	2,420	2,422	1,702	1,905	133	138	19,473
Rate (c)	151.8	79.0	110.7	187.3	136.8	456.8	113.7	61.9	135.1
1980—Number	8,082	2,952	2,711	2,434	1,563	1,784	229	159	19,914
Rate (c)	157.1	75.8	122.0	186.9	123.3	423.8	189.3	69.1	136.3
1981—Number	8,858	2,885	2,437	2,391	1,538	1,538	239	157	20,043
Rate (c)	169.8	73.5	106.0	183.2	119.4	359.3	186.7	67.9	135.2
Parolees (b)—									
1979—Number	2,067	635	373	200	465	56	48	29	3,873
Rate (c)	40.7	16.5	17.1	15.5	37.4	13.4	41.0	13.0	26.9
1980—Number	2,299	811	431	184	495	73	81	51	4,425
Rate (c)	44.7	20.8	19.4	14.1	39.0	17.3	66.9	22.2	30.3
1981—Number	2,240	651	319	202	547	65	88	49	4,161
Rate (c)	42.9	16.6	13.9	15.5	42.5	15.2	68.8	21.2	28.0

(a) Includes: in NSW, persons released from Children's Court, some of whom would not have attained adult status; in WA and NT, persons who were also subject to Community Service Orders; in Tas. persons who were released on probation after serving a term of imprisonment, but excludes juveniles who were also being supervised by the Adult Probation Service. (b) Includes licensees under supervisor other than Governor's Pleasure Licensees. (c) Per 100,000 of general population, as at 30 June of each year shown. (Source: National Probation and Parole Statistics, Australian Institute of Criminology.)

CRIMINOLOGICAL RESEARCH

The Australian Institute of Criminology

The Australian Institute of criminology, which is located in Canberra, was established as a statutory authority under the *Criminology Research Act 1971*. The Institute is administered by a Director and a Board of Management comprising three members appointed by the Federal Attorney-General, and three members representing the States, who are appointed by the Criminology Research Council.

Among the functions of the Institute as defined in the *Criminology Research Act* are;

- to conduct criminological research (ie research in connection with the causes, prevention and correction of criminal behaviour and related matters), and communicate the results of such research to the Commonwealth and States;
- to advise on the needs for, and programs of, criminological research, and give advice and assistance in relation to any research funded through the Criminology Research Council;
- to conduct seminars and courses of training and instruction for persons engaged in criminological research or work related to the prevention or correction of criminal behaviour;
- to provide advice in relation to the compilation of statistics in relation to crime; and
- publish material resulting from, or relating to its activities.

Since its inception the Institute has undertaken directly, or through the Criminology Research Council actively assisted and advised on, an extensive range of criminological research projects, and has conducted, or been represented at, numerous national and international conferences dealing with crime related matters. In addition, the Institute has introduced a computerised bibliographic service, such that it now acts as a central agency for the collection, storage, exchange and dissemination of bibliographical data on Australian and related criminological material.

The Criminology Research Council

The Criminology Research Council, comprised of representatives from the Commonwealth and each State, is an independent body corporate also established under the *Criminology Research Act 1971*. The Council is responsible for the control and administration of the Criminology Research Fund, which is funded fifty percent by the Federal Government, and fifty percent by State Governments on a pro-rata population basis. Subject to the Council's assessment of a project, persons seeking to conduct criminological or related research may be provided with a grant from the Fund.

Bankruptcy

For a description of the provisions of the *Bankruptcy Act* 1966, see Year Book No. 55, Pages 586-7. The Bankruptcy Act was amended in 1970 to remove any obstacle the Act might present to the operation of compositions or schemes of arrangement entered into under State or Territory legislation providing assistance to farmers in respect of their debts.

The following table shows the number of bankruptcies of the various types together with the disclosed assets and liabilities of the debtors. Details for each State are published in the Annual Report by the Minister for Consumer and Business Affairs on the operation of the Bankruptcy Act.

BANKRUPTCY PROCEEDINGS: AUSTRALIA

Year	<i>Bankruptcies and Orders for administration of deceased debtors' estates</i>	Compositions	Deeds of assignment	Deeds of arrangement	Total	
1974-75	Number	2,061	63	128	80	2,332
	Liabilities \$'000	33,788	1,693	15,776	2,742	53,999
	Assets \$'000	13,529	1,069	5,129	2,034	21,761
1975-76	Number	1,900	67	118	92	2,177
	Liabilities \$'000	48,829	8,969	6,374	15,823	79,995
	Assets \$'000	14,188	490	3,864	11,667	30,209
1976-77	Number	2,196	72	109	75	2,452
	Liabilities \$'000	48,862	6,996	6,409	15,130	77,397
	Assets \$'000	20,936	723	4,389	9,947	35,995
1977-78	Number	3,134	75	163	89	3,461
	Liabilities \$'000	74,723	12,061	9,551	6,042	102,377
	Assets \$'000	27,524	646	5,152	2,521	35,843
1978-79	Number	3,857	137	255	168	4,417
	Liabilities \$'000	93,388	5,460	14,554	14,249	127,651
	Assets \$'000	25,394	1,184	6,690	6,073	39,341
1979-80	Number	4,953	176	259	193	5,581
	Liabilities \$'000	110,543	10,094	15,095	13,115	148,847
	Assets \$'000	37,169	2,977	6,709	4,522	51,377

Patents, Trade Marks and Designs

Patents

Patents for inventions are granted under the *Patents Act* 1952, which applies to Australia and to the Territory of Norfolk Island and which is administered by the Commissioner of Patents.

Either a 'petty patent' or a 'standard patent' for an invention may be applied for and granted under the Patents Act. A 'standard' patent has a term of up to sixteen years, while a 'petty' patent has a term of up to six years.

PATENTS: AUSTRALIA

	1975	1976	1977	1978	1979	1980
Total applications	14,082	14,117	14,246	14,131	14,640	15,936
Applications claiming priority of date under convention arrangements	8,483	8,666	8,675	8,542	8,656	9,354
Petty patents lodged . . . . .	..	..	..	..	57	84
Complete specifications lodged	10,929	11,003	11,087	10,910	10,032	10,697
Complete specifications accepted	11,473	10,850	9,911	8,445	8,761	7,327
Letters patent sealed	12,161	11,074	9,626	9,038	6,513	8,434
Letters patent renewed	51,034	51,028	57,850	56,878	59,455	52,989
Letters patent ceased	9,895	10,052	9,147	10,598	2,348	15,265

Trade marks and designs

The *Trade Marks Act* 1955 and the *Designs Act* 1906 are also administered by the Commissioner of Patents. These Acts provide for the registration of trade marks in respect of goods and services, and the registration of industrial designs.

TRADE MARKS AND DESIGNS: AUSTRALIA

	1975	1976	1977	1978	1979	1980
Trade marks—						
Received	9,046	10,195	10,888	11,001	16,127	13,567
Registered	7,087	4,941	4,881	4,243	4,437	4,583
Designs—						
Received	2,105	2,571	2,695	3,170	3,127	3,012
Registered	1,733	1,519	2,290	2,316	1,892	1,957

Copyright

Copyright is regulated by the Commonwealth *Copyright Act* 1968–1973, which came into force on 1 May 1969. On that date Australia ratified its adherence to the Brussels revision of the Berne Copyright Convention and to the Universal Copyright Convention whereby citizens of member countries are accorded protection by complying with the convention formality requiring proprietors to place on their works the symbol © together with their name and the year of first publication in such a manner and location as to give reasonable notice of their claim of copyright in the works so identified. The new legislation contains no provision for the registration of copyright, and the Copyright Office ceased to exist on 1 May 1969. Copyright is administered by the Attorney-General's Department.

CHAPTER 12

EDUCATION

State and Commonwealth Government responsibilities in education

Under the Australian Constitution, education is a responsibility of State Governments, the Commonwealth Government being responsible for education in the Australian Capital Territory, Norfolk Island, Christmas Island and the Cocos (Keeling) Islands. On 1 July 1979, responsibility for education in the Northern Territory passed from the Commonwealth Government to the Northern Territory Government.

The State Governments administer their own systems of primary, secondary, and technical education through government departments responsible to State Ministers. In each State except New South Wales and South Australia, a single Education Department is responsible for these three levels of education. In New South Wales and South Australia the Education Department concentrates on primary and secondary education and a separate department is responsible solely for technical and further education. The Commonwealth and Northern Territory Governments provide similar education services in the Australian Capital Territory and the Northern Territory. Universities and colleges of advanced education in Australia are autonomous institutions established under acts of the appropriate parliament.

Detailed information on the education systems of the States may be found in the respective State year books. Chapter 27 of this Year Book provides details of the situation in the Territories.

General characteristics of schools

Compulsory education

School attendance is compulsory throughout Australia between the ages of 6 and 15 years (16 years in Tasmania), but many States accept children below the age of 6. In all States and Territories the opportunity for four year olds to attend pre-school is becoming more widely available.

All children between the prescribed ages must attend either a government school or some other recognised educational institution. In 1980, over 660,000 students attended non-government schools, of which about 78 per cent attended Roman Catholic schools. The organisation of Roman Catholic primary schools is largely diocesan; Roman Catholic secondary schools are either diocesan or administered by religious orders. Most other non-government schools are under the auspices of, or are actually run by, other religious denominations. Non-government schools must meet certain standards determined by the States or Territories in which they are located. In most States and Territories they cannot be opened, or continue to operate, unless they are registered. Registration is normally dependent upon certification that the school has satisfactory premises and provides regular and efficient instruction.

Funding of schools

Education at all government primary and secondary schools in Australia is free. Each State provides the major portion of funds for its own school system from its general revenue funds. The other source of funds is the Commonwealth Schools Commission. The non-government schools draw funds from private sources and also receive Government financial assistance (both State and Commonwealth). For further details, *see* Expenditure on education, page 267.

School organisation and operation

Students in Australia generally proceed from a primary school to a secondary school within their own locality. Primary schools and secondary schools are usually separate institutions. Pre-schools are also normally separate institutions, although some are attached to or near the local primary school. In small towns and communities there are sometimes area or central schools which provide both primary and some secondary schooling, though not necessarily to Year 12 level. In Tasmania and the Australian Capital Territory, the final two years of secondary schooling in the Government system are provided at separate colleges.

The majority of government schools in Australia are comprehensive and co-educational. All schools with both primary and secondary enrolments (mainly area or district schools in rural areas), all

but a few primary schools, and over four-fifths of secondary schools are co-educational. Under the present policies of school authorities, it is unlikely that any new government single-sex schools will be established.

The situation in non-government schools is different. Approximately two-thirds of non-government secondary schools, and about one half of those with primary schools attached to them, are single-sex schools. This is changing, with the number of single-sex schools decreasing in recent years.

Generally, schools in Australia now have a considerable degree of autonomy. In recent years most State education departments have established regional administrations which are responsible for matters such as planning school buildings and deploying staff, and a central curriculum unit which provides general guidelines on course planning. In some systems these guidelines are more prescriptive than in others. In general, individual schools offer options and determine teaching and learning approaches within the guidelines and within the limitations of available resources and the aptitudes and interests of their students. Usually parent associations are attached to each school, and there has been encouragement of greater community participation in general decision-making at school level through representation on school councils and boards which have been established in some systems to take some responsibility for school planning and policy formulation. Some systems also encourage school-based curriculum development and, in the case of the Australian Capital Territory, school-based evaluation programs.

Schools usually provide educational or vocational counselling through an attached or visiting teacher. Many schools also provide special facilities or teachers to assist migrant children, especially where the schools are located in areas of high migrant density. In all States and the Northern Territory there are special Commonwealth funded education projects designed to assist Aboriginal school children. Notable among these is the widespread use of Aboriginal teacher aides, and bilingual programs in a number of Aboriginal communities where the children's first language is an Aboriginal language.

Pre-school education

Pre-schools were first established by voluntary organisations and a large number are still operated by them with State and Commonwealth financial assistance. Departments of Education in four States and the two Territories are responsible for the administration of pre-school centres. In New South Wales the Department of Education shares the responsibility with welfare authorities, and in Victoria the Department of Health has the complete responsibility for pre-school services.

In recent years most States have announced a commitment to provide pre-school education for all children and therefore Government pre-schools have been increasing more rapidly than those provided by voluntary organisations. In addition, special Commonwealth Government funding has helped to promote a considerable expansion of pre-school facilities for Aboriginal children throughout Australia.

Most teachers working in pre-school centres provide a play-based program with some emphasis on the development of concepts associated with language, science and music. In most States pre-schools operate on a half-day sessional basis and thus accommodate two and sometimes three different groups of children each week.

Primary and secondary education

A generalised description of the basic subjects and teaching methods at each level follows.

Primary schools

In the lower primary years the main emphasis is on the development of basic language and literacy skills, simple arithmetic, moral and social education, health training and some creative activities.

In the upper primary years there is development of the skills learned in the earlier years. English, mathematics, social studies, science, music, art and craft, physical education and health are studied. There are also optional subjects such as religious instruction and, in some schools, foreign languages and instrumental music.

Students in Australian primary schools usually have only one class teacher for all subjects, and are promoted each year on the basis of completing the previous year, rather than on achievement. However, in schools where open plan learning styles have been adopted the method of team teaching (more than one teacher to a class) and multi-age grouping of students is often practised.

Secondary schools

In some systems the first one or two years of secondary school consist of a general program which is followed by all students, although there may be some electives. In later years a basic core of subjects is retained with students being able to select additional optional subjects. In other systems students select options from the beginning of secondary school.

The core subjects in all systems are English, mathematics, science and, usually, a humanities or social science subject. Optional subjects may include for example, a foreign language, a further humanities or social science subject, commerce, art, music, home arts and craft, a manual arts subject, or agriculture. Some schools offer optional courses in subjects such as consumer education, conversational foreign languages, shorthand, typewriting, road safety, drama and leisure-time activities.

In senior secondary years a wider range of options is available in the larger schools and there is an increasing trend towards encouraging individual schools to develop courses suited to the needs and interests of their students, subject to accreditation and moderation procedures.

Victoria is the only State which retains a system of secondary technical education. These schools offer a wide range of elective technical subjects. In the Northern Territory three Aboriginal residential colleges assist Aboriginals to participate in secondary education.

Students in Australian secondary schools generally have different teachers for each separate subject area, though, like primary schools, variations may occur where open planned or more flexible methods have been adopted. Promotion is, again, generally chronological, but students may be grouped according to ability after an initial period in unstreamed classes.

Examinations and assessment at each level are carried out by individual schools except in Year 12 in the systems which have retained external examinations at Year 12 level. Students attaining the minimum school leaving age may leave school and seek employment, or enrol in a vocationally oriented course in a technical and further education (TAFE) institution or a private business college. For many TAFE courses, completion of Year 10 of secondary school is a minimum entry requirement. For those continuing to the end of secondary school (Year 12), opportunities for further study are available in TAFE institutions, universities, colleges of advanced education and other post-school institutions. The latter include non-government teachers colleges and a few single purpose institutions such as the Australian Film and Television School, the Australian Maritime College and the National Institute of Dramatic Art.

Students' eligibility for entry to universities and colleges of advanced education is assessed during, or at the end of, the final two years of secondary schooling. In Victoria the standard basis for admission to higher education is public examination results. Four other States and the Northern Territory use different combinations of school assessment and public examinations. In Queensland and the Australian Capital Territory eligibility to enter higher education is determined from moderated and standardised school assessments. Several education systems are currently reviewing their senior secondary school assessment procedures.

Other schooling arrangements

Children may be exempted from the requirement of compulsory attendance if they live too far from a school or suffer a physical disability. These children usually receive correspondence tuition. Special schools are available in larger centres for socially, physically and mentally handicapped children in cases where they are not catered for in special or regular classes in ordinary schools.

In addition to correspondence tuition there are other provisions for children in isolated areas. Schools of the Air operate in New South Wales, South Australia, Queensland, Western Australia and the Northern Territory. Schooling for the children of Aboriginal groups in remote areas of the Northern Territory is conducted by Aboriginal teaching assistants supported by visiting teachers from established schools. Increasing numbers of Aboriginals are now being trained as fully qualified teachers. Special education is provided by State Governments, although in all States and particularly in New South Wales, Queensland and Victoria, parents have formed voluntary organisations to establish additional schools catering for their children's special needs. The Commonwealth Government, through the Commonwealth Schools Commission, provides funds to State authorities to assist in the upgrading of special education facilities.

Boarding facilities are available at some non-government schools mainly in the larger towns and cities. Some government schools, in particular those catering for special groups such as Aboriginals, have residential hostels close by.

Post-secondary education

Technical and further education (TAFE)

TAFE institutions operate from early February to mid-December, in either three terms or two semesters depending on the institution.

The major part of technical and further education in Australia is provided in government administered institutions variously known as colleges, schools, or centres of technical and further education. There is also some TAFE provision in some colleges of advanced education, agricultural

colleges and adult education authorities. These institutions are spread widely throughout Australia in both metropolitan and country areas. They vary greatly in size and in the scope of their educational provisions, though the largest tend to be located in metropolitan regions.

Each of the States provides the bulk of the finance for its own institutions. The Commonwealth Government provides supplementary funds to the States on the basis of recommendations from the Commonwealth Tertiary Education Commission.

Government TAFE institutions offer an extremely wide range of vocational and non-vocational courses. The majority of students are part-time and employed. There are also large numbers of other vocational courses for persons not indentured in a trade. These include many certificate courses for prospective technicians and persons engaged in para-professional occupations, particularly in the manufacturing and service industries, and a wide range of courses designed to supplement previous training or to provide specialised instruction in particular aspects of job skills. Other courses offered are those providing pre-vocational training to persons prior to their entry into employment, and preparatory or bridging instruction to persons whose educational experience is not sufficient to permit direct entry to a chosen vocational course. Government TAFE institutions are also major providers of adult education courses of the personal interest, leisure or general enrichment kind.

There are some non-government bodies which offer technical and further education of a non-apprenticeship nature. Business colleges offer courses in secretarial studies, while agencies such as the Workers Educational Association and a range of voluntary groups help meet adult education needs in the community.

Colleges of advanced education

Colleges of advanced education normally operate over three terms or two semesters, beginning in early to late February and running to mid-December. Students commencing courses will have completed a full secondary education, or will have demonstrated that they have a high probability of successfully completing a course. There are quotas on new enrolments at many of the larger colleges with students able to enrol on a full-time or part-time basis and there are usually provisions for mature-age entry.

In 1981, there were sixty-eight colleges of advanced education. Some are large diversified or multi-vocational institutes, others are small single-purpose colleges. Some colleges specialise in agriculture, the arts or teacher education. About one third of colleges have enrolments below 1,000 students. All colleges are funded by the Commonwealth Government. Advanced education level courses are also provided by some TAFE institutions.

The principal purpose of the colleges is to provide tertiary education oriented towards practical training and industrial and social needs. The colleges aim to equip students so that immediately after graduation they may play an effective role in commerce, industry, the public service and the arts. The colleges emphasise undergraduate teaching more than research, although some colleges also offer post-graduate level courses, either at the diploma or masters level. Most colleges have a commitment to part-time study, and many offer 'sandwich' courses, which provide a period of full-time study with associated periods of full-time employment. Some colleges also offer external courses.

The duration of a basic undergraduate course in a college of advanced education is two to three full-time years, at the conclusion of which an Associate Diploma, a Diploma or a Bachelor Degree is awarded. A great variety of courses is offered by colleges of advanced education, embracing such areas as applied science, teacher education, liberal arts, business and secretarial studies and para-medical studies.

Although teaching in colleges of advanced education is more vocationally-oriented and less theoretical or academic than in universities, the system of tuition is similar. Lectures, tutorials and seminars are organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework.

Halls of residence are provided at some colleges of advanced education, principally those located in country areas. These can accommodate some, but not usually all, students enrolled at those institutions.

Universities

The university year in Australia normally runs from late February or early March to mid-December over three terms or two semesters depending on the institution. Normally students commencing courses will have completed a full secondary education, though most universities have some provisions for admitting other persons who can demonstrate that they have a high probability of successfully completing a course. There are quotas on new enrolments in most faculties in Australian universities. Although there are usually provisions for mature-age entry, the majority of students proceed straight from school. Sixty-one per cent of students were enrolled as full-time students in 1980.

There are nineteen universities in Australia, most of which are located in the capital cities. Universities are autonomous institutions established under Acts of the appropriate parliament and financed mainly by the Commonwealth Government. The basic undergraduate course in most disciplines is three or four full-time years in duration, at the conclusion of which a bachelor degree is awarded. A further one to two years of full-time study is required for a masters degree, and three to five years for a doctoral degree. Universities also offer post-graduate diploma courses in some disciplines. All universities offer full-time and part-time courses, and some offer external studies. As well as providing undergraduate courses, Australian universities are centres of post-graduate study and research. Some universities have institutes or units involved exclusively in research and/or post-graduate teaching. In 1980, over 12 per cent of university students were proceeding to higher degrees.

Courses at Australian universities are normally organised in faculties or schools, and students generally elect to study in a number of subject areas, or departments, within a faculty or school. Universities will generally offer some, but not all, of the following courses of study: agriculture, architecture, arts, dentistry, economics, education, engineering, law, medicine, music, science, and veterinary science.

The system of tuition in universities is normally by means of lectures, tutorials and seminars organised by the institution in the subjects offered. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework. These are required for many post-graduate degrees.

Most universities have halls of residence on the campus which accommodate some, but not all, of the students currently enrolled. Student organisations on campus provide a wide range of sporting and social facilities for students.

Teacher education

The majority of teachers are educated in colleges of advanced education, but a substantial number of secondary teachers and a few primary teachers receive their pre-service education in a university. A few non-government teachers colleges, mostly operated by religious denominations, educate some of the teachers for non-government schools. The majority of pre-school and primary trainee-teachers undertake courses of three years' duration before commencing teaching. Most secondary trainee-teachers undertake a four year course.

The normal entry requirement for teacher education is determined by the matriculation requirements of individual universities and colleges of advanced education.

The content of pre-service teacher education is determined by individual universities and colleges of advanced education. Options are available to students but, generally, the three year course for a pre-school or primary trainee-teacher includes history and principles of education, general and special methods of teaching, early childhood development and general educational psychology, as well as the subjects they will be teaching. Practice teaching is required.

Secondary trainee-teachers are generally expected to specialise in two or three subjects. These may be studied as part of an education degree in either a university or a college of advanced education, or as part of another degree to be followed by a post-graduate diploma in education. As part of their pre-service education, secondary trainee-teachers generally take courses in the history and principles of education, comparative education, educational psychology and teaching methods. Practice teaching comprises part of the courses.

All education systems provide opportunities for in-service training. Generally, there are two types of in-service training: assistance to teachers to upgrade their formal qualifications by providing various forms of study leave or study assistance; and 'less formal' in-service education through the organisation of a large number of short-term workshops, seminars and conferences. In each State many of these 'less formal' activities are co-ordinated by a joint committee of representatives of teachers and of government and non-government schools. Also with the assistance of funds from the State Government and the Commonwealth Schools Commission, teachers directly organise many of their own in-service education activities through a number of teacher centres and education centres in each State.

Migrant education

The Commonwealth Government has responsibility for migrant education for which State Governments are also contributing resources, particularly in school level programs. Opportunities are provided for school-age and adult migrants from non-English speaking backgrounds to learn the English language and to assist in their integration into the Australian community.

Child migrant education

In most States migrant children are taught English as a second language in 'withdrawal' classes, where migrant children are brought together for certain periods each week for the teaching of basic

communication skills in English. States are increasingly adopting other approaches to teaching English as a second language, including bilingual programs and language assistance within the general classroom. Generally, there has been recognition of the need to provide multicultural education which acknowledges migrant identity and self-esteem in the general framework of Australian life.

Migrant and multicultural education at the primary and secondary levels is funded by the Commonwealth Schools Commission, which also provides supplementary financial assistance for schools of high migrant density and in-service training of teachers of migrant children. Payments are made to government and non-government education authorities in each State who are responsible for determining priorities and allocating funds.

Adult migrant education

The *Adult Migrant Education Program* is a national program, funded and co-ordinated by the Commonwealth Department of Immigration and Ethnic Affairs. It aims to help adult migrants and refugees from non-English speaking backgrounds learn English and obtain essential information about Australia and Australian society.

The program consists of a variety of full and part-time courses and classes including special arrangements such as English classes at the work place, the Home Tutor Scheme and English by radio and television. Enrolments in the program have increased in recent years reaching 119,000 in 1979-80.

For the most part the courses are conducted by State Governments through their Adult Migrant Education Services or Branches. A number of tertiary institutions and some community organisations also participate in the program through courses funded by the Commonwealth. These courses are available at a number of locations including migrant education centres leased by the Commonwealth in each mainland capital city, education centres in migrant hostels and other community and education facilities in suburban and some country areas.

Financial assistance

Primary and secondary education is free in government schools in all States and Territories although nominal fees may be charged for the hire of textbooks and other school equipment. Most State Governments provide financial assistance to parents for educational expenses such as these as well as for transport to and from school, and various forms of scholarship, bursary, boarding and clothing allowances. Many of these forms of assistance are specifically intended to assist low income families.

Post-secondary education (in institutions of technical and further education, colleges of advanced education and universities) has been free since the beginning of 1974.

At the national level, the Commonwealth Government, through its Department of Education, provides a number of schemes of assistance for Australian students to facilitate access to education, particularly at the upper secondary and post-secondary level. A brief description of these schemes was given in the 1980 Year Book and are listed later in this chapter, in the statistical table dealing with Student Assistance Schemes.

In addition, the States offer various schemes of assistance at the primary and secondary level; some are paid directly to the schools, others to the student or the student's parents. Many of these awards are intended to offset the cost of books, to enable students to attend special schools, or to assist students in remote areas who need to live away from home or to travel long distances to attend school.

Some universities have a small number of scholarships or other forms of assistance to enable students to undertake tertiary study. Some of these awards are at the post-graduate level, and some are for study overseas. Some non-government schools also offer scholarships and bursaries to assist students.

Administrative structure of education at the national level

As mentioned at the beginning of this chapter, the Commonwealth Government has direct responsibility for education only in the Australian Capital Territory and the external Territories; the Northern Territory Government having assumed responsibility for education in the Territory from 1 July 1979. (See relevant State Year Books for a description of State administrative structures.) The Commonwealth Government, however, has special responsibilities for the Aboriginal people and for migrants, as well as the power to provide assistance for students. Moreover, the Commonwealth Government is responsible for international relations in education. Accordingly, the Commonwealth Department of Education's activities include the administration of schemes of student assistance, international education, some aspects of migrant education, language teaching and Aboriginal Education. The Department also liaises with the media and community groups, and produces a range of publications relating to education in Australia, e.g. *Directory of Higher Education Courses*, *Education News* and *Hemisphere*, an Asian-Australian monthly.

The Department provides a secretariat for the Organisation for Economic Co-operation and Development (OECD) Advisory Committee on Education and co-ordinates Australia's involvement in the OECD education research activities under the Centre for Educational Research and Innovation (CERI). As well, the Department provides a secretariat for the Australian National Commission for the United Nations Educational, Scientific and Cultural Organisation (UNESCO) which has a specialist Education Committee.

The Australian Constitution empowers the Commonwealth Government to make grants to the States and to place conditions upon such grants. This power has been used to provide financial assistance to the States specifically for educational purposes. There are two national education commissions which advise the Commonwealth Government on the needs of educational institutions throughout Australia for the purposes of financial assistance: the Commonwealth Schools Commission, which was established in 1973; and the Commonwealth Tertiary Education Commission, which was established in 1977 to replace three former commissions—the Universities Commission, the Commission on Advanced Education and the Technical and Further Education Commission. The Commonwealth Tertiary Education Commission comprises a Commission, which is concerned with co-ordination and inter-sectoral matters, and three Councils on universities, advanced education and technical and further education.

Generally, the Commissions are required to consult with State authorities (and, in the case of the Commonwealth Schools Commission, with the authorities conducting non-government schools) and such other persons, bodies and authorities as they think necessary before making recommendations to the Commonwealth Government on the amount of financial assistance required, both in general and for specific purposes, to meet the needs of each sector.

The needs for financial assistance for pre-school and child care facilities are considered at the national level by the Office of Child Care within the Commonwealth Department of Social Security.

Commonwealth Government education authorities also function as co-ordinating agencies for joint activity by the States and Territories in a number of fields.

- The *Australian Council on Awards in Advanced Education* seeks, in consultation with State co-ordinating bodies, to establish consistency in awards in advanced education by establishing, maintaining and publishing a register of such awards.

A number of other bodies at the national level have an important co-ordinating, planning or funding role.

- The *Australian Education Council*, comprising the Commonwealth and State Ministers for Education, normally meets three times in each two years as a consultative body to consider matters of mutual interest, such as the material and personnel needs of schools and co-operation in educational developments generally. It is assisted by a Standing Committee consisting of senior officials including the Directors-General of Education in each State and the Secretary of the Commonwealth Department of Education.
- The *Conference of the Directors-General of Education* normally meets twice each year. Matters discussed and decisions reached at the Conference have a direct influence in each State and Territory on such matters as pre-service and in-service education of teachers, school staffing, curricula, special education, building programs, administrative procedures and the extent of uniformity and diversity between education systems. Under the auspices of the Directors-General Conference, regular meetings of senior specialist personnel are held.
- The *Australian Council for Educational Research* (ACER) is an independent national research organisation. The Council is funded by annual grants from each of the State Governments and the Commonwealth Government, as well as from its own activities. The Council is involved in its own and contract research in co-operation with education systems and plays a central role in the development, production and distribution of tests and other measuring instruments, and on research into teaching and learning, and into the broad foundations of education. The ACER acts as the Australian national centre for the program of international surveys of student achievement conducted by the International Association for Evaluation of Education Achievement (IEA).

There are also a number of non-government organisations which have a co-ordinating role in education at the national level. These include the *National Catholic Education Commission*, the *National Council for Independent Schools*, the *Australian Vice-Chancellors' Committee*, the *Australian Conference of Principals of Colleges of Advanced Education*, the *Conference of Directors of TAFE* and the *Australian High School Principals' Association*. Teachers at various levels have national organisations, as do some community and parental groups. The Australian Union of Students is a national organisation for tertiary students. (For further details see the *Australian Education Directory*, published by the Commonwealth Department of Education).

Major current issues in education

Some of the major initiatives taken in education at the national level are discussed below. (See relevant State Year Books for a description of State issues.)

The transition from secondary education to employment

On 22 November 1979, the Commonwealth Ministers for Education and for Employment and Youth Affairs announced that the Commonwealth would provide additional grants to the States to a total of \$150 million over five years for a special Transition from School to Work Program. The Commonwealth allocation was \$25 million in 1980, and \$27.4 million in 1981. These funds are providing for the development of programs, in both government and non-government schools and in TAFE colleges, for the extension and diversification of education and training. The primary concern of this Transition Program is to provide appropriate education and training courses for those young people who leave school each year with poor employment prospects and to provide for those people at risk still in school who are likely to face similar difficulties when it comes their turn to leave.

Projects supported under the program have included expansion of TAFE programs such as pre-apprenticeship, pre-vocational and pre-employment courses, and EPUY programs, development of alternative courses in schools for potential early school leavers, development of link courses, improved services and techniques for identifying potential early school leavers, expansion of school counsellor, vocational education and guidance services, and teacher development programs and community education projects.

Schemes introduced to assist young Australians seeking employment

The *Education Program for Unemployed Youth* (EPUY), was introduced in July 1977, to provide financial assistance to State and Territorial education authorities to develop and conduct courses for young people for whom low or inadequate levels of educational achievement form a primary barrier to their obtaining stable employment. Courses are designed to provide instruction in literacy and numeracy, to promote self confidence and to give students some basic vocational skills and a knowledge of job seeking techniques. Courses are from six to twenty weeks duration.

Persons less than 25 years of age are eligible provided that they have been registered for employment or can show other evidence of having been unemployed for not less than four of the previous twelve months, and have been away from full-time education for the same length of time and are currently registered for employment. An amount of \$1.969 million was made available for expenditure on the program in 1977-78, \$3.2 million in 1978-79, \$3.7 million in 1979-80 and \$3.8 million in 1980-81. A total of 2,500 students undertook the EPUY course in 1977-78, 4,269 in 1978-79 and 4,181 in 1979-80, this figure excluding transition EPUY. In 1980, 5,575 students participated in EPUY courses including courses funded under the Transition Program. The administration of the EPUY and Transition from School to Work Program will be combined from 1982.

Other schemes, administered by the Department of Employment and Youth Affairs, which may assist young people in the transition from school to work are the *National Employment and Training Scheme* (NEAT), the *Special Youth Employment Training Program* (SYETP), the *Commonwealth Rebate for Apprentice Full-Time Training* (CRAFT), the *Relocation Assistance Scheme* (RAS) and the *Community Youth Support Scheme* (CYSS).

The Inquiry into Management Education

The Report of the Study Group on Structural Adjustment (Crawford Report) recommended that an assessment be made of management education in Australia. In response to this, a Committee of Inquiry was established in April 1980 to examine the availability and effectiveness of courses in management education for middle and top level business executives. The Inquiry is also examining the special needs of small businesses in relation to management education. The Committee comprises five part-time members. Its Chairman is Mr J. T. Ralph, Executive Director, CRA Limited.

The Committee's report has been completed, and is due to be released by July 1982.

Australian Studies in Student Performance (ASSP)

The Australian Studies in Student Performance project was commissioned by the Australian Education Council as part of a response to general community concern about education standards in Australia. In all Australian States, samples of children aged 10 and 14 years were tested in writing, reading and numeration.

The survey was conducted in October 1980 by the Australian Council for Educational Research, and the report entitled, *Performance in Literacy and Numeracy 1980*, is available at Australian Government Publishing Service bookshops.

Potential of Communications Satellites for Education.

The Australian Education Council agreed in October 1981 to set up an advisory committee to recommend a three year program of educational trials in telecommunications relating to the use of the domestic communications satellite system being developed for Australia. Subject to the agreements of the various governments to participate in the program, the advisory committee will include researchers and representatives from all States participating in the trials program, higher education institutions, and the technical and further education sector. Management and evaluation of the project will be co-ordinated by the Commonwealth Department of Education, and is estimated to cost \$100,000. The cost of the trials is estimated at \$900,000, and will be shared by the Commonwealth and the participating States.

Educational training in the Defence Force

Information on educational training in the Defence Force is contained in Chapter 4 Defence, pages 62-6 inclusive.

EDUCATION STATISTICS

For the most recent statistics available on subjects dealt with in this chapter reference should be made to the series of mimeographed publications on social statistics issued by the Australian Bureau of Statistics. These publications comprise *Schools, Australia* (4202.0), *Colleges of Advanced Education, Australia* (4206.0) and *University Statistics, Australia*, Parts 1 and 2 (4208.0, 4209.0). Financial aspects are dealt with in the annual publications *Commonwealth Government Finance, Australia* (5502.0), *State and Local Government Finance, Australia* (5504.0) and *Expenditure on Education, Australia* (5510.0). The annual reports of the respective State education departments provide detailed statistical and other information about particular States. The Commonwealth Department of Education issues publications on aspects of primary, secondary and tertiary and other post-secondary education.

NUMBER OF EDUCATIONAL INSTITUTIONS, 1980

	<i>Schools</i>			<i>Total</i>	<i>Colleges of</i>		
	<i>Government</i>	<i>Roman Catholic</i>	<i>Other non-government(a)</i>		<i>Universities</i>	<i>advanced education</i>	<i>Teachers colleges</i>
New South Wales	2,225	613	186	3,024	6	23	2
Victoria	2,158	490	143	2,791	4	22	—
Queensland	1,256	281	60	1,597	3	10	1
South Australia	638	103	56	797	2	6	—
Western Australia	690	147	51	888	2	5	—
Tasmania	259	37	22	318	1	1	—
Northern Territory	128	10	3	141	—	—	—
Australian Capital Territory	90	25	8	123	1	1	1
Australia—1980	7,444	1,706	529	9,679	19	68	4
1979	7,393	1,694	506	9,593	19	71	6
1978	7,364	1,680	465	9,509	19	73	7

(a) Of the 529 other non-government schools in 1980, 96 or about 18 per cent were Anglican.

NUMBER OF STUDENTS ENROLLED AT EDUCATIONAL INSTITUTIONS, 1980

	<i>Schools</i>			<i>Total</i>	<i>Uni- versities</i>	<i>Colleges of advanced education</i>	<i>Teachers colleges(b)</i>
	<i>Government</i>	<i>Roman Catholic</i>	<i>Other non- government(a)</i>				
New South Wales	799,304	191,136	39,248	1,029,688	62,446	37,919	431
Victoria	606,147	160,956	55,169	822,272	43,879	54,762	—
Queensland	353,401	79,202	17,972	450,575	22,249	22,200	363
South Australia	218,682	27,874	13,242	259,798	12,677	16,596	—
Western Australia	206,634	35,266	11,329	253,229	12,276	19,826	—
Tasmania	72,332	10,245	4,375	86,952	3,517	2,926	—
Northern Territory	22,309	3,725	380	26,414	—	—	—
Australian Capital Territory	39,268	13,811	2,555	55,634	6,112	5,237	300
Australia—1980	2,318,077	522,215	144,270	2,984,562	163,156	159,466	1,094
1979	2,336,718	512,345	137,868	2,986,931	160,035	155,667	1,019
1978	2,354,422	505,759	132,447	2,992,628	158,411	149,922	989

(a) Of the 144,270 students at other non-government schools in 1980, 55,279 or about 38 per cent were attending Anglican Schools. (b) Excludes students enrolled at both a teachers college and another type of institution: they are included in the statistics for the other institution at which they are enrolled.

NOTE: For details of technical and further education institutions and associated enrolments, see pages 12/252-12/255.

Schools

Statistics of government and non-government schools, teachers and students in 1980 and earlier years are shown in the following tables. Statistics for the number of schools and students in each State are included in the 2 preceding tables. The number of schools and teachers refer to the position at dates which vary from State to State and in some instances from year to year. Institutions providing only pre-school education, senior technical and agricultural colleges, evening schools, continuation classes, and institutions such as business colleges and coaching establishments are not included in these statistics. Student statistics in the tables which follow refer to the number of students enrolled at the schools included in the August schools census. For more detailed statistical information, see the annual publication *Schools, Australia* (4202.0).

NUMBERS OF TEACHERS(a), BY CATEGORY OF SCHOOL, STATES AND TERRITORIES, 1980

	<i>Government schools</i>	<i>Non-government schools</i>		<i>All schools</i>
		<i>Roman Catholic</i>	<i>Other</i>	
New South Wales	45,963	9,271	2,741	57,975
Victoria	40,592	7,888	3,862	52,342
Queensland	19,512	3,677	1,073	24,262
South Australia	14,628	1,467	927	17,022
Western Australia	11,668	1,823	813	14,304
Tasmania	4,908	505	325	5,738
Northern Territory	1,413	183	21	1,617
Australian Capital Territory	2,523	668	170	3,361
Australia—1980	141,207	25,482	9,932	176,621
1979	141,210	24,492	9,495	175,197
1978	138,360	23,255	8,942	170,557

(a) Full-time teachers plus full-time equivalent units of part-time teaching, rounded to whole numbers. Trainee teachers are excluded.

PERCENTAGE CHANGES BETWEEN 1978 AND 1980—NUMBERS OF SCHOOLS, TEACHERS AND STUDENTS

	<i>Schools</i>	<i>Teachers</i>	<i>Students</i>
Government	+1.1	+2.1	—1.5
Roman Catholic	+1.6	+9.9	+3.2
Other Non-government	+13.8(0.0)(a)	+10.3(6.4)(a)	+8.9(5.2)(a)
Total	+1.8	+3.6	—0.3

(a) Figures for Anglican schools are shown in brackets.

Between 1978 and 1980 the total number of teachers increased by 3.6 per cent, with the increase being particularly pronounced for non-government schools. In the same period, the number of non-Roman Catholic and non-Anglican independent schools continued to rise by 13.8 per cent. However, the overall increase in the total number of schools was only about 1.8 per cent. In government schools student enrolments decreased by 1.5 per cent, whereas they continued to increase in non-government schools, especially in non-Roman Catholic and non-Anglican independent schools. The increases of enrolments in Roman Catholic and other non-government schools were not great enough to completely offset the decrease of enrolments in government schools, so that the net effect was a slight decrease of about 0.3 per cent in overall enrolments.

PERCENTAGE CHANGES BETWEEN 1978 AND 1980—ENROLMENTS BY AGE CATEGORY

Age last birthday (years)	Government		Non-government		All students
	Males	Females	Males	Females	
Under 6 to 9	-2.2	-2.3	+5.0	+3.7	-1.0
10 to 14	+1.0	+1.8	+6.6	+5.6	+2.4
15 and over	-8.7	-5.8	+1.6	+0.2	-5.2
All ages	-1.9	-1.2	+5.0	+3.9	-0.3

Between 1978 and 1980 enrolments in non-government schools increased substantially across all age categories and for both sexes. Conversely, enrolments in government schools decreased across all age categories and for both sexes except for 10 to 14 year old males and females. For these groups enrolments increased slightly.

The tables below present detailed information on student enrolments for 1980 showing breakdowns by school type, sex and State.

GOVERNMENT AND NON-GOVERNMENT SCHOOLS: STUDENTS, BY AGE AND SEX, AUSTRALIA,
1980
(August school census)

Age last birthday (years)	Government schools			Non-government schools			All schools		
	Males	Females	Persons	Males	Females	Persons	Males	Females	Persons
Under 6	81,344	77,543	158,887	21,204	21,122	42,326	102,548	98,665	201,213
6	102,701	96,523	199,224	25,115	24,497	49,612	127,816	121,020	248,836
7	107,359	101,617	208,976	25,147	25,329	50,476	132,506	126,946	259,452
8	113,488	107,463	220,951	26,896	26,893	53,789	140,384	134,356	274,740
9	114,556	109,400	223,956	27,591	27,927	55,518	142,147	137,327	279,474
10	107,481	101,898	209,379	27,364	26,798	54,162	134,845	128,696	263,541
11	105,748	100,302	206,050	27,577	27,200	54,777	133,325	127,502	260,827
12	97,201	91,162	188,363	29,529	30,092	59,621	126,730	121,254	247,984
13	95,965	89,312	185,277	30,353	30,148	60,501	126,318	119,460	245,778
14	94,296	87,986	182,282	28,728	29,375	58,103	123,024	117,361	240,385
15	83,036	78,284	161,320	26,682	27,588	54,270	109,718	105,872	215,590
16	54,134	52,996	107,130	20,802	21,301	42,103	74,936	74,297	149,233
17	24,620	26,464	51,084	13,335	13,154	26,489	37,955	39,618	77,573
18	5,815	5,323	11,138	2,344	1,811	4,155	8,159	7,134	15,293
19 and over	1,889	2,171	4,060	263	320	583	2,152	2,491	4,643
Australia—1980	1,189,633	1,128,444	2,318,077	332,930	333,555	666,485	1,522,563	1,461,999	2,984,562
1979	1,201,127	1,135,591	2,336,718	324,223	325,990	650,213	1,525,350	1,461,581	2,986,931
1978	1,212,500	1,141,922	2,354,422	317,132	321,074	638,206	1,529,632	1,462,996	2,992,628

SCHOOLS: STUDENTS, BY AGE, 1980

(August school census)

Age last birthday (years)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Under 6	78,263	59,144	23,362	19,431	10,470	4,247	2,044	4,252	201,213
6	86,374	66,058	39,795	20,596	21,768	7,298	2,348	4,599	248,836
7	90,254	67,970	41,642	21,656	22,888	7,575	2,722	4,745	259,452
8	95,175	72,388	43,652	22,830	24,728	8,014	2,827	5,126	274,740
9	95,343	75,022	44,118	23,630	25,375	8,246	2,674	5,066	279,474
10	87,895	70,794	42,295	23,115	24,104	8,012	2,636	4,690	263,541
11	87,299	71,480	40,807	22,658	23,655	8,131	2,420	4,377	260,827
12	82,069	67,487	39,773	22,251	22,444	7,578	2,165	4,217	247,984
13	82,342	67,025	38,857	21,738	22,325	7,449	2,063	3,979	245,778
14	80,999	64,805	37,793	22,159	21,700	7,349	1,819	3,761	240,385
15	74,726	61,469	29,677	19,797	17,594	7,118	1,413	3,796	215,590
16	50,097	47,645	18,843	14,009	10,934	3,441	883	3,381	149,233
17	30,291	24,644	8,373	4,846	4,797	1,694	306	2,622	77,573
18	7,740	4,115	995	811	345	383	61	843	15,293
19 and over	821	2,226	593	271	102	417	33	180	4,643
All Ages—1980	1,029,688	822,272	450,575	259,798	253,229	86,952	26,414	55,634	2,984,562
1979	1,032,702	825,560	444,045	264,497	252,610	87,447	25,156	54,914	2,986,931
1978	1,032,919	830,769	439,964	269,896	252,493	87,953	24,286	54,348	2,992,628

Technical and further education

The major part of technical and further education (TAFE) in Australia is provided in a network of government-administered institutions variously known as colleges, schools or centres of technical and further education. In addition, TAFE vocational courses are conducted by certain colleges of advanced education and by agricultural colleges in New South Wales and Victoria, and a large number of bodies, both statutory and voluntary, participate in the provision of adult education programs. The following statistics relate to technical and further education activities of the major government departments/divisions of TAFE, agricultural authorities and advanced education authorities; they do not include activities of bodies such as the Board of Adult Education in New South Wales, the Council of Adult Education in Victoria and the Australian Capital Territory evening colleges. For further information on the organisation of TAFE and associated statistical details, see the report, *Tertiary Education Commission—Recommendations For 1981* (July 1980), the Commonwealth Tertiary Education Commission's Report for 1979–81 Triennium, Volume 1 (February 1978), Volume 2 (August 1978) and Volume 3 (August 1979), the *First Report of the Technical and Further Education Commission*, (July 1976) and previous reports of the Australian Committee on Technical and Further Education.

TECHNICAL AND FURTHER EDUCATION: INSTITUTIONS BY TYPE OF INSTITUTION, 1980

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
Type of institution—									
Major TAFE Authorities—									
Major institutions(a)	84	32	28	34	27	7	2	5	219
Annexes(b)	197	13	4	556	—	—	6	—	776
Other institutions(c)	—	133	—	—	86	4	5	1	229
Annexes(b)	—	6	—	—	—	—	—	—	6
Agricultural authorities	2	6	—	—	—	—	—	—	8
Colleges of advanced education(d)	1	1	4	1	3	—	—	—	10
Total(e) 1980	284	191	36	591	116	11	13	6	1,248
1979	275	218	36	594	121	9	10	5	1,268
1978	227	221	36	526	122	10	8	9	1,159

(a) Institutions whose functions are primarily TAFE. (b) Subsidiaries of parent institutions. (c) Institutions whose primary function is other than TAFE. (d) Colleges offering TAFE activities. (e) Includes parent institutions and subsidiaries (annexes) of parent institutions.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND STREAM OF STUDY, 1980

Type of enrolment/ stream	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
FULL-TIME ENROLMENTS(b)									
Professional	22	167	50	—	—	6	45	—	290
Para-professional	12,360	4,191	549	713	3,600	531	109	243	22,296
Trades	3,554	1,105	1,644	116	496	97	33	16	7,061
Other skilled	7,626	919	3,625	81	41	644	159	423	13,518
Preparatory	3,390	7,674	269	1,193	804	326	18	253	13,927
Adult education	—	—	—	—	—	—	—	—	—
Total	26,952	14,056	6,137	2,103	4,941	1,604	364	935	57,092
PART-TIME ENROLMENTS(b)									
Professional	1,081	54	169	156	101	32	12	12	1,617
Para-professional	49,825	21,370	6,393	25,959	31,615	2,936	642	3,307	142,047
Trades	53,281	44,965	15,156	8,622	16,034	5,286	912	2,197	146,453
Other skilled	92,994	27,492	10,422	27,188	9,011	4,614	2,379	6,452	180,552
Preparatory	22,308	36,420	6,342	23,764	5,281	1,452	1,840	2,627	100,034
Adult education	23,188	43,863	55,624	52,053	61,492	18,270	6,278	2,457	263,225
Total	242,677	174,164	94,106	137,742	123,534	32,590	12,063	17,052	833,928
EXTERNAL ENROLMENTS									
Professional	512	—	—	183	—	—	—	—	695
Para-professional	5,762	4,865	2,831	3,523	10,770	661	38	—	28,450
Trades	1,273	232	831	322	3,103	—	—	—	5,761
Other skilled	6,727	1,665	2,194	1,175	2,311	—	5	—	14,077
Preparatory	4,430	1,725	2,399	2,621	2,082	519	—	—	13,776
Adult education	1,286	12	99	217	374	—	—	—	1,988
Total	19,990	8,499	8,354	8,041	18,640	1,180	43	—	64,747
TOTAL ENROLMENTS									
Professional	1,615	221	219	339	101	38	57	12	2,602
Para-professional	67,947	30,426	9,773	30,195	45,985	4,128	789	3,550	192,793
Trades	58,108	46,302	17,631	9,060	19,633	5,383	945	2,213	159,275
Other skilled	107,347	30,076	16,241	28,444	11,363	5,258	2,543	6,875	208,147
Preparatory	30,128	45,819	9,010	27,578	8,167	2,297	1,858	2,880	127,737
Adult education	24,474	43,875	55,723	52,270	61,866	18,270	6,278	2,457	265,213
Total 1980	289,619	196,719	108,597	147,886	147,115	35,374	12,470	17,987	955,767

(a) Total enrolments registered during the year up to 31 October. These data refer to numbers of enrolments, not students. (b) An enrolment is full-time when average weekly attendance over the teaching year amounts to 15 hours or more and part-time when less than 15 hours.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1980

Field of study	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
FULL-TIME ENROLMENTS(b)									
Applied science	563	851	86	—	374	15	24	66	1,979
Art and design	1,587	1,360	408	171	740	51	—	52	4,369
Building industry	1,429	737	1,460	51	319	100	67	23	4,186
Business studies	10,672	3,356	2,470	207	1,658	735	67	423	19,588
Engineering	5,697	2,928	109	324	596	137	54	59	9,904
Rural and horticultural	208	192	480	60	100	—	7	—	1,047
Music	—	41	—	19	—	—	—	—	60
Para-medical services	249	7	—	11	48	—	—	—	315
Service industries	3,155	1,627	234	75	427	227	12	82	5,839
General studies	3,392	2,957	890	1,185	679	339	133	230	9,805
Total	26,952	14,056	6,137	2,103	4,941	1,604	364	935	57,092

For footnotes see end of table.

TECHNICAL AND FURTHER EDUCATION: ENROLMENTS (a) BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1980—continued

<i>Field of study</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Australia</i>
PART-TIME ENROLMENTS(b)									
Applied science	2,334	2,124	1,058	616	2,004	678	244	297	9,355
Art and design	14,629	11,928	21,919	19,412	5,944	5,254	1,692	1,086	81,864
Building industry	17,140	22,777	8,172	10,259	5,419	3,320	756	882	68,725
Business studies	54,761	22,011	9,926	19,717	15,562	2,794	1,848	4,185	130,804
Engineering	59,020	45,529	19,929	18,890	17,126	5,401	1,386	2,997	170,278
Rural and horticultural	9,056	5,511	1,887	5,789	774	620	542	1,190	25,369
Music	—	1,720	1,173	3,197	—	881	1,146	432	8,549
Para-medical services	2,188	723	612	375	153	125	98	30	4,304
Service industries	55,047	30,472	13,165	33,692	6,640	10,118	1,802	3,384	154,320
General studies	28,502	31,369	16,265	25,795	69,912	3,399	2,549	2,569	180,360
<i>Total</i>	<i>242,677</i>	<i>174,164</i>	<i>94,106</i>	<i>137,742</i>	<i>123,534</i>	<i>32,590</i>	<i>12,063</i>	<i>17,052</i>	<i>833,928</i>
EXTERNAL ENROLMENTS									
Applied science	52	195	16	—	922	—	—	—	1,185
Art and design	841	—	—	317	476	—	—	—	1,634
Building industry	547	443	559	177	721	—	—	—	2,447
Business studies	6,764	4,207	1,609	2,645	5,061	458	30	—	20,774
Engineering	3,390	1,082	1,942	561	4,699	—	—	—	11,674
Rural and horticultural	2,368	358	860	952	1,058	79	8	—	5,683
Music	—	—	—	17	—	—	—	—	17
Para-medical services	314	—	234	34	171	66	—	—	819
Service industries	1,284	501	666	296	781	—	5	—	3,533
General studies	4,430	1,713	2,468	3,042	4,751	577	—	—	16,981
<i>Total</i>	<i>19,990</i>	<i>8,499</i>	<i>8,354</i>	<i>8,041</i>	<i>18,640</i>	<i>1,180</i>	<i>43</i>	<i>—</i>	<i>64,747</i>
TOTAL ENROLMENTS									
Applied science	2,949	3,170	1,160	616	3,300	693	268	363	12,519
Art and design	17,057	13,288	22,327	19,900	7,160	5,305	1,692	1,138	87,867
Building industry	19,116	23,957	10,911	10,487	6,459	3,420	823	905	75,358
Business studies	72,197	29,574	14,005	22,569	22,281	3,987	1,945	4,608	171,166
Engineering	68,107	49,539	21,980	19,775	22,421	5,538	1,440	3,056	191,856
Rural and horticultural	11,632	6,061	3,227	6,801	1,932	699	557	1,190	32,099
Music	—	1,761	1,173	3,233	—	881	1,146	432	8,626
Para-medical services	2,751	730	846	420	372	191	98	30	5,438
Service industries	59,486	32,600	14,065	34,063	7,848	10,345	1,819	3,466	163,692
General studies	36,324	36,039	19,623	30,022	75,342	4,315	2,682	2,799	207,146
<i>Total—1980</i>	<i>289,619</i>	<i>196,719</i>	<i>108,597</i>	<i>147,886</i>	<i>147,115</i>	<i>35,374</i>	<i>12,470</i>	<i>17,987</i>	<i>955,767</i>
1979	273,844	174,708	90,787	142,260	144,673	34,868	10,549	16,539	888,228
1978	259,842	183,183	87,010	137,337	142,559	36,352	9,292	15,397	870,972

(a) These data refer to numbers of enrolments, not students. (b) An enrolment is full-time when average weekly attendance over the teaching year amounts to 15 hours or more and part-time when less than 15 hours.

TECHNICAL AND FURTHER EDUCATION: TEACHING EFFORT (a) BY TYPE OF APPOINTMENT AND STREAM, 1980 ('000 hours)

<i>Stream</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Australia</i>
FULL-TIME STAFF(b)									
Professional	14.7	14.8	28.4	0.5	8.2	0.1	6.1	0.2	73.0
Para-professional	701.1	450.0	51.0	238.7	325.1	48.3	13.3	49.5	1,877.0
Trades	1,089.3	1,121.9	451.8	281.7	285.4	126.7	25.3	35.2	3,417.3
Other skilled	491.4	199.0	204.3	38.5	5.8	43.0	13.3	28.9	1,024.2
Preparatory	206.4	483.6	57.8	80.2	57.4	10.5	3.4	21.8	921.1
Adult education	28.9	76.7	15.5	15.4	18.9	1.0	2.1	7.4	165.9
<i>Total</i>	<i>2,531.8</i>	<i>2,346.0</i>	<i>808.8</i>	<i>655.0</i>	<i>700.8</i>	<i>229.6</i>	<i>63.5</i>	<i>143.0</i>	<i>7,478.5</i>

For footnotes see end of table.

TECHNICAL AND FURTHER EDUCATION: TEACHING EFFORT (a) BY TYPE OF APPOINTMENT
AND STREAM, 1980—continued
(*000 hours)

Stream	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
PART-TIME STAFF(c)									
Professional	6.9	1.7	5.0	0.7	1.7	1.1	—	0.1	17.2
Para-professional	439.9	96.7	56.7	59.1	128.3	43.5	3.3	28.4	855.9
Trades	333.0	42.3	23.3	9.2	58.5	34.5	3.2	11.5	515.5
Other skilled	385.8	50.9	62.8	32.7	9.9	16.8	5.8	20.7	585.4
Preparatory	165.3	180.6	44.6	104.1	31.2	15.8	8.4	38.4	588.4
Adult education	85.9	57.6	75.9	115.9	98.0	36.9	10.1	5.7	486.0
<i>Total</i>	<i>1,416.8</i>	<i>429.8</i>	<i>268.3</i>	<i>321.7</i>	<i>327.6</i>	<i>148.6</i>	<i>30.8</i>	<i>104.8</i>	<i>3,048.4</i>
ALL TEACHING STAFF									
Professional	21.6	16.5	33.4	1.2	9.9	1.2	6.1	0.3	90.2
Para-professional	1,141.0	546.7	107.7	297.8	453.4	91.8	16.6	77.9	2,732.9
Trades	1,422.3	1,164.2	475.1	290.9	343.9	161.2	28.7	46.7	3,933.0
Other skilled	877.2	249.9	267.1	71.2	15.7	59.8	19.1	49.6	1,609.6
Preparatory	371.7	664.2	102.4	184.3	88.6	26.3	11.6	60.2	1,509.3
Adult education	114.8	134.3	91.4	131.3	116.9	37.9	12.2	13.1	651.9
<i>Total—1980</i>	<i>3,948.6</i>	<i>2,775.8</i>	<i>1,077.1</i>	<i>976.7</i>	<i>1,028.4</i>	<i>378.2</i>	<i>94.3</i>	<i>247.8</i>	<i>10,526.9</i>
1979	3,605.6	2,596.5	926.2	1,085.9	1,016.0	343.1	87.5	224.4	9,885.2
1978	3,486.9	2,516.2	904.5	1,034.6	1,016.4	322.0	74.3	209.3	9,564.2

(a) Hours of classroom duty performed by teachers during the teaching year (excluding all non-teaching staff). (b) All teaching staff employed full-time by the relevant authority or institution, including 'multi-sector' staff whose duties extend to teaching areas other than TAFE. (c) Includes hours worked on an overtime basis by full-time staff.

Colleges of Advanced Education

The following statistics refer to operative institutions listed in the appropriate States Grants (Tertiary Education Assistance) Acts as colleges of advanced education, and the Canberra College of Advanced Education. These tables show details of students commencing advanced level courses, the number of students and teaching staff in 1980 and the number of students who completed advanced level courses in 1979. The reference date for these statistics is 30 April except for students who completed advanced level courses for whom the reference period is the twelve months ended 31 December. For more detailed statistics, see the annual publication *Colleges of Advanced Education, Australia* (4206.0).

COLLEGES OF ADVANCED EDUCATION: STUDENTS COMMENCING BY COURSE LEVEL AND FIELD OF STUDY, 1980(a)

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
Agriculture	—	128	131	165	594	672	346	1,018
Applied sciences	81	1,194	3,783	441	787	4,144	2,142	6,286
Art and design	—	663	1,718	1,387	709	1,761	2,716	4,477
Building, surveying and architecture	2	192	1,052	302	194	1,358	384	1,742
Commercial and business studies	100	2,463	9,283	527	1,384	9,646	4,111	13,757
Engineering and technology	23	438	2,854	96	821	4,139	93	4,232
Liberal studies	26	2,847	5,080	1,042	1,491	3,616	6,870	10,486
Music	1	136	318	192	55	293	409	702
Para-medical	28	360	1,701	1,083	801	992	2,981	3,973
Teacher education	30	2,863	5,045	9,102	44	5,039	12,045	17,084
<i>Total—1980</i>	<i>291</i>	<i>11,284</i>	<i>30,965</i>	<i>14,337</i>	<i>6,880</i>	<i>31,660</i>	<i>32,097</i>	<i>63,757</i>
1979	271	10,526	29,356	16,312	5,971	30,686	31,750	62,436
1978	262	9,620	27,396	18,880	6,085	31,399	30,844	62,243

(a) Excludes students commencing in second semester.

**COLLEGES OF ADVANCED EDUCATION: STUDENTS WHO COMPLETED
COURSES BY FIELD OF STUDY AND COURSE LEVEL, 1979**

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
Agriculture	—	82	66	158	218	409	115	524
Applied sciences	19	321	1,151	364	178	1,362	671	2,033
Art and design	—	179	663	1,084	73	898	1,101	1,999
Building, surveying and architecture	—	53	533	98	65	638	111	749
Commercial and business studies	7	1,138	1,952	823	383	3,077	1,226	4,303
Engineering and technology	7	124	989	398	124	1,621	21	1,642
Liberal studies	3	1,148	1,659	504	464	1,305	2,473	3,778
Music	—	48	72	215	9	125	219	344
Para-medical	18	187	1,233	751	513	540	2,162	2,702
Teacher education	22	2,875	2,203	10,729	10	4,836	11,003	15,839
Total—1979	76	6,155	10,521	15,124	2,037	14,811	19,102	33,913
1978	47	5,528	8,763	17,228	1,697	14,754	18,509	33,263
1977	41	5,306	6,664	17,830	1,651	13,681	17,811	31,492

**COLLEGES OF ADVANCED EDUCATION: STUDENTS BY TYPE OF ENROLMENT
COURSE LEVEL AND FIELD OF STUDY, 1980**

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
FULL-TIME STUDENTS								
Agriculture	—	73	372	473	853	1,255	516	1,771
Applied sciences	84	340	5,548	920	600	4,513	2,979	7,492
Art and design	—	391	3,818	3,601	379	3,389	4,800	8,189
Building, surveying and architecture	—	20	1,787	175	139	1,581	540	2,121
Commercial and business studies	56	624	9,193	1,148	679	7,072	4,628	11,700
Engineering and technology	19	5	4,847	160	370	5,283	118	5,401
Liberal studies	17	1,105	6,751	1,945	1,241	3,937	7,122	11,059
Music	1	88	651	509	51	538	762	1,300
Para-medical	36	151	3,737	1,762	624	1,628	4,682	6,310
Teacher education	3	1,127	1,865	19,844	37	5,186	17,690	22,876
Total—1980	216	3,924	38,569	30,537	4,973	34,382	43,837	78,219
1979	176	4,572	36,784	36,030	4,563	36,116	46,009	82,125
1978	122	4,590	34,416	40,395	4,743	37,396	46,870	84,266
PART-TIME—INTERNAL STUDENTS								
Agriculture	—	10	25	10	38	68	15	83
Applied sciences	189	1,578	3,531	393	443	4,417	1,717	6,134
Art and design	—	462	631	380	932	980	1,425	2,405
Building, surveying and architecture	8	400	1,372	781	184	2,402	343	2,745
Commercial and business studies	278	2,768	13,334	1,108	1,624	15,501	3,611	19,112
Engineering and technology	95	640	2,657	241	882	4,447	68	4,515
Liberal studies	36	2,411	4,981	670	1,342	3,469	5,971	9,440
Music	—	104	258	161	59	184	398	582
Para-medical	58	381	1,590	446	415	819	2,071	2,890
Teacher education	116	2,267	5,991	4,545	67	4,429	8,557	12,986
Total—1980	780	11,021	34,370	8,735	5,986	36,716	24,176	60,892
1979	655	8,954	30,868	10,575	5,316	34,656	21,712	56,368
1977	529	7,455	26,752	12,164	4,507	32,889	18,518	51,407
PART-TIME—EXTERNAL STUDENTS								
Agriculture	—	109	9	—	258	237	139	376
Applied sciences	33	41	988	50	454	1,078	488	1,566
Art and design	—	28	213	29	4	250	24	274
Building, surveying and architecture	1	46	28	47	184	287	19	306
Commercial and business studies	12	821	2,987	396	1,107	4,316	1,007	5,323
Engineering and technology	2	162	117	14	455	739	11	750
Liberal studies	—	994	1,923	163	428	1,170	2,338	3,508
Music	—	—	3	—	—	3	—	3
Para-medical	—	—	114	110	504	184	544	728
Teacher education	—	1,256	3,143	3,080	42	2,339	5,182	7,521
Total—1980	48	3,457	9,525	3,889	3,436	10,603	9,752	20,355
1979	43	2,635	7,698	4,252	2,546	9,028	8,146	17,174
1978	21	1,868	5,991	4,453	1,916	7,524	6,725	14,249

**COLLEGES OF ADVANCED EDUCATION: STUDENTS BY TYPE OF ENROLMENT
COURSE LEVEL AND FIELD OF STUDY, 1980—continued**

Field of study	Master degree	Graduate diploma	Bachelor degree	Diploma	Associate diploma	Total		
						Males	Females	Persons
ALL STUDENTS								
Agriculture	—	192	406	483	1,149	1,560	670	2,230
Applied sciences	306	1,959	10,067	1,363	1,497	10,008	5,184	15,192
Art and design	—	881	4,662	4,010	1,315	4,619	6,249	10,868
Building, surveying and architecture	9	466	3,187	1,003	507	4,270	902	5,172
Commercial and business studies	346	4,213	25,514	2,652	3,410	26,889	9,246	36,135
Engineering and technology	116	807	7,621	415	1,707	10,469	197	10,666
Liberal studies	53	4,510	13,655	2,778	3,011	8,576	15,431	24,007
Music	1	192	912	670	110	725	1,160	1,885
Para-medical	94	532	5,441	2,318	1,543	2,631	7,297	9,928
Teacher education	119	4,650	10,999	27,469	146	11,954	31,429	43,383
Total—1980	1,044	18,402	82,464	43,161	14,395	81,701	77,765	159,466
1979	874	16,161	75,350	50,857	12,425	79,800	75,867	155,667
1978	672	13,913	67,159	57,012	11,166	77,809	72,113	149,922

PERCENTAGE CHANGES IN ENROLMENTS BETWEEN 1978 AND 1980

	Males	Females	Persons
Stage			
Commencing course	+0.8	+4.1	+2.4
Completing course the previous year	+8.3	+0.1	+7.7
Status			
Full-time	-8.1	-6.5	-7.2
Part-time Internal	+11.6	+30.6	+18.5
Part-time External	+40.9	+45.0	+42.9
All students	+5.0	+7.8	+6.4

The percentage changes show that there has been a dramatic increase in the numbers of internal and external part-time students over the period 1978 to 1980, while the number of full-time students, especially of males, has declined.

Overall the number of students has increased by 6.4 per cent over this period despite the decline in the number of full-time students—especially noteworthy has been the growth in external part-time students which, by 1980, comprised about 13 per cent of total students, compared to 9.5 per cent in 1978.

**COLLEGES OF ADVANCED EDUCATION: TEACHING STAFF BY FIELD OF TEACHING
STATES AND A.C.T., 1980**

Teaching effort in approved courses of full-time and part-time staff, expressed in equivalent full-time units and rounded to whole numbers.

<i>Field of teaching</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.</i>	<i>Australia</i>
FULL-TIME STAFF								
Agriculture	63	—	36	24	13	—	—	136
Applied sciences	351	573	235	143	136	14	84	1,536
Art and design	225	352	47	97	51	20	—	792
Building, surveying and architecture	24	63	33	34	31	6	22	213
Commercial and business studies	220	426	179	59	115	16	48	1,063
Engineering and technology	58	347	114	79	66	10	—	674
Liberal studies	318	699	219	188	185	25	48	1,682
Music	93	45	20	1	9	22	—	190
Para-medical	72	170	38	80	104	—	—	463
Teacher education	623	526	288	266	227	83	50	2,063
Not classifiable	77	29	—	6	3	—	—	114
<i>Total—1980</i>	<i>2,124</i>	<i>3,229</i>	<i>1,209</i>	<i>977</i>	<i>940</i>	<i>196</i>	<i>252</i>	<i>8,927</i>
1979	2,145	3,255	1,179	940	899	204	241	8,864
1978	2,096	3,202	1,161	978	933	210	236	8,816
PART-TIME STAFF								
Agriculture	2	—	—	2	2	—	—	6
Applied sciences	34	65	16	7	25	1	32	181
Art and design	56	63	10	16	18	1	—	164
Building, surveying and architecture	6	25	19	5	6	2	5	68
Commercial and business studies	36	60	34	11	29	1	16	188
Engineering and technology	16	25	14	5	8	—	—	68
Liberal studies	28	61	19	29	29	1	17	186
Music	66	18	15	—	—	4	—	103
Para-medical	15	29	14	37	36	—	—	131
Teacher education	24	48	29	25	32	5	19	181
Not classifiable	14	23	—	—	—	—	—	36
<i>Total—1980</i>	<i>296</i>	<i>417</i>	<i>170</i>	<i>138</i>	<i>186</i>	<i>16</i>	<i>90</i>	<i>1,312</i>
1979	262	452	180	131	179	31	77	1,312
1978	232	390	172	106	140	38	67	1,145
ALL STAFF								
Agriculture	65	—	36	26	15	—	—	142
Applied sciences	385	638	252	150	161	15	116	1,717
Art and design	281	415	57	113	69	21	—	956
Building, surveying and architecture	30	88	53	39	37	8	27	281
Commercial and business studies	255	487	213	70	144	17	64	1,250
Engineering and technology	74	372	128	84	74	10	—	742
Liberal studies	347	760	238	217	214	26	65	1,868
Music	159	63	35	1	9	26	—	293
Para-medical	87	199	52	117	140	—	—	594
Teacher education	646	574	317	291	259	88	69	2,244
Not classifiable	90	51	—	6	3	—	—	150
<i>Total—1980</i>	<i>2,420</i>	<i>3,646</i>	<i>1,379</i>	<i>1,114</i>	<i>1,126</i>	<i>212</i>	<i>342</i>	<i>10,239</i>
1979	2,407	3,707	1,358	1,072	1,078	235	318	10,175
1978	2,328	3,592	1,333	1,085	1,073	248	303	9,962

The above tables indicate that total staff at colleges of advanced education increased by about 2.8 per cent over the period 1978 to 1980 inclusive. However, full-time staff only increased by 1.3 per cent, while a substantial 14.6 per cent increase occurred for part-time staff. This very considerable increase reflects that found for students (see pages 256–257).

Nurse Education and Training

After consultations between Commonwealth and State Ministers for Education and Health, and consideration of responses from interested bodies, the Commonwealth Government completed its review of arrangements for nurse education and training, following the *Report of the Committee of Enquiry into Nurse Education and Training* and decided to support the qualitative improvement of nurse education and training through the upgrading and rationalisation of hospital-based nursing schools and the development of co-operative arrangements between hospital schools and tertiary institutions including the accreditation of the awards of hospital-based schools where appropriate.

Opportunities will be available for nurses with appropriate qualifications and experience to undertake post-basic courses, including degree level courses, in colleges of advanced education.

Basic nursing education will continue to be provided by a variety of arrangements with most nurses and all nurses aides being trained in hospital-based schools of nursing.

Some nurses in training are undertaking pilot courses at colleges of advanced education. Evaluation of these courses at present levels of enrolment will continue.

Universities

The following university statistics provide details of the total number of students enrolled in university courses, the teaching staff engaged, and the number of students commencing and completing courses. The reference date for the statistics is 30 April except for students completing courses for whom the reference date is the year ended 30 June. For more detailed statistics, see the annual publication *University Statistics, Australia*, (4208.0).

UNIVERSITIES: STUDENTS COMMENCING, 1980

	Doctorate	Master's degree	Bachelor degree	Non-degree	Total		
					Males	Females	Persons
New South Wales	356	2,117	15,463	3,223	12,041	9,118	21,159
Victoria	241	1,199	11,914	2,139	8,150	7,343	15,493
Queensland	148	471	6,042	772	3,896	3,537	7,433
South Australia	49	236	3,086	684	2,283	1,772	4,055
Western Australia	75	307	3,547	691	2,592	2,028	4,620
Tasmania	34	74	1,050	364	933	589	1,522
Australian Capital Territory	146	130	1,677	301	1,313	941	2,254
Australia—1980	1,049	4,534	42,779	8,174	31,208	25,328	56,536
1979	1,099	4,535	42,158	7,972	31,489	24,275	55,764
1978	1,099	4,386	41,546	7,963	31,689	23,305	54,994

UNIVERSITIES: FULL-TIME AND PART-TIME STUDENTS BY SEX AND COURSE LEVEL, 1978 TO 1980

Course level	Males			Females		
	1978	1979	1980	1978	1979	1980
FULL-TIME STUDENTS						
Doctorate	2,765	2,729	2,775	825	857	932
Master's degree	2,266	2,235	2,307	1,002	1,045	1,120
Bachelor degree	54,386	52,849	52,245	36,004	35,704	36,210
Non-degree	1,926	1,769	1,596	2,180	1,892	1,808
Total	61,343	59,582	58,923	40,011	39,498	40,070
PART-TIME STUDENTS						
Doctorate	1,766	1,823	1,902	439	515	541
Master's degree	7,431	7,741	7,823	2,670	2,957	3,174
Bachelor degree	21,075	21,497	21,464	17,409	19,172	20,745
Non-degree	4,603	4,611	4,833	3,288	3,414	3,681
Total	34,875	35,672	36,022	23,806	26,058	28,141
ALL STUDENTS						
Doctorate	4,531	4,552	4,677	1,264	1,372	1,473
Master's degree	9,697	9,976	10,130	3,672	4,002	4,294
Bachelor degree	75,461	74,346	73,709	53,413	54,876	56,955
Non-degree	6,529	6,380	6,429	5,468	5,306	5,489
Total	96,218	95,254	94,945	63,817	65,556	68,211

UNIVERSITIES: STUDENTS BY TYPE OF ENROLMENT AND FIELD OF STUDY, 1980

Field of study								Australia		
	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Males	Females	Persons
FULL-TIME STUDENTS										
Humanities	8,749	6,439	2,449	1,639	1,296	580	1,284	8,508	13,928	22,436
Fine arts	48	348	81	169	69	-	-	271	444	715
Social and behavioural sciences	1,905	1,681	668	703	983	19	72	2,216	3,815	6,031
Law	2,878	1,880	605	579	377	225	542	4,608	2,478	7,086
Education	1,776	1,159	389	283	389	232	3	1,510	2,721	4,231
Economics, commerce, government	4,587	3,601	1,041	695	812	228	486	8,239	3,211	11,450
Medicine	3,598	2,641	2,313	1,126	829	334	32	6,648	4,225	10,873
Dentistry	572	258	308	256	155	-	-	1,204	345	1,549
Natural sciences	5,887	6,355	2,318	1,977	1,560	524	893	12,694	6,820	19,514
Engineering, technology	4,487	2,026	957	593	628	142	4	8,384	453	8,837
Architecture, building	1,340	609	222	206	101	-	2	1,924	556	2,480
Agriculture, forestry	839	563	259	225	235	60	277	1,895	563	2,458
Veterinary science	410	255	402	-	238	-	-	805	500	1,305
Not stated	9	-	-	-	19	-	-	17	11	28
Total—1980	37,085	27,815	12,012	8,451	7,691	2,344	3,595	58,923	40,070	98,993
1979	37,922	27,229	11,770	8,429	7,695	2,377	3,658	59,582	39,498	99,080
1978	39,012	27,512	12,081	8,700	7,810	2,514	3,725	61,343	40,011	101,354
PART-TIME STUDENTS										
Humanities	8,474	5,473	4,599	1,276	1,461	405	1,401	8,721	14,368	23,089
Fine arts	59	104	31	51	67	-	-	141	171	312
Social and behavioural sciences	2,140	2,251	404	623	525	25	34	2,639	3,363	6,002
Law	1,153	962	451	124	38	54	206	2,147	841	2,988
Education	2,090	3,060	1,674	353	709	125	1	3,848	4,164	8,012
Economics, commerce, government	4,785	1,842	1,484	766	747	227	510	8,219	2,142	10,361
Medicine	260	289	130	226	58	6	-	579	390	969
Dentistry	73	40	14	30	10	-	-	144	23	167
Natural sciences	2,971	1,370	999	584	541	269	344	4,976	2,102	7,078
Engineering, technology	2,196	337	243	115	152	48	1	2,992	100	3,092
Architecture, building	733	218	69	17	15	-	-	851	201	1,052
Agriculture, forestry	203	92	96	61	59	14	20	468	77	545
Veterinary science	23	26	43	-	11	-	-	78	25	103
Not stated	201	-	-	-	192	-	-	219	174	393
Total—1980	25,361	16,064	10,237	4,226	4,585	1,173	2,517	36,022	28,141	64,163
1979	23,926	15,736	9,951	4,411	4,305	1,058	2,343	35,672	26,058	61,730
1978	22,736	14,446	9,877	4,204	4,289	1,003	2,126	34,875	23,806	58,681
TOTAL STUDENTS										
Humanities	17,223	11,912	7,048	2,915	2,757	985	2,685	17,229	28,296	45,525
Fine arts	107	452	112	220	136	-	-	412	615	1,027
Social and behavioural sciences	4,045	3,932	1,072	1,326	1,508	44	106	4,855	7,178	12,033
Law	4,031	2,842	1,056	703	415	279	748	6,755	3,319	10,074
Education	3,866	4,219	2,063	636	1,098	357	4	5,358	6,885	12,243
Economics, commerce, government	9,372	5,443	2,525	1,461	1,559	455	996	16,458	5,353	21,811
Medicine	3,858	2,930	2,443	1,352	897	340	32	7,227	4,615	11,842
Dentistry	645	298	322	295	165	-	-	1,348	368	1,716
Natural sciences	8,858	7,725	3,317	2,561	2,101	793	1,237	17,670	8,922	26,592
Engineering, technology	6,683	2,363	1,200	708	780	190	5	11,376	553	11,929
Architecture, building	2,073	827	291	223	116	-	2	2,775	757	3,532
Agriculture, forestry	1,042	655	355	286	294	74	297	2,363	640	3,003
Veterinary science	433	281	445	-	249	-	-	883	525	1,408
Not stated	210	-	-	-	211	-	-	236	185	421
Total—1980	62,446	43,879	22,249	12,677	12,276	3,517	6,112	94,945	68,211	163,156
1979	61,848	42,965	21,721	12,840	12,000	3,435	6,001	95,254	65,556	160,810
1978	61,748	41,958	21,958	12,904	12,099	3,517	5,851	96,218	63,817	160,035

UNIVERSITIES: TEACHING STAFF(a), BY FIELD OF TEACHING, 1980

Field of teaching	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	A.C.T.	Aust.
FULL-TIME STAFF								
Humanities	688	454	264	159	127	46	141	1,879
Fine arts	51	73	19	37	10	—	3	191
Social and behavioural sciences	431	219	116	69	77	33	44	988
Law	136	151	34	29	18	12	35	415
Education	227	204	76	45	62	17	2	632
Economics, commerce, government	524	291	126	102	71	32	51	1,195
Medicine	324	255	195	129	97	45	—	1,046
Dentistry	41	28	35	23	14	—	—	139
Natural sciences	926	630	396	266	188	85	113	2,601
Engineering, technology	479	199	108	49	48	22	—	906
Architecture, building	115	40	25	15	8	—	—	202
Agriculture, forestry	104	48	42	39	21	9	19	282
Veterinary science	49	37	53	—	43	—	—	182
Other(b)	26	—	38	—	—	—	—	64
Total—1980	4,120	2,626	1,525	960	783	301	407	10,722
1979	4,146	2,620	1,531	970	805	301	419	10,790
1978	4,157	2,643	1,514	985	818	309	418	10,842

PART-TIME STAFF (full-time equivalent units)

Humanities	43	18	7	4	7	1	6	87
Fine arts	4	8	3	4	3	—	—	23
Social and behavioural sciences	34	18	9	3	6	—	3	74
Law	10	13	3	2	2	—	6	35
Education	42	23	4	1	6	4	—	80
Economics, commerce, government	34	24	5	4	4	1	3	74
Medicine	91	89	41	8	16	2	—	247
Dentistry	17	12	6	20	6	—	—	60
Natural sciences	110	107	23	52	36	2	12	342
Engineering and technology	40	18	6	6	4	1	—	76
Architecture, building	17	11	2	2	4	—	—	37
Agriculture, forestry	7	5	3	—	2	—	2	19
Veterinary science	3	1	1	—	1	—	—	6
Other(b)	8	—	5	—	—	—	—	13
Total—1980	461	346	119	109	95	11	32	1,173
1979	469	340	123	106	93	14	30	1,175
1978	444	350	97	110	102	13	38	1,154

ALL STAFF (full-time equivalent units) (c)

Humanities	731	472	271	163	134	47	147	1,966
Fine arts	55	81	22	41	13	—	3	214
Social and behavioural sciences	465	237	125	72	83	33	47	1,062
Law	146	164	37	31	20	12	41	450
Education	269	227	80	46	68	21	2	712
Economics, commerce, government	558	315	131	106	75	33	54	1,269
Medicine	415	344	236	137	113	47	—	1,293
Dentistry	58	40	41	43	20	—	—	199
Natural sciences	1,036	737	419	318	224	87	125	2,943
Engineering and technology	519	217	114	55	52	23	—	982
Architecture, building	132	51	27	17	12	—	—	239
Agriculture, forestry	111	53	45	39	23	9	21	301
Veterinary science	52	38	54	—	44	—	—	188
Other(b)	34	—	43	—	—	—	—	77
Total—1980	4,581	2,972	1,644	1,069	878	312	439	11,895
1979	4,615	2,960	1,654	1,076	897	315	448	11,965
1978	4,601	2,993	1,611	1,095	921	321	456	11,996

(a) Excludes research only staff. (b) Includes staff teaching in the field of general studies and also a small number of staff unallocated to field of teaching. (c) The conversion of part-time staff to equivalent full-time units is made on the following basis: lecturer—250 hours per annum; and tutor/demonstrator—700 hours per annum.

The above tables indicate that total staff at universities decreased by 0.8 per cent over the period 1978 to 1980 inclusive. Full-time staff decreased over this period by 1.1 per cent while the number of part-time staff increased by 0.4 per cent.

**UNIVERSITIES: STUDENTS COMPLETING DEGREE AND POST-GRADUATE DIPLOMA
COURSES BY FIELD OF STUDY, YEAR ENDED 30 JUNE 1980**

Field of study	Degrees				Total
	Doctorate and Ph.D.	Master	Bachelor	Post graduate diploma	
Humanities	97	241	7,990	36	8,364
Fine arts	5	22	136	2	165
Social and behavioural sciences	65	200	1,403	249	1,917
Law	4	56	1,544	89	1,693
Education	42	380	1,410	2,462	4,294
Economics, commerce, government	30	415	3,195	100	3,740
Medicine	95	82	1,965	129	2,271
Dentistry	3	20	291	5	319
Natural sciences	388	278	5,293	162	6,121
Engineering, technology	96	231	1,504	20	1,851
Architecture, building	5	77	442	10	534
Agriculture, forestry	40	67	404	16	527
Veterinary science	17	23	282	7	329
Not stated	—	2	—	—	2
Total—1980	887	2,094	25,859	3,287	32,127
1979	927	2,144	26,155	3,565	32,791
1978	843	2,070	24,692	4,068	31,673

STUDENT ASSISTANCE SCHEMES FUNDED BY THE DEPARTMENT OF EDUCATION

Scheme	Number of students 1980	Expenditure (\$'000) 1979–1980
Postgraduate Awards(a)	1,849	8,481
Tertiary Education Assistance(a)	81,915	157,748
Pre-school Teacher Education(a)	5	42
Postgraduate Awards—Social Work (a)	—	3
Secondary Allowances(b)	23,529	10,494
Adult Secondary Education Assistance(a)	1,799	4,140
Aboriginal Secondary Grants(a)	15,592	13,962
Aboriginal Study Grants(b)	10,857	7,389
Aboriginal Study Grants—Overseas(b)	10	96
Assistance for Isolated Children(a)	14,899	12,189
Non-State Tertiary Institutions	n.a.	163
Overseas Fellowships in Management(b)	n.a.	n.a.
Commonwealth Teaching Service Scholarships(a)	149	550
Total—1980	150,604	215,257
1979	146,570	(c) 215,705
1978	145,727	206,078

(a) For this scheme, the 'number of students' represents students receiving benefits at 30 June each year. (b) For this scheme the 'number of students' represents students receiving benefits at some time during the year. (c) Figure altered to that previously shown due to revisions.

Overseas students

Information on overseas students in Australia is given in Chapter 5, International Relations.

Expenditure on education

The aim of this section is to provide information on the extent and direction of both government and private expenditure on education in recent years. The figures have been compiled in accordance with national accounting concepts. For explanation of these concepts, reference should be made to *Australian National Accounts: National Income and Expenditure*, (5204.0), and also to *Commonwealth Government Finance, Australia*, (5502.0), and *State and Local Government Finance, Australia*, (5504.0), from which figures included in this section have also been taken.

The emphasis given in this section to the outlays of the public sector reflects in part the relative importance of that sector in the provision of education services, but it is also a reflection of the lack of detailed information relating to educational activities in the private sector. Information is given, however, to show the order of magnitude of private sector spending, and also to show aggregate supply of education services and facilities.

Total expenditure on education

Total expenditure on education can be measured by adding together the final expenditures of the public and private sectors.

The figure derived for total expenditure on education can be regarded as a measure of the aggregate supply of education services and facilities and can therefore be related to the supply of goods and services available from domestic production (i.e. gross domestic product). Final consumption expenditure and capital expenditure on education, by sector, can also be related to gross domestic product. These relationships are shown in the following table.

AUSTRALIA: EXPENDITURE ON EDUCATION

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
	— \$m —					
Public sector—						
Final consumption expenditure	2,766	3,425	4,115	4,653	5,061	5,676
Expenditure on new fixed assets	656	695	641	717	731	656
Final expenditure(1)	3,422	4,120	4,756	5,370	5,792	6,331
Transfer payments and expenditure on existing fixed assets (net)	292	351	374	391	393	374
Outlay	3,714	4,472	5,131	5,762	6,186	6,706
Private sector—						
Final consumption expenditure	200	218	243	255	272	293
Expenditure on new fixed assets	74	87	68	89	110	101
Final expenditure(2)	274	305	311	344	382	394
Total expenditure on education (1) + (2)	3,696	4,425	5,067	5,714	6,174	6,725
Gross domestic product	61,666	72,493	83,049	89,948	101,081	114,038
	— per cent —					
Expenditure on education as percentage of gross domestic product—						
Final consumption expenditure—						
Public	4.5	4.7	5.0	5.2	5.0	5.0
Private	0.3	0.3	0.3	0.3	0.3	0.3
Expenditure on new fixed assets—						
Public	1.1	1.0	0.8	0.8	0.7	0.6
Private	0.1	0.1	0.1	0.1	0.1	0.1
Total expenditure	6.0	6.1	6.1	6.4	6.1	5.9

Private sector

Final expenditure on education by the private sector consists of private final consumption expenditure on education services, and expenditure on new fixed assets—mainly by private non-profit organisations and financed in part by grants from public authorities for private capital purposes. Private final consumption expenditure on education services is an estimate of fees paid by persons to government schools (mainly technical and agricultural colleges), fees and gifts to universities and school fees (other than boarding fees) paid to non-government schools, business colleges, etc. Expenditure on such items as school books, uniforms, etc., and expenditure by parents associations on school equipment is not included, being treated in the Australian National Accounts as private final consumption expenditure on other goods and services (such as clothing, books, household durables,

etc.). Private gross fixed capital expenditure in the field of education is estimated from statistics of the value of work done on new building and major additions to buildings of private educational institutions.

Public sector

The statistics presented here for the public sector relate to those outlays which have been identified as being primarily designed to serve the purposes of 'education', broadly as defined in the United Nations System of National Accounts. Included, therefore, are outlays on administration and regulation of school systems and institutions of higher learning and educational research; on provision, inspection and support of primary and secondary schools, colleges and universities, technical training institutions, schools for the handicapped, adult education facilities, pre-school centres, etc.; on scholarships, etc.; and on subsidiary services such as transportation of school children and fare concessions. Expenditure on school medical and dental services and provision of free milk for school-children are not included, as these are regarded as primarily serving the purpose of health.

The outlays of the public authorities engaged in providing education services or financing their provision by other bodies, public or private, have also been classified according to their economic type: final expenditure on goods and services (i.e. final consumption expenditure, and expenditure on new fixed assets); capital financing items (e.g. net expenditure on existing assets); transfers to the private sector (personal benefit payments, grants for private capital purposes) which become a source of finance for that sector's own final expenditures; and transfers between public authorities (Commonwealth Government grants to the States).

Detailed analyses have not been prepared of the accounts of all public authorities providing or financing education services, but methods of analysis have been adopted which reflect the net effect of the transactions of authorities not fully analysed (such as the State universities). Private non-profit organisations are covered by recording their final consumption expenditure as final expenditure by the public authorities and persons, i.e. the current grants to these organisations by public authorities are treated as public authorities' final expenditure and fees, donations, etc. paid to them by persons are included in private final consumption expenditure. Current outlay of non-profit organisations is therefore covered, being approximately equal to their income from grants and fees. For reasons of practicality, grants for capital purposes by public authorities to private non-profit organisations are treated as transfers, so that the capital expenditure of these organisations is wholly recorded in the private sector.

All public authorities

The outlay on education by all public authorities consists of the final expenditure on goods and services of the Commonwealth and State authorities and transfers by these authorities to the private sector. These figures are shown in the following table, and are related to the total outlay (on all functions) by all public authorities in order to give an indication of the share of government resources devoted to education.

Northern Territory government authorities

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue powers broadly approximating those of a State. However, not all State type functions were fully transferred to the Northern Territory Government on that date. Responsibility for education services was transferred to the Northern Territory Government on 1 July 1979 and Northern Territory outlay is included with the statistics for State and local governments from 1979-80. For earlier years outlay on education in the Northern Territory is included in outlay of the Commonwealth Government.

ALL PUBLIC AUTHORITIES: OUTLAY ON EDUCATION

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
	-\$ million-					
Commonwealth authorities—						
Final consumption expenditure	164.7	195.1	234.6	256.3	286.9	250.2
Personal benefit payments	124.3	162.5	194.0	212.6	224.9	225.2
Grants for private capital purposes	5.6	5.5	3.5	4.2	4.0	3.1
Expenditure on new fixed assets	45.1	73.4	62.2	54.2	50.8	33.2
Expenditure on existing fixed assets (net)	-0.2	-0.3	-0.5	—	—	0.1
Grants to States—						
Current	910.4	1,133.8	1,390.8	1,517.8	1,592.3	1,771.2
Capital	415.5	319.2	327.8	343.1	363.7	325.1
<i>Total Commonwealth</i>	<i>1,665.4</i>	<i>1,889.2</i>	<i>2,212.3</i>	<i>2,388.3</i>	<i>2,522.7</i>	<i>2,608.1</i>
State authorities—						
Final consumption expenditure	2,596.3	3,222.6	3,872.0	4,388.2	4,764.5	5,415.5
Personal benefit payments	111.6	124.0	124.1	120.8	105.9	98.6
Grants for private capital purposes	31.7	33.0	25.4	32.2	40.4	30.1
Expenditure on new fixed assets	609.2	618.2	574.2	659.9	677.6	620.1
Expenditure on existing fixed assets (net)	19.1	26.9	29.0	21.3	17.8	17.2
Grants to local government authorities	5.7	6.8	11.1	9.8	9.4	9.6
<i>Total State</i>	<i>3,373.5</i>	<i>4,031.6</i>	<i>4,635.8</i>	<i>5,232.2</i>	<i>5,615.6</i>	<i>6,191.1</i>
Less Grants from the Commonwealth Government for educational purposes	1,325.9	1,453.1	1,718.5	1,860.9	1,956.0	2,096.3
Outlay financed from States' own resources and from non-specific Commonwealth Government grants	2,047.6	2,578.5	2,917.3	3,371.3	3,659.6	4,094.8
Local authorities—						
Final consumption expenditure	4.6	7.4	8.5	8.5	9.5	10.1
Expenditure on new fixed assets	1.9	3.2	4.2	2.8	2.8	2.3
Expenditure on existing fixed assets (net)	—	—	—	0.8	0.5	0.4
<i>Total local</i>	<i>6.5</i>	<i>10.6</i>	<i>12.6</i>	<i>12.1</i>	<i>12.8</i>	<i>12.8</i>
Less Grants from State authorities for education purposes	5.7	6.8	11.1	9.8	9.4	9.6
Outlay financed from local authorities own resources	0.8	3.8	1.5	2.3	3.5	3.3
Total outlay on education	3,713.8	4,471.5	5,131.1	5,761.9	6,185.8	6,706.1
Total outlay on all purposes	22,935.8	27,642.3	31,829.3	35,857.6	38,888.1	43,258.4
	-per cent-					
Outlay on education as percentage of total outlay	16.2	16.2	16.1	16.1	15.9	15.5

Commonwealth authorities

Details of outlay on education by authorities of the Commonwealth Government are given in the following table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION

	1977-78	1978-79	1979-80
	-\$ million-		
General administration, regulation and research—			
Department of Education—			
Salaries, etc., n.e.c.	19.4	20.4	21.2
Administration expenses, n.e.c.	8.0	8.9	8.5
Tertiary Education Commission	0.7	1.9	2.2
Building and works, office equipment, etc.	0.3	0.1	0.1
Grants to the States—			
Research and development	0.8	0.8	0.9
Other	0.8	0.5	-1.0
<i>Total general administration, etc.</i>	<i>30.0</i>	<i>32.6</i>	<i>31.9</i>
Transportation of students—			
School bus service—			
Australian Capital Territory	1.9	2.1	2.1
Northern Territory	1.2	1.3	—
<i>Total transportation</i>	<i>3.1</i>	<i>3.4</i>	<i>2.1</i>

For footnotes see end of table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION—*continued*

	1977-78	1978-79	1979-80
	-\$ million-		
Primary and secondary education—			
Schools Commission	3.1	3.4	3.4
Education services—			
Australian Capital Territory	64.8	66.3	66.8
Northern Territory	40.7	46.0	—
School broadcasts	2.0	2.0	2.3
Student assistance	9.2	9.9	10.5
Child migrant education program	0.6	0.7	0.7
Assistance to isolated children	14.1	13.1	12.2
Grants to non-government schools—			
Australian Capital Territory	12.0	12.9	14.4
Northern Territory	1.8	2.4	—
Grants to the States—			
Non-government schools—Recurrent grants	191.4	221.9	263.5
Non-government schools—Capital grants	32.0	38.4	29.8
Government schools—Recurrent grants	235.5	242.5	262.8
Government schools—Capital grants	151.2	140.5	115.1
Child migrant education (a)	0.3	1.9	2.7
Schools—joint programs	29.0	27.0	25.4
Grants to the Northern Territory—			
Recurrent grants	—	—	3.9
Capital grants	—	—	1.7
Other	0.5	0.6	2.5
<i>Total primary and secondary</i>	<i>788.2</i>	<i>829.5</i>	<i>817.7</i>
Vocational Training—			
Commission on Technical and Further Education	0.3	—	—
Technical and Further Education in the A.C.T.	15.4	16.8	20.6
Darwin Community College	9.3	10.0	—
Student assistance	25.6	29.3	30.4
Grants to the States—TAFE—			
Apprentice training	—	—	—
Recurrent grants	45.6	51.7	62.8
Other Capital grants	46.4	65.0	78.8
Grants to the Northern Territory—			
Recurrent grants	—	—	3.7
Capital grants	—	—	2.5
Other	0.8	0.9	0.8
<i>Total vocational training</i>	<i>143.4</i>	<i>173.7</i>	<i>199.7</i>
University education—			
Australian Universities Commission	0.3	0.2	—
Australian National University—			
Student assistance	2.2	2.4	2.5
Other	67.9	75.6	81.2
Student assistance—			
Undergraduate	71.7	74.4	74.8
Postgraduate	9.4	9.0	8.5
Grants to Australian National University residential colleges	0.1	0.1	0.1
School of Public Health and Tropical Medicine (Sydney University)	2.3	2.6	2.9
Grants to the States—Universities	626.9	645.7	704.9
Other	0.2	—	—
<i>Total university</i>	<i>781.0</i>	<i>810.1</i>	<i>875.0</i>
Other higher education—			
Commission on Advanced Education	0.3	—	—
Canberra College of Advanced Education	16.7	15.2	17.3
Canberra School of Music	1.0	0.9	1.1
Australian Film and Television School	3.7	3.8	4.0
Student assistance	53.0	55.5	51.7
Commonwealth Teaching Service scholarships	1.2	0.9	0.6
Grants to the States	449.5	481.7	497.2
Other	1.0	4.2	11.3
<i>Total other higher education</i>	<i>526.3</i>	<i>562.2</i>	<i>583.2</i>

For footnote see end of table.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION—*continued*

	1977-78	1978-79	1979-80
	-\$ million-		
Other education programs—			
Aboriginal education—			
Study grants	3.6	5.2	7.4
Secondary grants	12.1	13.0	14.0
Grants to private non-profit organisations	4.5	6.0	3.9
Grants to the States	6.4	6.2	6.2
Other	18.0	18.1	0.2
Soldiers' children education scheme	3.4	2.9	2.6
Migrant education programs	13.1	18.8	23.5
Pre-school programs—			
Grants to States and local authorities	45.9	32.7	32.7
Grants to the Northern Territory	—	—	0.3
Other	3.2	3.0	3.2
Adult education programs	5.0	4.8	4.2
Other	1.0	0.3	0.3
<i>Total other programs</i>	<i>116.3</i>	<i>111.0</i>	<i>98.6</i>
Total outlay on education	2,388.3	2,522.7	2,608.1
<i>of which—</i>			
Current outlay	1,986.8	2,104.2	2,246.6
Capital outlay	401.5	418.5	361.5
Total outlay on all purposes	28,063.5	30,196.8	33,200.9
	-per cent-		
Outlay on education as a percentage of total outlay	8.5	8.4	7.9

(a) From January 1976 grants to the States for child migrant education under the Schools Commission program are included under various other grants to the States for schools.

As may be seen from the table, Commonwealth Government outlays are directed largely towards financing outlays on education by the States and the private sector. Direct expenditure by the Commonwealth Government relates mainly to the costs of administering its support programs and its own educational research activities, the provision of education services in the internal territories, expenditures of statutory bodies (i.e. the Australian National University, the Canberra College of Advanced Education, and the Australian Broadcasting Commission), expenditure on the education of Aborigines by the Northern Territory administration, and the costs of the child migrant education program.

COMMONWEALTH AUTHORITIES: PERSONAL BENEFIT PAYMENTS FOR EDUCATION
(S'000)

	1977-78	1978-79	1979-80
Primary and secondary education—			
Student assistance	9,013	9,582	10,494
Australian Capital Territory and Northern Territory scholarships and allowances	180	269	—
Assistance to isolated children	14,097	13,106	12,189
United world colleges scholarships	10	10	18
<i>Total</i>	23,300	22,967	22,701
Vocational training—			
Student assistance	25,574	29,258	30,445
University education—			
Australian National University scholarships	2,171	2,432	2,455
Student assistance—			
Post-graduate	9,404	8,962	8,483
Under-graduate	71,240	74,057	74,457
Australian Agricultural Council scholarships	46	17	—
Wool research studentships	276	240	291
Forestry scholarships	55	41	31
Other	132	82	42
<i>Total</i>	83,324	85,831	85,759
Other higher education—			
Student assistance	47,754	51,564	51,485
Commonwealth Teaching Service scholarships	1,184	939	550
Pre-school teaching scholarships	2,041	798	43
Non government institutions—fees	3,152	3,119	163
Other	22	21	18
<i>Total</i>	54,153	56,441	52,259
Other education programs—			
Aboriginal study grants	3,635	5,209	7,485
Aboriginal secondary grants	12,073	12,956	13,962
Soldiers' children education scheme	3,390	2,941	2,567
Adult secondary education assistance	4,935	4,735	4,140
Assistance to Vietnamese and Cambodian students	34	12	2
Migrant education services	2,228	4,578	5,912
Other	—	—	—
<i>Total</i>	26,296	30,431	34,068
Total education	212,647	224,928	225,232

Outlay on education in the Australian Capital Territory

As mentioned previously, the Commonwealth Government is responsible for the provision of education services in the Australian Capital Territory. Details of Commonwealth Government outlay on education in the Australian Capital Territory are given below; further information may be found in Chapter 27, The Territories of Australia.

COMMONWEALTH AUTHORITIES: OUTLAY ON EDUCATION IN THE AUSTRALIAN CAPITAL TERRITORY(a)

(\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80 (p)
Current Outlay—						
Government schools and pre-schools(b)—						
Salaries and wages	27,592	36,851	43,462	50,636	53,951	58,776
Transportation of students	887	1,419	1,760	1,892	2,064	2,148
Contract school cleaning	1,763	2,321	2,779	2,759	2,921	2,956
Repairs and maintenance	736	869	794	726	1,541	2,191
Other	2,144	3,663	4,353	5,273	5,969	6,090
Non-government schools assistance—						
Per capita grants	3,501	4,362	6,032	7,119	8,596	10,381
Interest subsidy	794	634	801	1,218	1,113	1,034
Other grants and allowances	67	152	197	247	313	363
Technical and further education—						
Canberra School of Music	412	537	735	850	939	1,120
Canberra School of Art	—	364	493	704	798	990
Other TAFE Colleges	3,718	4,605	5,913	7,089	8,602	10,087
Canberra College of Advanced Education	7,558	9,575	12,083	12,466	14,327	16,046
<i>Total</i>	<i>49,172</i>	<i>65,352</i>	<i>79,402</i>	<i>90,979</i>	<i>101,134</i>	<i>112,182</i>
<i>Less Fees</i>	<i>136</i>	<i>106</i>	<i>304</i>	<i>360</i>	<i>438</i>	<i>517</i>
<i>Total current outlay</i>	<i>49,037</i>	<i>65,246</i>	<i>79,097</i>	<i>90,619</i>	<i>100,696</i>	<i>111,665</i>
Capital outlay—						
Government schools and colleges—						
By National Capital Development Commission—						
Primary and Pre-schools	6,272	6,537	6,717	1,937	2,784	2,216
Secondary schools	6,567	13,728	11,947	7,241	5,390	1,993
Technical Colleges	1,579	4,290	6,616	7,628	7,277	9,133
Other education buildings	1,879	3,533	1,090	3,320	2,266	4,647
By Department of Construction—						
Building and works	93	2	—	304	34	3
Furniture and fittings	787	1,071	582	622	832	573
Plant and equipment	1,077	1,589	1,835	1,095	1,153	931
Canberra College of Advanced Education	3,852	3,381	2,395	4,214	932	1,220
Non-government schools assistance—						
Approved capital programs(c)	3,450	3,691	2,781	3,332	2,872	2,658
<i>Total capital outlay</i>	<i>25,556</i>	<i>37,822</i>	<i>33,963</i>	<i>29,693</i>	<i>23,540</i>	<i>23,374</i>
Total outlay	74,593	103,068	113,060	120,312	124,236	135,039

(a) Excludes the Australian National University. Commonwealth Government payments to the University in 1979-80 amounted to \$88,204,000 for current purposes and \$221,000 for capital payments. (b) Includes pre-school running expenses in 1979-80 of \$2,952,000. (c) Grants for private capital purposes.

State and local authorities

The following table shows the outlay on education by State and local authorities, financed from their own resources (including general purpose grants from the Commonwealth Government) and from Commonwealth Government grants for educational purposes.

STATE AND LOCAL AUTHORITIES: OUTLAY ON EDUCATION
(*\$ million*)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Final consumption expenditure—						
New South Wales	903.9	1,101.3	1,302.4	1,464.2	1,602.7	1,825.8
Victoria	765.8	946.2	1,153.6	1,314.2	1,419.7	1,574.0
Queensland	334.4	433.1	520.3	593.0	634.5	712.0
South Australia	270.9	341.6	413.5	473.2	507.6	555.7
Western Australia	233.9	299.3	362.1	406.0	448.3	505.1
Tasmania	91.9	108.5	128.6	146.0	161.3	181.7
Northern Territory	—	—	—	—	—	71.3
<i>Total</i>	2,600.9	3,230.0	3,880.4	4,396.6	4,774.1	5,425.6
Expenditure on new fixed assets—						
New South Wales	208.6	229.0	173.7	219.8	231.4	212.3
Victoria	170.9	169.7	157.8	170.9	190.3	173.1
Queensland	85.8	74.1	99.9	102.2	95.7	92.9
South Australia	69.3	62.1	66.2	76.2	73.0	56.3
Western Australia	53.3	54.1	51.5	63.4	63.2	47.9
Tasmania	23.2	32.4	29.3	30.2	26.9	26.6
Northern Territory	—	—	—	—	—	13.4
<i>Total</i>	611.1	621.3	578.4	662.7	680.5	622.4
Expenditure on existing fixed assets (net)	19.1	26.9	29.0	22.1	18.2	17.7
Personal benefit payments	111.6	124.0	124.1	120.8	105.9	98.6
Grants for private capital purposes	31.7	33.0	25.4	32.2	40.4	30.1
Total outlay on education	3,374.3	4,035.3	4,637.3	5,234.5	5,619.1	6,194.3
<i>of which—</i>						
New South Wales	1,165.6	1,392.4	1,541.4	1,753.9	1,905.7	2,111.9
Victoria	994.4	1,183.0	1,370.9	1,537.1	1,651.2	1,773.6
Queensland	443.0	533.2	648.8	725.0	760.8	832.2
South Australia	354.0	416.4	488.4	556.5	587.5	617.4
Western Australia	297.5	363.2	422.2	478.3	518.4	559.1
Tasmania	119.7	147.2	165.6	183.7	195.6	214.9
Northern Territory	—	—	—	—	—	85.1

Specific purpose grants to the States for educational purposes

Financial assistance to the States specifically for education purposes constitutes the major item of outlay on education by the Commonwealth Government. The following table summarises the allocation of the various categories of grants to the States for recent years. Subsequent tables show the allocation of these specific purpose grants to individual States for the same period.

GRANTS TO STATES (a) FOR EDUCATIONAL PURPOSES
(*\$'000*)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
GRANTS FOR CURRENT PURPOSES						
Schools	234,579	331,884	421,758	455,622	491,395	555,275
Technical and further education	24,622	40,127	44,194	45,600	51,741	61,898
Colleges of Advanced Education	239,249	286,766	368,894	395,501	413,497	454,225
Universities	377,990	426,389	511,556	574,465	594,587	652,674
Aboriginal education	3,367	4,978	5,561	6,204	5,811	6,128
Child migrant education (b)	9,845	7,370	140	278	1,740	2,623
Pre-school education	19,954	35,232	37,643	39,362	32,750	33,090
Educational research	786	1,062	1,012	809	801	841
School-to-work transition activities	—	—	—	—	—	4,446
Total	910,391	1,133,806	1,390,758	1,517,841	1,592,322	1,771,200
GRANTS FOR CAPITAL PURPOSES						
Schools	199,368	143,631	147,766	183,457	178,956	146,591
Technical and further education	20,375	24,600	33,709	46,425	64,970	81,338
Colleges of Advanced Education	109,916	86,753	77,555	54,006	68,155	44,853
Universities	65,990	48,827	56,958	52,392	51,143	52,192
Aboriginal education	1,224	1,966	361	195	364	87
Child migrant education (b)	1,478	1,670	39	—	129	50
Pre-school education	17,123	11,797	11,375	6,632	—	—
Total	415,473	319,246	327,763	343,107	363,717	325,111
TOTAL GRANTS						
Schools	433,947	475,515	569,524	639,080	670,351	701,865
Technical and further education	44,997	64,727	77,903	92,025	116,711	143,236
Colleges of Advanced Education	349,165	373,519	446,449	449,507	481,653	499,078
Universities	443,980	475,216	568,514	626,858	645,730	704,866
Aboriginal education	4,591	6,944	5,922	6,399	6,175	6,215
Child migrant education (b)	11,323	9,040	179	278	1,869	2,672
Pre-school education	37,077	47,029	49,018	45,994	32,750	33,090
Educational research	786	1,062	1,012	809	801	841
School-to-work transition activities	—	—	—	—	—	4,446
Total	1,325,864	1,453,052	1,718,521	1,860,950	1,956,040	2,096,309

(a) Includes the Northern Territory from 1979-80.

(b) Grants for child migrant education under the Schools Commission program, commencing January 1976, are included under 'schools'.

TOTAL GRANTS TO STATES FOR SCHOOLS

(\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Current grants—						
New South Wales	84,749	125,395	151,153	171,540	180,739	203,806
Victoria	72,112	100,354	134,939	138,250	152,062	169,614
Queensland	35,604	46,162	56,058	59,853	66,818	74,914
South Australia	19,017	27,452	35,038	38,566	39,746	44,714
Western Australia	17,184	23,194	33,521	35,293	38,741	44,019
Tasmania	5,912	9,327	11,049	12,120	13,290	14,617
Northern Territory	..	..	..	..	..	3,591
<i>Total</i>	<i>234,579</i>	<i>331,884</i>	<i>421,758</i>	<i>455,622</i>	<i>491,395</i>	<i>555,275</i>
Capital grants—						
New South Wales	71,708	45,886	48,683	57,952	58,954	46,266
Victoria	58,651	49,285	45,056	51,273	48,993	43,918
Queensland	27,968	22,363	28,090	34,263	29,475	24,609
South Australia	19,160	11,056	14,672	17,069	16,178	14,821
Western Australia	15,789	10,564	6,999	16,713	20,971	11,011
Tasmania	6,092	4,477	4,266	6,187	4,385	4,280
Northern Territory	..	..	..	..	..	1,685
<i>Total</i>	<i>199,368</i>	<i>143,631</i>	<i>147,766</i>	<i>183,457</i>	<i>178,956</i>	<i>146,591</i>
Total grants—						
New South Wales	156,457	171,281	199,836	229,492	239,693	250,072
Victoria	130,763	149,639	179,995	189,523	201,055	213,532
Queensland	63,572	68,525	84,148	94,116	96,293	99,523
South Australia	38,177	38,508	49,710	55,635	55,924	59,535
Western Australia	32,973	33,758	40,520	52,006	59,712	55,029
Tasmania	12,004	13,804	15,315	18,307	17,674	18,898
Northern Territory	..	..	..	..	..	5,276
<i>Total</i>	<i>433,947</i>	<i>475,515</i>	<i>569,524</i>	<i>639,080</i>	<i>670,351</i>	<i>701,865</i>

TOTAL GRANTS TO STATES FOR TECHNICAL AND FURTHER EDUCATION

(\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Current grants—						
New South Wales	10,333	17,652	16,714	19,184	21,061	23,546
Victoria	6,794	9,653	13,866	11,163	13,509	16,087
Queensland	2,262	4,643	4,537	4,885	5,222	6,932
South Australia	2,639	3,770	4,502	4,737	5,116	6,661
Western Australia	2,168	3,322	3,606	4,521	5,160	4,780
Tasmania	426	1,087	969	1,110	1,673	2,005
Northern Territory	..	..	..	..	..	1,887
<i>Total</i>	<i>24,622</i>	<i>40,127</i>	<i>44,194</i>	<i>45,600</i>	<i>51,741</i>	<i>61,898</i>
Capital grants—						
New South Wales	5,859	8,919	12,262	15,162	19,279	28,054
Victoria	6,585	7,376	9,333	12,728	19,592	15,467
Queensland	4,073	3,334	4,439	8,735	15,078	12,717
South Australia	2,800	1,208	2,320	4,837	6,901	8,697
Western Australia	587	2,876	3,690	2,993	3,726	10,481
Tasmania	471	887	1,665	1,970	394	3,400
Northern Territory	..	..	..	..	..	2,522
<i>Total</i>	<i>20,375</i>	<i>24,600</i>	<i>33,709</i>	<i>46,425</i>	<i>64,970</i>	<i>81,338</i>
Total grants—						
New South Wales	16,192	26,571	28,976	34,346	40,340	51,600
Victoria	13,379	17,029	23,199	23,891	33,101	31,554
Queensland	6,335	7,977	8,976	13,620	20,300	19,649
South Australia	5,439	4,978	6,822	9,574	12,017	15,358
Western Australia	2,755	6,198	7,296	7,514	8,886	15,262
Tasmania	897	1,974	2,634	3,080	2,067	5,405
Northern Territory	..	..	..	..	..	4,409
<i>Total</i>	<i>44,997</i>	<i>64,727</i>	<i>77,903</i>	<i>92,025</i>	<i>116,711</i>	<i>143,236</i>

TOTAL GRANTS TO STATES FOR COLLEGES OF ADVANCED EDUCATION AND TEACHERS COLLEGES
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Current grants—						
New South Wales	62,122	69,089	90,831	98,303	105,103	115,272
Victoria	86,119	111,307	135,960	141,522	146,456	159,680
Queensland	27,230	33,999	48,962	56,616	60,465	67,445
South Australia	24,531	28,838	38,221	41,724	42,477	46,612
Western Australia	32,359	36,522	46,242	48,080	49,560	53,290
Tasmania	6,888	7,011	8,678	9,256	9,436	10,068
Northern Territory	..	..	..	..	..	1,859
<i>Total</i>	<i>239,249</i>	<i>286,766</i>	<i>368,894</i>	<i>395,501</i>	<i>413,497</i>	<i>454,225</i>
Capital grants—						
New South Wales	41,197	23,716	27,200	11,886	20,070	12,087
Victoria	32,452	34,313	25,971	18,968	23,112	19,190
Queensland	13,438	9,181	14,630	7,899	10,712	5,056
South Australia	12,579	6,886	4,276	8,457	5,177	4,666
Western Australia	7,281	7,344	5,074	5,198	5,863	3,044
Tasmania	2,969	5,313	404	1,598	3,221	810
Northern Territory	..	..	..	..	..	—
<i>Total</i>	<i>109,916</i>	<i>86,753</i>	<i>77,555</i>	<i>54,006</i>	<i>68,155</i>	<i>44,853</i>
Total grants—						
New South Wales	103,319	92,805	118,031	110,189	125,174	127,359
Victoria	118,571	145,620	161,931	160,490	169,568	178,870
Queensland	40,668	43,180	63,592	64,515	71,177	72,501
South Australia	37,110	35,724	42,497	50,181	47,654	51,278
Western Australia	39,640	43,866	51,316	53,278	55,423	56,334
Tasmania	9,857	12,324	9,082	10,854	12,657	10,878
Northern Territory	..	..	..	..	..	1,859
Total	349,165	373,519	446,449	449,507	481,653	499,078

TOTAL GRANTS TO STATES FOR UNIVERSITIES
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Current grants—						
New South Wales	149,997	168,831	199,633	222,893	230,197	252,856
Victoria	99,798	110,717	134,763	152,808	158,860	173,556
Queensland	49,876	57,185	69,427	78,127	80,980	89,684
South Australia	38,067	43,107	51,000	56,872	57,917	63,161
Western Australia	27,978	32,891	40,795	46,532	48,318	53,190
Tasmania	12,274	13,658	15,938	17,234	18,315	20,227
Northern Territory	..	..	..	..	..	—
<i>Total</i>	<i>377,990</i>	<i>426,389</i>	<i>511,556</i>	<i>574,465</i>	<i>594,587</i>	<i>652,674</i>
Capital grants—						
New South Wales	22,526	21,754	17,553	17,909	21,840	25,353
Victoria	17,330	9,516	10,460	11,842	10,849	10,679
Queensland	9,821	6,453	11,638	7,335	6,042	8,755
South Australia	7,320	3,421	6,426	6,634	6,439	3,482
Western Australia	7,714	5,094	9,822	7,664	5,185	3,006
Tasmania	1,279	2,589	1,061	1,008	788	918
Northern Territory	..	..	..	..	..	—
<i>Total</i>	<i>65,990</i>	<i>48,827</i>	<i>56,958</i>	<i>52,392</i>	<i>51,143</i>	<i>52,192</i>
Total grants—						
New South Wales	172,523	190,585	217,186	240,802	252,037	278,209
Victoria	117,128	120,233	145,223	164,650	169,709	184,235
Queensland	59,697	63,638	81,065	85,462	87,022	98,438
South Australia	45,387	46,528	57,426	63,506	64,356	66,643
Western Australia	35,692	37,985	50,617	54,196	53,503	56,196
Tasmania	13,553	16,247	16,999	18,242	19,103	21,145
Northern Territory	..	..	..	..	..	—
Total	443,980	475,216	568,514	626,858	645,730	704,866

TOTAL GRANTS TO STATES FOR ABORIGINAL EDUCATION
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Current grants—						
New South Wales	546	904	931	1,013	690	756
Victoria	262	212	576	634	633	931
Queensland	361	866	836	858	904	724
South Australia	614	990	1,151	1,479	1,560	1,642
Western Australia	1,582	1,979	2,035	2,184	1,996	2,047
Tasmania	3	27	32	36	28	29
Northern Territory	—	—	—	—	—	—
<i>Total</i>	3,367	4,978	5,561	6,204	5,811	6,128
Capital grants—						
New South Wales	—	505	1	—	—	—
Victoria	67	87	—	—	—	—
Queensland	249	971	8	84	57	41
South Australia	108	377	233	50	149	23
Western Australia	799	25	119	61	159	23
Tasmania	—	1	—	—	—	—
Northern Territory	—	—	—	—	—	—
<i>Total</i>	1,224	1,966	361	195	364	87
Total grants—						
New South Wales	546	1,409	932	1,013	690	756
Victoria	329	299	576	634	633	931
Queensland	610	1,837	844	942	961	765
South Australia	722	1,367	1,384	1,529	1,709	1,665
Western Australia	2,381	2,004	2,154	2,245	2,155	2,070
Tasmania	3	28	32	36	28	29
Northern Territory	—	—	—	—	—	—
<i>Total</i>	4,591	6,944	5,922	6,399	6,175	6,215

GRANTS TO STATES FOR CHILD MIGRANT EDUCATION
(Excluding grants under the Schools Commission program, commencing January 1976)
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Current grants—						
New South Wales	3,890	2,720	67	165	727	1,008
Victoria	4,482	3,559	46	41	521	1,045
Queensland	255	195	2	15	172	262
South Australia	810	514	22	16	180	180
Western Australia	229	233	2	41	140	125
Tasmania	179	149	2	—	—	3
Northern Territory	—	—	—	—	—	—
<i>Total</i>	9,845	7,370	140	278	1,740	2,623
Capital grants—						
New South Wales	475	405	2	—	—	9
Victoria	709	943	5	—	88	22
Queensland	106	11	—	—	40	15
South Australia	92	275	31	—	—	—
Western Australia	89	—9	—	—	—	—
Tasmania	6	45	—	—	—	4
Northern Territory	—	—	—	—	—	—
<i>Total</i>	1,478	1,670	39	—	129	50
Total grants—						
New South Wales	4,365	3,125	69	165	727	1,017
Victoria	5,191	4,502	51	41	610	1,067
Queensland	361	206	2	15	212	277
South Australia	902	789	53	16	180	180
Western Australia	318	224	2	41	140	125
Tasmania	185	194	2	—	—	7
Northern Territory	—	—	—	—	—	—
<i>Total</i>	11,323	9,040	179	278	1,868	2,672

CHAPTER 13

AGRICULTURAL INDUSTRIES

This chapter is divided into the following major parts:—Introduction; Sources of statistics and definitions of units; Structural statistics (provides data on the legal arrangements, size and industry class of the business organisations operating within the agricultural sector); Value of agricultural commodities produced and index of values at constant prices; Apparent consumption of foodstuffs and nutrients; Land tenure and land utilisation; Crop statistics; Livestock statistics; Livestock products; Agricultural improvements and employment.

Introduction

The development of Australian agricultural industries has been determined by interacting factors such as profitable markets, the opening up of new land (including the development of transport facilities) and technical and scientific achievements. Subsistence farming, recurring gluts, low prices and losses to farmers were gradually overcome by the development of an export trade. Profitable overseas markets for merino wool and wheat, and the introduction of storage and refrigerated shipping for the dairying and meat industry combined to make the agricultural sector Australia's main export earner. Until the late 1950's, agricultural products comprised more than 80 per cent of the value of Australia's exports. Since then, the proportion of Australia's exports coming from the agricultural sector has declined markedly.

However, this decline in importance has been due not to a decline in agricultural activity but rather to an increase in the quantity and values of the exports of the mining and manufacturing sectors. In fact, the agricultural sector experienced an increase in total output over that period. One interesting aspect of this increase in output is that it was accompanied by a large reduction in the size of the agricultural labour force, implying a large growth in productivity within the sector.

Sources of statistics and definitions of units

Agricultural Census

The major source of the statistics in this chapter is the Agricultural Census conducted at 31 March each year. This collects a wide range of information from agricultural establishments with agricultural activity covering the physical aspects of agriculture such as area and production of crops, fertilisers used, number of livestock disposed of, etc. In conjunction with the census, certain supplementary collections are conducted in some States where this has proved expedient, e.g. where the harvesting of certain crops has not been completed by 31 March (apples, potatoes, etc.), special returns covering the crops concerned are collected after the completion of the harvest.

In recent years, the ABS has been gradually excluding from the statistics those establishments whose contribution to agricultural production is small. While this has resulted in changes to the number of establishments appearing in publications the effect on the statistics of production of major commodities is small. Statistics of minor commodities normally associated with small scale operations may be affected to a greater extent.

From 1980, establishments with agricultural activity have been included in the statistics if the enterprises operating the establishments had or were expected to have estimated value of agricultural operations of \$1,500 or more during the current season.

Details of the method used in the calculation of the estimated value of agricultural operations are contained in the publication *Agricultural Sector: Structure of Operating Units, Australia* (7102.0). Prior to 1975-76, all agricultural establishments with areas of one hectare or more were included. In addition, establishments of less than one hectare tended to be included where significant agricultural activity was undertaken, e.g. poultry farms, commercial market gardens and nurseries.

Integrated Agricultural Register

The Agricultural Census is one of the sources of information used to update the Integrated Agricultural Register (IAR). The IAR contains information about the area, type, legal status, level of activity and location of units engaged in agriculture, and is used for the despatch of most of the agricultural statistical collections. The IAR was originally compiled by adding data in a special census of

economic units conducted in 1974 to existing data relating to physical characteristics of agricultural establishments. Details of the structure of economic units engaged in agriculture are compiled from the IAR. These economic units, in hierarchical order, are:

- *Enterprise* (the second level of economic unit). The enterprise is that unit comprising all operations in Australia of a single operating legal entity. (The term 'single legal entity' means a sole trader, partnership, company, trust, co-operative or estate in the private sector, or a department, local government authority or statutory authority in the government sector). For the agricultural sector, a 'multi-State enterprise' is an enterprise which belongs to an enterprise group which undertakes agricultural activities in more than one State.
- *Establishment* (the smallest economic unit). The establishment covers all operations carried out by one enterprise at a single physical location.

Other Statistical Collections

The ABS conducts a number of other collections to obtain agricultural statistics. These include collections from wool brokers and dealers, livestock slaughterers and other organisations involved in the marketing and selling of agricultural commodities.

Structural statistics

The following tables provide information relating to the structure of operating units during 1979-80. Although the definitions of the operating units have been provided above, the following terminology is also used:

- *Industry*. As set out in the *Australian Standard Industrial Classification* (ASIC) (1201.0 and 1202.0). These publications provide details of the methodology used in determining the industry class of an economic unit.
- *Estimated Value of Agricultural Operations* (EVAO). This is determined by valuing the physical crop and livestock information collected in the Agricultural Census.

A further explanation of this terminology and more detailed statistics are given in the publication *Agricultural Sector: Structure of Operating Units, Australia* (7102.0).

NUMBER OF UNITS BY TYPE OF UNIT, 1979-80

<i>Unit</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust. (a)</i>
Agricultural establishments . . .	53,605	47,460	34,451	20,261	16,974	5,996	179,084
Agricultural enterprises	51,788	45,898	32,881	19,692	15,718	5,710	172,402

(a) Includes enterprises in the Northern Territory, Australian Capital Territory and multi-State enterprises.

AGRICULTURAL ENTERPRISES, INDUSTRY AND ESTIMATED VALUE OF OPERATIONS: 1979-80

ASIC Code	Industry of enterprise	Estimated value of operations (\$'000)											Total
		2-9	10-19	20-29	30-39	40-49	50-59	60-74	75-99	100-149	150-199	200+	
0124	Poultry for meat	58	77	94	97	73	40	54	46	55	20	43	657
0125	Poultry for eggs	110	100	60	61	53	56	61	123	149	108	256	1,137
0134	Grapes	1,027	779	729	591	541	372	313	221	120	30	21	4,744
0135	Plantation fruit	323	445	377	298	204	137	107	104	67	23	26	2,111
0136	Orchard and other fruit	1,720	1,150	844	644	532	385	443	450	458	182	238	7,046
0143	Potatoes	122	175	180	181	176	137	194	206	225	100	113	1,809
0144	Vegetables (except potatoes)	1,105	957	686	506	340	239	254	264	255	130	218	4,954
0181	Cereal grains (incl. oilseeds n.e.c.)	1,352	1,446	1,464	1,561	1,481	1,534	2,020	2,538	2,889	1,327	1,443	19,055
0182	Sheep-cereal grains	507	1,208	1,783	2,136	2,269	2,151	2,988	3,463	3,488	1,412	1,390	22,795
0183	Meat cattle-cereal grains	644	833	630	560	430	357	388	438	431	188	196	5,095
0184	Sheep-meat cattle	1,803	1,982	1,735	1,338	1,105	779	841	927	891	360	407	12,168
0185	Sheep	4,011	3,269	2,702	2,169	1,649	1,200	1,299	1,299	1,120	369	379	19,466
0186	Meat cattle	14,906	7,039	3,125	1,686	1,056	771	741	768	692	293	654	31,731
0187	Milk cattle	1,515	3,785	5,697	3,982	2,192	1,236	981	661	306	84	62	20,501
0188	Pigs	743	565	415	296	215	201	174	183	187	74	114	3,167
0191	Sugar cane	64	181	371	847	932	811	924	934	763	222	202	6,251
0192	Peanuts	19	39	56	56	54	49	60	50	40	11	10	444
0193	Tobacco	46	10	57	129	186	137	125	123	67	20	31	931
0194	Cotton	2	4	1	4	3	3	6	9	25	25	129	211
0195	Nurseries	353	291	150	170	81	93	126	81	111	34	111	1,601
0196	Agriculture n.e.c.	3,483	1,163	649	357	226	152	153	134	112	44	55	6,528
Total (ASIC Code 01)		33,913	25,498	21,805	17,669	13,798	10,840	12,252	13,022	12,451	5,056	6,098	172,402

AGRICULTURAL ENTERPRISES, INDUSTRY, LEGAL STATUS AND ESTIMATED VALUE OF OPERATIONS: 1979-80

ASIC Code	Industry of Enterprise	Legal status						Total enterprises
		Sole operator	Family partnership	Other partnership	Private incorporated company	Public incorporated company	Other(a)	
0124	Poultry for meat	143	411	28	64	2	9	657
0125	Poultry for eggs	311	671	40	90	6	19	1,137
0134	Grapes	1,390	3,081	115	117	5	36	4,744
0135	Plantation fruit	718	1,278	57	41	-	17	2,111
0136	Orchard and other fruit	2,170	4,345	193	283	6	49	7,046
0143	Potatoes	519	1,159	43	67	1	20	1,809
0144	Vegetables (except potatoes)	1,565	3,103	102	145	2	37	4,954
0181	Cereal grains (incl. oilseeds n.e.c.)	4,623	12,595	560	848	28	401	19,055
0182	Sheep-cereal grains	4,511	16,148	635	1,002	12	487	22,795
0183	Meat cattle-cereal grains	1,413	3,094	178	304	4	102	5,095
0184	Sheep-meat cattle	3,840	6,654	527	802	16	329	12,168
0185	Sheep	6,437	10,776	752	944	22	535	19,466
0186	Meat cattle	13,138	15,040	1,063	1,666	52	772	31,731
0187	Milk cattle	5,968	13,322	388	460	11	352	20,501
0188	Pigs	970	1,977	86	106	3	25	3,167
0191	Sugar cane	1,359	4,501	127	152	3	109	6,251
0192	Peanuts	110	310	3	10	1	10	444
0193	Tobacco	221	644	31	13	2	20	931
0194	Cotton	29	116	21	35	-	10	211
0195	Nurseries	494	790	119	179	3	16	1,601
0196	Agriculture n.e.c.	3,092	2,672	301	378	9	76	6,528
Total (ASIC Code 01)		53,021	102,687	5,369	7,706	188	3,431	172,402
Estimated value of operations (\$'000)-								
2-9		16,647	14,611	1,017	939	25	674	33,913
10-19		10,789	12,878	607	661	20	543	25,498
20-29		7,726	12,642	510	507	12	408	21,805
30-39		5,241	11,094	456	507	20	351	17,669
40-49		3,532	9,097	404	478	10	277	13,798
50-59		2,387	7,499	320	421	8	205	10,840
60-74		2,316	8,743	389	562	13	229	12,252
75-99		1,955	9,531	481	788	14	253	13,022
100-149		1,443	9,199	534	1,008	20	247	12,451
150-199		486	3,645	273	551	8	93	5,056
200 and more		499	3,748	378	1,284	38	151	6,098
Total all size groups		53,021	102,687	5,369	7,706	188	3,431	172,402

(a) Includes co-operative societies trusts and estates.

**AGRICULTURAL ESTABLISHMENTS OPERATED BY AGRICULTURAL AND
NON-AGRICULTURAL ENTERPRISES BY INDUSTRY OF
ESTABLISHMENT: 1979-80**

<i>ASIC Code</i>	<i>Industry of establishment</i>	<i>Operated by agricultural enterprises</i>	<i>Operated by non-agricultural enterprises</i>
0124	Poultry for meat	660	15
0125	Poultry for eggs	1,125	20
0134	Grapes	4,774	142
0135	Plantation fruit	2,127	23
0136	Orchard and other fruit	7,093	157
0143	Potatoes	1,818	29
0144	Vegetables (except potatoes)	4,992	59
0181	Cereal grains (incl. oilseeds n.e.c.)	19,406	256
0182	Sheep-cereal grains	23,168	173
0183	Meat cattle-cereal grains	5,179	87
0184	Sheep-meat cattle	12,310	260
0185	Sheep	19,883	307
0186	Meat cattle	32,904	1,256
0187	Milk cattle	20,705	162
0188	Pigs	3,207	93
0191	Sugar cane	6,373	43
0192	Peanuts	455	5
0193	Tobacco	936	3
0194	Cotton	213	2
0195	Nurseries	1,617	71
0196	Agriculture n.e.c.	6,718	258
	Total (ASIC Code 01)	175,663	3,421

**AGRICULTURAL ESTABLISHMENTS OPERATED BY AGRICULTURAL ENTERPRISES BY INDUSTRY OF
ENTERPRISE AND INDUSTRY OF ESTABLISHMENT: 1979-80**

<i>ASIC Code</i>	<i>Industry of enterprise</i> <i>Description</i>	<i>Industry of establishment</i>													<i>Total establishments (01)</i>		
		<i>Cereal grains-sheep-cattle and pigs (ASIC Code 018)</i>															
		<i>Poultry (012)</i>	<i>Fruit (013)</i>	<i>Vegetables (014)</i>	<i>Total (012)-(014)</i>	<i>Cereal grains, incl. oilseeds (0181)</i>	<i>Sheep, cereal grains (0182)</i>	<i>Meat cattle-cereal grains (0183)</i>	<i>Sheep-meat cattle (0184)</i>	<i>Sheep (0185)</i>	<i>Meat cattle (0186)</i>	<i>Milk cattle (0187)</i>	<i>Pigs (0188)</i>	<i>Total (018)</i>		<i>Other agriculture (019)</i>	
A	Agriculture, Forestry, Fishing and Hunting—																
01	Agriculture—																
012	Poultry	1,781	2	2	1,785	8	1	1	1	3	14	5	1	34	5	1,824	
013	Fruit	-	13,951	-	13,951	7	2	-	1	9	24	3	-	46	7	14,004	
014	Vegetables	1	4	6,797	6,802	3	1	-	2	3	25	7	2	43	14	6,859	
	Total (ASIC Codes 012-014)	1,782	13,957	6,799	22,538	18	4	1	4	15	63	15	3	123	26	22,687	
018	Cereal grains, sheep, cattle and pigs																
0181	Cereal grains (incl. oilseeds)	-	6	1	7	19,188	90	36	8	37	81	7	11	19,458	28	19,493	
0182	Sheep-cereal grains	-	5	2	7	121	22,992	5	38	145	45	9	4	23,359	10	23,376	
0183	Meat cattle-cereal grains	1	-	-	1	9	-	5,092	8	8	66	2	3	5,188	12	5,201	
0184	Sheep-meat cattle	-	3	-	3	7	18	7	12,168	88	89	3	1	12,381	7	12,391	
0185	Sheep	-	4	2	6	15	42	2	44	19,553	58	3	2	19,719	21	19,746	
0186	Meat cattle	-	9	1	10	20	12	21	34	24	32,282	21	11	32,425	72	32,507	
0187	Milk cattle	-	5	3	8	16	8	9	1	5	117	20,631	1	20,788	13	20,809	
0188	Pigs	1	1	-	2	4	-	-	1	2	7	2	3,169	3,185	3	3,190	
	Total (ASIC Code 018)	2	33	9	44	19,380	23,162	5,172	12,302	19,862	32,745	20,678	3,202	136,503	166	136,713	
019	Other agriculture	1	4	2	7	8	2	6	4	6	96	12	2	136	16,120	16,263	
	Total (ASIC Code 01)	1,785	13,994	6,810	22,589	19,406	23,168	5,179	12,310	19,883	32,904	20,705	3,207	136,762	16,312	175,663	

Value of agricultural commodities produced and index of values at constant prices

Definitions

Gross value of commodities produced is the value placed on recorded production at the wholesale prices realised in the principal market.

Marketing costs include freight, cost of containers, commission and other charges incurred in marketing.

Local value of commodities produced is the value placed on commodities at the place of production and is ascertained by deducting marketing costs from the gross value.

Average unit values are calculated by dividing the gross value of each commodity produced by the total production of each corresponding commodity.

Index of values at constant prices is the index of the gross value of commodities produced at constant prices, i.e. it is a measure of change in value after the direct effects of price changes have been eliminated.

VALUES OF AGRICULTURAL COMMODITIES: 1979-80

	<i>Gross value of agricultural commodities produced</i>	<i>Marketing costs</i>	<i>Local value of commodities produced</i>	<i>Index of values at constant prices of agricultural commodities produced and output(a) (Base year: 1974-75 = 1000)</i>
	\$m	\$m	\$m	
Crops	5,540.8	738.2	4,802.6	1 282
Livestock slaughterings and other disposals	3,659.4	247.7	3,411.7	1 157
Livestock products	2,568.0	201.2	2,366.7	905
Agricultural output	11,768.2	1,187.1	10,581.0	(b) 1 154

(a) Weighted by average unit values of the 3 years ended 1975-76.

(b) Excludes seed, feed and fodder consumed or retained on farms.

Publications

Two preliminary estimates of value of commodities produced are published: *Gross Value of Agricultural Commodities Produced, First Estimates, Australia* (7501.0) and *Value of Agricultural Commodities Produced (Second Estimates) Australia* (7502.0). A final publication, *Value of Agricultural Commodities Produced, Australia* (7503.0), contains Indexes of Values at Constant Prices.

Index of Agricultural Commodities Produced

The index of values at constant prices of agricultural commodities produced and output is a measure of change in value after the direct effects of price changes have been eliminated.

The index, while consistent in scope with those of previous years, has been based on revised weights and a reference base of 1974-75 = 1000. The indexes are weighted by the average unit values for the three years ended 1975-76.

For further details on how these and earlier series were calculated see Year Book No. 61, pages 1063-65 and *Value of Agricultural Commodities Produced, Australia* (7503.0).

GROSS VALUE OF AGRICULTURAL COMMODITIES
(*\$ million*)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81 ^p
Crops—						
Wheat for grain	1,249	1,051	935	2,296	2,478	1,685
Barley for grain	314	295	205	339	450	387
Sugar cane cut for crushing	436	472	421	396	548	784
Fruit and nuts	269	290	324	388	407	464
Grapes	102	129	142	150	231	167
Vegetables	274	295	326	406	402	522
Pasture and grasses	129	147	118	161	177	1264
Other crops	475	510	576	779	848	
<i>Total crops</i>	<i>3,247</i>	<i>3,190</i>	<i>3,047</i>	<i>4,915</i>	<i>5,541</i>	<i>5,273</i>
Livestock slaughterings and other disposals(a)—						
Cattle and calves	706	1,011	1,177	2,155	2,386	1,989
Sheep and lambs	204	299	345	445	655	702
Pigs	183	197	213	254	311	328
Poultry	153	178	220	244	307	321
<i>Total</i>	<i>1,246</i>	<i>1,686</i>	<i>1,954</i>	<i>3,098</i>	<i>3,659</i>	<i>3,340</i>
Livestock products—						
Wool	1,000	1,173	1,206	1,374	1,651	1,697
Whole milk	490	521	553	632	680	832
Eggs	175	179	196	197	216	246
Honey and beeswax	11	9	15	15	21	12
<i>Total</i>	<i>1,678</i>	<i>1,881</i>	<i>1,970</i>	<i>2,218</i>	<i>2,568</i>	<i>2,788</i>
Total agriculture	6,173	6,757	6,974	10,228	11,768	11,400

(a) Includes adjustment for net exports of live animals.

INDEX OF VALUES AT CONSTANT PRICES OF AGRICULTURAL COMMODITIES PRODUCED AND OUTPUT

(Base year: 1974-75 = 1000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Crops—						
Barley for grain	1000	1264	1132	948	1606	1472
Oats for grain	1000	1305	1227	1133	2058	1614
Wheat for grain	1000	1060	1047	828	1620	1431
Other grain cereals	1000	1185	1181	988	1462	1209
Sugar cane(a)	1000	1017	1165	1171	1013	1029
Fruit and nuts	1000	904	892	836	1001	977
Grapes	1000	987	1002	993	992	1201
Vegetables	1000	948	1051	1097	1188	1203
All other crops(b)	1000	869	874	911	1198	1177
<i>Total</i>	<i>1000</i>	<i>1046</i>	<i>1036</i>	<i>928</i>	<i>1390</i>	<i>1282</i>
Livestock slaughterings and other disposals—						
Cattle and calves(c)	1000	1192	1288	1415	1305	1007
Sheep and lambs	1000	1083	1107	1116	1075	1292
Pigs	1000	993	1057	1137	1134	1239
Poultry	1000	1078	1152	1297	1431	1652
<i>Total(d)</i>	<i>1000</i>	<i>1134</i>	<i>1211</i>	<i>1312</i>	<i>1254</i>	<i>1157</i>
Livestock products—						
Wool	1000	951	886	853	887	889
Whole milk	1000	965	925	893	926	909
Eggs	1000	989	898	949	922	975
<i>Total(e)</i>	<i>1000</i>	<i>959</i>	<i>897</i>	<i>873</i>	<i>901</i>	<i>905</i>
Agricultural output(f)	1000	1047	1044	1011	1234	1154

(a) Cut for crushing and planting. (b) Includes pastures and grasses; excludes crops for green feed or silage. (c) Includes dairy cattle slaughtered. (d) Component series based on carcass weight. (e) Includes honey and beeswax. (f) Excludes seed, feed and fodder consumed or retained on farms.

Apparent consumption of foodstuffs and nutrients

Estimates of consumption in Australia are compiled by deducting net exports from the sum of production and imports and allowing for recorded movement in stocks of the respective commodities. The term 'consumption' is used in a specialised sense, since the quantities actually measured are broadly the quantities available for consumption at a particular level of distribution, ie ex-market, ex-store or ex-factory depending on the method of marketing and/or processing. Because consumption of foodstuffs is measured, in general, at 'producer' level no allowance is made for wastage before they are consumed. The effect of ignoring wastage is ultimately to overstate consumption but it is believed that more efficient distribution and storage methods in recent years have cut down wastage. Furthermore, it is likely that many of the foodstuffs are being supplemented by householders self-supplies over and above the broad estimate already made.

The estimates of consumption per capita have been derived by dividing the total apparent consumption of each commodity or commodity group in a given year by the mean population of Australia in the same period.

More detailed information on the consumption of foodstuffs is contained in the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0). For some commodities, more timely information is contained in the publication *Apparent Consumption of Selected Foodstuffs, Australia (Preliminary)* (4315.0).

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS

(Kg—unless otherwise indicated)

Commodity	1975-76	1976-77	1977-78	1978-79	1979-80
Meat—					
Carcass meat—					
Beef and veal	67.6	69.7	68.1	55.5	46.6
Beef	63.1	64.2	63.0	52.0	43.9
Veal	4.6	5.6	5.1	3.5	2.7
Lamb	16.7	13.4	13.8	14.1	15.8
Mutton	7.0	4.7	3.7	4.6	5.1
Pigmeat	4.4	4.4	4.6	3.8	4.9
Total carcass meat	95.8	92.3	90.1	77.9	72.4
Offal and meat, n.e.i.	6.7	7.0	7.0	5.6	4.7
Canned meat (canned weight)	1.7	1.7	1.7	1.4	1.4
Bacon and ham (cured carcass weight)	5.2	5.6	6.1	6.5	6.3
Total meat (converted to carcass equivalent weight)	111.6	108.8	107.6	94.2	87.1
Poultry—					
Poultry (dressed weight)	14.5	15.8	16.9	18.9	20.3
Seafood—					
Fresh and frozen (edible weight)—					
Fish—					
Australian	1.5	1.4	1.7	1.7	1.5
Imported	1.6	1.6	1.7	1.5	1.1
Crustacea and molluscs	1.0	0.9	0.9	0.9	0.8
Seafood otherwise prepared (product weight)—					
Australian	0.7	0.5	0.5	0.5	0.5
Imported—					
Fish	1.7	2.0	1.9	1.6	1.9
Crustacea and molluscs	0.4	0.5	0.4	0.3	0.3
Total seafood	6.9	6.9	7.0	6.6	6.1
Milk and Milk Products—					
Market milk (fluid whole)(a) (litres)	101.1	104.3	104.1	104.0	104.2
Condensed, concentrated and evaporated milk—					
Full cream sweetened	1.1	0.8	0.8	0.7	0.7
Full cream unsweetened	2.3	2.6	2.3	2.5	2.2
Skim	1.5	1.6	1.6	1.6	1.3
Powdered milk—					
Full cream	1.4	1.6	1.4	0.9	0.9
Skim	3.8	2.0	3.0	3.3	3.7
Infants' and invalids' food	1.4	1.1	1.3	1.1	1.1
Cheese (natural equivalent weight)	5.9	5.1	6.3	6.3	6.9
Total (converted to milk solids, fat and non-fat)	23.8	22.1	23.5	23.3	24.0

APPARENT PER CAPITA CONSUMPTION OF FOODSTUFFS—*continued*
(Kg—unless otherwise indicated)

Commodity	1975-76	1976-77	1977-78	1978-79	1979-80
Fruit and Fruit Products—					
Fresh fruit (incl. fruit for fruit juice)—					
Citrus	39.6	32.8	35.7	35.7	44.2
Other	33.5	33.0	29.7	31.0	35.8
Jams, conserves, etc	1.9	2.0	1.8	2.3	1.5
Dried fruit	2.2	2.0	2.0	2.0	2.3
Processed fruit	10.2	10.9	10.8	10.9	12.3
Total (fresh fruit equivalent)	96.5	89.3	88.2	90.5	106.1
Vegetables—					
White potatoes	46.6	48.7	50.8	51.9	55.1
Other root and bulb vegetables	15.8	16.0	16.9	17.1	17.4
Tomatoes	13.3	13.7	13.2	13.8	14.6
Leafy and green vegetables	23.6	23.0	22.7	27.7	25.3
Other vegetables	18.3	19.9	21.7	23.3	21.4
Total (fresh equivalent weight)	117.5	121.2	125.4	133.8	133.7
Grain Products—					
Flour(b)	73.9	72.8	67.6	70.2	70.9
Breakfast foods—					
Oatmeal and rolled oats	0.3	0.6	0.6	0.9	0.3
Other (from grain)	6.9	7.3	7.4	7.5	7.0
Total breakfast foods	7.1	7.9	8.0	8.4	7.3
Table rice	2.4	2.4	2.5	2.5	2.6
Total grain products	83.4	83.1	78.0	81.1	80.7
Bread (900g loaves)	54.8	54.3	53.2	52.2	53.4
Eggs and Egg Products—					
Total (eggs in shell weight)	12.4	12.4	12.4	12.6	12.5
Equivalent number of eggs	220	219	219	221	220
Nuts (in shell)—					
Peanuts	2.5	1.5	3.4	2.2	1.4
Tree nuts	3.3	3.2	3.1	2.6	2.9
Oils and fats—					
Butter	6.8	5.8	5.1	4.5	4.6
Total margarine	7.0	8.2	8.6	8.9	8.9
Table margarine	3.1	4.7	5.7	5.9	6.5
Other margarine	3.9	3.5	2.9	2.9	2.5
Total (fat content)(c)	21.6	21.9	21.7	21.4	21.5
Sugar—					
As refined sugar	16.0	16.2	14.8	14.2	12.9
In manufactured foods	33.8	34.4	34.9	35.3	34.7
Total	49.8	50.6	49.7	49.5	47.6
Honey	0.7	0.6	1.0	0.8	0.9
Total(d)	54.3	54.6	54.2	53.7	52.0
Beverages—					
Tea	1.9	2.0	1.6	1.7	1.6
Coffee(e)	1.5	1.8	1.3	1.7	1.7
Aerated and carbonated waters (litres)	65.0	68.1	68.8	66.2	64.3
Beer (litres)	137.4	136.2	137.6	134.2	134.3
Wine (litres)	13.0	13.7	14.3	16.5	17.4
Spirits (litres alcohol)	1.1	1.3	1.3	1.1	1.0

(a) Prior to 1978-79 was known as Fluid Whole Milk. (b) Includes flour used for breadmaking. (c) Includes an estimate for vegetable oils and other fats. (d) Includes sugar content of syrups and glucose. (e) Coffee and coffee products in terms of roasted coffee.

Nutrients

The nutrients table has been compiled by the Nutrition Section and the Central Statistical Unit of the Commonwealth Department of Health and is based on the estimates of the quantity of foodstuffs available for per capita consumption.

For further information on the level of nutrient intake see the publication *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

ESTIMATED SUPPLY OF NUTRIENTS AVAILABLE FOR CONSUMPTION^(a)
(Per capita per day)

<i>Nutrient</i>	<i>Unit</i>	1975-76	1976-77	1977-78	1978-79	1979-80
Protein—						
Animal	g	72.2	69.9	71.6	67.0	65.2
Vegetable	g	33.8	32.9	32.5	33.1	32.9
<i>Total</i>	g	106.0	102.8	104.1	100.1	98.1
Fat (from all sources)	g	155.6	153.4	155.3	146.7	143.7
Carbohydrate	g	407.9	405.3	397.2	401.7	402.5
Calcium	mg	947.7	875.0	939.9	933.7	960.0
Iron	mg	17.5	17.8	18.0	17.2	16.8
Vitamin A activity	µg	1,663.0	1,693.6	1,700.6	1,597.9	1,504.8
Vitamin C (b)—						
Unadjusted	mg	114.2	110.8	117.6	121.3	129.4
Adjusted	mg	81.5	76.4	80.9	83.0	92.3
Thiamin (b)—						
Unadjusted	mg	1.8	1.8	1.8	1.8	1.8
Adjusted	mg	1.5	1.5	1.5	1.5	1.5
Riboflavin	mg	2.9	2.8	2.9	2.8	2.7
Niacin (b)—						
Unadjusted	mg	24.4	24.1	24.9	23.3	22.5
Adjusted	mg	41.3	40.5	41.5	39.3	38.2
Energy value	kJ	14,951.7	14,814.5	14,758.2	14,442.2	14,295.1

(a) Figures are based on conversion factors calculated from the revised and enlarged edition of S. Thomas and M. Corden *Metric Tables of Composition of Australian Food*, Canberra, 1977. (b) Data for vitamin C, Thiamin and Niacin show adjustments made for loss of nutrients in cooking and the extra niacin obtained from the metabolism of protein.

Land tenures

Descriptions of the land tenure systems of the States and the Territories, and conspectuses of land legislation in force were provided in Year Book No. 48 and previous issues (*see also* Year Book No. 50, page 85 and the List of Special Articles preceding the General Index in this Year Book).

Disposal of crown lands

For a description of the provisions that exist in all mainland States for the disposal of crown lands for public purposes, for unconditional purchase and occupation under lease or licence, *see* Year Book No. 61, page 742.

Closer settlement and war service settlement

Particulars of these are given in issues of the Year Book up to No. 22, and in Year Book Nos. 48, 55 and 61.

Alienation and occupation of crown lands

LAND TENURES,
(Thousand hectares)

<i>State or Territory</i>	<i>Data: reference date</i>	<i>Private lands</i>		<i>Crown lands</i>		<i>Total area</i>
		<i>Alienated</i>	<i>In process of alienation</i>	<i>Leased or licensed</i>	<i>Other^(a)</i>	
New South Wales	30.6.80	27,544	1,436	43,958	7,205	80,143
Victoria	30.6.81	13,909	121	2,312	6,418	22,760
Queensland	31.12.80	13,059	20,294	127,476	11,871	172,700
South Australia	30.6.80	7,224	52	55,029	36,132	98,438
Western Australia	31.12.80	16,807	2,151	98,139	135,453	252,550
Tasmania	30.6.80	2,486	90	-4,254-		6,830
Northern Territory	30.6.81	19,682	n.a.	77,196	37,740	134,620
Australian Capital Territory ^(b)	1.4.81	1	..	66	176	243
Australia . . . . .	..	100,712	24,144	-643,425-		768,284

(a) Occupied by Crown; reserved; unoccupied; unreserved. (b) Includes Jervis Bay.

Land utilisation in Australia

The table on land tenures in Australia above, shows the proportions of Australia and of the States and Territories which are held under freehold tenure ('alienated or in process of alienation') or leasehold tenure ('leased or licensed'). The total area under tenure differs from the total area of agricultural establishments (shown below) by amounts which represent unused land or land held for non-agricultural purposes. In general, land in the more fertile regions tends to be mostly freehold, while the less productive land is held under Crown lease or licence.

AREA OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY (Million hectares)

<i>At 31 March</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>Aust. (incl. A.C.T.)</i>
1976 . . .	68.8	15.1	155.6	63.6	116.3	2.5	78.8	500.7
1977 . . .	66.0	14.5	155.0	63.1	115.2	2.3	75.4	491.5
1978 . . .	64.8	14.7	155.1	62.5	114.5	2.3	75.5	489.4
1979 . . .	65.1	14.4	156.3	62.7	116.2	2.2	76.2	493.2
1980 . . .	65.1	14.7	157.7	62.8	114.9	2.2	78.1	495.3
1981p . . .	65.7	14.8	157.6	65.5	115.7	2.2	77.6	499.0

LAND UTILISATION: AUSTRALIA (Million hectares)

<i>Year</i>	<i>Total</i>				<i>Percentage of Australian land area (768,284,000 hectares)</i>
	<i>Area used for crops(a)</i>	<i>Area under sown pastures and grasses</i>	<i>Balance (b)</i>	<i>Area of establishments</i>	
1975-76	14.5	27.7	458.5	500.7	65.2
1976-77	15.0	26.2	450.3	491.5	64.0
1977-78	16.8	25.9	446.7	489.4	63.7
1978-79	17.4	26.7	449.1	493.2	64.2
1979-80	18.0	26.2	451.4	495.6	64.5
1980-81p	18.3	25.0	455.7	499.0	64.9

(a) Excludes duplication on account of area double cropped.

(b) Used for grazing, lying idle, fallow, etc.

The total area of agricultural establishments in 1980-81 constituted 64.9 per cent of the Australian land area, the remainder being urban areas, State forests and mining leases, with an overwhelming proportion of unoccupied land (mainly desert). The balance data includes large areas of arid or rugged land held under grazing licences but not always used for grazing. Balance data also includes variable amounts of fallow land.

The crop area data represent up to 3.7 per cent of the area of agricultural establishments and emphasises the relative importance of the livestock industry in Australia—sheep in the warm, temperate, semi-arid lands and beef cattle in the tropics. The diminishing agricultural labour force (see page 333) is used on large areas of land with low carrying capacity.

Crops

For this section, statistics relating to crop areas and production have been obtained from the annual Agricultural Census. The census returns are collected in all States and the two Territories at 31 March each year and relate mainly to crops sown in the previous twelve months.

Where harvests are not completed by March (e.g. potatoes), provision is made in some States for a special collection after the harvest is completed. Additional statistics relating to value of agricultural commodities produced, manufactured production and overseas trade are also included. Agricultural Census data published in this section refer to the 'agricultural' year ended 31 March, while other data refer to the year ended 30 June; but for most purposes there will be little error involved in considering 'agricultural year' data as applying to the financial year.

The following table shows the area of crops in each of the States and Territories of Australia since 1860-61.

AREA OF CROPS(a): 1860-61 TO 1980-81

(*000 hectares)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1860-61	100	157	2	145	10	62	-	-	475
1870-71	156	280	21	325	22	64	-	-	868
1880-81	245	627	46	846	26	57	-	-	1,846
1890-91	345	822	91	847	28	64	-	-	2,197
1900-01	990	1,260	185	959	81	91	-	-	3,567
1910-11	1,370	1,599	270	1,112	346	116	-	-	4,813
1920-21	1,807	1,817	316	1,308	730	120	-	1	6,099
1930-31	2,756	2,718	463	2,196	1,939	108	1	2	10,184
1940-41	2,580	1,808	702	1,722	1,630	103	-	2	8,546
1949-50	2,295	1,881	832	1,518	1,780	114	-	4	8,424
1954-55	2,183	1,904	1,049	1,711	2,069	122	-	2	9,040
1959-60	2,888	1,949	1,184	1,780	2,628	130	1	3	10,564
1964-65	4,182	2,621	1,605	2,414	3,037	163	2	4	14,028
1965-66	3,663	2,517	1,667	2,440	3,513	156	2	3	13,961
1966-67	5,027	2,738	1,863	2,626	3,568	180	2	4	16,007
1967-68	4,590	2,208	1,883	2,191	3,592	106	6	2	14,578
1968-69	5,509	2,529	2,071	2,596	3,839	110	6	3	16,665
1969-70	4,999	2,212	2,208	2,290	3,912	98	6	2	15,728
1970-71	3,967	1,732	1,791	1,998	3,826	80	2	1	13,397
1971-72	4,186	1,925	2,017	2,278	3,751	67	7	1	14,231
1972-73	4,329	1,943	1,963	2,122	3,814	80	12	1	14,265
1973-74	4,628	1,981	1,786	2,451	4,133	74	6	1	15,060
1974-75	4,089	1,772	1,898	2,257	3,754	67	7	1	13,845
1975-76	4,285	1,851	2,010	2,116	4,208	60	8	1	14,539
1976-77	4,520	1,943	2,026	2,036	4,417	65	2	1	15,010
1977-78	4,984	2,163	2,107	2,564	4,910	70	1	1	16,800
1978-79	5,020	2,209	2,307	2,827	4,993	80	2	1	17,438
1979-80	5,243	2,243	2,334	2,771	5,281	79	2	1	17,954
1980-81p	5,232	2,183	2,467	2,775	5,550	83	2	1	18,294

(a) The classification of crops was revised in 1971-72 and adjustments made to statistics back to 1967-68. After 1966-67 lucerne for green feed, hay and seed, and pasture cut for hay are excluded.

NOTE: From 1970-71 data exclude duplication on account of area double cropped.

The wide range of climatic and soil conditions over the agricultural regions of Australia has resulted in a diversity of crops being grown throughout the country. Generally, cereal crops (excluding rice and sorghum) are grown in all States over wide areas, while other crops are confined to specific locations in a few States. However, scanty or erratic rainfall, limited potential for irrigation and unsuitable soils or topography have restricted intensive agriculture. Despite this, agricultural production has increased over time to meet increased demands both in Australia and from overseas.

The following table provides an Australian summary of the area, production and gross value of the principal crops.

CROPS: AREA, PRODUCTION AND GROSS VALUE

Crop	Area ('000 hectares)			Production ('000 tonnes)			Gross value (\$m)		
	1978-79p	1979-80	1980-81p	1978-79	1979-80	1980-81p	1978-79	1979-80	1980-81p
Cereals for grain—									
Barley	2,785	2,482	2,452	4,006	3,703	2,711	339	450	387
Grain sorghum	469	519	649	1,125	922	n.y.a.	97	96	153
Maize	50	54	56	169	151	n.y.a.	16	20	23
Oats	1,359	1,123	1,090	1,763	1,411	1,129	100	99	119
Rice	110	116	103	692	613	708	98	94	132
Wheat	10,249	11,153	11,292	18,090	16,188	10,870	2,296	2,478	1,685
Legumes for grain									
Wheat	168	219	229	206	217	n.y.a.	43	43	50
Crops for hay—									
Oats	220	197	222	749	635	622	32	30	} 83
Wheat	50	51	81	149	138	170	6	6	
Crops for green feed, silage—									
Barley	52	62	76	} n.a.	} n.a.	} n.a.	} n.a.	} n.a.	} n.a.
Forage sorghum	73	77	102						
Oats	595	655	683						
Wheat	22	45	88						
Sugar cane cut for crushing	252	267	288	21,457	21,151	23,948	396	548	784
Tobacco	8	8	7	15	15	n.y.a.	55	59	64
Cotton	50	75	75	155	244	n.y.a.	76	135	149
Peanuts	37	32	29	62	39	n.y.a.	29	22	25
Linseed	13	17	11	13	14	8	3	3	2
Rapeseed	22	42	24	23	41	18	5	9	4
Safflower	75	54	18	58	30	9	11	6	2
Sunflower	261	221	201	186	142	n.y.a.	46	36	39
Fruit (excl. grapes)									
Orchard fruit	97	98	100	—	—	—	388	407	464
Oranges	81	82	83	—	—	—	306	325	n.y.a.
Apples	} n.a.	} n.a.	} n.a.	369	392	426	74	78	n.y.a.
Pears				345	299	n.y.a.	100	108	128
Peaches				128	124	n.y.a.	32	37	42
Bananas				65	72	79	21	24	28
Pineapples	8	8	8	113	125	125	51	46	51
Grapes	6	7	7	105	123	124	18	20	24
Vegetables	71	70	68	716	865	n.y.a.	150	231	167
Potatoes	107	106	101	—	—	—	406	402	522
Total, all crops (excluding pastures)	35	37	35	795	857	n.y.a.	123	127	152
Total, all crops (excluding pastures)	17,438	17,954	18,294	—	—	—	4,915	5,541	5,273

In the tables that follow, crop statistics are shown in these groupings: wheat, coarse grains, rice, oilseeds, sugar, vegetables, fruit, grapevines and other crops such as tobacco, mushrooms and fodder crops.

Cereal grains

In Australia, cereals are conveniently divided into autumn-winter-spring growing ('winter' cereals) and spring-summer-autumn growing ('summer' cereals). Winter cereals such as wheat, oats, barley and rye are usually grown in rotation with some form of pasture such as grass, subterranean clover, medics or lucerne. In recent years, alternative winter crops such as rapeseed, field peas and lupins have been introduced into cereal rotation in areas where they had not previously been grown. Rice, maize, sorghum and the millets are summer cereals and, except for rice, are also used for stock feed. In Northern Queensland and Western Australia there are two rice growing seasons—a dry season winter crop and a wet season summer crop.

Cereals for grain form a significant percentage of both the value of Australia's agricultural commodities and of the country's export earnings. The following table shows the significance of cereal grains in the last 6 years.

CEREAL GRAINS IN AUSTRALIA: A PERSPECTIVE

Year	Cereal grains(a)		Total agriculture gross value	Total Australian exports— all produce value f.o.b.	Gross	Export
	Gross value	Export value f.o.b.			value of cereal grains as a percentage of gross value of agriculture	value of cereal grains as a percentage of total Australian exports
	\$m	\$m	\$m	\$m	per cent	per cent
1975-76	1,798.2	1,376.4	6,173	9,640	29.1	14.3
1976-77	1,584.0	1,264.9	6,757	11,652	23.4	10.9
1977-78	1,354.8	1,261.9	6,972	12,270	19.4	10.3
1978-79	2,957.6	1,082.0	10,231	14,247	28.9	7.6
1979-80	3,245.4	2,764.7	11,768	18,870	27.8	14.7
1980-81p	2,514.4	2,160.2	11,400	19,189	22.1	11.3

(a) Principally wheat, barley, oats, grain sorghum, rice and maize, with panicum/millet, canary seed and rye being minor cereals.

For more up-to-date and detailed information on cereals for grain see the following publications:

Agricultural Sector: Structure of Operating Units, Australia (7102.0), Agricultural Land Use, Improvements and Labour, Australia (7103.0), Principal Agricultural Commodities, Australia (Preliminary), (7201.0), Selected Agricultural Commodities, Australia (Preliminary) (7301.0), Crops, Australia (7302.0), Cereal Grains: Estimates of Intended Sowings, Australia (7304.0), Cereal Grains: Estimates of Area Sown, Australia (Preliminary) (7305.0), Wheat, Australia (7307.0), Gross Value of Agricultural Commodities Produced: Australia, First Estimates (7501.0), Value of Agricultural Commodities Produced: Australia (Second Estimates) (7502.0), Value of Agricultural Commodities Produced, Australia (7503.0).

Wheat

Wheat is grown extensively in all States except Tasmania, and is the most important crop in Australia in terms of area, production and value of exports. Factors which have contributed to the development of the industry are the increasing demand for wheat on overseas markets, the availability of suitable cropping land and the organisation of overseas marketing and of research. As a large proportion of the wheat crop is exported, wheat marketing arrangements play an important role. The Australian Wheat Board was constituted in September 1939, under *National Security (Wheat Acquisition) Regulations*, to purchase, sell or dispose of wheat or wheat products and to manage or control all matters connected with the handling, storage, protection, shipment, etc. of wheat acquired and such other matters as were necessary to give effect to the regulations. The major purpose in founding the Australian Wheat Board with monopoly marketing arrangements was the protection of wheat farmers by lowering financial risks on each crop. The strength of the Australian Wheat Board is derived from its ability to act as the single Australian authority responsible for marketing of wheat abroad and to use that function as a basis for careful co-ordination of sales efforts and market development. The *Wheat Stabilization Act 1948* reconstituted the Australian Wheat Board to administer the first stabilisation plan, the concept of which was to provide growers with a 'guaranteed price' for a specific quantity of exported wheat. Since then there have been six Five Year Stabilisation Plans.

Wheat marketing and pricing arrangements: 1979-80 to 1983-84

On 29 November 1979 the Wheat Marketing Act 1979 received Royal Assent and new wheat marketing and pricing arrangements became operative for five seasons commencing from October 1979. The basic elements of the new arrangements were negotiated between the Australian Wheatgrowers' Federation and Commonwealth and State Governments and necessitated the enactment of complementary Commonwealth and State legislation.

The new wheat marketing and pricing arrangements carry forward a number of features of the previous Stabilization Plan. In this respect the main features are: the Australian Wheat Board (AWB) is maintained as the sole statutory authority responsible for the marketing of wheat in Australia and of

wheat and wheat products sold overseas; the constitution and general powers of the Wheat Board remain largely unchanged; the provisions for delivery quota arrangements remain, purely as a contingency measure; the legislation applies to a seven-year period except for the pricing provisions which run for five years.

The discounted payments scheme, which was introduced during the life of the last Stabilization Plan, has also been carried forward. The scheme enables the Board to offer to growers a payment, appropriately discounted, some months before a scheduled payment is due to be made. The operation of the scheme, in which growers may participate at their option, will not affect the rate at which the Board arranges for normal Pool payments to be made to those growers who do not use the discount facility.

The following are important new features:

Guaranteed Minimum Delivery Price

Shortly after delivery of wheat to the Australian Wheat Board or upon wheat coming under the Board's control, wheatgrowers receive a first payment by way of an advance payment calculated at the Guaranteed Minimum Price (GMP) and increased or decreased for such allowances as wheat quality, varietal characteristics and storage, handling and transportation charges. The GMP is set at 95% of the average of the net pool returns for the previous two seasons and an estimate of the net pool return for the season in question and is guaranteed by the Commonwealth Government in the sense that any deficiency between the net pool return and the GMP is met by the Government.

The GMP will represent a substantial proportion of the growers' return from a pool, after deductions are made for the particular State's storage and handling charges, individual grower's rail freight and for contributions to research (Wheat Tax) and to the Wheat Finance Fund (Wheat Levy). Movements in the GMP from one season to the next are subject to a limit of 15 per cent up or down.

These arrangements provide the industry with support from the Government that is designed to help it overcome any short-turn down-turn in producers' returns. At the same time the basis for determining the GMP ensures that the support will be inevitably modified with longer-run adjustments in market returns whether these adjustments be for a rising or a falling market. The GMP for 1980-81 is \$131.92 per tonne for Australian Standard White (ASW) Wheat.

It is the intention that the GMP for each season be fixed before 1 December each year when the bulk of the harvest commences to be delivered. However the Act also provides for an interim payment to be made to growers who deliver wheat to the Board prior to the determination of the GMP for that season. The interim advance for the 1980-81 season was \$77 per tonne, less freight.

Financial Arrangements

Traditionally the AWB has borrowed from the Rural Credits Department (RCD) of the Reserve Bank of Australia to obtain funds to make first advances to growers and to meet pool marketing expenses. Under the Reserve Bank Act RCD advances are for a maximum period of one year and the Board is required to repay these borrowings by 31 March in the year following the conclusion of the season.

To enable the Board to make the first advance to growers shortly after they deliver wheat, it has become necessary to develop new financing arrangements and as a result the Board now borrows the majority of the required funds from the commercial market, subject to the approval of the Minister for Primary Industry.

As the Board finds it necessary to borrow commercially for purposes for which RCD monies would in the past normally have been available, the Commonwealth meets those borrowing costs that are additional to those incurred had the borrowing been from the RCD. (Should the Board be unable to borrow from commercial sources, it is the Commonwealth Government's intention that the RCD should provide the necessary finance).

The Wheat Finance Fund continued in existence by the Wheat Marketing Act 1979 is a \$100 million revolving fund of growers' monies. The \$80 million previously held in the former Wheat Prices Stabilization Fund was transferred into the Finance Fund and is supplemented by the proceeds of a levy each season (presently \$2.50 per tonne) of all wheat delivered to or sold by the Board. Any excess above \$100 million in the Fund is returned to growers on a first-in-first-out basis. The Wheat Finance Fund provides a source of funds from which the Board is able to re-finance any outstanding debt to the RCD on a season's pool. Borrowings from the Fund are made at a rate of interest determined by the Minister from time to time.

Domestic Pricing

The arrangements for the pricing of wheat sold on the domestic market recognise the different segments of the market, namely, the use of wheat for milling into flour for human consumption and the use of wheat for stockfeed and for industrial purposes.

The 1980–81 season price for Australian Standard White wheat for human consumption sold domestically is \$156.12 per tonne; Australian Standard White wheat f.o.r. ports basis. This amount includes a \$2.78 per tonne component as the Tasmanian freight loading (see later). The price is determined according to a formula which takes account of movements in export prices and an index of prices paid by farmers while providing, over time, a margin above export prices. Movements in the formula price from year to year are subject to a limit of 20 per cent.

The formula used in fixing the price of wheat for human consumption may be found in the Attachment, as it is set out in the Schedule to the Wheat Marketing Act 1979.

A loading is included in the price of wheat for human consumption and is paid into the Tasmanian Freight Fund, which is used exclusively to cover the cost of shipping wheat from the mainland to Tasmania each season. For 1980–81 the loading is \$2.78 per tonne.

The domestic consumption prices for industrial and stockfeed wheats are set from time to time by the Board in the light of its commercial judgment and having regard to orderly marketing considerations. Under the provisions of the Wheat Marketing Act 1979 the Board has appointed two Consultative Groups representing grower and user interests. The function of the Groups is to provide relevant and up to date information and assessments to be taken into account by the Board, in determining prices for wheat sold for stockfeed and industrial purposes, having regard to the aims of balancing the commercial interests of producers and users and maintaining the orderly marketing of wheat produced and used for stockfeed and industrial purposes. The Groups do not recommend price levels. The information received by the Board from the Groups, its assessment of this information and its subsequent pricing decisions are reviewed by the Australian Agricultural Council.

Domestic Marketing Arrangements

The Australian Wheat Board exercises sole authority for the export marketing of wheat, flour and certain wheaten products and for the marketing of wheat domestically. The Board is authorised to issue permits to enable wheatgrowers to deliver their wheat, subject to certain conditions, other than to an authorised receiver of the Board. It is permitted to issue permits to growers:

- (i) to deliver wheat from a property on which it is grown to another farm under the same or joint ownership for use on the latter; or
- (ii) to deliver wheat to a miller for gristing and return the produce of the gristing to the farm on which it was grown for use on that farm; or
- (iii) to sell wheat under authorized grower-to-buyer transactions. Under these arrangements the Board is authorised to grant a permit for delivery by a grower direct to a buyer subject to conditions the Board determines as to price, freight allowance and the quality of the wheat. The proceeds of sale of the wheat involved are incorporated in the Board's pooling arrangements and the provisions for payments to growers apply as if the wheat had in fact been delivered to the Board's pool. However, provision is made for any quality differential agreed by the grower and buyer and for any cartage cost adjustment to be passed back to the buyer. Provision is also made for the Board to deduct from the payment to the grower a charge (covering capital, depreciation and costs of maintaining capital equipment) relating to costs associated with the bulk handling authority relevant to the particular grower. The specific charge is determined under State legislation.

The following wheat does not come under the control of the Wheat Board:

- (i) seed wheat;
- (ii) inferior quality wheat including screenings unacceptable for receipt by the Board; and
- (iii) wheat which is retained by a grower on a farm on which it is grown for use on that farm.

Wheat varieties and standards of wheat

The practice of breeding wheat suitable to local conditions has long been established in Australia. William Farrer (1845–1905) did invaluable work in pioneering this field and the results of his labour and the continued efforts of those who have followed him have proved of immense benefit to the industry. Their efforts have resulted in the development of disease-resistant varieties, better average yields, and a greater uniformity of sample, with which have accrued certain marketing advantages as well as an improvement in the quality of wheat grown. A detailed table of wheat varieties sown appears in *Wheat, Australia* (7307.0). The continuation of wheat breeding activities has led to expansions in the areas sown to wheat as well as in yields per hectare, but it is difficult to distinguish progress due to improved wheat varieties from that due to crop/pasture rotations, increased mechanisation and superphosphate-improved pastures.

The quality of wheat (its flour yielding capacity, protein content, hardness and physical dough properties) is governed by a combination of the wheat variety and the climatic conditions under which it is grown. Since 1954, Australian wheat has been marketed under distinct classifications. This practice

of segregation has been widely employed to enhance the marketability of Australian wheat, and in recent years up to twenty-two separate grades have been made available for export. Within the Australian wheatbelt there exist wide ranges of soil fertility, rainfall, day length and ambient temperature, and, by developing varieties which complement the growing conditions, it has been possible to produce wheat with qualities suitable for virtually every commercial application. Particulars of Australian wheat standards may be found in *Wheat, Australia* (7307.0).

Central Grain Research Laboratory

In 1976, the Australian Wheat Board established this laboratory in Sydney as an addition to the facilities of the Bread Research Institute of Australia. The main functions of the laboratory are to test and report on the Australian crop, to analyse and compare competitor wheats from other countries and to develop research programs to aid the marketing of wheat.

WHEAT: AREA, PRODUCTION AND RECEIVALS

Season	Area		Production		Australian Wheat Board receivals(a)
	For grain	All purposes	Grain	Gross value	
	'000 ha	'000 ha	'000 tonnes	\$m	'000 tonnes
1975-76	8,555	8,634	11,982	1,249.2	11,258
1976-77	8,956	9,054	11,800	1,051.5	10,932
1977-78	9,955	10,078	9,370	934.9	8,542
1978-79	10,249	10,321	18,090	2,295.8	17,456
1979-80	11,153	11,249	16,188	2,478.0	15,331
1980-81p	11,292	11,461	10,870	1,685.2	(b)10,038

(a) Australian Wheat Board receivals are for the season commencing 1 December; production data is for the year ending 31 March. (b) Receivals to 13 October 1981.

WHEAT FOR GRAIN: AREA AND PRODUCTION, BY STATE

Season	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Australia
AREA ('000 hectares)							
1975-76	2,774	1,073	576	958	3,171	2	8,555
1976-77	3,116	1,103	582	839	3,314	2	8,956
1977-78	3,377	1,270	607	1,090	3,609	1	9,955
1978-79	3,162	1,337	747	1,295	3,706	1	10,249
1979-80	3,415	1,457	733	1,424	4,121	2	11,153
1980-81p	3,345	1,437	725	1,447	4,336	2	11,292
PRODUCTION ('000 tonnes)							
1975-76	4,310	1,579	830	1,139	4,122	2	11,982
1976-77	5,141	1,780	794	832	3,249	4	11,800
1977-78	3,846	1,497	569	511	2,945	2	9,370
1978-79	6,640	2,998	1,962	2,086	4,400	3	18,090
1979-80	6,000	3,250	846	2,349	3,739	4	16,188
1980-81p	2,865	2,548	490	1,649	3,315	3	10,870

PRODUCTION AND DISPOSAL OF WHEAT FOR GRAIN

('000 tonnes)

Season	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Production	11,357	11,982	11,800	9,370	18,090	16,188
Less balance held on farms for—						
Seed usage	512	535	598	616	634	857
Feed and other uses	139	189	270	212		
Gross receipts	10,705	11,258	10,932	8,542	17,456	15,331
Opening stocks(a)	1,882	1,658	2,670	2,071	816	4,629
Total availability for sale	12,587	12,916	13,602	10,613	18,272	19,960
Export shipments—						
Wheat	8,254	7,962	9,502	7,918	11,526	13,049
Flour and wheat products(a)	296	271	261	180	167	147
Domestic sales—						
Flour(a)	1,334	1,304	1,261	1,259	1,298	1,315
Stockfeed	1,006	620	380	438	621	1,068
Breakfast feeds etc. (a)	54	68	55	43	41	45
Total disposal	10,944	10,225	11,459	9,838	13,653	15,624
Availability (—) Disposals	1,643	2,691	2,143	775	4,619	4,336
Closing stocks(a)	1,658	2,670	2,071	816	4,629	4,324
Apparent wastage	-15	21	72	-41	-10	12

(a) Wheat and flour in terms of wheat.

NOTE: The Australian Wheat Board is the source of receipts, export shipments, domestic sales data, and opening and closing stocks; the ABS records other data.

Wheat pools

Details of wheat receipts by State of origin for the several Pools together with Pool payments and times of payment will be found in the latest issue of *Wheat, Australia* (7307.0).

Wheat exports

International Wheat Agreement. A number of Agreements have operated since 1949 to provide a valuable framework for continuing international consultation and co-operation on world wheat matters, including the regular monitoring of the world wheat situation. The 1971 International Wheat Agreement (first due to expire on 30 June 1974) has been extended by protocol to 30 June 1983. Negotiations towards a new Agreement were held in 1978 and January-February 1979 under the auspices of the U.N. Conference on Trade and Development (UNCTAD). No consensus was reached on an Agreement with economic provisions designed to bring about a measure of price stability by the accumulation and release of internationally co-ordinated nationally-held reserve stocks. The January 1979 conference was adjourned indefinitely. Following the extension of the Agreement to June 1983, work will continue within the International Wheat Council with a view to formulating an agreement that will be acceptable to all parties with the emphasis likely being placed on consultations rather than rigid price and stocking provisions.

Details of the earlier International Wheat Agreements are published in previous editions of the Year Book and in issues of *Wheat, Australia* (7307.0).

WHEAT EXPORTS: A COMPARISON WITH OTHER EXPORT COMMODITIES(a)

Year	Wheat for grain: Exports		Total Australian exports— all produce: Value f.o.b.	Export value of wheat for grain as a percentage of total Australian exports
	Quantity	Value f.o.b.		
	'000 tonnes	\$m	\$m	per cent
1975-76	7,567	922.5	9,640	9.6
1976-77	7,945	863.5	11,652	7.4
1977-78	10,949	1,011.1	12,270	8.2
1978-79	6,824	794.2	14,247	5.6
1979-80	14,876	2,176.8	18,870	11.5
1980-81p	14,272	1,727.1	19,189	9.0

(a) These statistics exclude re-exports.

EXPORTS OF WHEAT AND FLOUR

Country of consignment	Quantity ('000 tonnes)			Value f.o.b. (\$m)		
	1978-79	1979-80	1980-81p	1978-79	1979-80	1980-81p
WHEAT						
Bangladesh	52.2	449.8	132.7	6.3	67.9	22.5
China—excl. Taiwan Province	1,437.7	3,572.0	1,421.3	139.6	452.9	236.5
Egypt, Arab Republic of	1,212.9	1,683.3	1,788.7	144.3	251.1	285.0
Indonesia	563.0	659.6	494.7	70.5	98.2	76.5
Iran	12.5	753.5	666.1	1.6	120.0	108.9
Iraq	431.5	1,200.8	134.8	57.5	179.3	20.9
Japan	968.8	984.8	780.9	117.6	147.0	125.7
Korea, Dem. Peoples Rep.	90.9	182.3	84.9	10.6	31.2	14.7
Kuwait	193.5	147.1	653.1	23.8	21.9	102.7
Malaysia	378.8	365.8	242.0	46.2	53.6	46.3
Pakistan	239.9	288.1	33.9	30.2	37.9	6.1
Saudi Arabia	105.4	168.1	166.9	14.4	31.1	28.6
Singapore	186.7	350.7	171.8	20.7	45.4	26.5
U.S.S.R.	157.3	2,653.2	2,479.8	15.3	432.0	421.7
Viet Nam, Socialist Rep.	143.2	154.9	156.7	15.8	23.1	26.3
Other countries	649.4	1,262.4	1,121.6	79.8	184.2	179.7
Total	6,823.7	14,876.4	10,529.9	794.2	2,176.8	1,728.6
FLOUR (a)						
Mauritius	16.7	12.5	16.3	3.4	2.9	3.9
New Caledonia	4.2	4.4	7.4	0.7	1.0	1.8
Papua New Guinea	16.8	17.3	12.9	3.4	4.3	3.5
Polynesia (FR)	0.4	2.0	2.7	0.2	0.5	0.7
Samoa (Western)	4.5	3.6	4.3	0.7	0.8	1.0
Saudi Arabia	1.9	1.4	—	0.4	0.3	—
Solomon Islands	2.5	3.1	3.4	0.5	0.7	0.9
Sri Lanka	10.4	0.1	0.6	2.1	—	—
Tonga	3.7	3.5	3.6	0.7	0.8	0.9
Other countries	16.7	8.4	30.0	3.6	2.0	8.5
Total	77.8	56.3	81.2	15.7	13.3	21.2

(a) Plain, white and self-raising flour, sharps and wheatmeal for baking.

WORLD WHEAT: AREA AND PRODUCTION

Source: International Wheat Council, *World Wheat Statistics* (various issues)

Unit: Area in million hectares; production in million tonnes

	1975-76		1976-77		1977-78		1978-79		1979-80p	
	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.	Area	Prod.
Europe	25.4	77.2	26.8	85.4	24.8	81.9	26.1	94.3	25.1	83.6
EEC (9)	10.5	38.0	11.2	39.1	10.1	38.4	11.0	47.6	11.0	46.1
U.S.S.R.	62.0	66.2	59.5	96.9	62.0	92.2	62.9	120.8	57.5	90.1
North & Central America	38.4	77.7	40.8	85.3	37.8	77.8	34.4	72.8	36.5	78.3
Canada	9.5	17.1	11.3	23.6	10.1	19.9	10.6	21.1	10.5	17.7
U.S.A.	28.1	57.8	28.6	58.3	26.9	55.4	23.0	48.9	25.3	58.3
South America	9.6	12.0	11.4	16.3	8.0	8.7	8.5	12.2	9.3	11.5
Asia	79.3	105.5	83.3	118.0	84.0	111.9	85.8	122.2	91.0	135.1
China (a)	32.8	46.0	34.3	50.0	35.0	45.0	36.0	52.0	40.0	60.0
India	18.0	24.2	20.5	28.8	20.9	29.0	21.5	31.8	22.2	35.0
Iran	6.0	5.5	5.6	6.0	5.5	5.5	5.4	5.7	5.5	6.0
Pakistan	5.8	7.7	6.1	8.7	6.4	9.1	6.4	8.4	6.7	9.9
Turkey	9.3	14.8	9.3	16.5	9.3	16.7	9.3	16.7	9.3	16.5
Africa	8.2	9.5	9.0	10.6	8.6	8.0	8.6	9.1	8.6	9.3
Oceania	8.7	12.3	9.1	12.2	10.1	9.7	10.3	18.4	11.2	16.5
Australia	8.6	12.0	9.0	11.8	10.0	9.4	10.2	18.1	11.2	16.2
Total world	231.5	360.4	239.9	424.6	235.3	390.2	236.6	449.9	239.1	424.4

(a) Excludes Taiwan Province; FAO estimates.

- NOTE 1. Crop years shown cover northern hemisphere harvests combined with those of the southern hemisphere which immediately follow.
 2. The 9 members of the EEC are: Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg, Netherlands and the United Kingdom.

Coarse grains

In the late sixties and early seventies, restrictions on wheat deliveries and low returns in the sheep industry caused a resurgence of interest in coarse grain crops and the newer oilseed crops. The resultant higher level of plantings and production has been maintained, despite the lifting of wheat delivery quotas and a general improvement in market prospects for wheat, wool and meat.

Oats

Oats is traditionally a cereal of moist temperate regions. However, improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. It has a high feed value and produces a greater bulk of growth than other winter cereals; it needs less cultivation and responds well to superphosphate and nitrogen. Oats has two main uses—as a fodder crop, following sowing or fallow or rough sowing into stubble or clover pastures or as a main crop. Fodder crops can either be grazed and then harvested for grain after removal of live stock or else mown and baled or cut for chaff. Oats produced in New South Wales are marketed through a statutory board while the Victorian Oatgrowers' Pool and Marketing Company Ltd markets the bulk of oats produced in Victoria and acts as a marketing and handling agent for the N.S.W Board. In South Australia the Barley Marketing Act was amended in 1977 to give the Australian Barley Board powers over oat marketing in that State. Under the legislation amendments the Board controls export sales and grain resold on the local market; however, direct sales between producers and consumers are outside the Board's supervision. The Grain Pool of Western Australia conducts a voluntary pool for oats.

Oats is usually next in importance to wheat and barley among the grain crops. About three-quarters of the crop is used domestically as stockfeed or for human consumption.

OATS FOR GRAIN: AREA, PRODUCTION AND EXPORTS

Year	Production			Exports	
	Area	Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1975-76	988	1,141	77.8	359	32.9
1976-77	995	1,072	74.4	364	33.4
1977-78	1,076	990	69.1	218	19.6
1978-79	1,359	1,763	100.5	290	24.9
1979-80	1,123	1,411	98.8	472	43.8
1980-81p	1,090	1,129	119.3	186	26.5

Barley

This cereal contains two main groups of varieties, 2-row and 6-row. The former is generally, but not exclusively, preferred for malting purposes. Barley is grown principally as a grain crop although in some areas it is used as a fodder crop for grazing with grain being subsequently harvested if conditions are suitable. It is often grown as a rotation crop with wheat, oats and pasture. When sown for fodder, sowing may take place either early or late in the season, as it has a short growing period. It may thus provide grazing or fodder supplies when other sources are not available. Barley grain may be crushed to meal for stock or sold for malting.

Crops sown for malting purposes require a combination of light textured soil of moderate fertility, reliable rainfall, and mild weather during ripening. The main barley-growing areas in Australia are situated in South Australia, but considerable quantities are grown also in New South Wales, Western Australia, Victoria and Queensland. In December 1980 a joint Commonwealth/Industry research scheme for the barley industry commenced operation. The scheme is financed by a levy on barley production and a Commonwealth contribution not exceeding the total of the levy.

Barley Boards

Barley is marketed in New South Wales and Queensland by statutory boards in both States, while the Australian Barley Board controls marketing in both Victoria and South Australia. Marketing of barley in Western Australia is the responsibility of the Grain Pool of Western Australia.

BARLEY FOR GRAIN: AREA, PRODUCTION AND EXPORTS

Year	Area '000 ha	Production		Total		Exports	
		2-row	6-row	Quantity	Gross value	Quantity	Value f.o.b.
		—'000 tonnes—		\$m		'000 tonnes	\$m
1975-76	2,329	2,872	307	3,179	313.9	1,954	199.8
1976-77	2,321	2,627	220	2,847	294.8	2,100	222.5
1977-78	2,803	2,261	123	2,383	205.0	1,325	121.8
1978-79	2,785	3,787	220	4,006	339.1	1,744	149.5
1979-80	2,482	3,545	159	3,703	449.8	2,962	353.5
1980-81p	2,452	2,580	131	2,711	387.2	1,594	245.8

Grain sorghum

The sorghums are summer growing crops which are used in three ways: grain sorghum for grain; sweet or fodder sorghum, sudan grass and, more recently, columbus grass for silage, green feed and grazing; and broom millet for brooms and brushware.

Grain sorghum has been grown extensively only in the last two decades. Rapid increases in production have resulted in a substantial increase in exports over this period. The grain is used primarily as stockfeed and is an important source for supplementing other coarse grains for this purpose.

The climatic conditions of Queensland and northern New South Wales are particularly suited to the growing of sorghum. In Queensland, grain sorghum production is concentrated in the Darling Downs, Fitzroy and Wide Bay-Burnett Divisions. In New South Wales, the northern and north-western slopes and plains are the main areas.

In Queensland, a degree of orderly marketing is ensured by the operation of the Central Queensland Grain Sorghum Marketing Board (a statutory authority in a defined area in central Queensland) and the Queensland Graingrowers' Association, which receives sorghum mainly from southern Queensland. A state statutory marketing board handles sorghum grown in New South Wales.

GRAIN SORGHUM: AREA, PRODUCTION AND EXPORTS

Year	Production			Exports	
	Area	Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1975-76	504.0	1,123.7	96.1	815.0	71.8
1976-77	532.1	956.0	80.3	829.2	76.3
1977-78	394.1	714.4	59.5	384.5	35.4
1978-79	468.7	1,125.2	97.4	516.3	45.5
1979-80	518.6	922.0	96.1	580.4	59.8
1980-81p	649.0	n.y.a.	153.0	462.7	57.5

Maize

Like sorghum, maize is a summer cereal demanding specific soil and climatic conditions. Maize for grain is almost entirely confined to the south-east regions and Atherton Tablelands of Queensland, the north coast, northern slopes and tablelands and the Murrumbidgee Irrigation Area in New South Wales. Small amounts are grown in all States, except South Australia, for green feed and silage, particularly in association with the dairy industry.

A statutory board controls the marketing of maize in the Atherton Tablelands area of Queensland while the Queensland Graingrowers Association markets maize grown in the south-east. In New South Wales, the Yellow Maize Marketing Board for the State of New South Wales (established in 1976) which handled the marketing of maize, ceased operation on 30 September 1981.

MAIZE: AREA, PRODUCTION AND EXPORTS

Year	Production			Exports	
	Area	Quantity	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1975-76	46.8	131.5	12.2	10.8	1.0
1976-77	53.0	144.2	13.1	33.0	2.8
1977-78	45.4	130.1	12.2	11.1	1.6
1978-79	50.0	168.8	15.6	16.9	1.3
1979-80	54.1	150.9	19.8	7.7	0.9
1980-81p	56.0	n.y.a.	23.0	26.7	3.4

Rice

In Australia, rice was first grown commercially in 1924-25 in the Murrumbidgee Irrigation Area, one of three irrigation areas in southern New South Wales where rice is now produced. Today, about 96 per cent of Australia's rice is grown in New South Wales. The remainder is grown in the Burdekin River basin and at Mareeba in Northern Queensland with small quantities grown in the Ord River region of Western Australia.

Rice is a summer growing crop in N.S.W. The combination of irrigation water and the relatively cloudless days characteristic of summers in temperate regions of the world is the main contributing factor to the extreme high yields per hectare often achieved by N.S.W. growers. In Western Australia and Queensland, a winter and a summer crop are grown.

State statutory marketing boards are responsible for the marketing of the N.S.W. and Queensland crops.

RICE: AREA, PRODUCTION AND EXPORTS

Year	Production			Exports	
	Area	Quantity(a)	Gross value	Quantity	Value f.o.b.
	'000 ha	'000 tonnes	\$m	'000 tonnes	\$m
1975-76	74.8	417.0	41.2	218.0	51.4
1976-77	92.0	529.8	59.4	256.5	57.1
1977-78	91.4	489.7	61.1	277.5	66.6
1978-79	110.2	692.2	97.8	241.2	66.2
1979-80	116.4	613.2	93.8	457.3	129.9
1980-81p	103.0	708.0	132.4	281.4	99.9

(a) In terms of paddy (or rough) rice.

Oilseeds

Specialised Oilseeds

The specialist oilseed crops grown in Australia are, sunflower, soybeans, rapeseed, safflower and linseed. Sunflower and soybeans are summer grown whilst the others are winter crops. In Australia, oilseeds are crushed primarily for their oil content, which is used for both edible and industrial purposes. Protein meals for livestock feeds are important by-products of the crushing process.

Oilseed crops are grown in all States but the most important producing regions are the grain growing areas of the Eastern States.

Sunflower

When crushed, sunflower seed yields a high quality dual purpose oil used primarily to manufacture margarine, salad and cooking oils.

Queensland produces about two thirds of the Australian crop with the Darling Downs and Central Highlands being the major regions. New South Wales is the next largest producer with the North West of the State dominating production. Smaller amounts are produced in all other states except Tasmania.

Soybeans

The major uses of soybean oil are in salad and cooking oils. Small amounts are used in the production of paints, detergents and plastics. Soybean also yields a high protein feed for livestock with a small proportion used to manufacture adhesives and synthetic fibres and meats.

Queensland and New South Wales produce virtually all of Australia's soybean crop. The main producing areas are the irrigation districts of the Darling Downs and northern New South Wales. Lesser areas include the Burnett and Lockyer regions of Queensland while production of raingrown soybeans is expanding on the North Coast of New South Wales.

With limited irrigation water available since 1978-79, soybean production has declined in favour of cotton.

Rapeseed

Rapeseed oil is used mainly in salad and cooking oils with a small amount being used for industrial purposes.

The major production area is the south east of South Australia followed by the tablelands and slopes of New South Wales. Smaller levels of production also occur in Victoria, mainly in the Western Districts.

Production levels grew rapidly in the late 1960's and early 1970's but then declined rapidly due to problems of blackleg disease and erucic acid content. Production has recovered in recent years with the development of varieties to overcome these problems.

Safflower

The oil from safflower is used in the production of margarine, soaps, paints, varnishes, enamels and textiles. In recent years, New South Wales and Queensland together have produced around 90 per cent of Australian output. In Queensland, most production occurs in the Central Highlands with smaller amounts coming from the Dawson-Callide Valley and the Darling Downs. New South Wales production is centred on the Central West.

The marginal profitability of safflower relative to other crops is reflected in the wide fluctuations in production levels since the mid 1960's.

Linseed

The oil from crushed linseed is used in the manufacture of paints and linoleum.

The main producing areas are the wheat belt of New South Wales, the Darling Downs in Queensland, the Western Districts of Victoria and, to a lesser extent, the south-eastern districts of Victoria. With the expansion of other oilseed crops, linseed has declined in relative importance.

Despite significant growth in the oilseeds industry during the late 1960's and 1970's, oilseeds remain a relatively young industry in Australian agriculture. Future production levels in the industry will continue to be influenced by the expected profitability of oilseeds relative to traditional crops such as wheat and coarse grains. This profitability will be related to domestic and international markets for livestock meals and vegetable fats and oils as well as developments in the use of vegetable oils as liquid fuels.

SELECTED OILSEED CROPS: AREA, PRODUCTION AND GROSS VALUE

Year	Sunflower	Soybeans	Rapeseed	Safflower	Linseed	Total	Peanuts
Area ('000 hectares)							
1975-76	136.9	26.3	15.9	39.8	15.7	234.6	27.3
1976-77	134.6	34.6	7.7	12.9	15.3	205.1	31.0
1977-78	220.4	49.9	19.1	39.0	43.8	372.2	30.3
1978-79	260.7	53.7	22.3	74.7	13.1	424.5	36.9
1979-80	221.1	56.5	41.6	53.6	17.2	390.0	31.7
1980-81p	201.0	42.0	24.0	18.0	11.0	296.0	29.0
Production ('000 tonnes)							
1975-76	80.4	44.6	11.9	18.2	12.2	167.3	35.5
1976-77	74.9	55.2	8.5	6.3	16.4	161.3	31.9
1977-78	158.3	76.5	15.7	26.3	27.9	304.7	39.0
1978-79	186.2	98.7	23.4	57.7	12.9	378.9	62.3
1979-80	141.7	82.0	41.1	30.0	14.4	309.2	38.9
1980-81p	n.y.a.	n.y.a.	17.8	8.8	8.4	n.y.a.	n.y.a.
Gross Value (\$ million)							
1975-76	15.7	7.2	1.9	2.7	2.1	29.6	15.8
1976-77	21.5	14.7	1.5	1.4	3.4	42.5	14.4
1977-78	36.6	17.6	3.0	5.4	5.0	67.6	20.2
1978-79	45.8	24.6	4.8	11.0	2.6	88.8	28.7
1979-80	36.3	21.6	9.1	6.0	3.1	76.1	22.3
1980-81p	39.1	n.y.a.	4.2	2.2	1.9	n.y.a.	24.9

Other Oilseeds

Peanuts and cottonseed are summer crops grown for confectionery and fibre purposes respectively.

Peanuts

Peanut oil is used extensively as cooking and salad oil and in the manufacture of margarine.

The production of peanuts in Australia is centred on the Burnett and Atherton Tableland regions of Queensland. A small amount of production also occurs in New South Wales. Peanut production has been rising gradually for a number of years and 1978-79 was a record year due mainly to record yields.

Cotton

This annual shrub requires a hot climate and inter-row weed control. Lint (long fibres) is extracted from the seed cotton in the ginneries and is used for yarn. The residue, consisting of linters (short fibres), kernels and hulls (outer seed coat), is treated in oil mills. Linters are used in the manufacture of felts and other materials where fibre length is of little importance. The kernels, when crushed, produce an oil which is used for food and for industrial purposes. The residual meal is a useful high protein stockfeed; the hulls may be used as fuel.

About three-quarters of Australia's total production of cotton lint is grown in New South Wales, principally in the Namoi, Macquarie and Gwydir Valleys and the Bourke area. Irrigation water for the areas is provided from the Keepit, Burrendong and Copeton dams and the Darling River. The rest is grown in Queensland, in the Emerald, St George, Biloela and Darling Downs areas. Most of these areas are also irrigated. Australian production has for some time satisfied most of the requirements of local mills for short and medium staple cotton. Over the past five years there has been very strong investment growth in the cotton industry and the resultant surge in plantings has resulted in large amounts of cotton becoming available for export.

Exports from the 1980-81 crop are expected to amount to about 75,000 tonnes of raw cotton, valued at around \$100 million with Japan and China being the main markets.

A further expansion in Australian cotton plantings is expected in 1981-82 although low levels of water held in some dams may restrict the number of irrigations possible during the growing season. It is unlikely that local yarn spinners will increase production significantly in the medium term. Consequently any further growth in production is likely to be accompanied by a growth in cotton exports.

COTTON: AREA, PRODUCTION AND EXPORTS

Year	Seed cotton (a)					Raw cotton export		
	Area	Quantity	Gross value	Cottonseed(b)	Lint(c)	Quantity	Value f.o.b.	
	'000 ha	'000 tonnes	\$m	'000 tonnes	'000 tonnes	'000 tonnes	\$m	
1975-76	29.8	80.1	37.5	40.7	24.9	16.0	11.5	
1976-77	35.3	82.8	39.8	45.6	28.0	5.5	7.2	
1977-78	41.6	131.5	61.2	72.1	44.2	9.8	10.9	
1978-79	49.8	155.2	76.0	87.0	53.0	23.6	28.9	
1979-80	75.0	243.7	135.3	135.7	83.9	48.5	66.9	
1980-81p	75.0	(b) 282.0	149.4	156.6	96.0	58.6	92.0	

(a) Before ginning. (b) Estimated by the Bureau of Agricultural Economics. (c) Provided by the Raw Cotton Marketing Advisory Committee.

Sugar

Sugar cane is grown commercially in Australia along the east coast over a distance of some 2,100 kilometres in a number of discontinuous areas from Maclean in northern New South Wales to Mossman in Queensland. The geographical spread contributes to the overall reliability of the sugar cane crop and of Australia's record as a reliable sugar supplier.

Approximately 95 per cent of production occurs in Queensland, with some 75 per cent of the crop grown north of the Tropic of Capricorn in areas where rainfall is reliable and the warm, moist and sunny conditions are ideal for the growing of sugar cane. The total area of land allocated to cane growing, among the 7,200 farms, is at present 310,000 hectares. Farm sizes range between 30-60 hectares.

Australian cane farmers are regarded as amongst the most efficient in the world and employ a high degree of mechanisation in ploughing, planting, harvesting, and transportation activities. The Australian industry was the first in the world to introduce mechanical cultivation and harvesting techniques and by 1964 the entire industry had converted to bulk handling.

The cane crop is generally planted in April/May and harvested from June to December the following year. The major proportion of each year's crop is from ratoons while in New South Wales most crops are allowed to grow for two seasons due to the slower growing conditions.

The organisation of the Australian sugar industry is complex. It is subject to a degree of broad overall supervision by, and legislation of, the Commonwealth and Queensland Governments, but is largely self-governing. The price of domestic refined sugar for sale to wholesalers and manufacturers is fixed annually by an Agreement between the Commonwealth and Queensland Governments. The Queensland Government controls the quantity of raw sugar produced through a system of mill peaks which is translated into cane quotas for growers. In addition the Queensland Government contracts with Colonial Sugar Refinery Limited and Millaquin Sugar Company Pty Limited for the refining, marketing and distribution of home consumption needs, arranges through CSR Limited the export marketing of raw sugar, and regulates the division of industry proceeds between growers and millers.

There are 33 raw sugar mills located throughout the growing regions: 30 are located in Queensland and the remaining 3 in New South Wales. Refineries are located in each mainland capital city and at Bundaberg. The six export terminals located in Queensland are at present capable of storing 1.91 million tonnes, while further storage capacity is being developed at Townsville and Mackay, planned to give a total industry capacity of 2.14 million tonnes. While raw sugar is the main product from mills, important by-products are bagasse (fibre) molasses, ash and filter mud.

Area, production and yield levels for sugar cane from 1975-76 to 1980-81 are provided in the following table.

SUGAR CANE: AREA, PRODUCTION AND YIELD

Year	New South Wales					Queensland				
	Sugar cane cut for crushing			Raw sugar(a)		Sugar cane cut for crushing			Raw sugar(a)	
	Area harvested	Production	Yield	Quantity	Yield	Area harvested	Production	Yield	Quantity	Yield
	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha	'000 ha	'000 tonnes	t/ha	'000 tonnes	t/ha
1975-76	11.0	889.7	80.8	104.1	9.5	245.8	21,068.9	85.7	2,751.4	11.2
1976-77	11.6	1,074.2	92.4	132.3	11.4	276.6	22,269.4	80.5	3,163.2	11.4
1977-78	14.7	1,162.4	79.0	134.4	9.1	280.4	22,330.8	79.6	3,209.3	11.4
1978-79	14.1	1,321.5	94.1	152.7	10.9	237.7	20,135.5	84.7	2,748.9	11.6
1979-80	11.8	1,291.5	109.1	155.8	13.2	255.3	19,859.6	77.8	2,807.2	11.0
1980-81p	14.0	1,408.0	100.6	181.2	12.9	274.0	22,540.0	82.3	3,148.5	11.5

(a) In terms of 94 net titre.

The domestic market is reserved entirely for sugar produced in Australia. This is achieved by an embargo on the import of sugar under Commonwealth/Queensland Sugar Agreements.

Domestic sales account for about 750,000 tonnes annually or approximately one quarter of the total industry sales. Granulated sugars account for about 75 per cent of the total domestic sales with liquid sugars (15 per cent), castor sugar (5 per cent), and raw sugar taking up the bulk of the remainder. About two-thirds of the sales of refined sugar products go to processed food and drink manufacturers.

The Australian sugar industry sells about three quarters of its annual raw sugar production to customers overseas. Sales are usually made on a c.i.f. or c and f basis. Australia is one of the world's largest raw cane sugar exporters. In 1980 Australia exported 2.41 million tonnes compared with exports from Cuba of 6.19 million tonnes, the EEC of 4.32 million tonnes and Brazil 2.66 million tonnes.

In 1980-81 the domestic market and long-term contracts with Japan, Korea, Malaysia, Singapore, New Zealand and China provided secure outlets for approximately 62 per cent of the industry's capacity, the balance of export sugar being sold on the free market.

Failure to re-negotiate a long-term contract with Japan (previous contract expired June 1981) has resulted in increased uncertainty for long term sales to that market, however an interim arrangement was entered into for Australia to supply 700,000 tonnes of sugar to Japan over 18 months from 1 July 1981.

The disposal pattern of Australia's sugar production is shown in the following table.

SUGAR: AREA, PRODUCTION, EXPORTS AND CONSUMPTION

Year	Area harvested <i>'000 ha</i>	Production		Exports			Apparent consumption in Australia(a)	
		Sugar cane		Raw sugar	Raw and refined sugar		Total	Per head
		Quantity	Gross value	Quantity	Quantity	Value f.o.b.		
		mil. tonnes	\$m	mil. tonnes	mil. tonnes	\$m	'000 tonnes	kg
1975-76	256.8	22.0	435.6	2.9	2.0	569.7	689.6	49.8
1976-77	288.2	23.3	472.2	3.3	2.6	637.5	707.5	50.6
1977-78	295.2	23.5	420.5	3.3	2.5	536.6	704.0	49.7
1978-79	251.7	21.5	396.5	2.9	1.8	448.2	710.1	49.5
1979-80	267.2	21.2	548.2	3.0	2.2	666.9	690.9	47.6
1980-81p	288.0	23.9	784.4	3.3	2.6	1,146.2	n.y.a.	n.y.a.

(a) Total quantity of sugar available for consumption in Australia comprises refined sugar and refined sugar contained in manufactured foods.

Australia has regularly participated in arrangements to regulate the international sugar market and is a signatory to the current International Sugar Agreement (ISA) which runs until December 1982. The joint Agreement seeks to regulate the flow of sugar onto the world free market and achieve agreed price objectives through a system of export quotas and stocks. Domestic controls on the sugar industry are an important adjunct in complying with ISA conditions.

Vegetables

Vegetables for human consumption

The wide range of climate in Australia enables most vegetable varieties to be grown in some part of the country. The area sown to vegetables reached a peak of over 200,000 hectares during the last year of the Second World War, but has remained static at around 108,000 hectares since 1970. However, yields from most vegetable crops have increased, due to variety breeding for increased yields, greater use of irrigation and better control of disease and insect pests.

Because of the wide climatic range, supplies for main city markets are drawn from widely different areas, depending on the times of maturity of the various crops. Historically, market gardens were located near urban centres and, while many small scale growers still produce crops close to city markets, urban expansion, rising urban land values, improvements in transport and irrigation and developments in freezing, canning and drying have extended the industry far from the cities. Transport costs are reduced by the location of processing establishments in producing areas, although city markets still absorb the bulk of fresh and processed produce.

Potatoes. Potatoes require deep friable soils which, in Australia, are usually basaltic, alluvial or swampy in origin. Fertiliser requirements, which are generally high, vary with the type of soil. While

potatoes require only moderate temperatures for growth, the greatest proportion of Australia's potatoes are grown as a summer crop because potato plants are killed by heavy frosts. In recent years an increasing proportion of potatoes has been grown under irrigation and potato growing has become increasingly mechanised, with individual growers having larger areas and becoming more specialised.

Seed certification schemes or approvals which operate in most States provide supplies of seed. In Australia, potatoes are used almost entirely for human consumption or seed. Approximately 25 per cent of Australian potato consumption is in a processed form and this proportion is rising. The main processed potato products are frozen chips, crisps, dehydrated granule and flake. Other, but less important, processed potato products are soup, baby foods, salads and canned potatoes.

Potato marketing. The majority of table potatoes are marketed through potato merchants and agents. In some instances they are marketed through a primary merchant and then a secondary merchant (wholesale). In Tasmania, South Australia and Western Australia, potato marketing is controlled by Potato Marketing Boards.

Around 80 per cent of the potatoes used for processing are purchased by forward contract made directly by the processor with the grower. The remainder of the processors' requirements are usually purchased on the open market direct from growers or from merchants and, in some instances, merchants' contracts with growers as agents for processors. Seed potatoes are purchased either through a merchant or directly from a seed grower.

APPARENT CONSUMPTION OF VEGETABLES
(Kilograms per capita per year)

Year	Potatoes	Other root and bulb vegetables	Tomatoes	Leafy and green vegetables	Other vegetables	Total, fresh equivalent weight
1975-76	46.6	15.8	13.3	23.6	18.3	117.5
1976-77	48.7	16.0	13.7	23.0	19.9	121.2
1977-78	50.8	16.9	13.2	22.7	21.7	125.4
1978-79	51.9	17.1	13.8	27.7	23.3	133.8
1979-80	55.1	17.4	14.6	25.3	21.4	133.7

VEGETABLES FOR HUMAN CONSUMPTION: AREA AND PRODUCTION

Year	French and runner beans	Cabbages and brussels sprouts	Carrots	Cauli-flowers	Onions	Green peas	Potatoes	Tomatoes	Total vegetables
AREA ('000 hectares)									
1975-76	7.6	2.7	3.3	2.6	4.0	19.0	33.4	7.9	105.6
1976-77	7.3	2.8	3.3	2.6	4.3	19.0	33.9	8.6	107.9
1977-78	7.0	3.0	3.3	2.6	3.8	13.9	36.1	8.5	105.4
1978-79	8.1	3.2	3.5	3.1	3.7	15.7	34.6	8.2	107.4
1979-80	7.1	3.1	3.6	3.3	4.0	14.5	36.7	8.5	106.5
1980-81p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	4.0	n.y.a.	35.0	9.0	101.0

Year	French and runner beans	Cabbages and brussels sprouts	Carrots	Cauli-flowers	Onions	Green peas		Potatoes	Tomatoes
						Processing (shelled weight)	Sold in pod (pod weight)		
PRODUCTION ('000 tonnes)									
1975-76	40.2	73.6	81.4	70.5	94.6	44.1	2.5	696.5	162.2
1976-77	36.4	73.8	85.6	70.8	105.3	60.8	2.5	728.5	178.1
1977-78	33.4	81.1	91.9	86.4	106.8	42.7	2.4	772.4	182.5
1978-79	45.0	133.0	105.0	116.4	105.2	51.4	2.4	794.6	172.6
1979-80	34.3	80.6	101.6	94.6	119.9	43.0	2.1	857.4	196.9
1980-81p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	114.3	n.y.a.	n.y.a.	n.y.a.	220.9

VEGETABLES FOR HUMAN CONSUMPTION: VALUE OF PRODUCTION AND VALUE OF EXPORTS

Year	Gross value	Export value
		f.o.b.(a)
	\$m	\$m
1975-76	274.3	7.9
1976-77	295.1	11.5
1977-78	326.5	10.4
1978-79	406.1	12.5
1979-80	402.3	20.4
1980-81p	522.2	23.9

(a) Fresh, frozen, simply or otherwise preserved or prepared vegetables.

PROCESSED VEGETABLES: AUSTRALIAN PRODUCTION
(^{'000 tonnes—unless otherwise stated})

Item	1975-76	1976-77	1977-78	1978-79	1979-80p	1980-81p
Quick frozen vegetables—						
Beans	23.5	20.9	17.3	25.9	16.1	19.2
Peas	35.5	53.1	34.5	46.3	38.9	33.5
Potatoes	36.0	45.4	43.6	58.2	65.8	77.9
Other	20.8	15.9	17.3	25.1	28.3	25.2
Vegetables preserved, canned or bottled (excluding pickles, etc.)						
(a)—						
Beans—Green	6.7	6.4	5.0	4.9	3.7	3.4
Baked (including pork and beans)	22.1	24.1	21.4	22.9	26.1	21.3
Beetroot	26.1	25.4	26.7	28.4	25.9	23.3
Cabbage (including sauerkraut)	1.3	1.2	1.8	1.2	n.p.	n.p.
Carrots	5.0	5.0	5.1	5.1	6.1	4.4
Cucumber (including pickled)	1.9	3.0	2.4	1.4	1.0	1.5
Gherkins—pickled	1.8	1.7	2.1	2.2	1.9	2.1
Olives—pickled	0.7	0.6	0.5	0.6	0.3	0.4
Onions (including pickled)	2.4	2.5	3.4	3.9	4.1	4.6
Peas—Green	10.5	12.7	9.2	15.1	9.7	9.4
Tomatoes (excluding canned pulp)	12.0	10.7	13.0	11.8	13.1	15.3
Tomato juice (million litres)	5.9	7.5	8.8	7.4	9.3	5.5

(a) Canned in tinplate or aluminium cans; bottled in glass bottles.

For further information on vegetables see the following publications: *Crops, Australia* (7302.0), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Fruit (excluding grapevines)

A wide variety of fruits are grown in Australia ranging from pineapples, mangoes and papaws in the tropics to pome, stone and berry fruits in the temperate regions.

Citrus fruits (predominantly oranges) are grown in all States except Tasmania and account for almost half of the production of all orchard fruits (including edible tree nuts). New South Wales and South Australia produce the greatest quantity of citrus, followed by Victoria; Queensland's production is much lower while that of Western Australia is very small. Pome fruits (apples and pears) account for about 40 per cent of orchard fruit grown in Australia. Tasmania, New South Wales and Victoria are the most important apple-growing States with significant quantities also being grown in the other States. About three-quarters of all Australian pears are produced in Victoria. Stone fruits (peaches, apricots, plums and prunes, cherries and nectarines) account for around one-eighth of orchard fruit production. Heaviest production is in Victoria, South Australia and New South Wales, with smaller quantities in the other States. Pineapples (about 80 per cent canned) and bananas (virtually all sold fresh) are the most important tropical fruits. Queensland produces almost all of the pineapples grown in Australia while about 60 per cent of bananas are grown on the sub-tropical north coast of New

South Wales, most of the remainder on the Queensland coast and around 6 per cent in Western Australia. Other tropical fruits grown mainly in Queensland are passionfruit, papaws, mangoes, avocados, custard apples and macadamia nuts. Olives are grown mostly in Victoria. Almonds and figs are grown mainly in South Australia. Of the berry fruits, strawberries are widely grown, with heaviest production in Victoria and Queensland. Other berries (currants and raspberries) are grown predominantly in Tasmania.

SELECTED FRUIT STATISTICS

Year	Orchard fruit: number of trees ('000)				Berry and other fruits: area (ha)			Total area of fruit (ha)
	Apples	Oranges	Pears	Peaches	Bananas	Pineapples	Small, and berry fruit	
1975-76	6,520	5,059	1,853	1,844	7,694	5,873	959	99,822
1976-77	6,229	5,126	1,679	1,634	7,555	5,875	976	96,248
1977-78	5,933	5,239	1,622	1,557	7,041	6,001	995	94,126
1978-79	5,964	5,299	1,602	1,531	8,062	6,390	1,015	96,998
1979-80	6,113	5,532	1,601	1,570	8,136	6,784	1,210	98,464
1980-81p	6,108	5,878	1,567	1,645	8,464	6,606	1,140	100,000

Year	Apples	Apricots	Bananas	Cherries	Oranges	Peaches	Pears	Pine-apples	Plums and Prunes
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PRODUCTION ('000 tonnes)

1975-76	274.8	26.2	103.2	9.7	361.5	79.1	140.0	102.9	26.5
1976-77	301.6	26.7	115.1	6.7	321.7	66.3	105.3	111.5	22.2
1977-78	258.4	24.8	97.8	7.3	356.5	62.2	108.0	98.6	18.6
1978-79	344.9	31.0	113.1	6.8	368.6	64.8	127.6	105.1	28.9
1979-80	298.8	26.4	125.1	n.a.	392.1	71.5	124.3	123.3	n.a.
1980-81p	n.y.a.	31.2	125.0	6.5	426.4	78.5	n.y.a.	124.0	20.8

GROSS VALUE OF PRODUCTION (\$ million)

1975-76	73.7	9.2	40.6	8.6	46.0	18.3	19.6	14.2	9.4
1976-77	83.1	10.0	38.1	7.9	52.4	16.3	21.6	16.5	9.4
1977-78	81.3	11.0	49.7	7.9	63.4	16.6	24.6	16.1	9.4
1978-79	100.1	13.5	50.8	9.3	74.1	20.6	31.7	18.4	15.3
1979-80	107.7	13.9	45.9	5.8	77.9	24.0	36.5	20.2	10.6
1980-81p	128.4	n.y.a.	50.6	n.y.a.	n.y.a.	27.9	41.5	23.5	n.y.a.

Processed fruit and fruit products

After rapid expansion in the 1960s, output of canned fruit declined and then levelled off due to the effects of contracting overseas markets for Australian canned fruit. Production of natural fruit juices has increased markedly in the last decade and this has reflected improvements in marketing methods, effective promotion and public awareness of the nutritious value of natural juices.

FRUIT PRODUCTION

Derived from the Annual Manufacturing Census and the recorded monthly production

	Unit	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81p
Fruit juice based cordials and syrups (a)	mil litres	72.9	68.4	77.7	73.6	76.3	78.1
Natural fruit juice (b)—							
Single strength	mil litres	187.8	156.5	197.6	186.2	n.y.a.	n.y.a.
Concentrated (c)	"	17.5	12.6	17.8	15.7	n.y.a.	n.y.a.
Cider and perry	"	10.5	11.9	11.7	14.7	n.y.a.	n.y.a.
Canned or bottled fruit (excl. canned pulp)	'000 tonnes	186.7	179.7	184.3	224.9	208.1	225.3
Jams	'000 tonnes	31.0	26.9	28.4	31.8	21.8	23.9

(a) Containing at least 25 per cent by volume of pure fruit juices.

(b) Excludes fruit drinks consisting of diluted fruit juices with or without artificial flavourings.

(c) Excludes grape must, and comprises actual quantity of concentrated juices.

APPARENT CONSUMPTION OF FRUIT

(kg per capita per year)

Year	Fresh			Jams, conserves, etc.	Dried tree fruit	Processed fruit	Total, fresh equivalent weight
	Oranges	Other citrus	Other fresh fruit				
1975-76	33.5	6.2	33.5	1.9	0.5	10.2	96.5
1976-77	26.6	6.2	33.0	2.0	0.4	10.9	89.3
1977-78	29.4	6.3	29.7	1.8	0.7	10.8	88.2
1978-79	28.3	7.4	31.0	2.3	0.3	10.9	90.5
1979-80	38.5	5.7	35.8	1.5	0.6	12.3	106.1

Fruit exports

The gross value of exports of fruit and fruit products (excluding grapes) has in recent years accounted for some 4 per cent of the value of all food crops and their products. Fresh or chilled fruit (mostly apples, pears and citrus) account for about 27.5 per cent of this; preserved fruit (mostly canned pears and peaches) make up most of the remainder; only small quantities of dried fruits (other than grapes) are exported.

Value of exports of fresh, dried and preserved fruit in recent years peaked at \$90 million in 1972-73, trending downwards since that time although exports of preserved fruit showed some revival in 1976-77. Since 1977-78 there has been a significant increase in the value of exports of fresh fruit while preserved fruit fell a little from the relatively high 1976-77 value. Exports of fresh citrus will continue to be greatly influenced by crop prospects in the U.S.A.

Fresh fruit exports to Europe have been reduced in recent years mainly because of rising shipping costs and improved storage techniques in Europe. On the other hand, there has been some expansion to markets in other areas such as South East Asia. Effects of the E.E.C. import regime has shown in a decrease in processed fruit exports to Europe, although the U.K. remains Australia's main market.

FRUIT EXPORTS: VALUE F.O.B.

(\$ million)

Year	Fresh and chilled			Canned or bottled					
	Apples	Pears	Oranges	Apricots	Peaches	Pears	Peaches and pears	Pine- apples	Fruit salad
1975-76	12.8	10.1	2.9	1.1	13.3	10.5	2.0	1.6	4.1
1976-77	9.4	8.1	1.0	0.9	14.5	16.1	2.1	1.7	4.5
1977-78	13.8	9.5	4.3	0.8	13.4	13.6	2.3	1.5	3.8
1978-79	15.6	15.7	5.6	0.8	12.2	17.2	1.9	1.2	4.3
1979-80	20.1	18.3	9.9	1.5	19.3	20.0	3.6	3.1	7.6
1980-81p	15.3	20.1	8.0	1.3	16.1	21.0	3.0	3.5	9.6

FRUIT: VALUE OF PRODUCTION AND EXPORTS

(\$ million)

Year	Gross value			Exports(a) value f.o.b.
	Orchard fruit	Berry and other	Total	
1975-76	206	63	269	68
1976-77	227	64	290	72
1977-78	246	78	324	79
1978-79	306	82	388	95
1979-80	325	82	407	131
1980-81p	n.y.a.	n.y.a.	385	156

(a) Fruit and nuts, excluding grapes (fresh and dried); includes fresh, dried and preserved and fruit preparations.

Fruit imports

Imports of fresh fruit are negligible, while most dried fruit imports consist of dates from Iran, the United States of America and China (excluding Taiwan Province). Imports of orange juice have increased considerably from 33.5 million litres in 1975-76 to 60.0 million litres in 1979-80.

Marketing and regulation of the fruit industry

Apples and pears. The Australian Apple and Pear Corporation has the function of promoting and controlling the export of Australian apples and pears as well as the promotion of trade and commerce in apples and pears within Australia. It also has power to promote, or engage in, research relating to the production, packaging, handling, transportation or marketing of apples and pears and to promote new apple and pear products.

The Stabilization Scheme for apples, which gives support for "at risk" exports to Europe, is being phased-out over the four seasons 1981 to 1984. The Stabilization Scheme for pears was terminated at the end of the 1980 season. Separate underwriting schemes for all exports of apples and pears have been introduced to cover the five export seasons 1981 to 1985 to protect the industry from sudden serious downturns in the returns from the export of apples and pears. Under these schemes, the Government guarantees a minimum return of 95 per cent of the weighted average returns for all apple or all pear exports over the preceding four seasons. During the period Stabilization for apples is being phased out; any Stabilization payment that may be due will be reduced by the amount of any underwriting payments.

Fruitgrowing Reconstruction Scheme. For details see Year Book No. 61, pages 846-7.

Canned Fruit. On 29 November 1979 the Commonwealth enacted legislation restructuring the industry's marketing arrangements. Similar complementary legislation has been enacted by the three major canned deciduous fruit producing States of New South Wales, Victoria and South Australia.

Under the legislation the Australian Canned Fruits Corporation (replacing the Australian Canned Fruits Board) is empowered to acquire and sell the production of canned apricots, peaches and pears and is responsible for determining prices and terms and conditions for sales in all markets. Sales are made through markets nominated by canners and approved by the Corporation. Markets are classified as Pool and Non-Pool with returns from Pool markets equalised by the Corporation. Entitlements for sales in Pool markets are allocated to canners prior to the start of each season.

The Corporation's administrative expenses are financed by a levy imposed on the production of canned fruits under the Canned Fruits Levy Act 1979.

The Corporation is advised in the performance of its functions by the Australian Canned Fruits Industry Advisory Committee.

The Australian Canned Fruit Sales Promotion Committee was established to promote the sale of canned deciduous fruit. The Committee is financed by a levy on canned fruit under the Canning-Fruit Charge Act 1959.

For further data on fruits and fruit products see the publications *Fruit, Australia* (7303.0), *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0), *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0) and *Value of Agricultural Commodities Produced, Australia* (7503.0).

Grapevines

Grapes are a temperate crop which requires warm to hot summer conditions for ripening and predominantly winter rainfall. Freedom from late spring frosts is essential. They are grown for wine-making, drying and, to a minor extent, for table use. Some of the better known wine producing areas are the Murray River Valley, Sunraysia (N.S.W. and Victoria); Barossa, Clare, Riverland, Southern Districts and Coonawarra (S.A.); North Eastern Victoria and Great Western (Vic.), Hunter and Riverina (N.S.W.); Swan Valley and Margaret River (W.A.).

Nearly all the dried fruit is produced along the River Murray and its tributaries in Victoria and N.S.W. with small localised areas in other States.

VITICULTURAL STATISTICS: AREA, PRODUCTION AND VALUE

Year	Production: grapes used for—						
	Area					Total(a)	
	Bearing	Total	Winemaking	Drying	Quantity	Gross value	
	'000 ha	'000 ha	'000 tonnes fresh weight	'000 tonnes fresh weight	'000 tonnes fresh weight	\$m	
1975-76	63.1	70.4	418.5	270.4	711.0	102.3	
1976-77	64.4	71.1	457.4	250.0	728.4	128.5	
1977-78	64.9	71.1	430.3	236.3	693.6	141.6	
1978-79	65.8	70.6	465.6	227.1	716.4	150.1	
1979-80	65.2	69.7	502.5	339.2	865.3	231.1	
1980-81p	61.4	67.8	n.y.a.	n.y.a.	n.y.a.	166.5	

(a) Includes grapes used for table and other purposes.

The bearing area of grapes has risen by about 24 per cent since 1970-71, the new plantings being mainly of specialised wine grapes. Production of winegrapes has increased by over 70 per cent since 1970-71. The multipurpose grape production base has not shown much change over this period, apart from annual variations due to seasonal conditions. Multipurpose grapes are used predominantly for winemaking and drying, the latter process being particularly susceptible to any adverse seasonal conditions. There has been an increased diversion of multipurpose grapes to winemaking over the past decade and this has resulted in a decline in the volume of grapes dried. Since the domestic consumption of dried vine fruit is stable at about 1.5 kg per head per year, reductions in grapes dried, result in lower exports. However, a world shortage, caused by damage to crops and unstable political conditions over the past three years has created a return to buoyant market conditions. The Australian Dried Fruits Corporation, is the body responsible for the organisation of the export trade in dried vine fruits. The Corporation also administers the statutory Dried Vine Fruit Equalisation Scheme.

Varietal Statistics: 1980 Season

Varietal information relating to vines, grape production by end use and yield per hectare, is obtained in a special collection conducted at 30 June in New South Wales, Victoria, South Australia and Western Australia of all growers who reported vines in the Agricultural Census. No varietal information is collected in the other States and Territories. There is continuing research into correct identification of varieties to find out which are most suitable for different wine styles and different regions and several varieties have recently been re-named. The varieties used in the next table are those recommended by the Commonwealth Grape Advisory Subcommittee which was abolished in September 1977 but have not as yet been corrected by recent research. The data are aggregated from the States of New South Wales, Victoria, South Australia and Western Australia only.

VITICULTURE: AREA AND PRODUCTION BY VARIETY, 1980 SEASON

Variety	Area of vines at harvest 1980		Grubbings	Production grapes used for—	
	Bearing	Not yet bearing	Actual and/or intended grubbings	Winemaking	Drying and table
	—hectares—			—tonnes (freshweight)—	
Red Grapes—					
Cabernet Sauvignon	3,832	257	90	25,685	47
Currant (incl. Carina)	1,860	82	68	193	18,256
Grenache	5,245	61	218	52,703	485
Mataro	1,547	27	79	15,245	476
Shiraz	8,912	227	390	69,634	503
Other red grapes	2,067	259	60	13,372	3,752
White grapes—					
Chardonnay	337	287	4	1,893	n.p.
Chenin Blanc	298	66	15	2,623	—
Colombard	108	75	n.p.	1,339	—
Crouchen	1,080	30	10	13,192	n.p.
Doradillo	1,998	39	90	36,837	242
Muscat Blanc	372	123	8	4,104	81
Muscat Gordo Blanco	4,129	407	49	62,530	6,982
Palomino, Pedro Ximenes	2,584	53	47	36,074	19
Rhine Riesling	3,319	859	32	24,017	—
Sauvignon Blanc	145	117	—	879	—
Semillon	2,571	253	13	30,095	n.p.
Sultana	18,201	389	148	66,361	308,707
Sylvaner	64	53	—	726	—
Traminer	367	178	n.p.	2,305	n.p.
Trebbiano	1,678	113	15	28,008	—
Waltham Cross	1,534	98	27	4,299	14,908
Other white grapes	1,529	260	36	10,001	3,039
Total grapes	63,776	4,312	1,413	502,118	357,779

DRIED VINE FRUIT: PRODUCTION, EXPORTS AND CONSUMPTION
(Dried weight)

Year	Production			Exports			Total Quantity	Value f.o.b.	Consumption of dried vine fruit
	Raisins	Sultanas	Currants	Total	Raisins/ sultanas	Currants			
	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	'000 tonnes	\$m	kg
1975-76	5.7	55.2	4.3	65.2	50.9	2.4	53.7	27.1	1.6
1976-77	4.9	49.6	6.1	60.6	43.4	1.0	44.4	26.7	1.5
1977-78	5.4	50.9	4.3	60.6	34.0	2.0	36.1	35.8	1.3
1978-79	4.7	46.4	5.5	56.6	45.6	1.9	47.5	46.9	1.7
1979-80	5.3	71.8	5.8	82.8	39.2	2.3	41.5	55.1	1.7
1980-81p	n.y.a.	n.y.a.	n.y.a.	n.y.a.	49.9	1.8	52.0	75.4	n.y.a.

Wine industry

Australia produces brandy and wine of every type. In recent years there has been a distinct trend towards greater consumption and production of unfortified or table wines. Until 1957-58 production of these wines (which include burgundy, claret, riesling, sauterne and sparkling wines) was less than half that of the fortified varieties (sherries, ports, etc.) By 1970, however, table wines had exceeded the volume of fortified wines. The Australian Wine and Brandy Corporation, which commenced operation on 1 July 1981, replacing the Australian Wine Board, is the body responsible for the control of the export trade in grape products. Like its predecessor, the Corporation has the power to regulate exports as well as promotion and publicity functions in export markets and in Australia.

PRODUCTION, CONSUMPTION AND EXPORT OF WINES

Year	Pro- duction	Exports		Consump- tion in Australia per capita
		Quantity	Value f.o.b.	
	mil. litres	mil. litres	\$m	litres
1975-76	356.2	6.2	5.5	13.0
1976-77	383.1	5.0	5.4	13.7
1977-78	339.6	4.7	5.4	14.3
1978-79	335.1	5.3	6.3	16.5
1979-80	414.2	6.1	8.4	17.4
1980-81p	n.y.a.	7.6	11.9	17.6

For further details on viticulture, dried vine fruit, wine, etc. see the following publications: *Fruit, Australia* (7303.0), *Sales and Stocks of Australian Wine and Brandy* (8504.0) and *Viticulture, Australia* (7310.0)

Miscellaneous crops

The principal crops not covered above include fodder crops, tobacco, hops, and mushrooms which, in 1979-80, had gross values as follows:

Crops	Gross value	Per cent of total crop gross value
	\$m	%
Fodder crops (hay)	39.1	0.7
Tobacco	59.5	1.1
Hops	6.7	0.1
Mushrooms	15.3	0.3
Other	160.4	2.9

Fodder crops

As well as crops specifically for grain, considerable areas of Australia are devoted to fodder crops. These crops are utilised either for grazing (as green feed), or conserved as hay, ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the comparatively unreliable nature of rainfall in Australian agricultural areas.

FODDER CROPS: AREA AND PRODUCTION

Year	Hay(a)			Green feed or silage(b)	
	Area	Production		Area	Silage made
		Quantity	Gross value		
	'000 ha	'000 tonnes	\$m	'000 ha	'000 tonnes
1975-76	230	738	25.5	752	392
1976-77	287	891	31.4	709	311
1977-78	313	795	35.4	862	210
1978-79	293	955	40.2	823	335
1979-80	265	819	39.1	947	270
1980-81p	325	n.y.a.	n.y.a.	1,111	n.y.a.

(a) Principally oaten and wheat hay.

(b) Principally from oats, barley, wheat and forage sorghum.

FARMSTOCKS OF CEREAL GRAINS, HAY AND SILAGE
(*000 tonnes)

<i>At 31 March</i>	<i>Cereal grains</i>				
	<i>Barley</i>	<i>Oats</i>	<i>Wheat</i>	<i>Hay</i>	<i>Silage</i>
1975	442	861	731	6,582	1,250
1976	494	918	769	5,684	1,096
1977	487	890	803	5,016	842
1978	463	819	760	3,928	709
1979	637	1,256	880	5,355	753
1980	542	1,207	815	4,872	722

Tobacco

Tobacco is a summer-growing annual which requires a temperate to tropical climate, adequate soil moisture and frost-free period of approximately five months. In Australia, all tobacco is grown under irrigation. Because of specialised requirements, production is limited to areas with suitable soils and climate. The main centres of production are the Mareeba-Dimbulah districts of north Queensland and Myrtleford in north-eastern Victoria. Other areas where tobacco is grown include Bundaberg, Beerwah and Texas (Queensland), Ashford (New South Wales) and Gunbower (Victoria). All tobacco grown in Australia is of the flue-cured type except for small quantities of burley tobacco produced mainly in Victoria.

TOBACCO: AREA, PRODUCTION AND OVERSEAS TRADE

<i>Year</i>	<i>Area</i>	<i>Production (dried leaf)</i>	<i>Exports (value f.o.b.)</i>		<i>Imports (value)</i>	
			<i>Unmanu- factured</i>	<i>Manu- factures</i>	<i>Unmanu- factured</i>	<i>Manu- factures</i>
	'000 ha	'000 tonnes	\$'000	\$'000	\$'000	\$'000
1975-76	9.2	14.9	27	3,824	30,315	18,994
1976-77	9.4	16.1	522	4,981	26,440	20,569
1977-78	8.5	15.1	823	7,601	38,640	24,072
1978-79	8.1	15.0	693	7,074	36,148	23,588
1979-80	7.5	15.1	4,161	9,138	42,394	25,234
1980-81p	7.0	n.y.a.	8,611	8,429	46,802	31,136

Marketing. In 1965 the Commonwealth and State Governments agreed to a stabilisation plan and an overall marketing quota was decided upon. The plan is administered by the Australian Tobacco Board. Further information on tobacco marketing, research and factories may be found in Year Book No. 61, pages 845-6.

Hops

Hops are grown from perennial rootstocks over deep, well-drained soils in localities sheltered from the wind. The hop-bearing vine shoots are carried upon wire and coir trellises, from which they are later harvested. The green hops are kiln-dried and bleached with sulphur dioxide fumes, following which the cured hops are pressed into bales.

Hop growing in Australia is confined to the Derwent, Huon and Channel areas in the south-east and the Scottsdale-Ringarooma district in the north-east of Tasmania, and the Ovens and King Valleys in Victoria. A small area near Manjimup in Western Australia is under hops.

The area planted to hops is about 1,000 hectares, with over 55 per cent in Tasmania. Production is about 2,200 tonnes, 60 per cent of which is used by breweries with the remainder being exported.

Mushrooms

Statistics of mushroom growing were collected for the first time in all States for the year ended 30 June 1975.

MUSHROOMS: AREA, PRODUCTION, GROSS VALUE AND IMPORTS

Year	Total production				Imports			
	Area	Quantity	Gross value	Canned or bottled production	Dried		Canned or bottled	
					Quantity	Value f.o.b.	Quantity	Value f.o.b.
	hectares	tonnes	\$m	tonnes	tonnes	'000	'000 litres	'000
1975-76	48	6,616	10.0	5,416	50	438	3,159	2,466
1976-77	56	7,130	9.9	6,789	82	870	4,497	5,532
1977-78	55	7,289	11.5	6,611	97	998	5,030	6,855
1978-79	53	7,806	13.3	5,718	88	964	3,738	4,723
1979-80	57	8,340	15.3	4,793	93	1,082	4,482	5,486
1980-81p	n.y.a.	n.y.a.	n.y.a.	3,743	118	1,231	5,864	7,130

Livestock

Since 1861, annual enumerations of livestock have been made based, with few exceptions, on actual collections made through the agency of the State police or by post. Particulars concerning the numbers of each of the principal kinds of livestock in Australia at ten-yearly intervals from 1861 to 1971, and then from 1976 on in single years, are given in the following table.

LIVESTOCK: AUSTRALIA, 1861 TO 1981

('000)

Year	Cattle	Sheep	Pigs	Year	Cattle	Sheep	Pigs
1861	3,958	20,135	351	1951	15,229	115,596	1,134
1871	4,276	41,594	543	1961	17,332	152,679	1,615
1881	7,527	62,184	816	1971	24,373	177,792	2,590
1891	10,300	97,881	891	1976	33,434	148,643	2,173
1901	8,640	70,603	950	1977	31,533	135,360	2,229
1911	11,745	98,066	1,026	1978	29,330	131,445	2,217
1921	13,500	81,796	674	1979	27,112	134,222	2,301
1931	11,721	110,568	1,072	1980	26,203	135,985	2,518
1941	13,256	122,694	1,797	1981p	25,170	133,396	2,427

While livestock numbers (particularly sheep) have increased substantially since 1861, marked fluctuations have taken place during the period, mainly on account of widespread droughts which have from time to time left their impressions on the pastoral history of Australia. These occurred in 1868, 1877, 1883-84, 1892, 1893, 1895, 1901-2, 1912, 1914, 1918, 1919, 1922-23, 1925-26, 1927-28, 1929-30, 1940-41, 1944-45 to 1946-47, and 1965-67. The years in which the numbers of livestock attained their peaks are as follows: cattle, 1976 (33,434,000); sheep, 1970 (180,080,000); and pigs, 1973 (3,259,000).

Cattle

Cattle-raising is carried out in all States, the main object in certain districts being the production of stock suitable for slaughtering purposes and in others the raising of dairy herds. While dairy cattle are restricted mainly to coastal districts, beef cattle are more widely distributed. Although cattle numbers declined after 1957 because of drought conditions and heavy slaughterings, they began to increase in 1960 and in 1964 reached 19,055,000. Again because of drought in the eastern States, this figure declined to 17,936,000 in 1966. There was a continuous increase in the total number of cattle in Australia until 1976 followed in the next five years by a decline to 25.2 million in 1981.

Beef cattle production is often combined with cropping, dairying and sheep. In the north (north of the 26th parallel), cattle properties and herd size are very large, pastures are generally unimproved, fodder crops are rare and beef is usually the only product. The industry is more intensive in the south because of the more favourable environment including more improved pasture.

For further details on cattle see *Livestock, Australia* (7203.0).

CATTLE NUMBERS

('000)

31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust. (incl. A.C.T.)
1976	9,138	5,868	11,347	1,891	2,654	909	1,603	33,434
1977	8,348	5,104	11,506	1,608	2,464	819	1,664	31,533
1978	7,330	4,572	11,490	1,242	2,271	733	1,674	29,330
1979	6,484	4,134	10,859	1,086	2,092	657	1,785	27,112
1980	6,097	4,252	10,332	1,067	2,065	649	1,727	26,203
1981p	5,458	4,320	9,932	1,090	2,033	651	1,675	25,170

Classification of cattle

CATTLE NUMBERS, BY AGE, SEX, PURPOSE

('000)

Classification	31 March					
	1976	1977	1978	1979	1980	1981p
Milk cattle—						
Bulls used or intended for service	73	65	60	55	56	55
Cows, heifers and heifer calves	3,407	3,095	2,902	2,733	2,697	2,688
House cows and heifers	122	105	99	78	77	72
<i>Total, milk cattle</i>	<i>3,602</i>	<i>3,265</i>	<i>3,062</i>	<i>2,867</i>	<i>2,830</i>	<i>2,815</i>
Meat cattle—						
Bulls used or intended for service	687	628	571	544	545	534
Cows and heifers (1 year and over)	15,202	14,021	12,728	11,774	11,727	11,225
Calves under 1 year	8,055	7,385	6,513	5,837	5,445	5,119
Other cattle (1 year and over)	5,888	6,235	6,456	6,090	5,656	5,478
<i>Total, meat cattle</i>	<i>29,833</i>	<i>28,269</i>	<i>26,268</i>	<i>24,245</i>	<i>23,373</i>	<i>22,356</i>
Total, all cattle	33,434	31,533	29,330	27,112	26,203	25,170

Comparison with other countries

SELECTED COUNTRIES CATTLE NUMBERS

(Millions)

(Compiled from the Commodities Division of the Commonwealth Secretariat)

Country	1979	1980	1981p	Country	1979	1980	1981p
Argentina	57	59	58	India	243	241	n.y.a.
Australia	27	26	25	Mexico	29	30	30
Brazil	90	93	96	United States of America	119	123	n.y.a.
European Economic Com- munity	78	78	n.y.a.	U.S.S.R.	114	115	116

Sheep

With the exception of a short period in the early eighteen-sixties, when the flocks in Victoria outnumbered those of New South Wales, the latter State has occupied the premier position in sheep-raising. Western Australia is the second largest sheep raising State followed by Victoria. Sheep numbers reached a peak in Australia in 1970. They then declined up to March 1973 as producers turned off large numbers for slaughter and moved from wool-growing towards grain and beef production. By 1975, the numbers had increased to 151,653,000, but in March 1978 the numbers had fallen to 131,442,000, the lowest since 1955. Improved seasonal conditions during 1978, which continued into 1979 have enabled producers to begin rebuilding their flocks. By March 1980, numbers had risen to 136.0 million.

SHEEP NUMBERS
(Millions)

31 March	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Aust. (incl. N.T., A.C.T.)	
1976	53.2	25.4	13.6	17.3	34.8	4.2		148.6
1977	49.7	21.9	13.3	15.1	31.2	4.0		135.4
1978	48.0	22.0	13.4	14.1	29.8	4.0		131.4
1979	48.4	22.8	13.6	14.9	30.3	4.2		134.2
1980	48.6	24.4	12.2	16.0	30.4	4.2		136.0
1981p	45.1	25.5	10.6	17.0	30.8	4.3		133.4

SHEEP, BY AGE AND SEX
(Millions)

31 March	Sheep: 1 year and over				Lambs and hoggets (under 1 year)	Total, sheep and lambs
	Rams	Breeding ewes	Other ewes	Wethers		
1976	1.9	68.5	7.7	37.5	33.1	148.6
1977	1.7	64.7	6.3	34.8	27.8	135.4
1978	1.7	63.6	5.4	32.6	28.2	131.4
1979	1.7	65.9	4.7	31.6	30.4	134.2
1980	1.7	66.5	5.0	30.5	32.3	136.0
1981p	1.7	65.8	4.8	29.7	31.4	133.4

In 1980-81 provisional value of production data for the sheep and wool industry showed that the combined value of wool and sheep slaughtered accounted for about one-fifth the gross value of all agriculture. This proportion varies with wool and meat prices and seasonal conditions. Australia has about 15 per cent of the world's woolled sheep but produces nearly 30 per cent of the world's greasy wool output. In addition, in 1980-81 the sheep industry produced over half a million tonnes of mutton and lamb, a big decrease from the record production of 956,000 tonnes in 1971-72, which resulted from high slaughtering rates linked to very low wool prices prevailing at the time. Since 1973-74 there has been a strong growth in exports of live sheep for slaughter, exports reaching 5.4 million head in 1980-81.

Comparisons with other countries

WORLD SHEEP NUMBERS AND WOOL PRODUCTION
(Compiled from the Commodities Division of the Commonwealth Secretariat)

Country	World sheep numbers			Est. raw wool production		
	1979	1980	1981p	1978	1979	1980
	(millions)			('000 tonnes, greasy)		
Argentina	32.8	32.0	31.9	172	171	172
Australia	134.2	136.0	133.4	677	704	715
Brazil	18.0	18.5	18.5	28	29	29
India	41.0	40.5	41.0	35	35	35
Iran	33.7	33.8	n.y.a.	16	17	17
New Zealand	63.5	68.8	n.y.a.	311	321	357
South Africa	31.6	32.6	32.6	106	102	103
Turkey	46.0	45.0	n.y.a.	55	57	57
United Kingdom	21.7	21.7	n.y.a.	46	49	48
Uruguay	17.3	n.y.a.	n.y.a.	62	63	73
U.S.A.	12.4	12.7	12.9	50	47	47
U.S.S.R.	148.1	149.4	147.0	459	467	472
Total	n.a.	n.a.	n.a.	2,605	2,672	2,744

SHEEP AND LAMBS: ANALYSIS OF MOVEMENT IN NUMBERS
(Millions)

<i>Year ended 31 March</i>	<i>Number at beginning of season</i>	<i>Lambs marked</i>	<i>Live sheep exports</i>	<i>Sheep and lambs slaughtered(a)</i>	<i>Estimated deaths on farms(b)</i>	<i>Number at end of season</i>
1976	151.7	44.1	1.8	31.7	13.6	148.6
1977	148.6	38.4	3.0	34.1	14.6	135.4
1978	135.4	39.5	4.2	30.1	9.1	131.4
1979	131.4	42.5	3.7	26.9	9.1	134.2
1980	134.2	45.8	5.3	30.5	8.2	136.0
1981p	136.0	43.7	5.4	32.0	8.9	133.4

(a) Comprises statistics from abattoirs and other major slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers; also includes animals condemned or those killed for boiling down. (b) Balance item.

LAMBING

<i>Year ended 31 March</i>	<i>Number of breeding ewes at start of season</i>	<i>Mating intentions at start of season</i>	<i>Actual matings</i>	<i>Ratio of actual matings to intended matings</i>	<i>Lambs marked</i>	<i>Ratio of lambs marked to actual matings</i>	<i>Ratio of lambs marked to breeding ewes</i>
	million	million	million	per cent	million	per cent	per cent
1976	70.6	65.1	60.5	93	44.1	73	62
1977	68.5	63.0	58.0	92	38.4	66	56
1978	64.7	59.8	56.6	95	39.5	70	61
1979	63.6	58.5	57.1	98	42.5	74	67
1980	65.9	61.9	59.5	96	45.8	77	70
1981p	66.5	60.3	58.0	96	43.7	75	66

For further details on sheep, see the publications *Livestock, Australia* (7203.0) and *Wool, Australia* (7212.0).

Pigs

Up until the early 1950s the majority of pigs were reared in dairy areas where the on-farm separation of cream, associated with butter production, provided an abundant supply of skim milk; a traditional cheap and nutritious pig feed. With the virtual disappearance of on-farm cream separation and the introduction of wheat quotas and generally low grain prices in the late 1960s, pig raising became increasingly associated with grain growing areas. Today most pigs are raised under intensive or semi-intensive conditions in large scale piggeries and fed on grain based rations. Pig numbers have remained fairly stable over the past decade, although there has been a decrease in the number of holdings raising pigs as pig production becomes more specialised.

PIG NUMBERS
('000)

<i>31 March</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust. (incl. N.T., A.C.T.)</i>
1976	709	393	409	326	260	70	2,173
1977	760	397	441	317	242	65	2,229
1978	737	401	463	311	237	64	2,217
1979	759	390	487	330	271	61	2,301
1980	829	422	510	398	293	63	2,518
1981p	783	402	500	394	289	54	2,427

For further details on pigs see the publication *Livestock, Australia* (7203.0).

Poultry

Once part of the mixed farming sector, the poultry industry is now a highly specialised and distinct industry. The bulk of production is obtained from this commercial source, though many farm households and some private homes in suburban areas keep poultry to supply their domestic needs. Some supplies from this source are also marketed. Because the data from this latter sector is incomplete, total poultry numbers for Australia are not available. There is an increasing tendency for specialisation within the industry into hatcherymen, egg producers and broiler producers. There are also separate research schemes for the egg and meat chicken industries but close liaison exists. Both sectors are good examples of the general movement towards specialised, large scale, capital-intensive production which is common to many agricultural industries.

POULTRY NUMBERS(a)
(’000)

31 March	Chickens			Other poultry			Total all poultry
	Hens and pullets for egg production	Meat strain chickens (broilers)	Total chickens(b)	Ducks	Turkeys	Other poultry	
1976	15,905	25,306	42,917	254	333	(c)	43,504
1977	15,982	27,184	43,341	187	347	397	44,272
1978	15,773	26,681	42,637	163	322	330	43,452
1979	16,281	26,825	43,214	247	448	321	44,229
1980	16,694	30,056	46,749	272	1,016	218	48,255
1981p	17,289	35,417	52,967	225	770	184	54,147

(a) Data are for numbers of poultry on rural establishments as reported in the annual Agricultural Census. (b) Includes 'other fowls and other chickens'. (c) Not collected.

For further details on poultry see the publication *Livestock, Australia* (7203.0).

Meat production, slaughtering and other disposals

The ABS collects details of slaughtering and meat production from abattoirs, commercial poultry and other slaughtering establishments and includes estimates of animals slaughtered on farms and by country butchers. The data relate only to slaughtering for human consumption and does not include animals condemned or those killed for boiling down.

PRODUCTION OF MEAT BY TYPE(a)
(’000 tonnes)

Year	Carcass weight					Dressed weight(b)		
	Beef	Veal	Mutton	Lamb	Pig meat	Total meat	Chickens	Total all poultry(c)
1975-76	1,757	84	326	262	174	2,602	184	204
1976-77	1,890	98	304	246	185	2,722	196	218
1977-78	2,080	104	261	253	199	2,897	220	246
1978-79	1,947	71	239	253	199	2,708	244	271
1979-80	1,507	57	275	273	220	2,332	282	313
1980-81p	1,433	53	302	285	234	2,307	276	303

(a) Excludes offal. (b) Dressed weight of whole birds, pieces and giblets. (c) Includes other fowls, turkeys, ducks and drakes.

PRODUCTION OF MEAT : AUSTRALIA, 1931-32 TO 1980-81

Tonnes ('000)

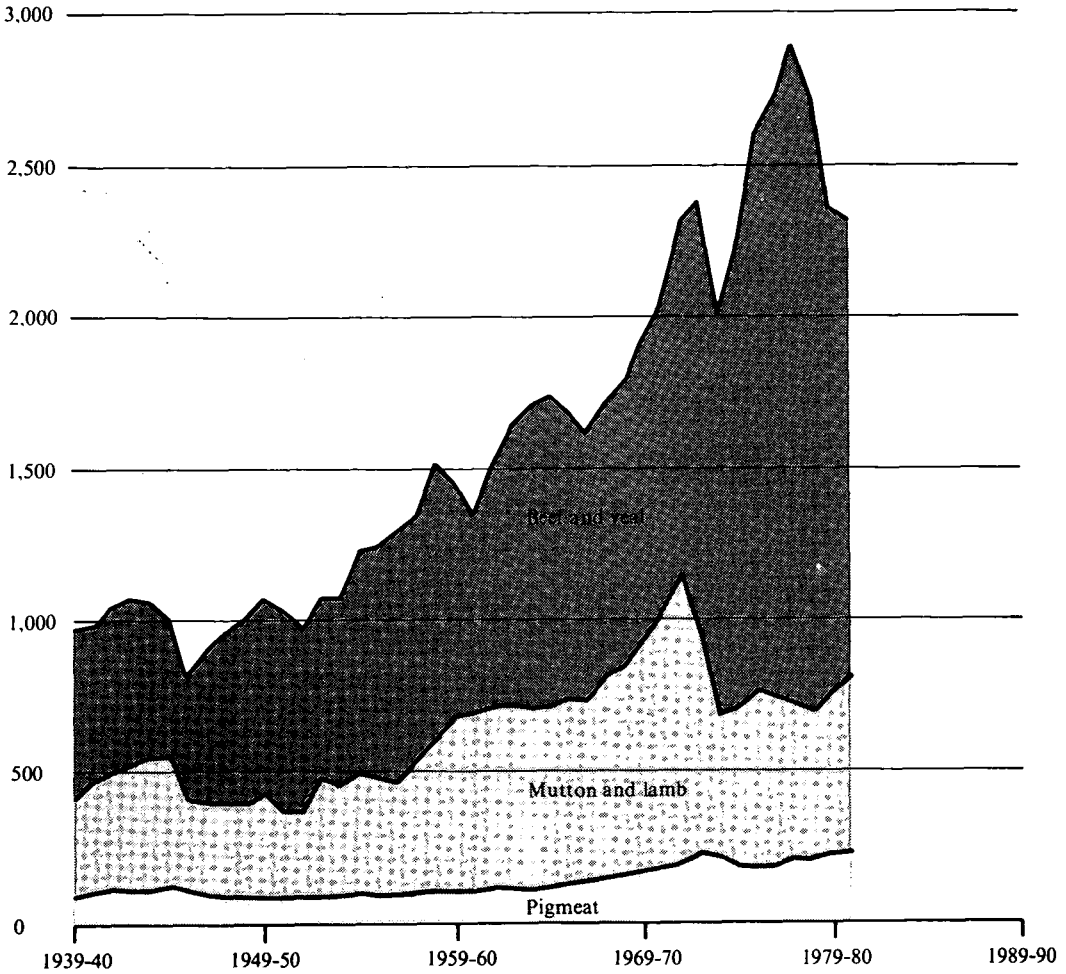


PLATE 36

NUMBERS OF LIVESTOCK AND POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION (Million head)

Year	Cattle	Calves	Sheep	Lambs	Pigs	Chickens (a)	Other fowls (b) and turkeys	Ducks and drakes
1975-76	8.5	2.1	16.8	16.1	3.3	144.2	9.2	1.2
1976-77	9.5	2.5	16.3	15.3	3.5	155.1	9.8	1.3
1977-78	10.4	2.5	13.8	15.3	3.7	174.7	10.7	1.7
1978-79	9.5	1.8	12.0	14.8	3.6	191.2	10.8	1.8
1979-80	7.3	1.6	14.1	16.5	3.9	222.5	11.3	2.2
1980-81p	7.0	1.5	15.4	17.0	4.2	221.7	11.2	1.7

(a) Comprises broilers, fryers and roasters. (b) Comprises hens, roosters, etc.

Mutton and lamb

Production of sheepmeats in Australia is closely associated with the wool industry. Sheep grazing often occurs on mixed farms in conjunction with beef and/or grain enterprises and in some areas producers specialise in lamb production. The supply of sheepmeat depends greatly on seasonal conditions, decisions to build up or reduce flock numbers, expectations of wool prices, live sheep exports and the pattern of domestic consumption of meat.

There was a movement out of sheep raising in Australia early in the 1970's principally as a result of low wool prices and many producers diversified into cattle and grains. Flock numbers declined from a peak of 180 million in 1970 to a low of 131 million by 1978. Since 1978, wool and sheepmeat prices have improved and the trade in live sheep for slaughter overseas has continued to expand. As a result the national flock size increased slightly to 136 million by March 1980. However, high levels of drought induced slaughter, and subsequently contributed to a decrease in numbers to 133 million by March 1981.

Sheepmeat production declined rapidly from the high levels of the early 1970s, which were associated with flock reduction, to annual levels of between 500,000 and 600,000 tonnes since 1973-74. Lamb production has remained close to 260,000 tonnes per year in recent years, while mutton production has varied greatly between 221,000 tonnes and 304,000 tonnes.

A high proportion of lamb is consumed in Australia with per capita consumption remaining steady at about 14-16 kilograms per year, though in recent years export markets for lamb in the Middle East have been developed. A high proportion of mutton produced is exported. Australia is the world's largest exporter of mutton, with Japan, the Middle East and the U.S.S.R. being the main markets.

Live sheep exports for slaughter overseas have increased from one million head in 1973-74 to more than five and a half million head in 1980-81, equivalent to 25,000 tonnes of mutton in 1973-74 and 142,000 tonnes of mutton in 1980-81 and representing more than a third of all sheepmeat (lamb, mutton and live sheep) exported in 1980-81.

Beef and Veal

The cattle industry is very dependent on international trade in beef and is subject to great fluctuations. About half of Australia's beef and veal production is exported, with the U.S.A. and Japan as the main outlets.

Beef and veal production in Australia rose markedly in the seventies, reaching peak levels of over 2 million tonnes in 1977-78 and 1978-79, but declining to 1.5 million tonnes in 1980-81. The increase in production followed the rapid expansion of the beef herd that had occurred during the late sixties and early seventies mainly in response to relatively profitable beef prices and increased demand from overseas markets.

In the mid 1970's, poor economic conditions and heavy domestic supplies of beef in major importing countries led them to impose severe restrictions on their imports. With reduced international demand and heavy supplies in Australia, saleyard prices fell greatly and remained low for about four years. The depressed conditions were accompanied by a severe reduction in the national herd.

Movements in beef prices in Australia have closely followed those in the cyclical U.S. industry in recent years. Relatively improved prices and a smaller herd base in 1981 has encouraged Australian cattle producers to retain, rather than turn-off, breeding stock for slaughter thus pointing to slow herd expansion and continued low levels of beef production in the early eighties.

Pigmeat

The specialised nature of large scale pig production today has given producers greater opportunity to concentrate on the quality of their product. Pigmeat production has risen steadily since 1975 to reach 233,800 tonnes in 1980-81. Average slaughter weights have also risen over the past ten years, reflecting the increased quantities of pigmeat going to canning and curing and the expanding sales of heavier pigs (between 50 and 70 kilograms) for the fresh pork trade.

Approximately 65 per cent of production is processed into bacon, hams and smallgoods, the rest is sold as fresh pork. Only about 2 per cent of the industry's output is exported, the increasing production of pigmeat therefore reflects a steady increase in per capita domestic consumption over the past five years.

Poultry meat

The poultry meat industry has developed rapidly since 1970 and both output and consumption have risen steeply. Genetic and technical improvements and the organisation of the industry into large-scale enterprises have raised efficiency and helped to reduce production costs relative to other meats. The price competitiveness of chicken meat compared with other meats, especially beef, continues to improve consolidating the position of poultry meat as the second most important meat after beef in Australian diets.

EXPORTS OF FRESH, CHILLED OR FROZEN MEAT

Year	Beef	Veal	Mutton	Lamb	Pork	Poultry
QUANTITY (a) ('000 tonnes)						
1975-76	783.4	16.8	201.5	28.9	5.2	5.0
1976-77	919.7	17.1	241.5	59.8	3.1	4.7
1977-78	1,095.5	19.8	199.0	57.0	1.3	5.6
1978-79	1,193.7	23.0	169.2	46.5	1.9	6.7
1979-80	846.6	17.4	182.1	49.6	1.9	7.3
1980-81p	759.3	14.6	243.2	39.4	2.4	7.7
VALUE f.o.b. (\$ million)						
1975-76	475.3	11.5	81.2	20.3	7.6	4.3
1976-77	603.7	14.5	121.3	46.3	4.6	5.6
1977-78	853.7	18.1	123.7	57.2	2.2	6.6
1978-79	1,339.2	26.6	135.2	52.0	3.1	8.0
1979-80	1,295.6	31.9	172.6	62.4	3.7	10.6
1980-81p	1,101.1	22.9	246.7	63.0	5.8	12.1

(a) Quantity data on beef, veal, mutton and lamb exports are shown in carcass weight equivalents.

Exports of live animals

During the 1970's exports of live sheep to the Middle East for slaughter have substantially increased from 760,000 in 1971-72 to 5.6 million in 1980-81. Over the last five years a substantial trade in cattle for slaughter has developed, primarily with Asian countries and exports of breeding cattle especially have picked up in the past two years. During 1980-81 some 99,000 head of cattle were exported for either breeding or slaughter purposes.

For details of the regulation governing the export (and import) of live animals see Year Book No. 61 page 848.

EXPORTS OF LIVE ANIMALS

Year	Livestock			Poultry		
	Sheep and Lambs	Total(a)		Day old chicks	Total	
		Number	Value f.o.b.		Number	Value f.o.b.
		—'000—	\$'000		—'000—	\$'000
1975-76	1,845	1,869	23,231	256	284	242
1976-77	3,388	3,431	57,109	279	329	205
1977-78	4,124	4,188	98,069	503	584	387
1978-79	3,865	3,955	110,611	448	624	626
1979-80	6,162	6,225	192,668	409	710	747
1980-81p	6,161	6,277	219,461	862	974	834

(a) Also includes cattle, calves, buffaloes and pigs.

PRODUCTION AND EXPORT OF BACON, HAM AND CANNED MEAT

Year	Production			Exports			
	Bacon and ham(a)		Canned meat(b)	Bacon and ham(c)		Canned meat(d)	
	Bone-in	Bone-out		Quantity	Value	Quantity	Value
					\$'000		\$'000
	tonnes	tonnes	tonnes	tonnes	f.o.b.	tonnes	f.o.b.
1975-76	16,042	38,218	45,193	386	761	20,605	24,541
1976-77	15,848	43,432	52,677	489	1,127	30,294	36,393
1977-78	15,746	49,030	49,347	539	1,479	24,643	35,660
1978-79	18,545	51,682	44,775	564	1,734	25,202	45,190
1979-80	18,147	52,811	39,178	861	2,734	21,581	51,845
1980-81p	18,878	55,564	36,093	530	1,999	16,485	40,702

(a) Production of bacon and ham 'on the bone' is shown in terms of 'bone-in' weight, while production of boneless bacon and ham is shown in terms of 'bone-out' weight. Production of canned bacon and ham, which is reported in terms of 'stated net weight of packs', is included in the 'bone-out' category. (b) Canned weight. Includes bacon, ham and meat and vegetables, but excludes rabbit, poultry and baby foods. (c) Cured carcass weight of smoked or cooked bacon and ham. Includes 'stated net weight of packs' of canned bacon and ham. (d) Canned weight; excludes canned bacon and ham.

GROSS VALUE OF LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS^(a)
(\$ million)

Year	Cattle and calves	Sheep and lambs	Pigs	Poultry	Total
1975-76	706.3	203.9	183.3	152.9	1,246.4
1976-77	1,010.8	299.0	197.4	178.4	1,685.7
1977-78	1,176.9	344.8	212.7	220.0	1,954.4
1978-79	2,154.6	445.1	253.8	244.2	3,097.8
1979-80	2,386.0	654.8	311.3	307.2	3,659.4
1980-81p	1,989.4	701.8	327.7	320.8	3,339.7

(a) Includes adjustment for net exports (overseas and interstate) of live animals.

Consumption

Owing to diverse cutting practices by butchers and because of the difficulty of clearly defining the term 'retail weight of meat', it is considered impractical to derive a satisfactory factor for the purpose of expressing estimated meat consumption in terms of retail weight. Depending on cutting practices employed and whether or not bones, etc. sold to customers are included in retail weight of meat, the following retail weights as a proportion of carcass weight are generally acceptable: beef, 60 per cent to 75 per cent; mutton and lamb, 80 per cent to 95 per cent; pork 90 per cent to 95 per cent.

APPARENT CONSUMPTION OF MEAT AND MEAT PRODUCTS AS HUMAN FOOD

Year	Beef and veal	Mutton	Lamb	Pigmeat ^(a)	Bacon and ham	Canned meat	Poultry meat
TOTAL ('000 tonnes)							
1975-76	936	98	231	61	72	23	201
1976-77	976	66	188	61	78	24	222
1977-78	964	53	195	65	86	24	239
1978-79	795	66	202	55	93	21	271
1979-80	676	73	230	71	91	20	295
1980-81p	673	61	244	94	n.y.a.	n.y.a.	n.y.a.
PER CAPITA PER YEAR (kg)							
1975-76	67.6	7.0	16.7	4.4	5.2	1.7	14.5
1976-77	69.7	4.7	13.4	4.4	5.6	1.7	15.8
1977-78	68.1	3.7	13.8	4.6	6.1	1.7	16.9
1978-79	55.5	4.6	14.1	3.8	6.5	1.4	18.9
1979-80	46.6	5.1	15.8	4.9	6.3	1.4	20.3
1980-81p	45.7	4.1	16.6	6.4	n.y.a.	n.y.a.	n.y.a.

(a) Comprises pork and includes smallgoods and estimates for trimmings from baconer carcasses.

NOTE: Beef, veal, mutton, lamb and pigmeat are expressed in terms of carcass weight, bacon and ham in cured carcass weight, canned meat in canned weight and poultry meat in dressed weight.

For further details on meat production and slaughtering see the following publications: *Meat, Australia* (7206.0), *Value of Agricultural Commodities Produced, Australia* (7503.0) and *Apparent Consumption of Foodstuffs and Nutrients, Australia* (4306.0).

The Australian Meat and Livestock Corporation

Legislation was enacted to establish the Australian Meat and Livestock Corporation from 1 December 1977. This Corporation, which regulates and promotes meat and livestock exports, replaced the Australian Meat Board.

Three groups—The Meat Exporters and Abattoir Operators Consultative Group, the Livestock Producers Consultative Group and the Livestock Exporters Consultative Group—

- advise the Corporation on trade and market matters; and
- disseminate information on Corporation decisions and policies to people engaged in the meat and livestock industries.

The Corporation's main functions are to encourage, assist, promote and control the export of meat and livestock from Australia, and to promote the sale of meat in Australia. It has the authority, also, to perform a range of other functions aimed at improving the production of meat and livestock and for the general benefit of the meat and livestock industries.

Finance

A component of both the Livestock Slaughter Levy and Livestock Export Charge is used to finance the Corporation's activities.

Wool

The Australian Flock contains nearly 15 per cent of the world's total number of sheep, and produces nearly 30 per cent of the total annual production of wool. Approximately 75 per cent of Australian flocks are of a single breed, the Merino, raised primarily for their heavy fleeces of fine quality wool.

Wool production

Wool as shorn from the sheep ('greasy wool') contains an appreciable amount of grease, dirt, vegetable matter and other extraneous material other than the clean wool fibre. The exact quantity of these impurities in the fleece varies between countries, differing climatic and pastoral conditions, with seasonal fluctuations and with the breed and condition of the sheep. It is, however, the clean wool fibre that is ultimately consumed by the textile industry and the term 'clean yield' is used to express the net wool fibre content present in greasy wool.

Since the 1946-47 season, the average clean yield of Australian wool has been assessed annually. This work was initiated by the former Australian Wool Realisation Commission and is carried on by the Australian Wool Corporation. In the early years, the average clean yield was assessed on the basis of a small number of tests and subjective appraisal while in later years an increasing proportion of the Australian wool clip was subjected to laboratory tests. During the period of assessment the clean yield showed a continuous rise up to 1951-52, when it reached 57.5 per cent. It was 60.56 per cent in 1980-81.

Wool scoured and carbonised in Australia before export, however, has a somewhat lower clean yield than the whole clip, because much of the greasy wool treated locally for export in this form is dirty low-grade wool. The quantity of scoured and carbonised wool exported during 1979-80 was about 13 per cent of total raw wool exports in terms of greasy. For the clean yield of Australian scoured wools exported a standard factor of 93 per cent has been adopted.

The following table shows details of total wool (i.e. shorn, dead, fellmongered, and exported on skins) as well as the numbers of animals shorn, the average fleece weight and the gross value of the wool. A graph showing the production of wool in relation to the number of sheep appears on Plate 37, page 321.

SHEEP NUMBERS AND WOOL PRODUCTION : AUSTRALIA, 1880 TO 1981

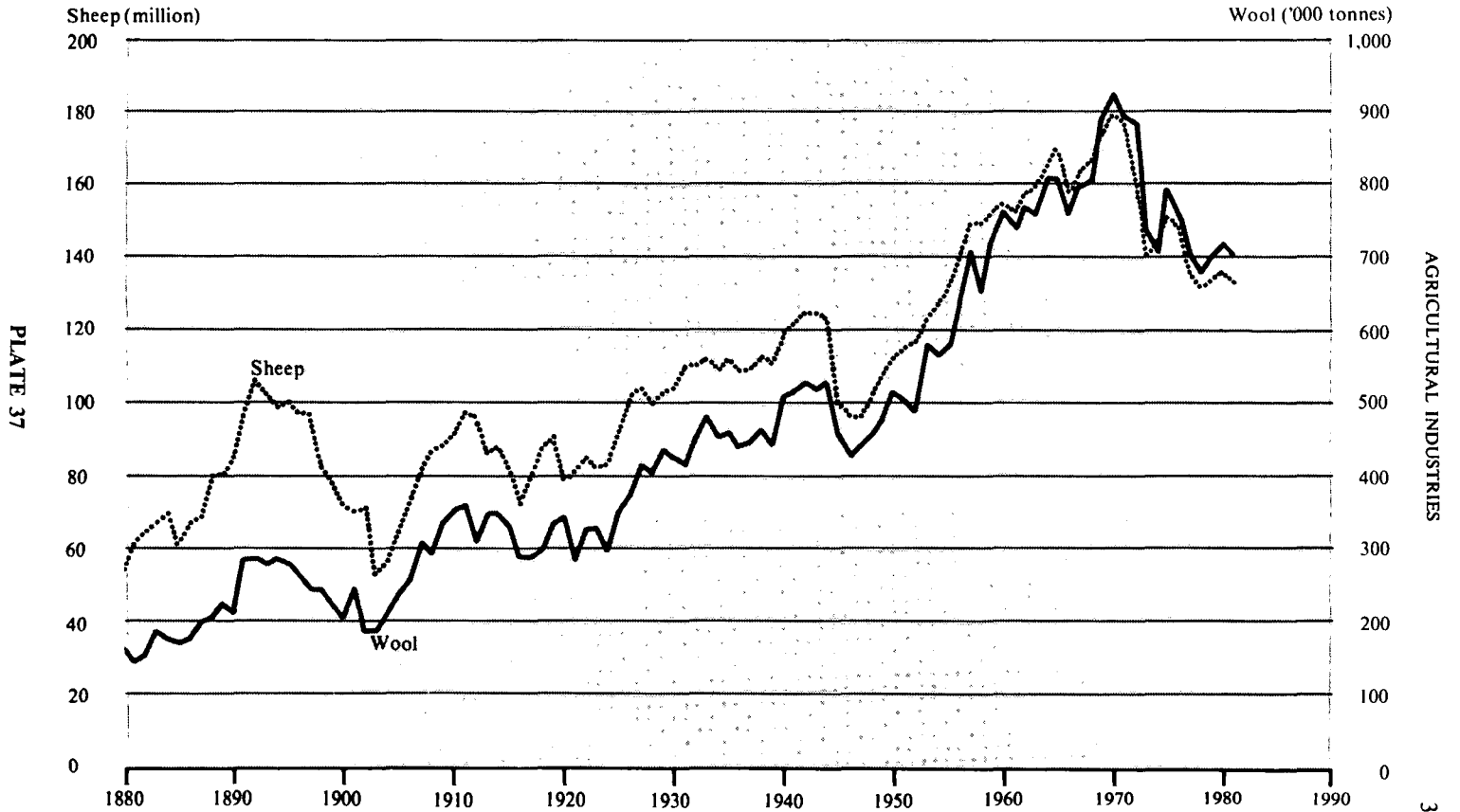


PLATE 37

AGRICULTURAL INDUSTRIES

SHEARING, WOOL PRODUCTION AND VALUE

Year	Wool production				Total wool	
	Sheep and lambs shorn	Average fleece weight	Shorn wool	Other wool(a)	Quantity	Gross value (b)
	million	kg	'000 tonnes	'000 tonnes	'000 tonnes	\$m
1975-76	159.6	4.27	681.4	72.8	754.3	1,000
1976-77	145.8	4.28	623.9	78.8	702.7	1,173
1977-78	143.5	4.22	605.5	71.6	677.0	1,206
1978-79	146.9	4.38	643.6	60.6	704.3	1,374
1979-80	148.5	4.33	642.4	73.0	715.3	1,651
1980-81p	148.9	4.27	635.0	66.0	701.0	1,697

(a) Comprises dead and fellmongered wool, and wool exported on skins. (b) Gross value is based, for shorn wool, upon the average price realised for greasy wool sold at auction and, for skin wools, on prices recorded by fellmongers and skin exporters.

The wool market

The principal method used by wool growers in selling their wool is through public auction. Individual wool growers consign their clips to one of a number of wool selling brokers who arrange for it to be stored, samples to be taken for laboratory specification, and make arrangements for the wool to be valued and offered at a rostered sale.

It is at such sales that the Corporation provides Reserve Price Support. The proportion of the clip sold in this manner varies from year to year but is in the order of 75-80 per cent of all wool grown. For the remaining 20-25 per cent a transaction price is agreed between buyer and seller and the sale concluded without the presence of other parties and without the protection of the Reserve Price Scheme. This selling option has greatest following in Western Australia while New South Wales and Victoria are also strong supporters of this selling system.

Wool receivals

Under the terms of the Wool Tax Act, all growers pay a tax on the gross value of first hand wool sales, to provide financial backing for wool promotion, research and the operation of a statutory reserve price scheme. The ABS collects details of the total amounts of taxable wool received by wool selling brokers and dealers each year. These figures exclude wool received by brokers on which tax had already been paid by other dealers (private buyers) or brokers.

TAXABLE WOOL RECEIVALS

Year	Receivals			Dealers as per cent of total receivals	Shorn wool production(b)
	Brokers (NCWSB)	Dealers(a)	Brokers and dealers		
	—'000 tonnes—			per cent	'000 tonnes
1975-76	525.2	161.6	686.9	23.5	681.4
1976-77	476.3	151.5	627.8	24.1	623.9
1977-78	459.7	155.2	614.9	25.2	605.5
1978-79	481.4	164.8	646.2	25.5	643.6
1979-80	483.1	175.2	658.2	26.6	642.4
1980-81p	524.2	136.1	660.3	20.6	635.0

(a) Includes brokers who are not members of the National Council of Wool Selling Brokers of Australia (NCWSB). (b) Obtained from the annual Agricultural Census.

Wool marketing arrangements

The Australian Wool Corporation (AWC), established on 1 January 1973 through the amalgamation of the former Australian Wool Commission and Australian Wool Board, performs a number of functions within the market aimed at encouraging the demand for Australian wool and assisting the efficient and orderly disposal of the national clip. Central to these activities is a reserve price scheme, operated by the Corporation on behalf of the woolgrowing industry and with the support of the Commonwealth Government. This scheme was introduced with the formation of the Australian Wool Commission in November 1970. Its purpose is to provide a measure of protection to wool growers against unduly low prices resulting from temporary variations of demand at auctions.

The reserve price scheme has two component parts, a fixed and published 'floor' price for each wool type, and a flexible or floating reserve which is not disclosed.

Initially, the reserve price scheme was operated on a flexible basis whereby the Commission, and later the Corporation, bought wool which failed to reach a reserve price determined on a day-to-day basis. Since September 1974, as part of the reserve price program, the Corporation has been authorised to operate a floor price scheme. Under the floor price arrangements the Government sets a minimum average price for wool at the beginning of each season. The Corporation, which sets minimum prices for each wool type based on the Government's indicator floor price, purchases wool at auction which does not attract bids above the level of the appropriate floor price for that type. Above the level of the floor price the Corporation continues to operate a flexible reserve price scheme to prevent 'pot-holes' in the market. The wool purchased by the Corporation is held in stock, some of it in Australia and some overseas, and sold when prices improve with a view to stabilising the market.

In order to finance losses arising from the Corporation's reserve price activities woolgrowers, since September 1974, have been paying 5 per cent of gross proceeds from the sale of wool into a special fund called the Market Support Fund.

The Australian Wool Corporation has other responsibilities which include participation in negotiations in respect of freight rates, administration of wool stores and the encouragement of greater efficiency within the existing wool marketing system. As a means of demonstrating increased efficiency and cost savings that can be achieved in wool marketing procedures the AWC was authorised by the Government to operate Wool Marketing Service (WMS) following the termination of the Limited Offer to Purchase Scheme (LOPS) on 30 June 1980. The WMS has the general aim of developing and demonstrating wool handling and selling economies. It retains the central features of the LOP Scheme with direct purchases from woolgrowers limited to 150,000 bales throughput of wool per year and is funded and operated on a commercial basis.

Wool testing

In February 1981 the Government announced its intention to sever the connection between Government and the Australian Wool Testing Authority, which operates as a division of the Wool Corporation. The Authority has been in existence since 1957 but its role has become more prominent since the introduction, in 1971, of wool valuation techniques relying on objective specification of wool's main physical characteristics. From the first sales of wool in this manner in the early 1970's this technique has achieved universal acceptance and now more than 90 per cent of all wool sold at auction is accompanied by certified measurements for yield, (i.e. the amount of clean wool fibre), average fibre diameter and the percentage and type of vegetable fault. Proposals for the disposal of the Australian Wool Testing Authority are currently being discussed by the industry and will be submitted to the Government for decision within the current year (1981-82).

Wool promotion

The Australian Wool Corporation is responsible for the promotion of the greater use of wool both in Australia and overseas. The cost of promotion is shared by the Government and the woolgrowing industry. The woolgrowers' contribution for promotion is raised by means of a tax on wool sale proceeds which is currently at the rate of 2.5 per cent (part of a total 3 per cent levy used to finance both wool research and promotion). The Commonwealth's contribution to wool promotion has been set at \$20 million annually for the 3 years commencing 1981-82. Most of the promotion funds are remitted to the International Wool Secretariat (IWS) with headquarters in London. Australia provides approximately two thirds of the IWS budget.

Wool research

The wool research program covers five broad areas; research into wool production, wool harvesting and distribution, and economic and textile research. Wool research activities funded from the Wool Research Trust Fund (WRTF) are financed by growers and the Government on a 50:50 basis with the grower's contribution raised by means of a 0.5 per cent levy on wool sale proceeds (part of the total 3 per cent levy mentioned above). In addition to the wool research which is funded in this manner the CSIRO and the Bureau of Agricultural Economics carry out considerable additional wool research which is funded from Consolidated Revenue.

Wool income

Fluctuations in wool prices have a marked effect on agricultural and national income. In 1945-46 the gross value of wool production was \$117.2 million, representing 17.4 per cent of the gross value of all agricultural commodities produced, while in 1950-51, when prices reached a peak during the Korean War, wool was valued at \$1,303.8 million, or 55.6 per cent of total agricultural industries.

More recent figures for the contribution of wool income to total agricultural production and national exports reflect the growth in other commodities over the intervening years, rather than a decline in the fortunes of the wool industry.

Year	Value of wool as a per cent of total agriculture	Value of wool exports as a per cent of total Australian exports
1975-76	16.2	10.7
1976-77	17.4	13.6
1977-78	17.3	10.5
1978-79	13.4	11.2
1979-80	14.0	9.2
1980-81p	14.9	10.1

Stocks

Stocks shown below of raw and semi-processed wool were held by wool processors, scourers, fellmongers, brokers, dealers and the Australian Wool Corporation. They exclude wool on skins since this wool is not recorded as production until fellmongered in Australia or exported on skins.

WOOL STOCKS (*000 tonnes)

At 30 June	Stocks of—					
	Raw Wool(a)		Semi-processed wool		Total wool	
	Greasy	Clean	Greasy	Clean	Greasy	Clean
1975	450.2	268.8	7.5	4.5	457.7	273.2
1976	372.9	223.2	9.5	5.7	382.4	228.9
1977	265.6	156.3	8.6	5.1	274.2	161.4
1978	226.0	134.6	8.7	5.2	234.8	139.8
1979	163.3	97.2	9.1	5.5	172.3	102.7
1980p	169.4	101.1	11.7	7.1	181.1	108.2

(a) Includes from about 1971 or 1972 varying amounts of stock held overseas by the Australian Wool Corporation: 1975, 34,200 tonnes greasy; 1976, 35,600 tonnes greasy; 1977, 46,900 tonnes greasy; 1978, 46,600 tonnes greasy; 1979, 31,400 tonnes greasy; 1980, 4,200 tonnes greasy.

Wool processing

Approximately 86 per cent of all wool passing through the Australian auction system comprises combing fleece and oddment types which are ultimately processed on the worsted system. The remaining 14 per cent, being the shorter wools such as locks, crutchings, and lambs wool, is directed to the woollen system. This latter group is boosted some 5-10 per cent by noils combed out during worsted processing.

At present about two thirds of total woollen types are processed in Australia.

Over recent years there has been a trend to increased early stage processing of Australian wool before export. Approximately 95 per cent of total Australian wool production enters international trade. However the percentage of exports in scoured, carbonised or combed top has risen from 10 per cent (33.1 thousand tonnes) in 1973-74 to 19 per cent (75.7 thousand tonnes) in 1979-80.

The main scope for expanded domestic processing remains with worsted types for export in scoured or combed top form. Japanese processors initiated the export of scoured worsted types from Australia and Japan became Australia's major export market for scoured wool in 1973-74. The volume of wool entering this market has risen from 1 thousand tonnes in 1972-73 to almost 18 thousand tonnes in 1979-80.

Within Australia there are 28 operating establishments involved in early stage processing (1980-81). Before 1975 the wool processing industry was largely centralised in cities close to major ports. Since then, however, a general trend towards decentralised inland locations has occurred.

New plant which is under construction or actually commenced operating during the year will add to Australia's processing capacity by up to 40 thousand tonnes (250,000 bales greasy) and increase the proportion of this capacity at decentralised inland locations.

It is anticipated that processed wool could represent 30-35 per cent of total wool exports in the late 1980's.

The principal factors responsible for this trend are:

Costs of effluent treatment or discharge are widely regarded as the most important.

Freight rates favour export in processed form, despite shipping concessions for greasy wool packed at higher densities.

Energy costs: electricity, coal and natural gas all cost less in Australia than in Japan and Europe.

Government policies such as the Export Expansion Grant Scheme and decentralization subsidies.

Wool consumption

Two series of calculations on Australian wool consumption are shown below.

1. Consumption of raw wool, which measures consumption in terms of scoured wool used by mills.
2. Consumption of processed wool, which is calculated from the usage of woollen and worsted yarn.

Raw wool comprises greasy, slipe, scoured and carbonised wool. This series has been included for comparison purposes with other countries.

This second series is considered to be a more satisfactory measure of Australian wool consumption, principally because allowance is made for significant quantities of wool tops exported. However, both series relate to consumption of wool by the wool textile industry, and should not be used as measures of consumption of wool at retail level. It has not been possible to estimate wool consumption at retail level because of the impracticability of obtaining reliable data concerning the wool content of the multiplicity of woollen and worsted piece-goods and finished articles exported and imported and held as stock by manufacturers, wholesalers and retailers.

CONSUMPTION OF RAW AND PROCESSED WOOL
(*000 tonnes)

Year	Consumption of raw wool		Consumption of processed wool					
			Worsted yarn used (a)		Woollen yarn used (b)		Total	
	Greasy	Clean	Greasy	Clean	Greasy	Clean	Greasy	Clean
1974-75	31.3	18.2	10.9	6.2	14.3	8.6	26.3	15.4
1975-76	48.7	26.9	14.3	7.8	17.3	9.9	32.7	18.2
1976-77	49.1	27.0	12.6	6.8	15.0	8.5	28.7	15.9
1977-78	47.5	28.0	11.9	6.9	14.2	8.7	27.3	16.2
1978-79	51.0	30.0	11.9	6.8	14.7	9.0	27.7	16.4
1979-80p	56.1	30.9	12.4	6.7	15.8	9.0	29.3	16.3

(a) Wool content of yarns containing a mixture of wool and other fibres. (b) Comprises pure and mixed woollen yarn.

Exports of wool

From its earliest days the Australian wool industry has been export oriented, and today approximately 95 per cent of total annual production of wool is exported.

The great bulk of this leaves the country in its natural 'greasy' state, but significant quantities are also exported as fellmongered (i.e. wool removed from skins after slaughter), on sheepskins, and in part processed forms (i.e. scoured, carbonised, top and noil).

EXPORTS OF WOOL

Year	Selected exports ('000 tonnes: greasy basis)			Total exports	
	Greasy and slipe	Scoured and carbonised	Exported on skins	Greasy basis (a)	Value f.o.b.
				'000 tonnes	\$m
1975-76		583.5	68.9	65.5	732.2
1976-77		675.6	82.9	70.9	850.5
1977-78		493.6	70.7	64.4	647.0
1978-79		568.4	89.0	54.6	711.9
1979-80		505.3	93.7	65.7	664.7
1980-81p		531.5	106.3	66.0	703.8

(a) Includes processed wool.

For further details on sheep shorn, wool production and overseas trade see the following publications: *Livestock, Australia* (7203.0), *Sheep Numbers, Shearing and Wool Production Forecast, Australia* (7211.0), *Shearing and Wool Production Forecast, Australia (Preliminary)* (7210.0), *Wool, Australia* (7212.0), *Livestock Products Australia* (monthly) (7215.0), *Overseas Trade, Australia* (5409.0, 5410.0), *Production Bulletin No. 4: Australia* (8360.0) and *Value of Agricultural Commodities Production, Australia* (7503.0).

Dairying

Dairying occurs in all States in Australia but is mainly concentrated in the south-eastern region of the mainland, and in Tasmania, where rainfall is ample and fairly reliable. It is predominantly coastal, but has also developed inland in small areas close to population centres and, on a larger scale, in some irrigated regions in the Riverina of New South Wales and northern Victoria.

Australian dairy cattle have shown steady improvement in quality, as demonstrated by milk yield, over the years. This is attributable to improved breeding associated with herd recording; the use of artificial insemination; better feeding resulting from the use of improved pastures; and better farming methods arising from the application of new management practices and the use of the latest technology; and a contraction of the industry to climatically more favourable areas. Typical of the developments which have occurred are the almost total change from on-farm separation and delivery of cream to the collection of whole milk by milk tankers from on-farm refrigerated milk vats and the introduction of Herringbone and Rotary type dairies on farms.

The manufacturing and processing sections of the industry are well advanced technologically and certain techniques and equipment developed in Australia are being used overseas. State Agricultural Departments give advice on the most suitable methods of production and inspect animals, buildings and marketable produce, so that the latest advances in technology are passed on to the farmer and that hygiene standards are maintained at a high level.

MILK CATTLE NUMBERS ('000)

31 March	Bulls used or intended for service	Cows (in milk and dry)	Heifers		House cows and heifers (a)
			1 year and over	Under 1 year	
1976	73	2,345	595	467	122
1977	65	2,174	537	385	105
1978	60	2,056	480	367	99
1979	55	1,921	442	369	78
1980	56	1,869	431	396	77
1981p	55	1,830	462	396	72

(a) One year and over, kept for the establishment's own milk supply.

The economic position of the industry

During much of the 1970's the Australian dairy industry faced reducing demand and low export prices for dairy products. Major producing and consuming countries such as the EEC and USA adopted production policies, coupled with protection of their domestic markets, which resulted in world production of most dairy products in excess of market opportunities.

Considerable contraction and rationalisation has occurred in the Australian dairy industry in response to a changed economic and trading environment. Drought conditions during 1980 have contributed to a downturn in milk yield during 1980-81.

Improved domestic and export prices have combined with reduced production to significantly improve producers' returns during 1979 and 1980. With considerably reduced production available for export, the current slowing down of prices in international trade is less likely to affect Australian producers' returns significantly.

Government assistance

The downturn in the Australian dairy industry, resulting largely from the low international prices for dairy products, led in 1976-77 to the introduction of new domestic marketing arrangements and a Government scheme to underwrite minimum prices for the major dairy products.

The voluntary equalisation arrangements which had operated in the dairy industry since 1923 were considered to be in danger of collapse because of the phasing out of a production bounty which had applied for butter and cheese.

Legislative backing for a levy/disbursement scheme has become the basis for stabilised marketing arrangements. It is aimed at protecting the domestic price structure for prescribed dairy products from disruptive price competition and providing each manufacturer with an equalised return for their domestic and export sales of such products.

Since 1976-77 underwritten minimum prices have been usually set on an annual basis. For the 1980-81 season, the manufacturer of prescribed dairy products—butter, skim milk powder, casein, certain cheeses and whole milk powder—was underwritten at \$2.10 per kilogram butterfat in milk.

In June 1981, following agreement with the dairy industry, the Government announced the introduction of a new underwriting scheme for prescribed dairy products to apply for two years from 1 July 1981. The objective of the new scheme is to protect industry revenue against the unexpected and sharp falls in market returns without masking the underlying long term trends. Under-written levels for 1981-82 in \$'s per tonne are: butter \$1655, skim milk powder \$835, casein \$2085, cheese \$1490, whole milk powder \$1110. Because of a change in the basis of determining underwritten levels, these levels are not directly comparable to those applying to 1980-81.

The Government also assists by matching, on a dollar for dollar basis, expenditure of levy raised for the purpose of a program of research supported by the Australian Dairy Research Committee.

PRODUCTION, UTILISATION AND GROSS VALUE OF WHOLE MILK

Year	Whole milk intake by factories			
	Market milk sales by factories	Milk used in the manufacture of dairy products	Total intake	Gross value
		million litres		(\$ million)
1978-79	1,504	4,144	5,648	572.0
1979-80	1,526	3,886	5,412	610.0
1980-81p	1,581	3,608	5,189	832.3

These milk intake figures have been collected (from milk factories) by the Australian Dairy Corporation and replace statistics of whole milk production and utilisation previously compiled by ABS.

Domestic market

Over the past decade there has been a marked swing away from the production of butter and its by-products, skim milk powder and casein, to cheese and whole milk powder. This has been accompanied by an increased percentage of total milk production going to the fluid milk (including flavoured milk) market and being used in the manufacture of products such as yoghurt and table cream.

The combination of reduced total milk production in Australia and the growth in population has increased the importance of the domestic market and reduced the milk equivalent of exports. Increased emphasis is being placed by manufacturers on meeting the requirements of the domestic market. Attempts are being made to supply the consumer with a more readily usable product. Recent developments include the introduction of ultra high temperature (UHT) treated milk products and butter-vegetable oil blends.

Except for cheese, the domestic market is virtually supplied from Australian produced dairy products. Cheese imports account for approximately 13 per cent of domestic cheese consumption.

Exports

Australia's export trade in dairy products has undergone a considerable change in the last decade both in terms of the volume and type of product traded and the direction of trade.

Declining milk production in Australia has reduced the overall availability of dairy products for export. In 1980-81 the volume of products exported was a little more than a third of that exported in 1970-71. In particular the decline in the production of butter and skim milk powder has led to a decline in exports of those products. Skim milk powder exports increased during 1980-81 due to an industry request for additional butter production to cover 1980-81 domestic requirements. Exports of cheese and whole milk powder, which had been increasing over recent years, showed marked decreases in 1980-81.

Britain was Australia's major outlet for dairy products until it joined the EEC. Now Australia's export markets are reasonably diversified. Japan and South-East Asia are the principal markets for skim milk powder; USA and Japan for casein; South-East Asia and the Middle East for butter; South-East Asia for whole milk powder; and Japan and the Middle East for cheese.

PRODUCTION AND TRADE OF BUTTER AND CHEESE

Year	Butter			Cheese			Imports
	Factory production	Exports (a)		Factory production (c)	Exports (b)		
		Quantity	Value f.o.b.		Quantity	Value f.o.b.	
	'000 tonnes	'000 tonnes	\$m	'000 tonnes	'000 tonnes	\$m	'000 tonnes
1975-76	147.6	52.5	42.2	112.6	31.5	35.2	9.7
1976-77	118.2	22.6	26.0	103.5	52.5	56.2	10.6
1977-78	111.7	17.5	22.7	115.6	47.0	55.6	11.3
1978-79	104.8	28.2	37.8	141.8	51.4	69.0	12.1
1979-80	84.3	17.9	28.7	154.2	61.1	94.4	10.9
1980-81p	79.2	12.0	22.9	135.0	54.1	103.9	9.8

(a) Excludes ghee and butter concentrates. (b) Includes processed cheese exports. (c) Factory production is shown only for non-processed cheese.

Apparent consumption

CONSUMPTION OF MILK, BUTTER, CHEESE AND MARGARINE

Year	Apparent consumption Total			Apparent consumption Per capita per year			Margarine	
	market milk	Butter	Cheese	market milk	Butter	Cheese	Table	Other
	mil. litres	'000 tonnes	'000 tonnes	litres	kg	kg	kg	kg
1975-76	1,401	93	82	101.1	6.8	5.9	3.1	3.9
1976-77	1,460	81	72	104.3	5.8	5.1	4.7	3.5
1977-78	1,474	72	90	104.1	5.1	6.3	5.7	2.9
1978-79	1,490	65	91	104.0	4.5	6.3	5.9	2.9
1979-80	1,512	66	100	104.2	4.6	6.9	6.5	2.5
1980-81p	1,567	64	95	106.4	4.3	6.4	6.7	2.5

For further details on the dairying industry see the publications, *Dairying and Dairy Products, Australia* (7209.0), and *Production Bulletin No. 3: Food, Drink and Tobacco, Australia* (8359.0).

Beekeeping

Beekeeping is practised by some producers as a separate industry, and is carried on by others in conjunction with other branches of agriculture. A feature of the industry is that many apiarists operate on a large scale with mobile equipment. Some of these apiarists move as far afield as from Victoria to Queensland in an endeavour to obtain a continuous supply of nectar for honey from suitable flora.

NOTE: Statistics in the following table relate to apiarists with forty or more hives.

BEEKEEPING STATISTICS

Year	Number of apiarists	Number of beehives		Honey produced			Beeswax produced	
		Productive	Total	Quantity	Average production per productive hive	Gross value	Quantity	Gross value
		'000	'000	'000 tonnes	kg	\$'000	tonnes	\$'000
1974-75	2,266	381	491	20.6	54.2	9,292	326	515
1975-76	2,285	377	497	21.4	56.8	10,453	368	633
1976-77	2,274	348	493	14.9	42.9	8,405	275	777
1977-78	2,151	363	479	18.6	51.2	13,480	329	1,096
1978-79	2,201	369	501	18.3	49.5	14,111	349	1,213
1979-80	2,141	402	511	25.0	62.0	19,050	464	1,719

EXPORTS OF HONEY AND BEESWAX

Year	Honey		Beeswax	
	Quantity	Value f.o.b.	Quantity	Value f.o.b.
	'000 tonnes	\$'000	tonnes	\$'000
1974-75	9.6	5,783	243	459
1975-76	11.5	6,330	217	399
1976-77	6.6	4,602	255	694
1977-78	4.3	4,228	145	542
1978-79	5.7	6,124	194	743
1979-80	11.4	11,572	218	917

Honey levy

The *Honey Levy Act* 1962 imposed a levy on domestic sales of honey. The current rate of levy is 2.05 cents per kg; it can be increased by regulation to a maximum of 2.70 cents per kg.

Additionally the *Honey Export Charge Act* 1973, imposes a levy on exports of honey. The current rate is 0.75 cents per kg; which may be varied by regulation up to 1.5 cents per kg.

Industry contributions to honey research are funded by levy/export charge at the rate of 0.25 cents per kg. The remaining collections are used to finance the operations of the Australian Honey Board.

Honey Exports

During 1980-81 the main feature of the export honey market was a strong downturn in world prices due to intense competition, particularly from the People's Republic of China. This caused a significant rise in uncommitted stocks of Australian honey.

For further information, see the publication *Beekeeping, Australia* (7214.0).

Eggs and egg products

EGGS AND EGG PRODUCTION: SUPPLY AND UTILISATION

(Eggs in shell weight)

Year	Production(a)		Exports	Processed food(b)	Apparent consumption in Australia as human food	
	Quantity	Gross value			Total	Per capita per year
	'000 tonnes	\$ million	'000 tonnes	'000 tonnes	'000 tonnes	kg
1975-76	196.0	178.6	30.8	26.1	171.2	12.4
1976-77	192.7	178.6	21.9	22.4	173.1	12.4
1977-78	200.7	196.3	20.4	26.7	176.0	12.4
1978-79	195.6	196.9	16.2	20.5	180.1	12.6
1979-80	194.6	216.1	11.0	18.0	181.8	12.5

(a) Includes estimates for uncontrolled commercial production and production by self-suppliers. (b) Includes egg products as pulp and powder; also includes wastage.

Recorded commercial egg production in mainland Australian States in 1980-81 was the highest since 1974-75—an increase of 4.5 per cent above 1979-80. Management of production through hen quotas again applied in each of the States. The increase in production is considered attributable principally to improved efficiency on the part of producers and laying flocks, combined with consistently good climatic conditions throughout the year. Increases were recorded in all States other than in South Australia where production was 2.5 per cent lower. The industry and Government contributed to research.

Projections for the coming year indicate that the States, in aggregate, have a target production of approximately 188 million dozen with a view to containment of surplus production to more economic levels.

Egg Consumption

As indicated earlier, egg production data is not available from areas outside the control of State Egg Boards and from 'backyard' producers. Egg consumption data is therefore not complete. However Egg Board data shows that domestic consumption of shell eggs, which rose markedly in 1979-80 in response to high red meat prices and effective promotion, was held in 1980-81 marginally above the 1979-80 level in aggregate, although two States registered decreases. Egg product consumption was marginally improved in all States; the total mainland increase being 2.3 per cent above the previous year, including all liquid, frozen and dried products.

Exports

Egg exports from Australia are predominantly in egg pulp form with Japan the principal market. World markets continue to be over supplied with eggs and all forms of egg products are subject to severe price competition virtually on a year round basis. High and increasing freight costs from Australia are a barrier to trade with the more distant markets such as the Arabian Gulf and Middle East and emphasise the importance of closer markets in the Asian and Pacific areas. Export availability has declined as the gap between domestic consumption and production has narrowed.

EXPORTS OF EGGS AND EGG PRODUCTS

Year	Eggs in shell		Eggs not in shell			
			Liquid form		Dry	
	Quantity	Value f.o.b.	Quantity	Value f.o.b.	Quantity	Value f.o.b.
	'000 doz	\$'000	tonnes	\$'000	tonnes	\$'000
1975-76	2,684	1,033	15,858	9,412	58	96
1976-77	1,293	655	12,693	9,151	35	96
1977-78	1,249	655	9,739	10,272	56	158
1978-79	962	514	8,200	9,790	99	374
1979-80	1,364	779	5,833	5,816	74	322
1980-81p	1,423	1,113	8,508	8,892	50	337

For further details on eggs and egg products see the publication *Apparent Consumption of Food-stuffs and Nutrients, Australia* (4306.0).

Agricultural improvements**Fertilisers**

The bulk of Australia's requirements of nitrogenous and phosphatic fertilisers is supplied by the domestic industry. Requirements of potassic fertilisers are primarily imported. Production of nitrogenous fertilisers is based on both Australian natural and refinery gas and imported naphtha feed-stocks. Production of phosphatic fertilisers is currently dependent upon imported phosphate rock, but some limited development of domestic rock deposits is underway.

The chief sources of Australia's supplies of phosphate rock are Nauru, Christmas Island and Florida, U.S.A.

As a result of widespread phosphate and sulphur deficiency in Australian soils, phosphatic fertilisers particularly single superphosphate account for a large proportion of usage both on crops and pastures.

Sulphur for use in superphosphate manufacture is obtained mainly from Canada and Mexico.

Principal crops and pastures fertilised, etc.

Information regarding the principal crop and pasture areas treated with artificial fertilisers, and the quantity of artificial fertilisers (superphosphate, nitrates, etc.) used, is given in the following tables.

ARTIFICIAL FERTILISERS: AREA AND USAGE

Year	Area fertilised	Super-phosphate used	Nitrogenous fertilisers used	Other fertilisers used
	'000 ha	'000 tonnes	'000 tonnes	'000 tonnes
1974-75	24,858	3,349	335	360
1975-76	18,975	2,216	353	296
1976-77	21,266	2,303	326	428
1977-78	24,324	2,538	490	383
1978-79	25,403	2,651	485	398
1979-80	n.a.	2,969	365	620

Note: Data for 1979-80 are not strictly comparable with earlier years.

Since the Second World War there has been a great expansion of the area of sown pasture accompanied by an increased use of fertilisers. New pasture varieties (including tropical species) have been developed, and nutrient or trace element deficiencies in soils identified.

The main artificial fertiliser used in Australia is superphosphate, over half of which is used on pastures, mainly in areas with moderate to good rainfall. Large quantities are also used on cereal crops.

SUPERPHOSPHATE USAGE

<i>Selected crops and pastures</i>						
<i>Year</i>	<i>Sown and native pastures</i>					<i>Total</i>
	<i>Lucerne</i>	<i>Wheat</i>	<i>Other cereals</i>	<i>Sugar cane</i>		
AREA FERTILISED ('000 hectares)						
1974-75	14,484	639	6,358	2,678	248	24,858
1975-76	8,568	346	6,276	3,092	267	18,975
1976-77	10,006	447	6,745	3,366	285	21,266
1977-78	11,324	469	7,827	3,960	289	24,324
1978-79	12,079	379	8,004	4,220	266	25,403
1979-80	14,703	n.a.	8,607	n.a.	262	n.a.
SUPERPHOSPHATE USED ('000 tonnes)						
1974-75	2,070	112	719	326	21	3,349
1975-76	1,027	53	665	354	26	2,216
1976-77	1,166	63	615	351	27	2,303
1977-78	1,335	67	635	392	25	2,538
1978-79	1,451	55	634	409	22	2,651
1979-80	1,820	n.a.	716	n.a.	26	2,969

PRODUCTION AND IMPORTS OF FERTILISERS

<i>Item</i>		<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81p</i>
PRODUCTION							
Superphosphate (a)	'000 tonnes	2,185	3,137	3,388	3,646	4,202	3,770
Mixed chemical fertilisers (including complete manures)	'000 tonnes	708	870	828	993	n.y.a.	n.y.a.
Leaf and foliage type fertilisers (including dry and liquid form)	tonnes	1,129	n.p.	n.p.	n.p.	n.y.a.	n.y.a.
Manures (without added chemical fertilisers) (b)	tonnes	20,344	17,132	11,472	12,678	n.y.a.	n.y.a.
IMPORTS							
Crude fertilisers (mainly natural phosphate)	'000 tonnes	1,464	1,330	1,612	2,381	2,181	3,216
	Value \$m	18.4	42.5	55.6	83.4	80.4	102.1
Manufactured, mineral or chemical fertilisers—							
Nitrogenous (c)	'000 tonnes	6	22	23	29	75	86
	Value \$m	0.7	2.6	2.6	4.2	9.4	12.7
Potassic (d)	'000 tonnes	110	165	162	174	215	212
	Value \$m	7.3	9.6	9.1	9.9	15.5	21.4
Other (e)	'000 tonnes	18	71	35	72	81	61
	Value \$m	1.3	8.9	5.1	10.3	7.2	12.8

(a) Includes double and triple superphosphate and ammonium phosphate in terms of single superphosphate. (b) Blood, bone and/or offal, and other material. (c) Mainly ammonium nitrate, ammonium sulphate, calcium ammonium nitrate, sodium nitrate and urea containing in the dry state more than 45 per cent by weight of nitrogen. (d) Mainly potassium chloride and potassium sulphate. (e) Includes phosphatic fertilisers and compounds of the main elements nitrogen, phosphorus and potassium (N.P.K. complete fertilisers).

Note: Production data are derived from the Annual Manufacturing Census and the recorded monthly production.

Aerial agriculture

Extensive use is made of aircraft for top-dressing and seeding, for spraying and dusting of crops and pastures and for pest and vermin extermination. The statistics below have been compiled from returns collected from the operators of aircraft engaged in aerial agriculture. The collection was commenced in 1956 by the then Department of Civil Aviation and is now the responsibility of the Department of Transport.

AERIAL AGRICULTURE

Year ended 31 March	Area treated ('000 hectares)			Materials used ('000 tonnes)		Productive hours flow ('000 hours)
	Top dressed and seeded	Sprayed	Total(a)	Super- phosphate	Seed	
1976	1,164	2,059	3,314	105.2	3.5	53.8
1977	1,381	1,624	3,064	151.5	2.5	49.6
1978	2,403	1,782	4,260	287.2	3.8	69.5
1979	3,212	2,956	6,224	374.5	5.9	101.2
1980	4,416	2,412	6,907	514.2	6.4	127.3
1981	2,727	2,054	4,850	489.2	4.6	98.7

(a) Includes other types of treatment (rabbit baiting, etc.).

Irrigation on agricultural establishments

Irrigation is one of the factors by which agriculture is further developed. The variability in stream flow and annual rainfall means that successful irrigation of crops and pastures is dependent on storage. Ground water supplies are also used in areas where the quantity is adequate and the quality is suitable. The area of land irrigated (approximately 1.4 million hectares in 1978-79) forms about 10 per cent of the total area under crops and only 0.3 per cent of the total area of agricultural establishments.

Most irrigation areas in Australia are supplied with water by a State authority, although there are also private schemes operating. The major reasons for expansion of the area irrigated have been public investment in the building of dams and reservoirs and private investment by farmers in irrigation plant and earthworks. Irrigation statistics are collected irregularly. Chapter 15, Water Resources, contains details of water conservation and irrigation with international, national and interstate aspects.

Agricultural machinery on agricultural establishments

Statistics on the type of agricultural machinery on agricultural establishments were published in early issues of the Year Book. Additional information was published in the publication *Rural Land Use, Improvements, Agricultural Machinery and Labour, Australia, 1974-75* (7103.0). Details of the sales of new tractors for agricultural purposes are given in the quarterly publication *Sales and Stocks of New Tractors, Australia* (8507.0).

Employment in Agriculture

Employment on agricultural establishments

Prior to 1976 data on employment collected at the annual Agricultural Census differentiated between permanent full-time employees and temporary employees. Full-time workers excluded casual or seasonal workers and other persons working only part-time. Casual or seasonal workers were shown as temporary employees.

In the past it has been difficult to maintain comparability of employment on agricultural establishments from year to year because of the changing number of lessees and share farmers and because of the tendency of many farmers to include part-time family helpers as full-time workers in their returns. Since the Second World War there has been a decline in the percentage of people living in rural areas due, in part, to a rising standard of living accompanying the introduction of new techniques and increasing use of capital equipment, fuel, fertilisers, and pesticides. As a result, a smaller agricultural labour force is now producing a larger output of farm products.

EMPLOYED PERSONS IN AGRICULTURE AND SERVICES TO AGRICULTURE

<i>Month of August</i>	<i>Males</i>	<i>Married women</i>	<i>All females</i>	<i>Persons</i>
1976	287.6	71.0	82.9	370.5
1977	294.2	73.6	89.1	383.3
1978	274.9	63.7	78.1	353.0
1979	295.4	69.1	80.3	375.7
1980	285.9	77.1	92.4	378.3
1981	281.7	86.3	103.0	384.7

Source: Monthly population survey conducted by the ABS throughout Australia. For further details see *The Labour Force, Australia* (6203.0).

Regulation of Australian agricultural industries

Year Book No. 61, pages 837-57, contains a summary of the means by which agricultural industries are assisted and regulated. It is not intended as a comprehensive statement of all the consultative and legislative assistance and control measures that exist, but rather as a description of the way in which these processes affect the crops, livestock and livestock products referred to earlier in this chapter.

Many of the processes are also referred to in this Year Book in the relevant section of the chapter. For details on the operations of the Australian Agricultural Council, the Rural Reconstruction Scheme and the agricultural extension services provided by the States' Departments of Agriculture see Year Book No. 61, pages 837-839.

CHAPTER 14

FORESTRY AND FISHERIES

FORESTRY

(Source: Forestry Branch, Department of Primary Industry)

Forestry in the States

Under the Australian Constitution land management is the sole responsibility of State Governments. Each State has a forest service responsible for the management and control of publicly-owned forests, in accordance with Forestry Acts and Regulations. Forest management aims to satisfy all reasonable demands by the community on the forest estate including timber production, provision of minor forest products, grazing, protection of native flora and fauna, recreation and watershed protection.

Forestry in the Territories

The Department of the Capital Territory is responsible for the management and control of forestry in the Australian Capital Territory. Forestry in the Northern Territory is the responsibility of the Northern Territory Conservation Commission. Both forestry units have functions similar to those of State Forest Services.

Commonwealth Forestry Administration

The Department of Primary Industry is responsible for forestry matters at the national level. Its primary responsibilities are the administration of a control on the export of unprocessed timber, liaison with State, national and international organisations concerned with forestry, provision of the Secretariat for the Australian Forestry Council and compilation of national statistics on the forestry industry.

Existing Forest Estate

Native Forests

The total area of native forest, defined as land dominated by trees with an existing or potential mature height of twenty metres or more, including native stands of cypress pine in commercial use regardless of height, was estimated at 40.8 million hectares as at 30 June 1980. Thirty-four million hectares of the natural forests are dominated by eucalypts. For a more detailed examination of Australian native forests, see Yearbook No. 61, Chapter 24.

The following tables show classifications of native forest areas in Australia by forest type and ownership. Plantation areas are dealt with separately.

NATIVE FOREST AREAS CLASSIFIED BY FOREST TYPE, 30 JUNE 1980
(^{'000 hectares})

Forest type group	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Rainforest	300	-	1,074	-	-	472	38	-	1,884
Eucalypt									
Productivity—Class I(a)	1,173	631	204	-	176	504	-	-	2,688
Class II(b)	3,649	3,981	1,290	-	2,816	1,848	-	51	13,635
Class III(c)	8,320	299	3,140	-	19	-	-	-	11,778
Tropical eucalypt and paperbark	-	-	4,078	-	-	-	2,450	-	6,528
Cypress pine	1,908	-	1,685	-	-	-	778	-	4,371
Total	15,350	4,911	11,471	-	3,011	2,824	3,266	51	40,884

(a) Gross production in excess of 5 cu. metres per hectare per annum. (b) Gross production between 1-5 cu. metres per hectare per annum.
(c) Gross production of less than 1 cu. metre per hectare per annum.

NATIVE FOREST AREAS CLASSIFIED BY OWNERSHIP, 30 JUNE 1980

('000 hectares)

Ownership category	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
State forestry (a)	2,866	1,916	3,126	-	1,913	1,272	312	-	11,405
Other public (b)	6,208	1,536	5,672	-	435	399	2,639	51	16,940
National parks (c)	993	853	1,394	-	105	122	315	-	3,782
Private (d)	5,283	606	1,279	-	558	1,031	-	-	8,757
Total	15,350	4,911	11,471	-	3,011	2,824	3,266	51	40,884

(a) Publicly owned land, permanently reserved or dedicated primarily for timber production. (b) Publicly owned land, vacant or occupied under lease, not specifically reserved for timber production, but on which control of timber rests with the Crown. (c) Publicly owned land, permanently reserved for purposes other than timber production. (d) Privately owned land, and leasehold where the Crown has no control over timber rights.

Plantations

Tree plantations of a few coniferous species now provide a large part of Australian-grown wood supplies. The large scale establishment of these plantations was commenced by State Forest Services early this century, and in the case of South Australia, last century, to overcome the shortage of native coniferous timber. In an eleven year period covered by the *Softwood Forestry Agreements Acts* 1967, 1972 and 1976, the Commonwealth provided financial assistance to the States in the order of \$55 million for an extended program of softwood plantation development. A further Act in 1978, authorised financial assistance over the five year period terminating 30 June 1982 for the maintenance of the area of plantations established previously with Commonwealth funds.

Privately owned plantations amount to approximately two-fifths the area under State ownership. New plantations (including replanting) are currently being established at the rate of 33,000 hectares per annum, of which almost one-third is by private enterprise. A detailed account of the history and development of coniferous plantations and of the characteristics of individual species is included in Year-book No. 59, page 880. The following table shows total area of plantations in Australia classified by species.

PLANTATION AREAS(a), CLASSIFIED BY SPECIES, 31 MARCH 1980

(Hectares)

Species group	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Coniferous—									
Pinus radiata	155,907	157,375	3,719	88,586	35,502	51,454	—	12,751	505,294
Pinus elliotii(b)	12,346	—	90,322	—	43	—	—	—	102,711
Pinus pinaster	—	1,512	—	5,411	23,960	—	—	—	30,883
Pinus caribaea	1,107	—	15,725	—	—	—	1,508	—	18,340
Araucaria	1,550	—	41,528	—	—	—	—	—	43,078
Other coniferous	4,536	3,496	5,591	535	142	296	2,499	851	17,946
Total coniferous	175,446	162,383	156,885	94,532	59,647	51,750	4,007	13,602	718,252
Broadleaved—									
Eucalyptus	16,033	12,597	2,883	864	8,300	3,893	—	—	44,570
Populus	2,314	327	—	—	—	—	—	—	2,641
Other broadleaved	—	21	547	—	—	58	—	—	626
Total broadleaved	18,347	12,945	3,430	864	8,300	3,951	—	—	47,837
Total	193,793	175,328	160,315	95,396	67,947	55,701	4,007	13,602	766,089

(a) Public and private ownership. (b) Includes all species other than *P. radiata* in private ownership.

Australian Forestry Council

Membership of the council comprises the state Ministers responsible for forestry and the Commonwealth Minister for Primary Industry. Councils major functions are to make recommendations to the Commonwealth Government on national forestry matters and research coordination. It is serviced by a Standing Committee and specialist sub-committees.

Research

Commonwealth Scientific and Industrial Research Organization (CSIRO)

The Division of Forest Research in the Institute of Biological Resources conducts research in the four core areas of forest ecology and biology, silviculture, tree breeding and genetics, and harvesting.

The Division also conducts research into taxonomy, forest protection, forest assessment, and seed resource conservation and distribution. The Division maintains close liaison with relevant State authorities and, on occasion, collaborates with private companies. It operates seven regional stations in the States and the Northern Territory.

Within the Institute of Biological Resources (Divisions of Plant Industry, Entomology and Wildlife Research) and Earth Resources (Divisions of Soils, Land Resources Management and Land Use Research) research is undertaken on forestry problems relevant to the disciplines pursued in these Divisions.

Within the Institute of Industrial Technology, the Divisions of Building Research and Chemical Technology and an Agricultural Engineering section carry out a wide range of investigations relating to the properties of wood, the processing and uses of wood and wood products and tree harvesting. Research on the applications of wood in building is undertaken by the Division of Building Research. The research programs of the Division of Chemical Technology are directed towards developing ways whereby Australia's forest resources can be more effectively utilised. The programs include processing of wood and timber, technology of fibre separation, wood and fibre properties, composite wood and paper products, assessment of cellulosic resources and conservation of wood-based materials. Technology for the production of liquid fuels from wood and other plant materials is also being investigated. The Agricultural Engineering section undertakes research leading to the design and development of machines for tree harvesting.

The Divisions provide assistance to individuals and industry, provide training and experience for overseas technologists and maintain co-operative aid projects with developing countries.

Education

The Australian National University's Department of Forestry in Canberra and the Faculty of Agriculture and Forestry of the University of Melbourne offer undergraduate courses leading to a Bachelor of Science degree in Forestry. Most States provide for sub professional forestry training.

Timber and timber products

The major forest industries include the sawmilling, ply and veneer, reconstituted board (particleboard, fibreboard) and pulp and paper industries. The sawmilling industry is the largest single user of logs harvested from Australian forests (50 per cent), followed by the pulp and paper industry (11 per cent). Currently about 75 per cent of total volume of logs harvested are obtained from natural forests and the remainder mainly from coniferous plantations. This proportion will change over time so that towards the end of this century about half the supply of logs may be from coniferous plantations. Total removals at that time are estimated at 23 million cubic metres compared to current log removal of 15 million cubic metres.

The value of imports of timber products in 1979-80 was in the order of \$525 million while the value of exports of timber products was \$205 million.

The following table shows the production, imports, exports and domestic consumption of sawn timber and major timber products

SAWN TIMBER AND MAJOR TIMBER PRODUCTS, 1979-80

(Source: Forestry Branch, Department of Primary Industry and Australian Bureau of Statistics)

Item		Production (1)	Imports (2)	Exports (3)	Domestic Consumption (1 + 2 - 3)
Sawn timber	cu m	3,160,264	989,088	50,640	4,098,712
Plywood	cu m	86,862	61,290	906	147,246
Railway sleepers	cu m	228,565	4,650	32,503	200,712
Particleboard	cu m	581,810	254	15,748	566,316
Hardboard	cu m	95,000	906	5,698	90,208
Newsprint	tonne	221,460	336,816	1,213	557,063
Printing and writing	tonne	210,330	181,078	16,211	375,197
Other paper	tonne	519,865	129,635	73,922	575,578
Paperboard	tonne	478,899	47,057	4,034	521,922

In addition to the products listed above, exports for 1979-80 of pulpwood (virtually all in the form of woodchips) was 4,479,134 tonnes (green).

FISHERIES

Collection and presentation of fisheries statistics

Source and basis of statistics

Statistics presented in this section of the chapter have been obtained principally from State Fisheries Authorities and Australian Bureau of Statistics collections. In New South Wales, South Australia, Western Australia and the Northern Territory the information is derived from returns collected from licensed fishermen. In Queensland the statistics are based mainly on Fish Board receipts. In Victoria, prior to 1979-80, and Tasmania data are obtained mainly by the ABS from buyers and processors. Additionally, details of New South Wales tuna production are supplied by CSIRO and particulars of Australian pearl culture have been collected and supplied by the Fisheries Division of the Department of Primary Industry.

Australian fisheries production statistics are generally in terms of the form in which they are taken from the water. For example, the statistics of fish production published in this chapter are in terms of 'estimated live weights' which are calculated from landed weights by using conversion factors for each species in each State. These conversion factors allow for the fact that the quantities of fish reported are frequently in a gutted, headed and gutted, or otherwise reduced condition. Crustaceans are reported on an 'estimated live weight' basis and molluscs (edible) on a 'gross (in-shell) weight' basis. The figures for pearl-shell and trochus-shell refer to the actual quantities of dry shell for sale and exclude the weight of the fish.

For more details of employment and boats and equipment for general fisheries and particulars of the whaling industry *see* earlier issues of this publication.

Fisheries resources and their commercial exploitation

(Source: Fisheries Division, Department of Primary Industry)

Fish

Over 2000 species of marine and freshwater fish occur in and around Australia. Australian fishermen concentrate their efforts on estuarine, coastal, pelagic (surface swimming) and demersal (bottom swimming) fish that occur off the north east, south-east and south-west coasts where the majority of the human population is located. Off north Australia, barramundi (*Lates calcarifer*) constitutes the most important estuarine and coastal species, while in the south-east and south-west regions, mullet (mainly *Mugil cephalus*), bream (*Acanthopagrus* spp.) Australian salmon (*Arripis trutta*) and Australian herring (*Arripis georgianus*) are important catch components.

Major pelagic fisheries are Spanish mackerel (*Scomberomorus commerson*) off north Australia, and southern bluefin tuna (*Thunnus maccoyii*), snoek (*Leionura atun*), pilchards (*Sardinops neopilchardus*) and anchovies (*Engraulis australis*) off south-east Australia. Southern bluefin tuna are also fished off south-west Australia. Significant stocks of jack mackerel off southern Australia are as yet lightly fished.

A large multispecies demersal fishery exists off south-east Australia that targets on flathead (*Neoplatycephalus* and *Trudis* spp.) morwong (*Nemadactylus* spp.), redfish (*Centroberyx affinis*) gemfish (*Rexea solandri*) and blue grenadier (*Macruronus novaezelandiae*). Demersal inshore snapper (*Chrysophrys auratus*) fisheries exist off south-west and south-east Australia; in the latter region, stocks of whiting (*Sillaginidae*) are also fished. In the northern tropical region, reef fish such as cods (*Epinephelus* spp.) are exploited. A large demersal fishery for edible school and gummy sharks (*Galeorhinus australis* and *Mustelus antarcticus*, respectively) is centred in Bass Strait.

Establishment of the 200 nautical mile Australian Fishing Zone (AFZ), has brought portions of oceanic tuna stocks, and demersal and pelagic fish stocks presently exploited by foreign fishing vessels, under Australian control. A foreign pelagic gillnet fishery off the north coast catches sharks (mainly *Carcharhinus* spp.), tuna (*Thunnus tonggol*) and Spanish mackerel while a demersal pair trawl fishery off the north-west coast exploits a tropical, multispecies fauna that includes threadfin bream (*Nemipteridae*) tropical snappers (*Lutjanidae*), emperors (*Lethrinidae*) goatfish (*Mullidae*) and hair tails (*Trichiuridae*).

Crustaceans

Prawns (*Penaeus* and *Metapenaeus* spp) provide the most valuable fishery in Australia and are taken in estuarine, coastal and offshore waters of all States except Tasmania. The western and southern rock lobsters (*Panulirus longipes cygnus* and *Jasus novaehollandiae*), also a valuable resource, are taken on rocky reefs around the southern half of Australia. Bay lobsters (*Thenus* spp and *Ibacus* spp) are taken incidentally to prawn trawling operations. Crabs (*Scylla* spp and *Portunus* spp) are taken mainly in Queensland, New South Wales and Western Australia.

Molluscs (edible)

Naturally-occurring oysters are harvested in all States; in New South Wales and Queensland the Sydney rock oyster (*Crassostrea commercialis*) is cultured commercially. The introduction of the Pacific oyster (*Crassostrea gigas*) to Tasmania and South Australia has provided a limited supply in those States. Following a serious decline in catches in the scallop (*Pecten meridionalis*) fishery based on stocks in Port Phillip Bay, Victoria, new offshore beds were located in southern New South Wales, eastern Victoria, northern Tasmania and south-western Western Australia. However, substantial fluctuations in abundance have resulted in erratic production from year to year. A fishery based on the saucer scallop (*Amusium balloti*) is located off south and central Queensland and there is a small fishery for the same species in Shark Bay, Western Australia. An important abalone (*Haliotis spp*) fishery has been developed since 1964 in south-east Australia with Tasmania, Victoria and South Australia providing the bulk of the catch. There is also a small abalone fishery in south-west Australia. Mussels (*Mytilus planulatus*) are harvested in Victoria, Western Australia and New South Wales. Prior to 1978 small quantities of cephalopods, mainly squid, were produced in many localities. Feasibility fishing located promising squid resources (*Notutodarus gouldi*) in the south east. Squid (*Loligo spp*) form an important component to the travel catch in the Arafura Sea.

Pearl-shell and trochus-shell

The shell of the Australian species of pearl oyster (*Pinctada maxima*) is taken from various localities in the tropical waters of Australia between Broome in Western Australia and Cairns in Queensland for the manufacture of buttons, knife handles, etc. Live pearl-shell is used for pearl culture, *Pinctada maxima* being capable of producing pearls which are the largest in the world and which command top market prices. Trochus-shell is found mainly on coral reefs off the Queensland coast, although small quantities occur in Western Australia.

Whales

Whales are now a protected species in the Australian Fishing Zone.

Fisheries administration and research

(Source: Fisheries Division, Department of Primary Industry)

The Constitution of the Commonwealth (section 51 (x)) assigns to the Commonwealth Government power to legislate for fisheries in Australian waters beyond territorial limits, the residual power in respect to waters within territorial limits (including inland waters) resting with the States. The Commonwealth Government has made similar arrangements for each of its Territories. Each State and Territory has legislation regulating fisheries in waters within its jurisdiction. Persons taking fish for sale, and their boats, are required to be licensed, and provision is made for management of the fisheries.

The Commonwealth Government laws regulating the fisheries are the *Fisheries Act 1952*, the *Continental Shelf (Living Natural Resources) Act 1968*, the *Whaling Act 1960* and the *Whale Protection Act 1980* which is not yet in force. Each of these applies in accordance with the Commonwealth Government's fishery power under the Constitution.

Fisheries Act

This Act, as amended in 1978, established a 200 mile Australian fishing zone around Australia and its external Territories. It provides for regulation of fisheries by requiring fishermen and fishing boats to be licenced, and by empowering the Minister to prohibit certain fishing activities by fisheries Notices. As well as giving effect to Australia's sovereign rights over the living resources of the 200 mile zone, the Act, in accordance with International Law, imposes an obligation on Australia to manage the resources so that they are conserved for the future.

As part of the Commonwealth/State arrangements for the sharing of resources in the seas surrounding Australia; the *Fisheries Act 1952* provides mechanisms for the Commonwealth and a State, or States, to consult and agree on management of a particular fishery and then for one or the other to apply its laws to implement agreed measures throughout the fishery irrespective of whether the fishery is within or beyond the three mile limit of territorial waters. These arrangements will not be possible until complementary State legislation has been enacted.

The *Fisheries Act 1952* and the *Continental Shelf (Living Natural Resources) Act 1968* were amended in 1980 to complement the *Whale Protection Act 1980* in respect of the preservation, conservation and protection of all species of whale. The *Whale Protection Act 1980* is administered by the Minister for Home Affairs and Environment.

Continental Shelf (Living Natural Resources) Act

This Act implements in Australian law the sovereign rights conferred on Australia by the Convention on the Continental Shelf, Geneva, 1958 in respect of the organisms belonging to sedentary

species (that is, organisms which, at the harvestable stage, either are immobile on or under the seabed, or are unable to move except in constant physical contact with the seabed or the subsoil) on the continental shelf. The continental shelf comprises the seabed and subsoil of the submarine areas adjacent to the coast but outside the territorial sea to a depth of 200 metres, or beyond that depth where the depth of the superjacent waters admits of the exploitation of the natural resources of the area. The Act requires the licensing of persons searching for and taking sedentary organisms, of boats used to search for and take sedentary organisms, and of persons employing divers, trial divers and divers' tenders in taking sedentary organisms if such activities are carried out in controlled areas of the continental shelf of Australia or the Territories for a commercial purpose. Provision is made for proclamation of sedentary organisms to which the Act applies, for the establishment of controlled areas of continental shelf in respect of specified sedentary organisms, and for the management and conservation of sedentary organisms in controlled areas (the last of these applying to all persons whether the purpose of the taking of the sedentary organism is commercial or not). The Act applies to all persons including foreigners, and to all boats including foreign boats.

Whaling Act and Whale Protection Act

The Whaling Act provides for similar controls over the taking of whales as the Fisheries Act and the Continental Shelf (Living Natural Resources) Act provide in relation to other species. It will be repealed by the Whale Protection Act, which will come into force when arrangements have been concluded with the State Governments. The legislation prohibits killing, capturing, injuring or interference with a whale, dolphin or porpoise in the Australian fishing zone and by Australians domiciled in Australia and Australian fishing vessels and aircraft and their crews beyond the 200 mile Australian fishing zone, with penalties up to \$100,000.

Administration

Australian fisheries are administered by the authority having jurisdiction over the waters concerned. In inland waters and in waters within territorial limits, administration is the responsibility of the State or Territory fisheries authority. In proclaimed waters, and on the continental shelf beyond territorial limits, administration is the responsibility of the Commonwealth Government which by agreement, has delegated to State fisheries authorities the necessary authorities for day-to-day administration of the Acts.

The administration of the fisheries is directed to a number of objectives of which the two most important are: conservation and management of the living resources of the Australian Fishing Zone to ensure that they are not endangered by over exploitation; and achievement of the optimum utilisation of the living resources by the Australian fishing industry and foreign interests. Consistent with these objectives, a number of controls have been introduced to prevent the depletion of the more heavily fished species. These controls take the form of seasonal closures, gear limitations, minimum size requirements and limited access rights, as well as outright prohibitions on the taking of certain species.

The Fisheries Development Trust Account (established under the *Fishing Industry Act* 1956) and the Fishing Industry Research Trust Account (established under the *Fishing Industry Research Act* 1969) are available to support financially projects for the development and management of the fisheries and fishing industry which are consistent with the purposes of those Acts. The former was established with the proceeds of the sale of the assets of the Australian Whaling Commission and is replenished from Consolidated Revenue as necessary. The latter is a matching fund into which is paid each year an appropriation from Commonwealth Government Revenue equal to amounts collected from the fishing industry by the State Fisheries Authorities and paid into appropriate State research accounts for the same purpose.

Research

The main aim of fisheries research in Australia is to provide a background of biological, technical and economic information which will provide guidance for the efficient and rational utilisation of fisheries resources. To this end much of the research already undertaken has been directed at formulating recommendations for management of various fisheries. Research work, including feasibility fishing projects involving foreign fishing vessels, is also carried out and is expected to lead to the development of new fisheries, the expansion of under-exploited fisheries, greater economy in operations and the use of more efficient equipment and methods.

Organisations in Australia at present engaged in research into fisheries matters are:

- (i) CSIRO Division of Fisheries Research, which has its headquarters and main laboratory at Cronulla, N.S.W. and regional laboratories in Western Australia and Queensland (fisheries science);
- (ii) CSIRO Division of Oceanography which has its headquarters and laboratory at Cronulla, N.S.W.;

- (iii) CSIRO Division of Food Research, conducts research into handling, storage, processing and transportation of fish at its laboratory in Hobart, Tasmania;
- (iv) State fisheries departments (fisheries laboratories have been established in Perth, Hobart, Melbourne, Sydney, Brisbane, Darwin and Cairns; research vessels are operated by New South Wales, Victoria, Western Australia, Tasmania and South Australia);
- (v) Fisheries Division, Department of Primary Industry, Canberra (economic and management research, fishing technology, extension and education service); and
- (vi) private fishing companies (surveys of fisheries resources, research into handling, processing and marketing).

Boats and equipment used in fisheries

(Source: Fisheries Division, Department of Primary Industry)

Fish, crustaceans and molluscs (edible)

The boats used for the estuarine fisheries are mostly small vessels propelled by diesel or petrol engines of low power. The offshore vessels range up to 40 metres in length and are almost invariably powered by diesel engines. Most of them have either insulated holds and carry ice, or are equipped with dry or brine refrigeration. Some rock lobster vessels are fitted with wells in which the catch is kept alive.

The following are the types of equipment most commonly used in the main fisheries: *mullet*, beach seine, gill net; *shark* (edible), long-lines, gill net; *Australian salmon*, beach seine; *snoek*, trolling lines; *flathead*, Danish seine, otter trawl; *snapper*, long-lines, traps, gill net, hand-line; *morwong*, Danish seine, otter trawl, traps; *whiting*, handlines, Danish seine, beach seine, gill net; *garfish*, beach seine; *mackerel*, trolling lines; *tuna*, pole and live-bait, purse seine, trolling lines (lampara nets and purse seines are used for taking live bait for tuna); *prawns*, otter trawl, beam trawl, beach seine net; *rock lobster*, pots, traps; *scallops*, dredge, otter trawl; *abalone*, diving using hookah gear; and *pilchards*, *anchovies*, *jack mackerel* and *striped tuna*, purse seine.

Pearls, pearl-shell and trochus-shell

Ketch-rigged luggers about 15 metres long which carry crews of eight to fourteen members are used for pearl-shell fishing in northern Australia.

Production, processing and domestic marketing of fisheries products

Value of fisheries production

The following table shows the gross value and local value of fishing and whaling production by States. Because the value of materials used in the course of production is not available for all States, it is not possible to show a comparison of net values. *Gross value of production* is the value placed on recorded production at the wholesale price realised in the principal markets. In general, the 'principal markets' are the metropolitan markets in each State, although, in cases where commodities are consumed locally or where they become raw material for a secondary industry, these points are presumed to be the principal markets. *Local value* (i.e. gross value of commodities produced at the place of production) is ascertained by deducting marketing costs from the gross value of commodities produced. Marketing costs include freight, cost of containers, commission, and other charges incurred in marketing. Gross and local values of primary commodities produced involve some duplication as they include certain primary commodities which are consumed as raw materials to produce other primary commodities (e.g. hay consumed by livestock).

FISHERIES: GROSS AND LOCAL VALUE OF PRODUCTION
(\$'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
GROSS VALUE								
1974-75	(a) 24,609	8,686	(b) 12,606	(c) 14,083	35,130	6,928	5,667	(d) 107,709
1975-76	31,599	10,601	(b)(e) 17,137	(c) 22,474	51,079	8,511	5,228	(d) 146,629
1976-77	36,059	16,014	(b)(e) 34,955	(c) 27,199	69,094	11,662	11,357	(d) 206,340
1977-78	39,665	17,977	(b)(e) 40,808	(f) 23,615	88,340	12,609	10,337	(d) 233,351
1978-79	42,286	20,025	58,214	(f) 30,475	80,233	14,636	19,576	(d) 279,809
1979-80	58,661	19,814	(e) 62,789	(f) 35,235	85,652	20,463	16,806	(d)(g) 317,546

For footnotes see end of table.

LOCAL VALUE

1974-75 . . .	21,569	6,949	11,732	12,496	34,785	6,928	5,667	100,127
1975-76 . . .	25,334	8,481	16,152	20,022	50,870	8,511	5,228	134,598
1976-77 . . .	30,352	13,917	33,953	24,207	68,864	11,662	11,357	194,312
1977-78 . . .	32,993	16,539	39,677	21,034	88,038	12,609	10,337	221,226
1978-79 . . .	35,113	18,423	56,720	27,199	79,912	14,636	19,576	265,531
1979-80 . . .	48,405	17,377	61,130	31,399	85,015	20,463	16,806	(g)298,721

(a) Incomplete; excludes octopus, squid and cuttlefish in New South Wales. (b) Incomplete; excludes oysters in Queensland. (c) Incomplete; excludes oysters in South Australia. (d) Incomplete *see* individual States. (e) Incomplete; excludes rock lobster in Queensland. (f) Incomplete; excludes octopus, cuttlefish, oysters and scallops in South Australia. (g) Includes value of pearling which has been excluded from State totals.

Production of selected fisheries

SELECTED FISHERIES PRODUCTS: PRODUCTION AND GROSS VALUE

1979-80

Product	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Aust.
QUANTITY (tonnes)								
Fish(a)	25,421	n.y.a.	4,762	12,356	10,915	2,188	1,352	(e)56,994
Crustaceans(a)	2,918	n.y.a.	(b)11,258	4,440	14,226	1,340	3,189	(e)37,371
Molluscs (edible)(a)	9,592	n.y.a.	(c)1,593	(d)2,095	838	7,233	27	(e)21,378
GROSS VALUE (\$'000)								
Fish	25,072	n.y.a.	7,073	12,673	8,690	2,994	1,791	(e)58,293
Crustaceans	13,243	n.y.a.	(b)53,590	19,718	75,661	6,938	14,987	(e)184,137
Molluscs (edible)	20,347	n.y.a.	(c)2,127	(d)2,844	1,302	10,531	28	(e)37,179

(a) Estimated live weight. (b) Excludes Rock Lobster in Queensland. (c) Incomplete. Excludes oysters in Queensland. (d) Incomplete. Excludes octopus, cuttlefish, oysters and scallops in South Australia. (e) Incomplete; *see* individual States.

SELECTED FISHERIES PRODUCTS: PRODUCTION, AND GROSS VALUE, AUSTRALIA

Product	1977-78	1978-79	1979-80
QUANTITY (tonnes)			
Fish(a)(b)	62,789	63,395	(c)56,994
Crustaceans(a)	34,641	37,640	(c)37,371
Molluscs (edible) (a)	25,517	26,667	(c)21,378
Pearl-shell	150.0	185.0	309.6
Trochus-shell	—	—	n.p.
GROSS VALUE (\$'000)			
Fish(b)	52,778	56,617	(c)58,293
Crustaceans	139,237	176,391	(c)184,137
Molluscs (edible)	26,581	32,348	(c)37,179
Pearl-shell	124	188	905
Trochus-shell	—	—	n.p.

(a) Estimated live weight. (b) Excludes freshwater fish caught in Queensland. (c) Incomplete *see* individual States in table above. (d) Excludes manufacturing shell produced from pearl culture operations. (e) Source: Department of Primary Industry.

FISH: PRODUCTION, BY PRINCIPAL TYPES

Type	Tonnes estimated live weight			Gross value (\$'000)		
	1977-78	1978-79	1979-80	1977-78	1978-79	1979-80(a)
Tuna (b)	12,306	11,266	13,573	5,564	5,316	11,426
Mackerel	1,481	1,049	1,093	1,439	1,177	1,424
Snoek	386	186	121	166	76	58
Mullet	6,095	5,600	5,930	3,071	3,396	4,154
Bream (including Tarwhine)	834	794	809	1,247	1,453	1,687
Australian salmon	3,225	2,390	2,448	1,203	993	1,154
Ruff	1,173	1,163	1,092	481	443	493
Snapper	2,128	2,045	2,250	3,585	3,939	4,621
Morwong	1,593	1,447	1,287	1,373	1,356	1,642
Whiting	2,382	2,566	2,173	5,441	6,969	5,125
Flathead	1,966	2,169	1,372	1,590	1,896	1,593
Shark	7,935	7,452	5,274	8,647	8,465	4,266
Leatherjacket	365	227	357	237	171	259
Other	21,222	23,065	19,210	17,926	21,412	20,390
Total	63,093	61,420	56,994	53,728	57,062	58,293

(a) Excludes Victoria. (b) Includes estimates by CSIRO for New South Wales.

Crustaceans

CRUSTACEANS: PRODUCTION, BY TYPE

(Tonnes live weight)

Type	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80(a)
Murray crayfish	184	(a)131	83	38	28	18
Yabbies						
Rock lobster	12,265	(a)12,865	(b)12,875	(b)14,485	15,358	14,469
Bay lobster						
Prawns	16,327	19,478	23,095	19,272	21,724	21,994
Crabs	712	700	825	858	790	888
Total	29,488	(b)33,173	(b)36,878	(b)34,653	37,900	37,371

(a) Excludes Victoria. (b) Incomplete; see footnotes to figures for individual species.

Molluscs (edible)

MOLLUSCS: PRODUCTION, BY TYPE

(Tonnes estimated live weight)

Type	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80(a)
Octopus	(b)20	(c)59	78	(c)92	(c)147	(c)250
Squid	(b)212	253	280	381	583	719
Cuttlefish	(b)-	(c)19	(c)19	(c)29	(c)93	(c)144
Oysters	(c)(d)8,908	(c)(d)10,273	(c)(d)10,793	(c)(d)9,786	(c)(d)6,740	(c)(d)8,251
Mussels	1,019	1,123	544	773	689	343
Pipi	193	195	207	303	285	1,108
Scallops	6,062	4,642	4,396	(c)9,121	(c)10,548	(c)5,594
Abalone	4,971	5,256	6,313	5,057	6,197	4,970
Total	(e)21,386	(e)21,820	(e)22,630	(e)25,543	(e)25,283	(e)21,378

(a) Excludes Victoria. (b) Excludes New South Wales. (c) Excludes South Australia. (d) Excludes Queensland. (e) Incomplete; see individual species.

Pearls, pearl-shell and trochus-shell

PEARL CULTURE AND PEARL AND TROCHUS SHELL FISHING OPERATIONS^(a)

(Source: Department of Primary Industry)

		1977	1978	1979
QUANTITY				
Pearl and Trochus shell fishing operations—				
Production of—				
Pearl shell ^(b)	tonne	150.0	185.0	309.6
Trochus shell	tonne	—	—	n.a.
Pearl culture operations—				
Live shell introduced	No.	495,465	438,496	358,022
	tonne	157.5	130.5	112.6
Production—				
Round and baroque pearls	No.	71,384	88,369	77,231
	momme ^(c)	48,056	55,553	54,500
Half pearls	No.	287,283	248,360	138,687
Manufacturing shell	tonne	244.0	66.7	133.6
VALUE (\$'000)				
Pearl and Trochus shell fishing operations—				
Production of—				
Live pearl shell		686	813	739
Pearl shell		124	188	905
Trochus shell		—	—	n.a.
Pearl culture operations—				
Production of—				
Round and baroque pearls		8,853	11,768	15,281
Half pearls		1,197	1,104	594
Manufacturing shell		156	58	309

(a) Figures refer to the year ended January for the Northern Territory and Queensland and to the year ended December for Western Australia. (b) Excludes manufacturing shell produced from pearl culture operations. (c) A momme is a pearl weight measurement equivalent to 3.769 grams.

Processing of fish, crustaceans and molluscs

Processing plants are located strategically throughout Australia close to fishing grounds. A number of shore-based plants have been established in remote areas of northern Australia to service the expansion of the northern prawn fishery.

Rock lobsters, prawns, abalone and scallops are frozen for export; tuna, snoek, Australian salmon and abalone are canned; small amounts of fish are smoked; and some molluscs are bottled. Hand labour is still used extensively in processing operations, but mechanisation is being progressively introduced.

Ice is used extensively for the chilling of fish taken in estuarine and inshore fisheries. Refrigeration is used particularly on vessels operating in the tuna fishery and prawn fisheries to chill or freeze the catch.

Fish, crustaceans and molluscs intended for export are processed in establishments registered under the Export (Fish) Regulations. Edible fish for local consumption is mainly dispatched fresh-iced to markets.

Domestic marketing of fisheries products

Although virtually the whole of the tuna and Australian salmon catches are canned, the greater part of Australian fish production is marketed fresh or frozen.

Marketing arrangements for fresh fish vary. In New South Wales, fish marketing is the responsibility of the Fish Marketing Authority which operates the Metropolitan Fish Markets. In other coastal centres of New South Wales, fishermen's co-operatives may become registered as local fish markets. In Queensland, the Fish Board sells all production on behalf of fishermen in that State, except fish intended for export and interstate trade. In Victoria, South Australia, Western Australia and Tasmania, there is no restriction on market outlets. In Victoria, South Australia and Western Australia, most fish is sent to metropolitan wholesale fish markets for auctioning; small quantities are processed for sale locally, chiefly by co-operatives. Nearly all fresh fish in Tasmania is consigned direct to processors. The principal outlets for fish products in Australia are retail and catering establishments.

CHAPTER 15

WATER RESOURCES

This chapter is divided into two major parts:—water resources in Australia, and the management of these resources. The former provides information on such topics as the geographic background to water resources, surface and groundwater supplies and use and the drainage divisions in Australia. The latter summarises Australian and State assessment and management of water resources.

For information concerning general, descriptive and historical matter see Year Book No. 37, pages 1096–1141 and Year Book No. 51, pages 228–31.

An article on droughts in Australia appeared in Year Book No. 54, pages 991–6.

Introduction

Rainfall, or the lack of it, is the most important single factor determining land use and rural production in Australia. The chapter Climate and Physical Geography of Australia contains details on geographical and climatic features that determine the Australian water pattern. Australia is the driest continent in the world. The scarcity of both surface and groundwater resources together with the low rates of precipitation, which restrict irrigation and other uses (quite apart from economic factors), has led to extensive programs to regulate supplies by construction of dams, reservoirs, large tanks and other storages.

Geographic background

General. Water resources are determined by rainfall, evaporation and physical features including soil, vegetation and geology. Chapter 2, Climate and Physical Geography of Australia, contains a detailed description of the climatic features of the country. A brief description of the landforms appears in Year Book No. 61, pages 25–27. In assessing Australia's water resources, dependability and quality of supply must be considered, as well as amount.

Topography. The major topographical feature affecting the rainfall and drainage patterns in Australia is the absence of high mountain barriers; features range from sloping tablelands and uplands along the east coast Main Divide through the low plain and marked depression in the interior to the Great Western Plateau.

Drainage. Only one-third of the Australian land mass drains directly to the ocean, mainly on the coastal side of the Main Divide and inland with the Murray-Darling system. With the exception of the latter, most rivers draining to the ocean are comparatively short and account for the majority of the country's average annual discharge.

The interior lowlands exhibit endoreic drainage patterns and surface drainage is totally absent from some arid areas of low relief.

Climate. Australia's large area (7.7 million square kilometres) and latitudinal range (3,700 kilometres) have resulted in climatic conditions ranging from the alpine to the tropical. Two-thirds of the continent is arid or semi-arid, although good rainfalls (over 800 mm annually) occur in the northern monsoonal belt under the influence of the Australian-Asian monsoon and along the eastern and southern highland regions under the influence of the great atmospheric depressions of the Southern Ocean. The effectiveness of the rainfall is greatly reduced by marked alternation of wet and dry seasons, unreliability from year to year, high temperatures and high potential evaporation.

Settlement. The availability of water resources controls, to a large degree, the possibility and density of settlement; these, in turn, influence the quality of the water through production and disposal of waste. Most early settlements were established on the basis of reliable surface water supplies and, as a result, Australia's population is concentrated along the coast, mainly in the comparatively fertile, well-watered east, south-east and far south-west.

As settlement spread into the dry inland grazing country, the value of reliable supplies of underground water was realised. Observations of the disappearance of large quantities of the rainfall precipitated on the coastal ranges of eastern Australia eventually led to the discovery of the Great Artesian Basin which has become a major asset to the pastoral industry.

For further information on the influence of water resources on the spread of settlement in Australia see Year Book No. 61, page 860.

Surface supplies

Distribution and volume. As described above, permanent rivers and streams flow in only a small part of the continent. The average annual discharge of Australian rivers has been assessed at 343×10^9 cubic metres, of which 157×10^9 cubic metres is measured discharge and the remainder is estimated. This is small in comparison with river flows on other continents. In addition, there is a pronounced concentration of runoff in the summer months in northern Australia while the southern part of the continent has a distinct, if somewhat less marked, winter maximum.

Variability of flow. Even in areas of high rainfall, large variability in flow means that, for local regional development, most streams must be regulated by surface storage. However, in many areas evaporation is so great that storage costs are high in terms of yield. Extreme floods also add greatly to the cost of water storage, because of the need for adequate spillway capacity.

Potential development. Some 85 per cent of all water used in Australia is surface water. This quantity is about 15×10^9 cubic metres a year and represents about 12 per cent of the possible usable surface water available in Australia; it does not include the amount diverted for hydro-electric power generation and other purposes which does not affect the quantity of water available. However, the great variability of river discharge, high evaporation and lack of sites for storage on many catchments limit potential development. As an indication of the severity of the problem, Australia's runoff is estimated at 13 per cent of rainfall compared with 40 per cent in North America and Europe, 36 per cent in South America and Asia and 24 per cent in Africa, with the complementary figure representing the evaporation and transpiration percentage. There is, however, considerable scope for greater efficiency in water use.

Groundwater supplies

Groundwater is more important than surface water in about 60 per cent of the country. Australia's estimated annual groundwater recharge is 72×10^9 cubic metres, and annual groundwater usage is estimated at about 2.5×10^9 cubic metres.

An indication of the variability in quality and quantity of Australia's groundwater resources is given in the map sheets accompanying the Australian Water Resources Council's publication, *Groundwater Resources of Australia (1975)*.

Groundwater is divided according to its occurrence in the three main classes of aquifer:

(i) *Shallow unconsolidated sediments* comprise alluvial sediments in river valleys, deltas and basins; aeolian (windblown) sediments which generally occur in coastal areas; and lacustrine (lake) sediments. These sediments are often highly permeable and porous. Permeability and porosity may vary markedly according to orientation. Unconsolidated aquifers of this group generally occur at depths of less than 150 m and are often readily accessible to sources of water for recharge. Marked seasonal variations in water level are common.

(ii) *Sedimentary rocks* are generally made up of consolidated sediments. The aquifers owe their porosity to small voids between the grains which are often well compacted and cemented. They often cover significant areas, being continuous and of appreciable thickness. Rock strata usually dip quite gently. Nevertheless, over the full extent of the larger sedimentary basins, aquifers may reach great depths. Areas where recharge takes place may be small in relation to the extent of the aquifers. Water quality in individual aquifers may be quite good and fairly uniform over large areas. Some sediments contain a number of permeable and impermeable layers, creating a vertical sequence of separate aquifers, and water quality may vary greatly between them.

(iii) *Fractured rocks* comprise hard igneous and metamorphosed rocks which have been subjected to disturbance and deformation. Aquifers resulting from the weathering of any rock type are also included in this group. Water is transmitted mainly through joints, bedding planes, faults, caverns, solution cavities and other spaces in the rock mass.

The quality of groundwater varies considerably and sources are subject to pollution in much the same way as surface supplies. Locally, groundwater has also been polluted by poor drilling techniques which allow contamination of fresh or lower salinity waters by more highly saline waters, and also by the discharge of industrial wastes into underground drainage bores. The Port Phillip Basin has the problem of discharge of industrial and domestic waste underground, and in the Western Port Basin there has been control of groundwater withdrawal since 1968 to prevent overdraft and saltwater intrusion.

An Australian School of Drilling has been established under the auspices of the National Training Council to improve the skills of the water drillers.

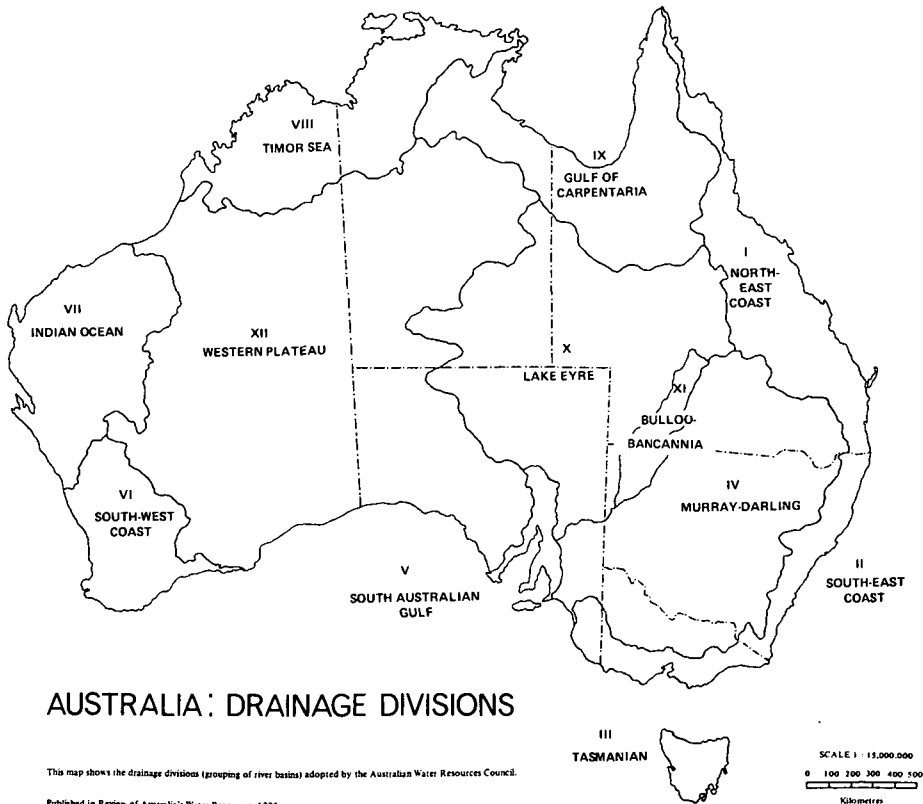
For further details on the sources of groundwater and a table of the principal water-bearing basins in Australia, see Year Book No. 61, pages 865-6. A map showing the extent of known artesian basins throughout Australia is shown on page 273 of Year Book No. 48.

Drainage divisions and the use of surface and groundwaters

Groundwater and surface water have, in the past, tended to be viewed as separate resources because of their modes of occurrence, assessment and development. They are complementary components of the hydrologic cycle and in any assessment of the water resources of a region are not necessarily additive.

To promote a unified approach, river basins or groups of river basins have been adopted as the primary units of assessment. The *Review of Australia's Water Resources 1975* (Department of National Development and Energy, Australian Water Resources Council, Canberra) contains a summary of the 244 river basins grouped into twelve divisions, together with a map showing the divisions. (See below.)

The conjunctive approach to water resources, even to importing water from outside the region, generally makes more water available for use than would be the case with independent use of the various sources. Year Book No. 61, pages 867-8 contains details of the conjunctive use of surface and groundwaters.



AUSTRALIA: DRAINAGE DIVISIONS

PLATE 38

In the *Review of Australia's Water Resources, 1975* an attempt was made to assess the possible exploitable yield of surface water for each river basin (aggregating to Drainage Divisions) at the point of lowest practical downstream development, using the type of hydraulic structure considered technically feasible by the governments. These estimates take into account average annual flow, variability of flow, water quality and the availability of suitable sites for storage, but do not take into account economic factors.

AN ASSESSMENT OF THE POSSIBLE YIELD OF SURFACE WATER BY DRAINAGE DIVISION

(Source: Review of Australia's Water Resources, 1975)

Drainage division	Adopted drainage area	Average annual discharge (a)	Possible exploitable yield	Estimated total yield of drainage area	Possible exploitable yield as percentage of total yield
	mil. ha		mil. cu. m.		%
I North-East Coast	45	82,500	25,566	75,620	34
II South-East Coast	27	39,396	(b) 15,992	37,499	43
III Tasmania	7	49,799	35,495	49,799	71
IV Murray-Darling	106	22,261	18,372	22,204	83
V South Australian Gulf	8	980	283	913	31
VI South-West Coast	31	7,290	1,841	4,935	37
VII Indian Ocean	52	4,160	490	3,815	13
VIII Timor Sea	55	74,260	16,423	74,260	22
IX Gulf of Carpentaria	64	58,230	10,094	49,180	21
X Lake Eyre	117	3,260	129	3,180	4
XI Bulloo-Bancannia	10	540	n.a.	540	n.a.
XII Western Plateau	246	—	—	—	—
Australia	768	342,676	124,685	321,945	39

(a) Includes fresh and marginal water but excludes brackish and saline water. (b) Includes a small amount of brackish water.

Groundwater is an important substitute for surface water in many parts of the country such as in the arid interior where the Great Artesian Basin provides the only reliable continuous supply of water for stock and domestic purposes. This Basin underlies 23 per cent of the continent and some 30,000 holes have been drilled, about 2,900 of which are still flowing. The high ratio of sodium to calcium and magnesium ions has an adverse effect on soil structure, rendering it impervious and generally unsuitable for irrigation.

Groundwater is increasing in importance as a source of water for irrigation, industry and domestic supply. There are many areas of intensive groundwater development which, although small, accounted for over a third of all groundwater withdrawals in 1975. The areas shown in the table below rely almost exclusively on groundwater from unconsolidated sediments.

Increasing use is made of conjunctive schemes, for example, where groundwater supplies are tapped to augment surface water or where, as in the Burdekin Delta, groundwater aquifers are artificially recharged during the summer wet season to enable water to be stored at low cost with negligible evaporation.

AREAS OF CONCENTRATED GROUNDWATER USAGE IN AUSTRALIA

(Source: Review of Australia's Water Resources, 1975)

Area	Quantity	Use
	mil. cu m/year	
Burdekin Delta (Queensland)	320	Irrigation of sugar cane
Namoi Valley (New South Wales)	108	Irrigation of small crops, including cotton
Condamine Valley (Queensland)	100	Irrigation of grain crops
Southeastern South Australia (a)	98	Irrigation, town supplies and industry
Bundaberg (Queensland)	94	Irrigation of sugar cane, industrial and domestic use
Lockyer Valley (Queensland)	70	Irrigation of small crops and fodder
Perth (Western Australia)	66	Irrigation of market gardens, domestic gardens and urban water supply
Hunter Valley (New South Wales)	53	Irrigation of small crops
Callide Valley (Queensland)	35	Irrigation of fodder and grain crops
Tomago Sands (New South Wales)	31	Urban water supply and industrial use
Pioneer Valley (Queensland)	31	Irrigation of sugar cane and domestic use
North Adelaide Plains (South Australia) (a)	21	Irrigation of market gardens
Botany Sands (New South Wales)	20	Industrial use
<i>Sub-total</i>	<i>1,047</i>	
Estimated total groundwater usage	2,460	

(a) Includes some water from limestone aquifers.

The first *National survey of water use in Australia*, published in 1981, gathered water use data on a national scale. The data provides a sound basis for the efficient utilisation of existing resources and for the planning of future projects. A summary of the results of the survey is given in the table below.

ESTIMATED ANNUAL WATER USE IN 1977 FOR AN AVERAGE CLIMATIC YEAR BY DRAINAGE DIVISION

(Source: The first *National survey of water use in Australia*; Department of National Development and Energy; Australian Water Resources Council, Occasional Papers Series No. 1; AGPS 1981)

Drainage division	Surface waters ($10^6 M^3$)				Ground waters ($10^6 M^3$)				Totals ($10^6 M^3$)			
	Urban industrial	Irrigation	Other rural	Total	Urban industrial	Irrigation	Other rural	Total	Urban industrial	Irrigation	Other rural	Total
North-East Coast	388	473	-	861	40	670	-	710	427	1,210	126	1,770
South-East Coast	1,400	453	186	2,030	125	368	52	545	1,540	821	238	2,590
Tasmania	157	110	25	292	0.5	-	-	0.5	157	110	25	292
Murray-Darling	287	10,200	491	11,000	42	504	233	778	337	10,700	775	11,800
South Australian												
Gulf	37	24	10	70	9	63	7	79	222	88	29	339
South-West Coast	187	224	20	431	182	24	5	210	369	248	25	642
Indian Ocean	0.5	-	1	1	36	6	5	47	36	6	6	48
Timor Sea	14	67	6	87	15	0.5	10	25	29	68	19	115
Gulf of Carpentaria	20	2	-	22	15	0.5	1	16	35	2	37	73
Lake Eyre	2	1	2	5	10	1	5	16	13	1	43	57
Bulloo-Bancannia	-	-	-	-	-	-	-	-	1	-	3	4
Western Plateau	0.5	-	1	1	5	2	19	26	21	2	22	44

NB: Totals may not be the sum of the figures in any row or column as figures have been rounded, and water sources such as farm dams, not falling in the categories of surface or groundwater, have been included in the totals section.

Total water use (gross applied water) in Australia for 1977, adjusted for average climatic conditions, has been estimated at $17\,800 \times 10^6 m^3$ annually, corresponding to an overall total per capita use of about 3,500 litres per day. Of this total, approximately 74 per cent is for irrigation, 18 per cent is for urban/industrial uses and 8 per cent is for other rural water use. Withdrawals for hydro-electric power have not been included. In terms of sources for the water used, by far the largest proportion (about 84 per cent) of water is drawn from surface water sources. Groundwater sources, although of importance in some regions, account for only 14 per cent of the water used. A very small proportion, less than 0.5 per cent of water used is derived from artificial recharge or from reclaimed water. Sources for the remaining water used were not indicated and would include supplies from small bores, rainwater tanks, farm dams and the like. Of the total surface water withdrawals, 77 per cent are used for irrigation, 18 per cent for urban/industrial purposes and 5 per cent for other rural purposes. Corresponding figures for groundwater withdrawals are 67 per cent, 18 per cent and 14 per cent respectively.

Major dams and reservoirs

A map entitled *Australia—Dams and Storages*, published in 1975 by the Department of Minerals and Energy (now the Department of National Development and Energy), shows the location, height of dam wall, capacity and purpose of Australia's major dams and water storages.

The table below lists major dams and reservoirs by State. It should be noted that the Hume Reservoir lies on the New South Wales-Victoria border.

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA

<i>Name and year of completion</i>	<i>Location</i>	<i>Gross capacity (million cubic metres) (a)</i>	<i>Height of wall (metres) (b)</i>	<i>Purpose</i>
NEW SOUTH WALES				
Eucumbene (1958)	Eucumbene River	4,807	116	Part of Snowy Mountains H/E Scheme
Hume (1936, 1961)	Murray River, near Albury	3,038	51	Irrigation, water supply, H/E
Warragamba (1960)	Warragamba River	2,057	137	Water supply for Sydney, H/E
Menindee Lakes (1960)	Darling River, near Menindee	1,794	18	Conservation, storage for Murray River Agreement
Burrendong (1967)	Macquarie River, near Wellington	1,677	76	Conservation, FC, water supply
Blowering (1968)	Tumut River	1,628	112	H/E, irrigation
Copeton (1976)	Gwydir River	1,364	113	Irrigation
Wyangala (1936, 1971)	Lachlan River	1,220	85	Irrigation, stock, etc.
Burrinjuck (1927, 1956)	Murrumbidgee River	1,026	79	Irrigation, H/E
Talbingo (1971)	Tumut River	921	162	H/E
Jindabyne (1967)	Snowy River	688	72	H/E
Lake Victoria (1928)	Murray River, near S.A. border	680	—	Conserves supplies for S.A.
Keepit (1960)	Namoi River, near Gunnedah	423	55	Conservation, irrigation, H/E
Glenbawn (1958)	Hunter River, near Scone	360	78	Conservation, irrigation, FC
Tantangara (1960)	Murrumbidgee River	254	45	H/E
Avon (1927)	Avon River	214	72	Water supply for Sydney
Lake Brewster (1952)	Lachlan River, near Hillston	150	—	Irrigation
Liddell (1968)	Gardiner Creek, near Muswellbrook	148	41	Cooling water for thermal electricity generation
Tallowa (1977)	Shoalhaven River, near Nowra	135	43	Water supply for Sydney
Googong (1978)	Queanbeyan River	125	59	Water supply for Canberra-Queanbeyan
VICTORIA				
Dartmouth (1979)	Mitta Mitta River	4,000	180	Irrigation storage, H/E
Eildon (1927, 1955)	Upper Goulburn River	3,392	79	Irrigation, H/E
Waranga (1910)	Near Rushworth (Swamp)	411	12	Irrigation
Mokoan (1971)	Winton Swamp, near Benalla	365	10	Irrigation
Rocklands (1953)	Glenelg River	336	28	Domestic and stock water supply
Eppalock (1964)	Campaspe River	312	45	Irrigation, water supply
Cardinia (1973)	Cardinia Creek, near Emerald	287	79	Water supply for Melbourne
Upper Yarra (1957)	Yarra River	207	89	Water supply for Melbourne
Glenmaggie (1927, 1958)	Macalister River	190	37	Irrigation
Cairn Curran (1958)	Loddon River, near Newstead	149	44	Irrigation
Yarrowonga (1939)	Murray River	117	22	Irrigation
Toolondo (1952, 1960)	Natural depression, near Horsham	107	—	Domestic and stock water supply
QUEENSLAND				
Fairbairn (1972)	Nogoa River, central Qld	1,440	49	Irrigation, industrial
Somerset (1959)	Stanley River	893	50	Water supply for Brisbane, H/E
Fred Haigh (1975)	Kolan River, near Gin Gin	586	52	Irrigation
Ross River (1974)	Near Townsville	417	35	FC, water supply
Tinaroo Falls (1958)	Barron River	407	47	Irrigation, H/E
Glenlyon (1976)	Pike Creek, near Stanthorpe	261	62	Irrigation
Wuruma (1968)	Nogo River, near Eidsvold	194	46	Irrigation
Koombalooomba (1961)	Tully River	180	52	H/E, irrigation
Julius (1977)	Leichhardt River, near Mt Isa	127	35	Water supply, mining
Eungella (1969)	Broken River	131	46	Irrigation, industrial, mining, water supply
Beardmore (1972)	Balonne River	101	15	Irrigation, water supply
WESTERN AUSTRALIA				
Lake Argyle (Ord) (1971)	Ord River, near Kununurra	5,720	99	Irrigation, FC, H/E
South Dandalup (1973)	Near Dwellingup	208	41	Water supply for Perth
Wellington (1933, 1944, 1960)	Collie River	185	37	Irrigation, water supply
Serpentine (1961)	Serpentine River	178	55	Water supply for Perth

For footnotes see end of table

MAJOR DAMS AND RESERVOIRS IN AUSTRALIA—continued

Name and year of completion	Location	Gross capacity (million cubic metres)(a)	Height of wall (metres)(b)	Purpose
TASMANIA				
Lakes Gordon and Pedder (1974)—				
Gordon	South West	11,728	140	H/E
Scotts Peak		2,960	43	
Serpentine			38	
Edgar			17	
Miena (1967)	Great Lake	2,390	18	Storage for H/E
Lake St Clair (1938)	Central Plateau	2,000 (est.)	3	Natural storage for H/E
Mackintosh (1980)	Mackintosh River, near Queenstown	922	75	H/E
Tullibardine (1979)	Tullibardine River, near Queenstown		25	
Lake Echo (1956)	Lake Echo	725	19	H/E
Arthur's Lake (1965)	Source of Lake River, near Great Lake	571	17	H/E
Lake King William (Clark) (1949, 1966)	Derwent River	541	73	H/E
Devils Gate (1969)	Forth River, near Devonport	180	84	H/E
Rowallan (1967)	Mersey River	131	43	H/E
NORTHERN TERRITORY				
Darwin River (1972)	Darwin River	259	31	Water supply for Darwin

(a) Includes 'dead water', i.e., water below the operational outlet of the reservoir. (b) As a general rule, the figures shown for height of wall refer to the vertical distance measured from the lowest point of the general foundation to the crest of the dam, i.e., the level of the roadway or walkway on the dam.

ABBREVIATIONS: H/E—hydro-electricity, FC—Flood control and/or mitigation.

MAJOR DAMS AND RESERVOIRS UNDER CONSTRUCTION OR PROJECTED

Name	Location	Gross capacity (million cubic metres)(a)	Height of wall (metres)(b)	Purpose
UNDER CONSTRUCTION				
Wivenhoe	Brisbane River, near Fernvale, Qld	1,150	58	Water supply, FC, H/E
Thomson	Thomson River, near Erica, Vic.	1,110	160	Water supply, irrigation
Windamere	Cudgegong River, near Mudgee, N.S.W.	353	69	Irrigation
Glennies Creek	Hunter Valley, near Singleton, N.S.W.	284	67	Industrial, irrigation stock and domestic water supply
Boondooma	Boyne River, near Proston, Qld	212	50	H/E, Irrigation
Tanjil (Blue Rock)	Tanjil River, near Willow Grove, Vic.	200	75	Cooling water (power), domestic and industrial
Mangrove Creek	Mangrove Creek, near Gosford, N.S.W.	176	79	Water supply
PROJECTED				
Burdekin Falls Dam	Burdekin River, Qld	1,750	68	Irrigation
Lower Pieman	Pieman River, near Queenstown, Tas.	641	122	H/E
Split Rock	Manilla River, Namoi Valley, N.S.W.	370	64	Irrigation
Gunpowder	Gunpowder Creek, near Mount Isa, Qld	141	44	Mining, water supply
Spencer	Denison Creek, near Nebo, Qld	127	24	Mining, water supply
Bjelke-Petersen	Barker Creek, near Murgon, Qld	125	33	Irrigation
Bastyan (Lake Rosebery)	Pieman River, near Queenstown, Tas.	124	74	H/E

For footnotes and abbreviations see previous table.

The following table summarises dams and storages existing and under construction in each drainage division according to purpose, capacity and regulated discharge. Three storages counted as mainly for hydro-electricity in the South-East Coast Division and eight in the Murray-Darling are part of the Snowy Mountains Hydro-electric Scheme which, as a whole, makes a major contribution to irrigation.

LARGE DAMS—NUMBERS EXISTING AND UNDER CONSTRUCTION

(Source: Review of Australia's Water Resources, 1975)

Drainage division(a)	Main purpose					Total capacity	Regulated discharge
	Total number	Irrigation	Hydro-electricity	Water supply	Flood control, recreation		
I North-East Coast	33	12	1	20	—	mil. cu. m. 4,100	mil. cu. m. 1,300
II South-East Coast	99	5	5	87	2	10,700	2,700
III Tasmania	43	1	31	11	—	19,500	8,700
IV Murray-Darling	104	34	15	53	2	20,700	10,500
V South Australian Gulf	24	—	—	23	1	240	150
VI South-West Coast	24	8	—	15	1	870	360
VII Indian Ocean	1	—	—	1	—	(b)	(b)
VIII Timor Sea	8	5	—	3	—	6,100	1,900
IX Gulf of Carpentaria	4	—	—	4	—	140	10
X Lake Eyre	2	1	—	1	—	(b)	(b)
Australia	342	66	52	218	6	62,350	25,620

(a) Divisions XI and XII are not represented. (b) Negligible.

NOTE: 1. Although most dams are used for water supply, the greatest volume of water is reserved for irrigation.

2. 'Total capacity' of storages is not the same as 'gross capacity' which includes an estimate for water below the operational outlet of the reservoir.

Water quality

Water quality is an important factor in determining the potential use of a particular water resource. Its management is essentially aimed at maintaining each resource in a condition suitable for the beneficial use or uses considered appropriate by the community.

Quality of water may be highly variable over time. Runoff resulting from rainfall may pick up a whole range of contaminants in passing over and through the soil; evaporation results in the concentration of these dissolved solids while, on the other hand, storm waters can dilute the concentration of pollutants. Water quality, while being generally related to the quantity of flow, may also vary with the depth and breadth of a body of water.

In the long term, land use changes generally affect the quality of groundwater where runoff enters aquifers. For example, the replacement of deep rooted trees in the south-west of Western Australia by shallow rooted grasses for agriculture has disturbed the natural water and salt balance, mobilising salt and increasing stream salinity. About 160,000 hectares of land have been rendered too saline for normal crops and pastures, while water quality in the Wellington Dam storage continues to deteriorate because of this saline inflow, affecting irrigation users downstream as well as urban communities in the Great Southern Towns Water Supply region which rely on this source for domestic water. Elsewhere, salination of non-irrigated land, particularly in Victoria, is increasing mainly as a result of land clearing, and water quality will deteriorate as saline runoff and seepage finds its way into streams.

Although some Australian rivers are naturally saline, the quality of surface water is generally good. However, most types of water pollution experienced in advanced industrial countries also occur in Australia. The main problems relate to sewage, industrial effluents and increasing salinity mainly caused by agricultural activities. In some parts of Australia untreated or inadequately-treated sewage and trade effluents are discharged into inland and coastal streams used for town water supplies. Mining activities cause pollution by the discharge of ore-processing wastes or mine water into streams or by leaching from waste dumps as happened in the Molonglo River in New South Wales where zinc was being leached from tailings and slime dumps at Captains Flat. Remedial work at Captains Flat was undertaken to prevent further erosion and leaching of the waste dumps, and to minimise the flow of mine water discharging through springs into the Molonglo River.

Water supplies to many towns and small settlements throughout Australia are of low quality and can at times fall short of the World Health Organisation standards for drinking water. In many cases, relief may be possible through small water treatment plants.

The increasing salinity of the Murray River in recent years is a source of concern as the river is vital for irrigation and domestic water and provides much of Adelaide's water supply. The problem is the increasing amounts of saline surface and underground water discharged from irrigation areas, compounded by concentration through evaporation. This is in addition to the river's quite high natural salt load. Groundwater mounds have progressively built up under some irrigation areas to the point where the water table has reached the root zone in some irrigation areas causing reduced productivity and, where saline, complete barrenness. As the sedimentary beds of the river basin were laid down under a

marine environment, the groundwater is generally saline and, when drainage does return to the river, it carries large amounts of salt. Salinity levels in the river, however, vary seasonally. During periods of low flow or when seepage from the saturated banks returns following prolonged floods, the concentration of salts may increase significantly, approaching the salt susceptibility limits of some crops. Citrus growers in some areas are having to install under-tree sprinkler systems to prevent yield depression, defoliation and other tree damage caused by saline water from overhead sprinklers. Present control measures include the provision of evaporation basins for the disposal of highly saline drainage water and the regulation of river flow to control water quality by dilution.

Salinity control and drainage is expensive and requires a co-ordinated approach. New South Wales, Victoria and South Australia have commenced, and in some cases completed, urgent salt interception projects recommended as the first stage of a co-ordinated plan of action developed by consultants engaged by the Commonwealth and these three States. Work is continuing on medium term salt interception and drainage projects. These are being funded under the Commonwealth's National Water Resources Program. In the longer term, a River Murray water quality management plan is required, embracing the co-ordinated operation of engineering works in three States, river regulation procedures including possible dilution flow releases, and water quality standards for the various reaches of the river. *The River Murray Commission*, under its powers relation to water quality, is engaging consultants to undertake a two-year study aimed at providing a firm technical base for an appropriate water quality plan.

Water management

Australia's water resources are managed by about 800 irrigation authorities, metropolitan water boards, local government councils and private individuals. State authorities dominate the assessment and control of water resources as, under the Commonwealth Constitution, primary responsibility for management of water rests with the individual State governments. The Commonwealth Government is responsible for matters relating to its Territories, and participates indirectly through financial assistance or directly in the co-ordination or operation of interstate projects through bodies such as the River Murray Commission. In other instances where political boundaries intersect some river basins, co-operation between governments has been necessary to develop resources.

Australia's attitudes to water resources management have changed substantially over the last twenty years. Water management is no longer seen just in terms of storing water and regulating streams for consumptive use, but also in terms of conserving unregulated streams in an unmodified landscape for wild life preservation or recreation purposes or for possible social or economic use by future generations. In addition, agricultural, industrial and urban development has led to greater attention being paid to water quality management.

In October 1975, the Commonwealth and State governments adopted a statement setting out the basic principles and goals underlying a balanced approach to the development and management of water resources in Australia. See Year Book No. 63, page 340, for further details.

The development of water resources in the States has an important bearing on the Commonwealth's broad interests in economic management, resource allocation, foreign exchange earnings, distribution of income and related matters. Consequently, the Commonwealth has participated in water resource matters in the States in instances of mutual Commonwealth/States concern or in the national interest. Currently a \$200 million, five year National Water Resources Program, which was announced by the Prime Minister in February 1978, is financially assisting the States in the development, management and assessment of their water resources.

In response to recommendations in a report of a Senate Inquiry into the Commonwealth's role in water resources matters, a Commonwealth Water Policy was announced in March 1979. In co-operation with the States the Commonwealth is seeking to achieve the long-term beneficial use of Australia's water resources. Briefly, the main policy thrusts appropriate to the Commonwealth for this purpose were seen to be:

- ensure, as far as practicable, that water resource difficulties do not constrain national development;
- minimise losses and disruption caused by floods;
- encourage management practices which reverse trends in the deterioration of water quality and associated land resources;
- encourage a comprehensive approach to water/land planning and management;
- encourage the efficient use of water resources;
- encourage the development of financial and cost allocation policies appropriate to changing economic circumstances and community values; and,
- encourage public awareness and involvement in water resource issues.

A number of key water issues relating to the development and management of Australia's water resources are already receiving close attention: others are expected to emerge in the near future. Some relate to water quality, including that resulting from irrigation-induced and dryland salinisation, specific and widespread sources of pollution in both urban and agricultural areas, aquatic weeds, levels of treatment for urban water supplies, and the cost and technology of water re-use.

Water resources readily accessible to centres of demand are already substantially committed, although there is a widespread recognition of the considerable scope which still exists for increased efficiency in the use of existing supplies. However, on a local or regional basis, the availability of adequate water supplies is becoming a key factor in continuing economic development. It appears inevitable that new supplies, in certain situations, will depend on the processing of water resources of marginal quality and waste water to acceptable standards for domestic and industrial use. In turn, this will generate pressures for the development of more advanced water treatment technologies.

Research and continuing assessment of water resources

Australian Water Resources Council (AWRC)

A widening awareness of the need for a co-ordinated Australian approach to water utilisation led to the formation in 1962 of the Australian Water Resources Council by joint action of the Commonwealth and State governments. The Council comprises the Commonwealth and State Ministers primarily responsible for water resources, with the Commonwealth Minister for National Development and Energy as Chairman, and is serviced by a Standing Committee consisting mainly of the heads of Departments responsible to these Ministers, and by six permanent technical committees.

The objective of the Council is to provide a forum for exchange of views relating to the development of policies, guidelines and programs which may be considered appropriate to assist in the most beneficial and orderly assessment, development and management of Australia's water resources.

See Year Book No. 61, page 869 for further details on the work of the AWRC.

Water resources research

Comprehensive programs of research and investigation are being pursued by State water and agricultural authorities, the Commonwealth Scientific and Industrial Research Organization (CSIRO), the Bureau of Meteorology and the Australian Water Resources Council, often in collaboration. The Commonwealth Water Research Fund was established in 1968 to provide support for a research program developed through the Australian Water Resources Council. The Fund is administered by the Department of National Development and Energy. The program covers fundamental and applied research into all aspects of water resources with the aim of providing a better basis for the assessment, planning, development and management of Australia's water resources. It complements research work being carried out by the government agencies, universities and other organisations and, in general, is used to stimulate new work not handled within existing programs. The program for the current 1980-83 program is diverse with emphasis on floodplain management, water storage management, nonpoint sources of pollution, salinity, waste disposal and reuse, drinking water quality, aquatic biology, groundwater, evapotranspiration and new instruments and techniques.

Water research by the CSIRO can be grouped under the following broad headings:

Catchment hydrology, underground water and water quality. Included in this area are studies aimed at identifying the relationships which exist between the characteristics of a regional landscape, such as its vegetation, slope, soil and morphology, and the associated climate and hydrology. An understanding of these relationships is essential to enable us to predict the quality and quantity of water in streams and aquifers.

Studies are also being conducted to help determine the occurrence, distribution and environmental significance of pollutants, such as heavy metals in water, sediments and the biota which result from agricultural, industrial and mining operations.

Effects of plant communities on water quantity and quality. Changes in the type of vegetation resulting from man's use of the land may have substantial effects on both the quality and quantity of water flowing from the landscape.

Studies are also being conducted into the effects of clearing land (and its use for agricultural and pastoral purposes) on the increase in nutrient concentrations and the salinity of streams and underground water.

In addition, research is being undertaken into the ecology and biological control of aquatic weeds, including those of irrigation channels, so that a program of management may be devised. This work includes investigating the behaviour of herbicides used in weed control and their persistence in water, soil and irrigated crops. The use of aquatic plants to treat effluents is also being studied.

Water purification and effluent treatment. The aim of this research is to extend Australia's limited water resources by the development of purification and recycling technology based on specially designed polymers.

Research is also being directed to improving physico-chemical methods of treating sewage, and developing techniques for reducing pollution due to industrial effluents.

Water resources management. Included in this area are studies aimed at the development of ecologically sound methods for the management of irrigation water distribution systems and associated surface and underground waters.

International aspects

International water organisations

Australia liaises with international bodies and United Nations agencies concerned with water resources and participates in their activities in various ways.

Organisation for Economic Co-operation and Development (OECD). Australia's membership of the OECD since 1970 has involved participation in the work of the Water Management Group which investigates and rationalises problems which are the subject of international concern, and develops strategies—economic, legal and technical—which might resolve them.

United Nations Educational, Scientific and Cultural Organization (UNESCO). The International Hydrological Decade (IHD) (1965–1974) was a period in which participating countries implemented an international program designed to advance the science and practice of hydrology. Following the conclusion of the IHD, an International Hydrology Program (IHP) was commenced and an Australian UNESCO Committee for the IHP (AUCIHP) was formed to co-ordinate Australian input to the IHP.

World Meteorological Organization (WMO). Through its Commission for Hydrology, WMO is the specialised UN agency dealing with operational hydrology—the measurement of basic hydrological elements, water resources assessment and hydrological forecasting. WMO has an Operational Hydrology Program (OHP) which is co-ordinated with and complemented by UNESCO's IHP. Within the OHP is the Hydrological Operational Multipurpose Subprogram (HOMS) involving the organised transfer of hydrological technology among members. Australia is a contributor to HOMS and has established a HOMS National Reference Centre within the Secretariat of the Australian Water Resources Council (AWRC). In Australia, hydrological and meteorological activities relative to water resources are co-ordinated by the AWRC for the Permanent Representative of WMO in Australia, the Director of Meteorology.

Economic and Social Commission for Asia and the Pacific (ESCAP). This Commission, through its committee on Natural Resources, reports on water policy issues in addition to other activities. By participation in this conference and in seminars arranged on selected topics, Australia contributes to, and benefits from, identification of the main problems of water resources management in a densely populated, developing region.

United Nations Environment Program (UNEP). Australia participates in a world registry of major rivers covering discharge and pollutants and of clean rivers so defined and in the development of methodology for analysis and planning of water resources management.

World Health Organisation (WHO). Australia is participating in the water quality monitoring component of the WHO Global Environmental Monitoring System (GEMS) which will provide a consistent global overview of changes in water quality.

National and interstate agreements

In the section on *Water Management* above, reference was made to the responsibilities of government on the national, state and local authority levels. In this section, some additional details are provided on their roles in the management of water resources.

The Murray-Darling Drainage Division's surface water resources are the most highly developed in Australia, with 91 per cent of the possible exploitable yield currently committed for use. The Division contains the continent's largest river system which can be divided into three main groups of rivers:

- (a) the Darling River and its tributaries;
- (b) the Murrumbidgee River and its tributaries; and
- (c) the Murray River and its tributaries upstream from the confluence of the Murrumbidgee and the Murray.

The river basins that comprise the area under the control of the River Murray Commission are the nine basins in group (c) above and the three basins adjacent to the lower reaches of the Murray.

River Murray Waters Agreement

The *River Murray Waters Act* 1915 ratified an Agreement between the Commonwealth and the States of New South Wales, Victoria and South Australia. The Commonwealth Department of National Development and Energy is responsible for the Commonwealth's interest under the Act. Year Books prior to No. 39 contain a number of summaries of the historical events leading to the Agreement of 1914 which provided for a minimum quantity of water to pass to South Australia. Further details on the River Murray Waters Agreement and subsequent amendments may be found in Year Book No. 61, pages 870–2.

The River Murray Commission, established in 1917 to give effect to the Agreement and representative of each of the four Governments, is responsible for the management of the flow of water in the River Murray, the construction, maintenance and operation of storages and other regulatory works to make water available for irrigation, navigation, and urban purposes; and for the allocation of water between the three States. Dartmouth Dam—a major project of the River Murray Commission and the fourth largest water storage in Australia, was completed in November 1979. The reservoir has been storing water since November 1977.

Dartmouth and Hume Reservoirs together with Lake Victoria and the Menindee Lakes storages, are the key storages operated by the River Murray Commission to regulate the River Murray system. A series of weirs along the river provide for irrigation diversions by the three States. The major diversion weir is at Yarrowonga. A number of the weirs have locks to enable navigation of the river to be maintained.

Towards the end of 1976, the four Governments agreed that the River Murray Commission should assume the function of co-ordinating water quality and quantity management of the River Murray to the extent of taking account of water quality in its operations and investigations, monitoring the quality of the river, and being authorised to make representations to the Contracting States on water quality issues. The Governments agreed to give the Commission interim authority in this regard pending the necessary legislative action and formal amendment of the Agreement.

A preliminary draft substitute Agreement has been accepted in principle by the four Governments as a basis for negotiations on a new Agreement. A major review of the Agreement, the first since 1914, was carried out in 1981 and presented to the Commonwealth Parliament in October. The review has proposed the expansion of the responsibilities of the River Murray Commission to include water quality in addition to those on water quantity in the main stem of the river and associated storages. The new arrangement is aimed at a joint assessment of all relevant water and land use and other factors significantly affecting water quality, and will operate on an interim basis until the necessary legislation is introduced in the State and Commonwealth parliaments. By the end of 1981–82 a total of \$36 million will have been spent in grants for underground and surface saline-water drainage works on a dollar-for-dollar basis between the States and the Commonwealth Governments.

New South Wales–Queensland Border Rivers Agreement

This agreement came into effect in July 1947 and provided for the construction of a dam and several weirs on the rivers which constitute part of the boundary between the two States. This Act was amended in November 1968 to provide for storages on Pike Creek (Queensland) and the Mole River (New South Wales) and construction of further weirs on the Border Rivers and regulators on effluents of the Border Rivers and works for improvement of flow in streams which intersect the Queensland–New South Wales border west of Mungindi.

Glenlyon Dam on Pike Creek with a storage capacity of 261,000 megalitres was completed in 1976 and seven regulators on the Balonne–Culgoa River System have been constructed.

The Dumaresq–Barwon Border Rivers Commission, constituted of representatives of both States, administers the Agreement and the sharing of water.

Snowy Mountains Hydro-electric Scheme

This scheme was set up in 1949 by the Snowy Mountains Hydro-electric Power Act. Its prime purpose was to generate large quantities of peak load power and, by diverting the southern-flowing Snowy River through trans-mountain tunnels, to augment the flow of the Murray and Murrumbidgee Rivers to permit continuing expansion of irrigation in the fertile river plains. All storage works are now completed.

Details of the diversions and associated power works, together with details of construction, are given in Chapter 18, Energy.

The Snowy Mountains Council, constituted of representatives of the Governments of the Commonwealth, New South Wales, Victoria and the Snowy Mountains Hydro-Electric Authority, administers the operation of the Scheme, including the timing and amounts of electricity generation and water releases.

States and Territories

The foregoing text deals with water conservation and irrigation in Australia generally and with international, national and interstate aspects. The following survey covers the local pattern of water resources and the steps taken by the State Governments to bring about their development. In the various States, water policies tend to assume a distinctive and characteristic pattern closely allied with climatic conditions and specific local needs.

In Victoria, almost every form of water scheme is in operation. In New South Wales the management of irrigation water supplies is an area of major emphasis, with approximately two thirds of a million hectares under irrigation. In Queensland, up to the present, the predominant emphasis has fallen on water (mainly underground sources) for stock and the development of small irrigation schemes in sub-humid and humid areas, principally to stabilise production of such crops as tobacco, sugar, cotton and pastures. Apart from regular irrigation practices along the Murray River, South Australian authorities are vitally concerned with reticulated supplies for rural areas and towns. Western Australia has developed unique rock catchments and piped supplies for agricultural areas and towns in dry districts. Tasmanian interest relates almost exclusively to hydro-electric generation. The Northern Territory is concerned primarily with water supplies for population centres and mining and pastoral industries.

New South Wales

Administration

The Water Resources Commission, New South Wales, is a Statutory Authority formed in 1976 by a reconstitution of the Water Conservation and Irrigation Commission. Administrative authority is vested in the Chief Commissioner, who is assisted by two Commissioners. All three are appointed by the Governor. The operations of the Commission cover water conservation, control of irrigation areas, the establishment, operation and maintenance of works for domestic and stock water supply, irrigation districts, flood control districts, sub-soil drainage districts, constitution of water trusts, the issue of licences for private irrigation, artesian and shallow boring, assistance under the provisions of the farm water supplies scheme, and river improvement works. An important function of the Commission is planning for the co-ordinated development and allocation of the State's water resources. This entails the assessment and projection of demand for all purposes and also involves the quantitative and qualitative assessment of the available resources. Another important planning function relates to flood plain management. The Water Resources Commission Act, 1976, has widened the initiatives which the Commission is able to take in the fields of flood plain management and flood mitigation management. The search for, and surveillance of, groundwater for water supply is another important planning activity.

Under the Water Act, 1912 (as amended) the right to the use and flow, and the control of water in all rivers and lakes which flow through, or past, or are situated within, the land of two or more occupiers, is vested in the Commission for the benefit of the Crown. A system of licences operates for the protection of private works of water conservation, irrigation, water supply, drainage and prevention of inundation.

For particulars of the New South Wales-Queensland Border Rivers Agreement ratified by Acts of both States in 1947, see page 356 of this chapter.

Schemes summarised

The bulk of irrigated land is along the Murray and its tributary, the Murrumbidgee, regulated by the Hume, Blowering and Burrinjuck dams. Smaller areas are served by the Wyangala Dam, Lake Cargelligo and Lake Brewster on the Lachlan (a tributary of the Murrumbidgee), by Glenbawn Dam on the Hunter River, by Keepit Dam on the Namoi River, by Burrendong Dam on the Macquarie River, by the Menindee Lakes Storage on the Darling River, by Copeton Dam on the Gwydir River and by Chaffey Dam on the Peel River. None of the other rivers is regulated by large head storages, though weirs and dams have been provided for town supplies, etc. in many places. In addition substantial use is made of artesian and sub-artesian water in pastoral areas.

New South Wales legislation provides for the constitution and control of various schemes having different characteristics and including irrigation areas, irrigation districts, water trust districts, flood control and irrigation districts, and river improvement districts. There are nine irrigation areas, although two of these, Yanco and Mirrool, are generally described under the one heading, namely, the Murrumbidgee Irrigation Area. Others are: Coomealla, Curlwaa, Hay, Tullakool, Buronga, Mallee Cliffs and Coleambally.

A detailed description of the Murrumbidgee Irrigation Area is contained in Year Book No. 61, pages 875-7. The Water Resources Commission controls land transactions and water supplies for the

MIA, but has no jurisdiction over land transactions in neighbouring irrigation districts (although it is responsible for the operation and maintenance of the water supply in these areas). The other irrigation areas follow the same administrative pattern as the MIA.

Irrigation districts are set up under the Water Act, 1912 (as amended) for (a) domestic and stock water supply and (b) irrigation. The essential difference between an 'Area' and a 'District' is that, in the case of the former, all the land to be included in the Area is acquired by the Crown and then sub-divided into separate holdings. Within the District, however, existing ownership of land is not disturbed other than to acquire land required for water distribution works. Since the completion of the Hume Reservoir, several such districts have been established along the Murray to utilise the New South Wales share of the Storage. The schemes are based on 'extensive' irrigation, that is, water rights are allotted to holdings on the basis that only a portion of each holding will be irrigated, but additional water, when available, may be obtained by landholders. 'Water right' is the annual quantity that will cover 1 hectare to a depth of 100 mm.

The Water Act, 1912 (as amended) provides for the constitution of Trust Districts for domestic and stock water and irrigation, and empowers the Commission to construct, acquire or utilise necessary works. When the works are completed, they are handed over to trustees to administer. The trustees are elected by the occupiers of the land and act with a representative of the Commission. They are empowered to levy and collect rates covering the cost of the works repayable to the Crown by instalments and also the cost of operation and maintenance of the works. The rates are struck according to the area of land which benefits.

Irrigation Trusts are established under the same Act and are administered by trustees in a similar way. There are seven of these trusts.

The Lowbidgee Flood Control and Irrigation District, the first of its kind, was constituted in 1945. Its purpose is to provide flood irrigation for pasture lands on the lower Murrumbidgee by water diverted from the Maude and Redbank Weirs. Another district, Medgun, near Moree in the north-west, is also in operation.

Future program

The program of development in hand includes the provision of additional dams, weirs, flood mitigation and drainage schemes and river management works.

Tombullen Storage and Yanco Weir on the Murrumbidgee River, Calmundi Weir on the Darling River and Nimmie Creek Regulator were completed during 1980.

Construction work has commenced on Glennies Creek Dam in the Hunter Valley, Windamere Dam on the Cudgegong River, Hay Weir on the Murrumbidgee River and a weir on the Darling River near Bourke.

The construction of surface and sub-surface drainage schemes continued in the Murray Valley, to alleviate rising groundwater and salinity problems.

Preliminary water resources development plans are being drawn up for all river valleys in New South Wales as the basis for a State Water Plan. Investigations are continually being carried out to identify additional projects which could be implemented as funds become available. Current projects under investigation include the inland diversion of coastal rivers, the enlargement of Glenbawn Dam on the Hunter River, the Lake Mejum off-river storage near Narrandera and proposed major dams on the Williams and Goulburn rivers.

For more detailed information on Water Resources in New South Wales see the chapter entitled *Physical Development* in the latest edition of the New South Wales Official Year Book.

Victoria

Administration

Victorian Governments have been active in the development of country water supplies since the 1860's when major works to supply the Bendigo goldfields were undertaken. Local trusts to construct and operate waterworks under Government supervision were provided for in the *Water Conservation Act* 1881. Development under the trust system was greatly stimulated by the *Irrigation Act* 1886, which provided for the construction of national headworks by the State, and vested in the Crown the right to the use and control of all surface waters. By 1900 there were 33 irrigation trusts and 18 other rural water supply trusts, but the system of local control was then breaking down under financial difficulties.

The *Water Act* 1905 established the State Rivers and Water Supply Commission to take over the Irrigation Trust districts (except the still-existing First Mildura Irrigation Trust) and to exercise the State's functions in the further control and development of surface waters outside the metropolis. The Commission now supervises all private diversions from streams and directly administers irrigation

districts, rural waterworks and urban districts, flood protection districts and urban water supplies. It also supervises the activities of local urban water supply authorities, and local sewerage, river improvement and drainage authorities.

Works summarised

The State Rivers and Water Supply Commission's storages are augmented by Victoria's half share in River Murray Commission storages. Most of the water is for irrigation. However, about one quarter of irrigation production is from lands irrigated by 'private diverters', i.e., irrigators who are authorised to take water from streams, lakes, etc., but who do not come within the boundaries of an irrigation district.

Rural water supply systems

The principal irrigation systems in Victoria are:

- *Goulburn–Campaspe–Loddon*. The main storage is Lake Eildon with a capacity of 3,392 million cubic metres. The main products in these systems are dairy products, fruit, wool and fat lambs. Annual production of deciduous canning fruits in the eastern part of the system is about two-thirds of Australia's total.
- *Murray River System*. The Murray Valley Irrigation Area and the Torrumbarry Irrigation System are irrigated by water diverted at the Yarrawonga and Torrumbarry Weirs respectively. These areas are devoted mainly to dairying, fat lambs and canning fruit (Murray Valley) and dairying, fat lambs, vineyards, orchards and market gardens (Swan Hill). Downstream from Swan Hill, the First Mildura Irrigation Trust and four Commission Districts are supplied by pumping and produce mainly dried vine fruit, citrus fruits, and table and wine grapes.
- *Southern Systems*. The Maffra–Sale–Central Gippsland district, supplied from the Macalister River and regulated by Lake Glenmaggie, is devoted mainly to dairying.
- *Werribee and Bacchus Marsh*. These districts produce fresh fruit, vegetables and dairy products mainly for the local domestic market. Irrigation is supplied from the Werribee River system which is regulated by three main storages, viz. Pykes Creek, Melton Reservoir and Lake Merrimu.
- *Wimmera–Mallee Domestic and Stock Supply System*. Storages in the Grampian Ranges ensure farm water supplies over the riverless pastoral and cereal lands to the Murray. Without this supply, occupation of the region would be extremely hazardous. There are small areas of irrigation supplied from this system near Horsham and Murtoa.

Future Programs

The Victorian Water Commission's program of capital works continues to emphasise an increasing proportion of expenditure on urban water services, including waste water treatment and disposal, water quality and works to protect the water environment from the adverse effects of land and water use.

The program also reflects national policy in budgetary constraints on works programs in the public sector, and an increasing requirement for justifiable economic viability.

Major provisions in the program include—

- the continuation of a construction program of major water conservation dams for urban, industrial and irrigation supply;
- construction of further within-system storage in the Bendigo area and development of proposals to augment supply to Geelong;
- the construction of large trunk pipelines to augment supply to and to enhance the operating capabilities of the Mornington Peninsula water supply system;
- further development of country water supply and sewerage facilities;
- continuation of works to divert salt from drainage flows in the Kerang Region to evaporative areas;
- the continuation of surface drainage programs in the Northern Irrigation Districts.

For more detailed information on Water Resources in Victoria see the chapter entitled *Water Resources and Sewerage* in the latest edition of the Victoria Year Book.

Queensland

Administration

The important primary industries of Queensland are subject to relatively frequent and serious losses by either drought or extensive flooding.

The right to the use and flow and to the control of water in watercourses, lakes, springs and artesian wells is vested in the Crown, and the Commissioner of Water Resources is authorised to take measures

to conserve water and provide for its more equal distribution and beneficial use. Under the *Water Resources Administration Act* 1978–1981, he is required to (a) prepare a complete description of the natural water resources of the State, both surface and underground, (b) make and keep a record of all the natural water resources of the State, both surface and underground, (c) evaluate the present and future water requirements in the State, (d) plan the development of the water of the State, (e) take such steps as he thinks fit to protect the water resources of the State from anything detrimental to their quality or that results in or is likely to result in a diminution in their quantity, (f) investigate and survey any natural water resource, surface or underground, (g) co-ordinate the investigation, evaluation and development of plans for control of flood waters and mitigation of flood damage, (h) construct works for the conservation, replenishment, utilisation or distribution of the waters of the State, (i) manage water conservation, water supply and irrigation undertakings established under any Act of the State. As required under the *Water Act* 1926–1981, and the *Irrigation Act* 1922–1979, rights to underground and surface water are allocated and their use is controlled by a system of licensing of all artesian bores and sub-artesian bores in areas proclaimed by the Governor in Council and all conservation and use (other than for stock and domestic supplies) of flow in watercourses. The Commission is required to control use to share supplies as equitably as possible in periods of shortage of supply.

The Commissioner is required to prepare a co-ordinated program of work for the conservation, utilisation and distribution of water resources, and to make recommendations to the Government regarding the carrying out of works in this program. He is principally responsible for water conservation and supply works for rural purposes, including irrigation, stock and domestic supply. In planning such storages, economies to all users are accrued by providing, where possible, for dual or multi-purpose use of works for irrigation, rural, urban and industrial uses including power generation and mining purposes. The Commissioner is also responsible for the use of water resources by Local Government insofar as it relates to urban water supply, sewerage and swimming pools; and the quality of water.

Summary of schemes

Unlike other States, the greater part of the area irrigated in Queensland is by individual private pumping plants taking supply from streams or underground sources, spread widely through the State, rather than in constituted irrigation areas where supply is provided by channel systems delivering water to farms. Because of the predominance of irrigation by private diversion pumping, most of the storages are used to release water downstream to maintain supplies for such purposes. In 1978–79 a total of some 209,200 hectares were irrigated.

SOURCES OF IRRIGATION WATER, 1978–79

Source of supply	Area irrigated	Percentage of total area irrigated
	('000 hectares)	%
Underground supplies (a)	109.5	52
Surface supplies—		
State irrigation schemes	40.2	19
Rivers, creeks, lakes etc. (b)	41.7	20
Farm dams	17.7	8
Total	99.6	48
Town or country reticulated water supply	0.1	. .
Total, all sources	209.2	100

(a) Naturally or artificially replenished. (b) Includes regulated and unregulated streams.

Irrigation areas

About 25 per cent of the area under irrigation annually, ie some 52,000 hectares, is concentrated in six established Irrigation Areas constituted under the *Irrigation Act* 1922–1979, where the supply is generally reticulated by channel systems (by means of gravity or by pumping) from the storage. In addition, some supply is also provided from streams regulated by the storage. A summary is set out on next page; further details are shown on page 883 of Year Book No. 61.

<i>Irrigation areas</i>	<i>Comments</i>
Dawson Valley	Around Theodore on Dawson River; cotton, graincrops and urban usage in Theodore and Moura.
Burdekin River	Complex system of conservation, irrigation, industrial and other uses; sugar cane, rice, seed and small crops; artificial recharging of underground water supplies from unregulated flows (Burdekin River)
Mareebah-Dimbulah	Hinterland of Cairns; tobacco, rice, peanuts and urban/hydro-electric uses; Tinaroo Falls Dam.
St George	Balonne River; cotton, soya beans and cereals, and urban uses; Beardmore Dam.
Emerald	Joint Federal-State undertaking based on State's largest storage—Fairbairn Dam; industrial and urban use, irrigation of cotton, soya beans and cereals.
Bundaberg	Joint Federal-State undertaking; sugar, tobacco and small crops and urban supplies for Bundaberg and adjacent shires; Fred Haigh Dam.
Eton	Hinterland of Mackay; sugar cane and water supply in Mackay area; Kinchant Dam.

A number of other schemes have been established under the *Water Act* 1926–1981, where water from storage is released downstream to maintain adequate supplies for pumping under licence to adjacent lands. Details on these and others currently under construction are in Year Book No. 61, pages 883–4.

Rural, stock and domestic supplies

Improvements to stock and domestic water supplies are assisted by Rural Water Supply Schemes and Bore Water Supply Areas (constituted under the *Water Act*). Investigation, design and administration of these schemes are carried out by the Queensland Water Resources Commission.

Underground water supplies

The availability of underground water, particularly the Great Artesian Basin, has played a major part in the development of the pastoral industry in Queensland. Underground water is also used extensively for irrigation on individual farms, particularly along the coastal fringe, and for domestic purposes. Over half the area irrigated in Queensland receives its supplies from underground sources. In accordance with the requirements of the *Water Resources Administration Act* 1978–1981 the investigation of availability of underground water is being pursued by geological mapping, investigation drilling and hydro-geological assessment. The most important areas where water from this source is used for irrigation are the Burdekin Delta, Condamine Valley, Bundaberg, Lockyer Valley, Callide Valley and Pioneer Valley. The table on page 348 of this chapter provides the quantity and purpose of groundwater usage in these areas.

For more detailed information on Water Resources in Queensland see the chapter entitled *Land Settlement* in the latest edition of the Queensland Year Book.

South Australia

Administration

All major water resources and most public water supply schemes in South Australia are administered by the Engineering and Water Supply Department under the various statutes mentioned below.

- The Waterworks Act, 1932–1978, which empowers the Minister of Water Resources to impound or divert the water from any lake, watercourse or underground source for the purpose of establishing and maintaining public water supply schemes to serve proclaimed water districts throughout the State.
- The Water Conservation Act, 1936–1975, which relates to the provision of small dams, wells, bores and other waterworks to assist development in the more remote areas of the State or to provide water for travellers and travelling stock in such areas.
- The River Murray Waters Act, 1935–1971, which ratifies the River Murray Waters Agreement, and under which the Engineering and Water Supply Department operates and maintains Lake Victoria storage, nine weirs and locks downstream of Wentworth, N.S.W., and barrages at the river mouth.

• The Water Resources Act, 1976–1979, which came into force from 1 July, 1976 and superseded the Control of Waters Act, 1919 and the Underground Waters Preservation Act, 1969, represents the culmination of the development of the Government's water resources policy involving the management of all aspects of water—surface and underground, quality and quantity. The Act provides for the control of diversions of surface waters from Proclaimed Watercourses and for the control of the withdrawal of underground waters from Proclaimed Regions. Currently, the River Murray and Little Para River are Proclaimed Watercourses, the Proclaimed Regions being the Northern Adelaide Plains and Padthaway areas. The legislation provides for control over the construction or modification of most categories of wells over the whole State and for the abatement of pollution of all waters. It establishes a South Australian Water Resources Council and Regional Advisory Committees as vehicles for public participation in the water resources management process. Currently, Regional Committees operate in respect of the River Murray, the Northern Adelaide Plains and Little Para River, Padthaway, the North Para River, the Arid Areas and the Angas-Bremer Irrigation Area. In addition, the Act provides for a Water Resources Appeal Tribunal to give individuals the opportunity to appeal against decisions of the Minister pursuant to the Act.

Summary of schemes

Australian irrigation originated in the upper Murray in South Australia and the Mildura area of Victoria. South Australian irrigation commenced with an agreement involving the Chaffey brothers in 1887 whereby an area was made available for the establishment of certain irrigation works at Renmark. From this start, government, co-operative and private irrigation areas totalling more than 42,000 hectares have been developed in the South Australian section of the Murray Valley. The authority controlling River Murray irrigation is the Engineering and Water Supply Department which operates under policies determined by the Minister of Water Resources on advice of the S.A. Water Resources Council. The principal high land crops comprise citrus and stone fruits, and vines. The reclaimed swamps along the lower section of the Murray are used almost exclusively for pasture and fodder crops. Vegetable crops of various kinds are important in both types of irrigated lands.

Except for quantities held in various lock pools and natural lakes, no water from the Murray is stored within South Australia for irrigation purposes. Usage of the River is therefore planned on the basis of the minimum monthly flows to which South Australia is entitled under the River Murray Waters Agreement. This factor, plus the need to reserve water for city, town and rural water supply systems, has resulted in the expansion of irrigation from the River being rigidly controlled by the Government. In addition to irrigation from the River Murray there are considerable areas irrigated from underground sources by individual landholders in South Australia. The most important of these areas are the North Adelaide Plains (market gardens) and the Padthaway district of the south-eastern region (pastures, fodder, seed crops and vines).

Adelaide Metropolitan Water Supply

In 1980–81, River Murray pipelines supplied 54 per cent of the total intake to the Metropolitan Adelaide Water Supply System. A maximum of 83 per cent was reached in 1977–78. The principal sources of supply for the ten storages in the Mt Lofty Ranges are the Rivers Onkaparinga, Torrens, South Para, Myponga and Little Para. For details on Adelaide Metropolitan Water Supply, see "Metropolitan Adelaide Water Resources Study", Engineering and Water Supply Department, June 1978.

Country reticulation supplies

A number of reservoirs in the Barossa Ranges and other local sources are augmented by the Morgan-Whyalla, Swan Reach-Stockwell and Taillem Bend-Keith pipelines which provide River Murray water to extensive country areas. A network of branch mains provides the means of conveying water to numerous towns and large areas of farmlands.

Surface and underground resources have been developed to supply most country centres not covered by the larger schemes. Victor Harbor and adjoining south coast resort centres are supplied from reservoirs and the River Murray. A reservoir on Kangaroo Island supplies Kingscote and adjacent farmlands. Underground resources of the lower south-east supply all towns in the region, the city of Mount Gambier and nearby farmlands being reticulated from the well-known Blue Lake. At the far northern opal mining town of Coober Pedy a reverse osmosis desalination plant provides a potable supply from brackish groundwater. Other centres in the far north obtain supplies from the Great Artesian Basin. For details on underground water resources in South Australia see "Underground Water Resources of South Australia", Bulletin No. 48, Department of Mines and Energy, Geological Survey of South Australia, 1978.

South-eastern drainage

A section of the South-East Coast Drainage Division extends into South Australia but has no co-ordinated drainage pattern to form a significant surface water resource. However, high rainfall in the area has led to the natural development of underground resources. Surplus water is not easily disposed of in the valleys and low range terrain, so drainage systems have been undertaken by the Government in co-operation with landholders. For further details see "Environmental Impact Study on the effects of Drainage in the South East of South Australia", Southeastern Drainage Board, June 1980.

Murray River Irrigation Areas

Where irrigation water in excess of plant requirements has been applied, perched water tables develop. Rising to the level of tree roots, these cause the death of orchards from salination and water-logging. Most orchards and vineyards are now drained by plastic and tile drainage systems, thus restoring their health and productivity. At present, disposal of drainage water is achieved by pumping to basins on river flats where it evaporates or is discharged into the river when it is in flood. It may also be discharged into underlying sand and limestone aquifers. The usefulness of these aquifers is declining as they are becoming fully charged with water.

As a result of investigations made into alternative disposal schemes, a \$25 million package of six salinity control measures was embarked upon in 1979. The measures combine engineering works, improved irrigation practices, and river regulation to reduce salinity to acceptable levels. The centrepiece of the programme is the Noora Drainage Disposal Scheme, construction of which was well advanced as at 30 June, 1981.

When completed, the Scheme will allow drainage water presently held in river flat basins to be pumped to a large evaporation basin located well out of the river valley, approximately 20 km east of Loxton.

For more detailed information on Water Resources in South Australia see the chapter entitled *Physical Development* in the latest edition of the South Australian Year Book.

Western Australia

Administration

The Minister for Works and Water Resources administers the departmental irrigation schemes under the *Rights in Water and Irrigation Act, 1914-1978*. He is advised by an Irrigation Commission representing the local irrigationists and government, technical and financial branches. He also administers, under the *Country Areas Water Supply Act, 1947-1979*, the water supplies to certain country towns and reticulated farmland. As Minister for Works he controls minor non-revenue producing supplies to stock routes and a few mines and agricultural areas with their associated communities. A small number of town supplies are administered by local boards under the *Water Boards Act, 1904-1979*, which provides a large degree of autonomy with ultimate Ministerial control.

Irrigation

Irrigation schemes have been established by the Government on the coastal plain south of Perth in the Waroona, Harvey and Collie River and Preston Valley Irrigation Districts between Waroona and Donnybrook, the water being channelled from dams in the adjacent Darling Range. The success of dairying and stock raising and, to a lesser extent, vegetable growing, which have replaced citrus growing, has led to a gradual but substantial extension of irrigation areas in the south-west.

Although not yet comparable in size with the south-west irrigation districts, the irrigation areas at Carnarvon and on the Ord and Fitzroy Rivers in the Timor Sea Drainage Division in the north of the State are of increasing significance.

Since the mid 1930s, a centre of tropical agriculture has been developed at Carnarvon, near the mouth of the Gascoyne River. Initially, the principal source of irrigation water for the 160 plantations was private pumping from the sands of the Gascoyne River. Overpumping by the growers however, resulted in salt intrusion into the fresh water aquifer. Government controls were introduced and a major groundwater supply scheme upstream of the irrigation area has since been commissioned and provides approximately two-thirds of the irrigation water. The area specialises in growing bananas together with out of season vegetables for the Perth market. A tropical research station is maintained at Carnarvon by the Department of Agriculture.

The Ord River Irrigation Project in the Kimberley Division provides for the eventual development of an irrigation area of some 70,000 hectares of land, one third of which is in the Northern Territory. The first stage, in which water was supplied from the Kununurra Diversion Dam (capacity 98.7 million cubic metres) to 30 farms averaging 270 hectares plus a 970 hectare pilot farm was completed in 1965.

Cotton was the principal crop, with grain sorghum and fodders for cattle fattening also important. Completion in 1971 of the Ord River Dam, which stores 5,720 mil. cubic metres in Lake Argyle, has allowed expansion of the area to be irrigated into the second stage. Five farms averaging 388 hectares were allocated in 1973. Since then, cotton has been phased out due to high off-farm costs and increasing costs of insect control specific to the cotton industry. A downturn in the Australian beef industry coincided with this and farming activity was reduced. Rice, sunflower, peanuts, grain sorghum and other crops are now showing promise commercially.

The Camballin Irrigation District on the Fitzroy River flood plain in the West Kimberleys is dependent on diverted river flows and a small volume of storage behind the diversion structures on the Fitzroy River and Uralla Creek. Grain and fodder sorghums are the main crops. A significant expansion in activity is expected in future years.

Country water supplies controlled by Department of Public Works

Since 1947 enlargement and extensions of the Goldfields and Agricultural Water Supply and the development of the Great Southern Towns Water Supply have been carried out, mainly in accordance with a project known as the Modified Comprehensive Scheme. Under this scheme water has been supplied to towns and farms in the cereal and sheep districts of the State. Two years after the completion of the 1.7 million hectare scheme in 1961, an extension of 1.5 million hectares was agreed to with Federal-State funding.

Goldfields and Agricultural Water Supply

Water for the Eastern Goldfields is supplied by pipeline from Mundaring Reservoir in the Darling Range. The scheme now serves over 93 towns and 2.7 million hectares of farmland.

Great Southern Towns Water Supply

This scheme provides water to towns and localities from Wellington Dam to Narrogin and along the Great Southern Railway from Brookton to Tambellup, supplying 31 towns and 0.6 million hectares of farmland.

Local and Regional Water Supplies

As well as the two major water supply schemes, above, water is also supplied by the Government from 12 Regional Water Supply schemes to 42 towns and from 97 local water supply schemes to 99 towns. The water comes from a variety of sources including underground, artificial catchments and stream flow.

Underground water

Considerable use is made of groundwater by individual farmers, pastoralists, market gardeners and others, although the water quality varies from place to place and much of it is too saline for irrigation or even stock purposes. Artesian wells throughout the State and non-artesian wells within 'declared' areas must be licensed under the *Rights in Water and Irrigation Act, 1914-1978*. Industries also use groundwater in substantial quantities, especially in the processing of titanium, iron and alumina, and this demand has intensified the search for groundwater.

For more detailed information on Water Resources in Western Australia see the chapter entitled *Land Tenure and Settlement, Water Supply and Sewerage* in the latest edition of the Western Australian Year Book.

Tasmania

Main purposes of water conservation and utilisation

Because of the generally more adequate rainfall in Tasmania, scarcity of water is not such a problem as it is in most mainland areas, though not all streams are permanently flowing. The only large-scale conservation by reservoirs is for hydro-electric power generation, but there are some moderately-sized dams built by mining and industrial interests and by municipal authorities for town water supplies. 'Run of the river' schemes are quite adequate for assured supply in many municipalities. The main supply for Hobart and adjacent municipalities originates from a 'run of the river' scheme based on the Derwent River. The river is controlled in its upper reaches by eight dams, built for hydro-electric power generation, and these tend to stabilise river flow.

Until a few years ago irrigated areas were negligible except for long established hop fields, but there is a rapidly expanding use of spray irrigation on orchards, pastures, potatoes, beans and peas. Until recent years there has been almost complete dependence on natural stream flows, but the need for some regulating storages has become apparent. Increasingly, farmers are constructing storages of their own and the extension of this practice is foreseen as the logical solution in most areas, as valleys are

narrow and steep sided. Single large reservoirs cannot economically serve large areas of suitable land, as nearly every valley is separated from others by pronounced hills, prohibiting the construction of cross-country channels.

Underground water suitable for stock, minor irrigation works and domestic use is exploited in the consolidated rocks of southern, midlands and north-western Tasmania. In the south and midlands, nearly all groundwater is obtained from Permian and Triassic rocks. In the north-west, water is recovered from a variety of rocks ranging from Precambrian dolomites, quartzites and schists to Tertiary basalts and Quaternary sands. The highest yields are obtained from the dolomites and the basalts. In the central north and north-east, unconsolidated Tertiary clays and gravels yield water of variable quality. In some coastal areas, notably King and Flinders Islands, water is obtained from aeolian sands.

The Mines Department is charged with the investigation of underground water resources. There is a great reserve of untapped permanent streams in the western half of the State, which is largely unsettled. The State's largest rivers discharge in the west, but diversion to the eastern half of the watersheds is not regarded as practicable. The Hydro-Electric Commission, however, has planned for the future development of four storage dams in the West Coast region on the Pieman, Murchison and Mackintosh Rivers.

Administration

In Tasmania, water supply was once exclusively the responsibility of local government authorities, but three statutory authorities, the Metropolitan Water Board, the Rivers and Water Supply Commission and the North West Regional Water Authority, now operate bulk supply schemes, piping water for distribution by the local government authorities in the Hobart, Launceston and N.W. Coast regions, and directly to certain industrial consumers. The Board is responsible for the supply of water in the Hobart, Clarence, Glenorchy and Kingborough local government areas, while the Commission exercises a general control over the utilisation of the State's water resources and has specific functions in relation to local government authority water, sewerage and drainage schemes. The Authority controls the supply of water to the municipalities of Circular Head, Wynyard, Penguin, Ulverstone, Devonport, Latrobe and Kentish.

Rivers and Water Supply Commission. The Commission is empowered by the *Water Act 1957* to take water at streams and lakes, or to issue others with licences to do so; licensing covers supply to specific industries and municipalities as well as for irrigation. The Commission is concerned with drainage trusts' operations, river improvements (including repairs after flood damage), stream gauging, its own regional water schemes, and with water supply, sewerage and drainage of towns. It operates in a similar manner to the Metropolitan Water Board in controlling the water schemes serving the East Tamar region (North Esk Regional Water Supply), the West Tamar area (West Tamar Water Supply) and the Prosser River Scheme, which was originally constructed to supply water to a sodium alginate industry at Louisville near Orford and to supplement the water supply of the township of Orford. The sodium alginate industry ceased production in December 1973. The North Esk Regional Water Supply was constructed to meet industrial requirements of the alumina refinery and other industries at Bell Bay, and to provide bulk supplies to surrounding municipalities on the eastern bank of the River Tamar and has since been augmented by the construction of a dam on the Curries River to supply the northern end of the Tamar Valley. The West Tamar Water Supply was constructed primarily to meet domestic requirements of urban areas in the Beaconsfield municipality. The local government authorities retain primary responsibility for reticulation and sale to consumers, except to certain industrial users.

In municipalities not serviced by the Metropolitan Water Board, the Rivers and Water Supply Commission or the North West Regional Water Supply Authority, the supply of water is a function of the local municipal council. Where the construction of water and sewerage schemes is beyond the financial capacity of a local government authority, or if it requires assistance to pay for water supplied from regional schemes, the Commission may make recommendations to the Minister for payment of a subsidy.

Irrigation

The Cressy-Longford Irrigation Scheme, officially opened in March 1974, was the first major irrigation project to be established in Tasmania. The source of supply is the tailrace of the Poatina hydro-electric power station from which up to 12 million cubic metres will be available to farmers both inside and outside the irrigation district. Some 9,000 hectares, half of which are watered by gravity, will eventually be irrigated. The scheme services about sixty-five farms within the irrigation district (mostly by the spray sprinkler system), while a further thirty farms on the fringes will benefit from augmented river flows.

The Cressy-Longford Scheme which is operated by the Rivers and Water Supply Commission, and a privately owned scheme at the Lawrenny estate at Ouse, are the only extensive irrigation works in Tasmania. A large portion of the 22,320 irrigated hectares in the State in 1978-79 were watered by private schemes pumping water from natural streams. Approximately 50 per cent of the area was sown and native pastures. Vegetables occupied about 33 per cent, with potatoes responding particularly well to irrigation.

For more detailed information on Water Resources in Tasmania see the chapter entitled *Local Government* in the latest edition of the Tasmanian Year Book.

Northern Territory

Information on climatic conditions can be found in the chapter Climate and Physical Geography of Australia. A brief outline of contour and physical characteristics is in Chapter 27, The Territories of Australia.

Administration

Under the Northern Territory *Control of Waters Ordinance* 1938, control of natural waters is vested in the Crown. Where a watercourse or lake forms a boundary of any land alienated by the Crown, the beds and banks are deemed to remain the property of the Crown (except in special cases). The diversion of water is prohibited except under prescribed conditions. The Act requires that drilling for groundwater be carried out only by drillers who are registered under the Act. Registered drillers are required to provide the Government with information on bores drilled, including the location, depth and size of bore, strata encountered and water produced. In particular areas, described as Water Control Districts, where stricter control is necessary, the construction or use of a well or water bore without a permit can be prohibited.

Under the *Water Supplies Development Act* 1960, any landholder engaged in pastoral or agricultural production may seek information or advice from the Commissioner of Water Development who is appointed under the Act. He may also apply for an advance towards the cost of work proposed to be carried out. The Act also provides for a refund to the landholder of the cost of drilling an unsuccessful bore where the landholder has applied to the Commissioner for advice on its construction and has carried out all drilling operations in accordance with advice given.

The Water Division of the Department of Transport and Works carries out systematic stream gauging, the collection of data relating to the quantity and quality of surface and groundwater, the planning of water use for industrial, irrigation and town water supplies, and flood prevention and control. It also provides a general advisory service to the public on water resources and water conservation by providing information on the geology of the Territory, the prospects of obtaining groundwater, the possible location of bore sites, the method of drilling and equipping bores, stream flows, surveys of dam sites, the design of water supply schemes and reticulation lay-outs, and the chemical and bacteriological quality of water supplies. It is involved in water pollution studies and control, and carries out environmental assessments of water and related developments. The Division administers both of the acts described.

Underground water

For information on underground water resources in the Northern Territory see Year Book No. 55 and earlier issues, and the Australian Water Resources Council's publication, *Groundwater Resources of Australia*, 1972 and *Review of Australia's Water Resources*, 1975.

Of approximately 12,500 bores and wells registered in the Territory up to 30 June 1979, 51 per cent were for pastoral use, 13 per cent were investigation bores, 13 per cent served town and domestic supplies, 5 per cent were for crop use, 4 per cent were used on mining fields, and the remainder for various other uses.

Community water supplies

The largest water conservation projects in the Territory are the Darwin River Dam (259.0 million cubic metres) and the Manton Dam (15.7 million cubic metres) which both serve Darwin with a reticulated water supply. Groundwater from McMinns Lagoon area can be used to augment supply.

Most other towns and communities, including Alice Springs, Tennant Creek, Katherine, Jabiru and Nhulunbuy, are supplied from groundwater.

Investigations are continuing into groundwater supplies for aboriginal communities and irrigation supplies in the Alice Springs District.

Surface water measurement

The hydrological investigations required in the Northern Territory as part of the National Water Resources Assessment Program are being carried out by the Water Division. The program for the

Northern Territory includes establishment of base streamgauging stations and pluviographs (automatic rainfall recorders). In particular areas of development where water supply or irrigation proposals require special or extra surface water data, supplementary gauging stations are built to obtain this information. Intensive studies are being undertaken in the Alligator Rivers Region and other mining areas for the collection of both quantitative and qualitative data for environmental and management purposes. The streamgauging network of the Division comprises gauging stations (base gauging and supplementary) and pluviographs. Several other organisations also operate gauging stations and pluviographs in the Northern Territory.

Irrigation for agricultural purposes in the Territory is not extensive, being confined to isolated locations near Darwin, Adelaide River, Coomalie Creek, Daly River, Katherine, Douglas River, Ti Tree and Alice Springs for the purpose of growing fruit, vegetables, fodder crops, pastures and some dairying. Some of this irrigation is carried out using bore water.

Both the Daly and Adelaide Rivers offer considerable potential for the development of either irrigation or hydroelectric schemes if these rivers were regulated. Investigations are being conducted into possible dam sites, agricultural surveys having already been conducted in these regions. There is increasing demand for water resources assessment studies and assistance for relatively small irrigation projects, and for investigation and design of surface water storages for recreational uses, especially in the more arid regions.

Australian Capital Territory

The climate of the Australian Capital Territory is such that annual evaporation exceeds the annual rainfall of about 600 mm. Primary producers have therefore found it necessary to practise water conservation, and to irrigate from groundwater supplies during dry periods.

Surface water

Surface water storages supplying Canberra (population about 228,000) and the city of Queanbeyan (population about 21,000) are located to the south-west and south-east. The storages to the south-west are in the heavily timbered, mountainous Cotter River catchment within the A.C.T., the storages being Corin Dam (75.5 million cubic metres), Bendora Dam (10.7 million cubic metres) and Cotter Dam (4.7 million cubic metres). These storages, can serve a population of 225,000. The storage to the south-east is in New South Wales in the Queanbeyan River catchment on the western slopes of the Great Dividing Range, the storage being Googong Dam (125 million cubic metres). This storage was only recently commissioned and can serve 70,000 people with the current trunk mains and distribution system. The total volume of water in storage at 30 June 1980 was 157 million cubic metres.

The existing storages on the Cotter and Queanbeyan River have an ultimate combined capacity to serve 450,000 persons. The remaining water resource within the A.C.T. is the Gudenby River which is at present not utilised but has the potential to serve approximately 200,000 persons.

The A.C.T. water supply system is operated by the Department of Housing and Construction. This Department operates a network of stream gauging stations in the A.C.T. to monitor surface water resources. A number of the gauging stations are provided with telemeters which enable the Department to provide a flood warning system in association with the Bureau of Meteorology.

Groundwater

Groundwater in the A.C.T. and environs occurs mainly in fractures in crystalline rock such as granite and volcanic rocks; in folded and fractured slate; and rarely, in solution cavities in limestone. Alluvial aquifers of significance are restricted to the Lake George basin and small areas along mature sections of the Molonglo and Murrumbidgee Rivers. Groundwater has been used in the past by most primary producers to augment surface storage. Groundwater production bores in the A.C.T. have yields ranging between about 0.4 and 20 cubic metres per hour; 3 cubic metres per hour is about the average yield. However, many farm bores have fallen into disuse as a result of the Government's resumption of freehold land within the A.C.T., and because of the rapid expansion of urban growth. The Bureau of Mineral Resources has provided a bore-siting, groundwater-quality and yield-prediction service in and around the A.C.T. since the early 1950's and until 1978 maintained a network of 48 observation bores which were monitored regularly for up to 25 years. Periodic monitoring of the bores recommenced in 1980 as a consequence of greatly increased demand for the Bureau's rural bore siting services during the current drought. Data are now being collected on groundwater occurrences within the A.C.T. and environs for preparation by the Bureau of a 1:100,000 scale hydrogeologic map.

Many bores have been drilled in the Canberra area for determination of ground conditions for specific projects such as dam sites, sewer tunnels, deep foundations for large buildings; disposal of household and industrial wastes, including radioisotopes; monitoring hydrocarbons, pollution of

groundwater or for feasibility studies for urban development. These bores are generally monitored for short periods only. Long-term monitoring of water infiltrating from refuse-disposal areas commenced in 1977.

Control of irrigation and farm water supplies is exercised by the Conservation and Agriculture Branch of the Department of the Capital Territory. The Bureau of Mineral Resources of the Department of National Development and Energy provides technical advice to landholders and drilling contractors on groundwater and, occasionally, on runoff.

CHAPTER 16

MINERAL INDUSTRY

GENERAL

Geology and mineral resources

General geology

Most of the western and central part of the Australian continent consists of basement rocks of Precambrian age. Younger Palaeozoic rocks, mostly of geosynclinal origin, form a discontinuous belt several hundred kilometres wide extending from north Queensland to Tasmania. Mesozoic platform sediments form a broad zone separating the Palaeozoic and Precambrian rocks and extending from the Gulf of Carpentaria to central New South Wales. Cainozoic rocks occur mainly in Victoria, south-western New South Wales and southern South Australia, and as residual basalt cappings over extensive areas of the Palaeozoic rocks of eastern Australia.

Economic geology

Minerals of economic significance occur widely throughout the Precambrian and Palaeozoic rocks of the continent. Palaeozoic mineralisation is perhaps more varied, but the Palaeozoic deposits now being worked are in general smaller than those found in Precambrian rocks. Most of Australia's metallic mineral deposits occur within two broad regions: one of Precambrian rocks in the west and central areas of the continent; and one of younger Palaeozoic rocks in the east.

Mineral resources

Australia is self-sufficient in most minerals of economic importance (and much more than self-sufficient in some). Known adequate reserves of minerals with production sufficient for domestic demand and exports include aluminium (bauxite), black coal, copper, gold, iron ore, lead, natural gas, nickel, salt, silver, tin, tungsten, uranium and zinc. Adequate reserves sufficient for domestic demand include clays (except light grade china clay), brown coal, dolomite and feldspar.

For further details of principal Australian mineral deposits, and notes on principal mineral resources, see Year Book No. 61, pages 925-932 and the Australian Mineral Industry Review.

Administration

All mineral rights in Australia are vested in the Crown except those on land which was granted before the Crown began to reserve mineral rights. In practice, these private mineral rights are important only in the New South Wales coalfields. In the States, these rights are held by the State Governments. On 1 July 1980, executive authority with respect to mining and minerals except in relation to certain prescribed substances within the meaning of the Atomic Energy Act (principally uranium) was transferred from the Commonwealth Government to the Northern Territory Government. Private mineral rights in the Australian Capital Territory are vested in the Commonwealth Government. The Commonwealth Government is able also to influence over-all development and production activity in the mineral industry by virtue of its statutory powers with respect to international trade, customs and excise, taxation, and loan raisings. Certain specially-formed bodies such as the Joint Coal Board and the Australian Atomic Energy Commission have been given administrative responsibility in defined areas.

Mineral exploration and development

Onshore. Each State or Territory has its own mining Acts or Ordinances and regulations governing the prospecting for and working of mineral deposits. These Acts, etc., are similar in principle but different in detail. They all make provision for a miner's right to prospect and for small mining leases for mineral production. The principles embodied were established many years ago when mining operations were generally small scale and labour-intensive. Although amendments have been enacted to modernise the legislation, it is generally inadequate for the large-scale capital-intensive operations often involved with modern mineral development. For this reason a large enterprise may take the course of acquiring mining titles by negotiations with the appropriate Minister for Mines and having

the agreed terms and conditions embodied in an Act of the State Parliament. This method of acquisition has been used in several cases where the leasing company undertook an obligation (such as the erection of a large treatment works) in return for leases over large areas for a long period, and has become more common in recent years (e.g. iron ore in Western Australia, coal and bauxite in Queensland, bauxite in the Northern Territory). Mining legislation enacted in recent years is simpler and more suited to modern conditions.

As a result of the introduction of large-scale modern prospecting methods (particularly airborne prospecting), small prospecting areas were found to be unsuitable in some instances, and steps have been taken in the States and Territories to ensure the availability of large areas for prospecting by interested persons. Large areas may be made available by provision within the Mining Acts or Ordinances for the issue of authorities to prospect over an area defined by a written agreement which also sets out provisions as to the amount of money to be spent, methods of prospecting, tenure of the agreement, etc.

The tenure of such areas is limited (usually to one or two years only) and, if renewed for a further period, is only over an area selected from the larger area (usually 50 per cent) as a result of work done during the life of the initial agreement. It does not give the holder any rights over, or authority to prospect on, land already held under a mining title within the agreed area. Unless specifically stated in an agreement, the discovery of minerals, whether inside or outside an area covered by an authority to prospect, gives the discoverer no legal rights except the right to apply for a mining lease over the area in which the discovery was made. Suitable prospects are converted to mining tenements by making application for lease under the appropriate mining Act.

Off-shore. Following the enactment of the *Seas and Submerged Lands Act 1973* the High Court confirmed that the Commonwealth has sovereignty over the territorial sea and sovereign rights over the resources of the whole of Australia's continental shelf. However, in the offshore constitutional settlement between the Commonwealth and the States reached in June 1979, it was agreed that responsibility for mining within the outer boundary of the 3 mile territorial sea should lie with the States, while the Commonwealth should have responsibility for areas beyond.

The Minerals (Submerged Lands) Act 1981 passed by the Commonwealth Parliament in June 1981 follows the scheme of the offshore petroleum legislation amendments passed in 1980 and provides for Joint Commonwealth/State Authorities to be responsible for major matters under the legislation with the States being responsible for day-to-day administration. The legislation will be proclaimed to come into effect when complementary State legislation in respect of the 3 mile territorial sea, currently in preparation, is enacted. In the meantime administration of offshore mining is carried out under the States' onshore mining legislation on an interim basis.

The mining code under the new legislation provides for a two-stage system of titles: the exploration permit, which covers all forms of exploration, and the production licence, which covers development. The sharing of royalty between the State and the Commonwealth Governments is to be on a 60-40 basis for all offshore mining, including land-based underground mining.

Petroleum exploration and development

On-shore. In Australia, all petroleum is the property of the Crown. Consequently, full control of petroleum mining rights is vested in the Government or Administration of each State or Territory. Any company, organisation or individual proposing to undertake petroleum exploration or development must first satisfy the Government concerned that the necessary financial and technological resources are available to carry out the operation.

There are three main types of petroleum title:

- (a) the permit, covering initial geological, geophysical and exploration drilling;
- (b) the licence (in Victoria only), which covers detailed surveys and drilling; and
- (c) the lease, which covers development operations and production.

Off-shore. In the offshore constitutional settlement between the Commonwealth and the States reached in June 1979, it was agreed that, as in the case of mining for other minerals, responsibility for administering petroleum exploration and production within the outer boundary of the 3 mile territorial sea would be a State responsibility, while the Commonwealth would have responsibility for the continental shelf beyond the 3 mile territorial sea.

Amendments to the *Petroleum (Submerged Lands) Act 1967* passed by the Commonwealth Parliament in May 1980 made provision for a Joint Authority for the adjacent area of each State (beyond the 3 mile Territorial Sea limit) consisting of the Commonwealth Minister and the State Minister. The Joint Authorities will be concerned with major matters arising under the legislation, and in the case of disagreement the view of the Commonwealth Minister will prevail. Day-to-day administration will continue to be in the hands of the State Minister as the Designated Authority and State officials. The

amended legislation will be proclaimed to come into effect when complementary State legislation in respect of the 3 mile Territorial Sea, currently in preparation, is enacted. In the meantime administration of offshore petroleum continues to be carried out under the 1967 legislation.

The mining code applicable under the legislation provides for a two-stage system of titles: the exploration permit, which covers all forms of exploration including drilling, and the production licence, which covers development and exploration. The sharing of royalty between the State and the Commonwealth Governments is to continue on a 60-40 basis, and any override royalty payments will continue to be retained by the States.

Mineral royalties

The collection by governments of royalties for the production of minerals within their area of authority is an internationally-accepted practice. In Australia, the responsibility for mineral royalties is largely a State concern, and all States currently collect some form of mineral royalty payments.

In recent years there has been an important basic change in the system of establishing royalty commitments, and it is now quite common for State Governments to negotiate special royalty rates with companies which are seeking mineral leases for large scale developments. These royalty rates may vary, depending on whether production is for export or for domestic processing. The rates for a particular mineral may also vary between producers. Important examples of this type of royalty agreement are the iron ore development agreements in Western Australia and coal development agreements in Queensland. Mineral royalties received by Governments in recent years are shown in the following table.

MINERAL ROYALTY RECEIPTS: GOVERNMENTS

(\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
New South Wales(a)	37,864	32,660	46,354	49,062	35,651	86,797
Victoria(b)	26,657	29,893	32,696	48,446	60,111	90,554
Queensland(a)	34,867	36,753	50,842	53,651	57,981	73,522
South Australia	2,500	2,788	3,346	4,109	4,543	5,869
Western Australia	39,385	43,111	51,638	54,519	57,810	66,713
Tasmania	342	576	1,496	2,093	2,193	5,261
Northern Territory(c)	99	545	362	277	120	2,549
Commonwealth Government(d)	12,155	13,440	13,805	23,002	28,031	43,337
Total	153,869	159,766	200,539	235,159	246,440	374,602

(a) Includes royalty on sand and gravel from Crown lands. (b) Includes royalty on brown coal paid by State Electricity Commission. (c) Excludes Aboriginal Benefits Trust Fund royalties from mining operations prior to 1978-79. (d) Includes royalties received under the *Petroleum (Submerged Lands) (Royalty) Act 1967*.

Control of Exports

The Commonwealth Government has constitutional power over exports from Australia. Under the Customs (Prohibited Exports) Regulations exports of nuclear sensitive material, hydrocarbons and certain raw or semi processed minerals are prohibited unless permission is granted by the Minister for Trade and Resources or an authorised person.

The fundamental objectives of the controls are:

- (i) to protect the national interest and ensure fair and reasonable market prices are achieved;
- (ii) to ensure adequate supplies are available for the domestic market;
- (iii) to meet international and strategic obligations; and
- (iv) to ensure the Government's nuclear safeguards and physical protection requirements on exports are met, consistent with Australia's international obligations in relation to uranium and nuclear materials.

Export controls are administered on coal, iron ore, bauxite, alumina, petroleum and petroleum products, tin, salt, uranium and materials of nuclear significance. Controls on tin concentrates are being phased out over calendar years 1980 and 1981, except for International Tin Agreement purposes.

Ores, concentrates, oxides, etc. of nickel, lead, zinc, copper, manganese, tungsten and blister and refined copper are subject to blanket approvals.

With regard to mineral sands, approvals to export are freely issued except where the Commonwealth considers there are environmental reasons which would make such exports undesirable. Exports of copper scrap and copper alloy scrap are embargoed and quotas apply to secondary copper ingots and basic shapes made from scrap material. All other minerals are not subject to control.

Joint Coal Board

The Joint Coal Board was established in 1946 under joint legislation of the Commonwealth Government and of the State of New South Wales to carry out special administrative functions in regard to the New South Wales black coal mining industry. In summary, the Board's functions are:

- (i) to ensure that coal is produced in the State of New South Wales in such quantities and with such regularity as will meet requirements throughout Australia and in trade with other countries;
- (ii) to ensure that the coal resources of the State are conserved, developed, worked and used to the best advantage in the public interest;
- (iii) to ensure that coal produced in the State is distributed and used in such manner, quantities, classes and grades, and at such prices as are calculated best to serve the public interest and secure the economical use of coal and the maintenance of essential services and industrial activities; and
- (iv) to promote the welfare of workers engaged in the coal industry in the State.

Queensland Coal Board

The Queensland Coal Board has functions similar to those of the Joint Coal Board. It also carries out research and sampling tests of Queensland coals. It makes funds available to colliery proprietors for equipment and makes grants and/or loans for the provision of amenities for employees and for communities in coal mining districts. The price fixing of coal sold within Queensland is another important function.

Australian Atomic Energy Commission

For details of the functions of the Australian Atomic Energy Commission *see* Chapter 18, Energy.

Government assistance

The Commonwealth Government and the various State Governments provide assistance to the mineral industry in a variety of ways. The main forms of assistance are discussed on the following pages.

Commonwealth Government assistance

Assistance provided by the Commonwealth Government takes the form of income taxation concessions, subsidies, bounties, and technical assistance, mainly through the work of the Bureau of Mineral Resources (BMR) and the Commonwealth Scientific and Industrial Research Organization (CSIRO).

Income taxation concessions. As at 30 June 1981 income derived from mining principally for gold in Australia is exempt from tax. The exemption is also available in respect of income derived from mining principally for gold and copper if the value of the gold obtained is not less than 40 per cent of the value of the total output.

Special deductions for capital expenditure incurred in the discovery and mining of petroleum (including natural gas) are allowable to a petroleum mining enterprise engaged in these operations in Australia. Capital expenditure allowable to petroleum mining enterprises includes, broadly, the costs of exploratory surveys, drilling and well-head plant; plant for the liquefaction of natural gas; and of access roads and expenditure on housing and welfare. The enterprise is entitled to these special deductions against income from any source. While the special deductions for exploration expenditure are deductible immediately against the net income of the enterprise, the deductions for capital expenditure on development are allowable over the life of the oil or gas field or over six years, whichever is less on a reducing balance basis.

An enterprise mining or prospecting for minerals other than petroleum and gold may also be allowed special deductions for capital expenditure. Broadly, allowable capital expenditure includes expenditure on exploration and prospecting; preparation of a site for extractive mining operations; buildings; other improvements and plant necessary for those operations; access roads; certain treatment plant; and housing and welfare.

The allowable capital expenditure of a general mining enterprise, other than costs of exploration, may be deducted against income from any source over the life of the mine, or over six years, whichever is the less. Expenditure incurred by a mining enterprise in exploring for general minerals is allowable as an immediate deduction against net income derived from mining operations. Annual deductions for depreciation on petroleum mining plant or general mining plant may be allowed in lieu of spreading the cost over the life of the oil field or mine. The cost of exploration plant may also be deducted under the depreciation provisions of the law. The investment allowance scheme may permit a deduction at the rate of 18 per cent of the cost of certain new plant.

Special deductions are allowable for capital expenditure incurred on certain transport facilities used primarily and principally in relation to minerals mined in Australia for the transport of raw minerals and certain specified products obtained from the processing of such minerals, or for transporting petroleum between the oil or gas field and a refinery or other terminal. The special deduction applies to expenditure incurred on a railway, road, pipeline or similar transport facility and on certain port facilities or other facilities for ships. Allowable expenditure on transport facilities is deductible in equal annual instalments over a period of ten or twenty years at the option of the mining enterprise.

An income tax rebate of 27 cents for each dollar of share capital subscribed may be available to shareholders of petroleum mining companies exploring or mining for petroleum in Australia, including off-shore areas, where those companies lodge appropriate declarations with the Commissioner of Taxation in respect of the moneys subscribed. By lodging those declarations, certifying that the capital subscriptions have been, or will be, spent on eligible outgoings within a specified period, the petroleum mining companies forgo deductions to which they might otherwise be entitled for capital expenditure.

Oil Supply Emergencies

The National Petroleum Advisory Committee (NPAC) was established in September 1979, to advise Commonwealth, State and Territory Governments on:

- appropriate arrangements for the equitable allocation of liquid fuels, during any period of supply shortage.
- priorities for the allocation of liquid fuels during periods of shortage.

Membership of NPAC is drawn from agricultural, general aviation, fishing, manufacturing, mining, shipping and transport industries, oil industry, trade union movement and motorists organisations as well as Commonwealth, State and Territory Governments. The Department of National Development and Energy provides the Secretariat for NPAC.

Payments to producers of phosphate fertilisers. The *Phosphate Fertilisers Bounty Act* 1963 provides for a bounty to be paid on phosphatic substances produced and sold in Australia as a fertiliser. Phosphatic substances used as a supplement to stock food are also regarded as being used as a fertiliser. Bounty is payable at the rate of \$12 per tonne in respect of superphosphate where the available phosphorus content is not less than 8.5 per cent or more than 8.9 per cent by weight. Outside this range, bounty is payable at \$138 per tonne of the available phosphorus content of the substance. The intention of the Act is to assist consumers of phosphate fertilisers (primary producers). The Act expires on 30 June 1982.

Bureau of Mineral Resources, Geology and Geophysics. The role of BMR is:

- (i) to develop an integrated, comprehensive, scientific understanding of the geology of the Australian continent, the Australian offshore area and the Australian Antarctic Territory, as a basis for minerals exploration; this to be done where appropriate in co-operation with State Geological Surveys and other relevant organisations and having regard to priorities for the search for minerals approved by the Minister for National Development and Energy;
- (ii) to be the primary national source of geoscience data and to publish and provide information; and
- (iii) to undertake mineral resource assessments in accordance with programs and priorities approved by the Minister for National Development and Energy with the advice of the BMR.

At 31 August 1981, 494 officers were employed at the BMR, this included 190 professional officers (geologists, geophysicists, chemists, engineers and mineral economists).

BMR's research program is carried out by four Divisions—Geophysics, Continental Geology, Marine Geoscience and Petroleum Geology and Petrology and Geochemistry. Mineral and petroleum resource assessments are undertaken by the Resource Assessment Division which includes Mineral Assessment and Petroleum Assessment Branches and a Geoscience Data Branch. There is also an Operations Branch which carries out Central functions. Further restructuring of BMR is in progress.

The BMR maintains laboratories in Canberra engaged on geochemical, geochronological and petroleum technological studies and basic research into the design and testing of geophysical equipment. It also maintains geophysical observatories at Kowen Forest (Australian Capital Territory), Mundaring (Western Australia), Mawson (Antarctica), and Macquarie Island. The geophysical observatories are engaged in geomagnetic, ionospheric, and seismology research.

State Government assistance

In addition to free assays and determinations of rocks and minerals carried out for prospectors by the Mines Departments of the States and Territories, technical officers of these departments provide advice to the mining and allied industries where required, carry out field examinations of mining prospects, advise on exploration and development, select sites for water supply, and generally give a free technical service to the mining industry.

New South Wales. The Department of Mineral Resources renders scientific, technical and financial assistance to the mining industry. Grants are made to cover up to half the cost of prospecting and drilling operations. These grants are repayable if sufficient payable minerals are discovered or if certain other conditions are met. A quantity of equipment is also available for hire in several localities. The Department has itself undertaken a program of contract drilling to investigate the existence of mineral deposits in the State (including the testing and proving of coal resources). Expenditure on exploration and prospecting in 1980-81 amounted to \$2,493,348, including \$708,504 on grants and \$1,764,585 on the Department's own drilling program.

Victoria. The Department of Minerals and Energy comprises the Divisions of Administration, Energy, Geological Survey, Hazardous Materials, Oil and Gas and Mining. The Department conducts geological and mineral surveys, produces geological maps, and issues scientific and technical reports thereon. Rotary, percussion and auger drilling operations are carried out and the results are used in sedimentary basin studies and to evaluate petroleum, mineral and groundwater potential. A comprehensive library and a geological museum are maintained, and a core library retains cores and cuttings from drilling operations. The administration of petroleum, pipeline, hazardous materials, mining and extractive industry legislation ensures that mineral and petroleum exploration and production (both on-shore and off-shore), mining and quarrying; the manufacture, transport, storage and use of explosives and the storage and transportation of inflammable liquids and liquefied gases are carried on in a safe and effective manner. Technical assistance and limited loans and grants are available for mineral exploration and prospecting and for approved development operations. Five stamp batteries located throughout the State provide an ore-crushing service to enable test crushing to be made at nominal cost. Information is available on mining law and mineral statistics. Assays of ores; analytical services; advice on metallurgical treatments, industrial pollution and chemical problems are available. Information on the manufacture, handling and use of explosives, inflammable liquids and liquefied gases is also provided. Financial assistance is available to municipalities to reclaim mine-damaged land in areas where a reclamation committee recommends such action. Through the Energy Division the Department advises on, and monitors and co-ordinates, energy policies for the Victorian Government; it also carries out investigations into a broad range of energy matters and co-ordinates and monitors energy conservation matters in Victoria.

Queensland. The Department of Mines provides assistance to mining by way of geological services, grants for construction and maintenance of roads in mining areas, repayable advances or subsidies for mine development, hiring of equipment, and assistance to prospectors. The Department maintains a concentration plant for tin ores at Irvinebank, an assay office at Cloncurry and diamond drilling plants in various parts of the State. The Queensland Coal Board carries out research and sampling tests of Queensland coals. It also makes funds available to colliery proprietors for equipment and makes grants and/or loans for the provision of amenities for employees and for communities in coal mining districts.

South Australia. The Department of Mines and Energy has as its principal functions the administration of mining and petroleum legislation including the granting of mineral leases and collection of royalties and fees; geological and geophysical investigations to ascertain the extent and nature of the State's mineral resources; drilling to test mineral deposits, petroleum reserves and underground water supplies; the testing and treatment of minerals, generally in arrangement with the Australian Mineral Development Laboratories; control of mining and rehabilitation; co-ordinating State Government activities and formulating policy advice in the discovery, assessment and development of all energy resources within the State.

Western Australia. Prospectors receive assistance of either \$15 or \$17.50 a week according to the prospecting locality. North of the 26th parallel and within a defined area south of this lying largely outside the agricultural areas, assistance is given to the extent of \$17.50 a week. In the remainder of the State prospectors receive \$15 a week. Provision is also made for the supply of some tools required for prospecting. There are fifteen State batteries operating intermittently throughout the goldfields for the treatment of ore from prospectors and small mine owners at a nominal charge. A cartage subsidy is also granted to such operators sending gold and lead ores to State batteries for treatment. Provision is made for loans to mine-owners who require assistance to develop mines.

Tasmania. The Department of Mines provides financial assistance to mining lessees for the purchase of plant and machinery; for sinking, repairing or de-watering of shafts; for construction of dams and water races; for testing and proving a deposit of any mining product; for developmental work; and for diamond and other types of drilling. The Department has available for hire percussion and diamond drills for exploration. Other assistance is rendered to the industry through geological and engineering advice, ore-dressing research into metallurgical recoveries, and the selection and design of treatment plant.

Northern Territory. The Department of Mines and Energy provides a wide range of services through its Geological Survey and Mines Divisions. The Geological Survey Division is examining the regional geology and geophysics of the Territory, with a view to facilitating the search for mineral, energy and ground water resources. It provides geological and geophysical advice, undertakes and promotes research into new techniques for mapping, geophysical surveys and mineral search. A Technical Library service is provided in Darwin and Alice Springs. Drill cores and cuttings are maintained at Darwin, Alice Springs and Tennant Creek.

The Mines Division provides expertise in mining, occupational hygiene, environment protection, metallurgy, economics and assaying. Services include a plant at Tennant Creek to process ore at subsidised rates; hire of mining equipment at nominal rates; funding of mine access road construction and maintenance, water supply, drilling, mine development and ore haulage; advice on mining techniques, mineral processing, project assessment, finance and marketing.

Rehabilitation of abandoned mine areas and preservation of historical mine items are programmed.

Research

Research investigations into problems of exploration, mining, ore-dressing and metallurgy are conducted by Government bodies, by universities, by private enterprise, and by combined efforts of these bodies. A summary of their functions follows. (For further information on research *see* Chapter 25, Science and Technology).

Australian Atomic Energy Commission

For a more detailed description of the activities of the Australian Atomic Energy Commission *see* Chapter 18, Energy.

The Australian Mineral Development Laboratories

Technical consulting, contract research and process design for the mineral and associated industries is undertaken by The Australian Mineral Development Laboratories (Amdel) at Adelaide. This organisation is controlled by a council comprising representatives of the mineral industry, the South Australian Government and the Commonwealth Government. Extensive facilities are available in the fields of analytical chemistry, mineralogy, petrology, chemical metallurgy and mineral engineering, process instrumentation and control, water and waste water treatment and materials technology. Both long and short term applied research is carried out and all investigations are conducted on a strictly confidential basis. Services in the field of pollution and environmental control are also available through the Amdel group, Amdel (Aspect).

The Baas Becking Geobiological Laboratory

In 1965, the Baas Becking Geobiological Laboratory was established in the Bureau of Mineral Resources building in Canberra under the joint sponsorship of the Commonwealth Scientific and Industrial Research Organization, the Bureau of Mineral Resources, and the Australian Mineral Industries Research Association (*see* Research by private enterprise, page 376).

Much of the biological research has involved studies on the biology and biochemistry associated with mineralisation processes. More particularly, the investigation of biogeological controls on base metal sulphide mineralisation. On the geological side, research is co-ordinated with the field programs of the Bureau of Mineral Resources, and includes studies on the McArthur Basin and the Adelaide Geosyncline.

Bureau of Mineral Resources, Geology and Geophysics

The Bureau of Mineral Resources is the largest geoscience research organisation in Australia. Its role is to develop an integrated scientific understanding of the geology of the Australian continent, its Territories and offshore areas, as a basis for mineral exploration and resource assessment. BMR's activities include:

- Studies of sedimentary basins and of sedimentary systems, which have continental development in Australia and which may be host to fossil fuels or mineral deposits. These include studies of the characteristics and origin of fossil fuels, and studies of the effects of surface processes on the bedrock of the Australian continent.
- Studies of the structure and characteristics of the crust and upper mantle relevant to the understanding of the evolution of the Australian continent and its mineral deposits.
- Research into geophysical exploration techniques and their application.
- Carrying out of airborne radiometric and magnetic surveys and their interpretation as a basis for mineral exploration.
- Carrying out a wide range of marine geological and geophysical investigations.

- The undertaking of basic geochemical, petrological, and mineralogical studies of major sedimentary and igneous rock suites.
- Studies of metalliferous deposits and of their environments.
- Multi-disciplinary studies of metallogenic provinces.
- Assessment of Australia's mineral resources, including petroleum.
- Establishment and maintenance of the National Geoscience Data Base.

Commonwealth Scientific and Industrial Research Organization

Minerals Research

Mineral research by the Commonwealth Scientific and Industrial Research Organization (CSIRO) is undertaken within the Institute of Energy and Earth Resources. The research has the objectives of locating, evaluating and defining Australia's mineral resources and planning their recovery, development and effective use consistent with the minimization of environmental stresses. The members of the Institute engaged in mineral research are the Division of Applied Geomechanics at Syndal (Vic.); the Division of Fossil Fuels at North Ryde (N.S.W.); the Division of Mineral Chemistry at Port Melbourne (Vic.); and Division of Mineral Engineering at Clayton (Vic.); the Division of Mineralogy at Perth (W.A.), North Ryde (N.S.W.) and Canberra (A.C.T.), the Division of Mineral Physics at North Ryde (N.S.W.), Lucas Heights (N.S.W.) and Port Melbourne (Vic.), and the Physical Technology Unit at Ryde (N.S.W.).

Department of National Development and Energy

The National Coal Research Advisory Committee which was established in 1964 no longer exists. Its functions have been incorporated into the National Energy Research, Development and Demonstration Council (NERDDC) which is administered by the Department of National Development and Energy. For details of NERDDC and the National Energy Advisory Committee (NEAC), which advises the Minister for National Development and Energy on matters relating to national energy policy *see* Chapter 18, Energy and Chapter 25, Science and Technology.

University Research

The various universities in Australia carry out research into various aspects of the mineral industry such as geology, ore mineralogy and genesis, mining techniques, mineral processing, extractive metallurgy, and materials and metals technology.

Research by private enterprise

Many of the large companies in the mineral industry conduct their own research in dealing with their particular Company's interests. In 1959 the major companies in the industry, formed the Australian Mineral Industries Research Association Limited to co-ordinate and manage sophisticated research programmes on a co-operative basis, carried out by the Australian Mineral Development Laboratories, CSIRO, Universities and by other research organisations.

Since then, the research activity has grown considerably in magnitude and currently involves many of the ninety three companies which comprise the Company, Associate and Division members within the Association.

Fields of research cover geology, ore genesis and exploration techniques, mining and rock mechanics, mineral processing, ecology, energy, analytical methods and miscellaneous other items and the expenditure in these fields in 1980-81 was approximately \$2,104,455.

International relations

Because Australia is a large supplier of certain minerals to the rest of the world, and because the welfare of the domestic industry depends to a large extent on the maintenance of a high level of exports, international relations are of considerable importance to the industry, and the Commonwealth Government takes an active role in international consultations and discussions relating to minerals. The most important international commitments are discussed below.

International Tin Agreement

The First International Tin Agreement (of the post-war period) was in operation for five years from 1 July 1956 to 30 June 1961. It was followed by the Second, Third, Fourth and Fifth International Tin Agreements, which came into force on 21 February 1962, 21 March 1967, 1 July 1971 and 1 July 1976 respectively. Australia joined the Fourth and Fifth Agreements as a 'producing' (i.e. exporting) member, whereas in the first three agreements Australia's status had been that of a 'consuming' (i.e. importing) member. Details of the Second and Third Agreements are given in Year Book No. 57, pages 911-12. Details of the Fourth Agreement are given in Year Book No. 61, page 942.

The objectives and provisions of the present (Fifth) Agreement are essentially the same as for its predecessors. The International Tin Agreement establishes floor and ceiling prices for tin and, by the medium of a buffer stock and remedial trading, aims at confining the prices within these limits. Producing countries are required to contribute to a buffer-stock equivalent in cash or tin up to 20,000 tonnes of tin metal, which is used to buffer short-term fluctuations in the world price market. In addition, consuming countries may also make contributions in either cash or tin metal up to the equivalent of 20,000 tonnes of tin metal. In the event of persistent market disequilibrium through causes beyond the control of the buffer stock mechanism, the agreement also provides for the regulation of exports and stocks to stabilise the market.

The International Tin Agreement is operated by the International Tin Council, which is made up of the following governments: *Producers*—Australia, Bolivia, Indonesia, Malaysia, Nigeria, Thailand, Zaire; *Consumers*—Austria, Belgium-Luxembourg, Bulgaria, Canada, Czechoslovakia, Denmark, France, Germany (Federal Republic of), Hungary, India, Ireland (Republic of), Italy, Japan, Netherlands, Norway, Poland, Romania, Spain, Turkey, United Kingdom, United States of America, Union of Soviet Socialist Republics and Yugoslavia. The producing countries hold a total of 1,000 votes, distributed so that each country receives five initial votes and an additional number corresponding to its percentage as laid down by the Agreement. The consuming countries hold a total of 1,000 votes also distributed so that each country receives five initial votes and an additional number proportionate to quantities consumed. The allocation of votes in each category is periodically reviewed.

The text for a Sixth International Tin Agreement which it is proposed will enter into force on 1 July 1982 (upon expiry of the Fifth Agreement) has been negotiated at a series of sessions which concluded in June 1981. This text is open for signature until 30 April 1982.

International Lead-Zinc Study Group

With the cessation of stockpile buying of lead and zinc by the United States Government in 1958, world producers were faced with the prospect of a serious imbalance between world supply and demand for these metals. To meet this problem, a series of meetings of interested governments was held at which Australia was represented. These meetings culminated in the formation of the International Lead-Zinc Study Group which was established in January 1960. The Study Group comprises the following Governments: Algeria, Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Czechoslovakia, Denmark, Finland, France, Germany (Federal Republic of), Hungary, India, Ireland (Republic of), Italy, Japan, Mexico, Morocco, Netherlands, Norway, Peru, Poland, South Africa (Republic of), Spain, Sweden, Tunisia, Union of Soviet Socialist Republics, United Kingdom of Great Britain and Northern Ireland, United States of America, Yugoslavia and Zambia. The Group provides opportunities for inter-governmental consultations on international trade in lead and zinc and for studies of the world situation in lead and zinc having regard especially to the desirability of providing continuous, accurate information regarding the supply and demand position and its probable development.

Association of Iron Ore Exporting Countries (APEF)

Australia is a founder member of the Association of Iron Ore Exporting Countries (APEF). Other members include Algeria, India, Liberia, Mauritania, Peru, Sierra Leone, Sweden and Venezuela.

The objectives of the Association are to promote close co-operation among Member countries with a view to safeguarding their interests in relation to the iron ore export industry; to ensure the orderly and healthy growth of export trade in iron ore; to assist Member countries to secure fair and remunerative returns from the exploitation, processing and marketing of iron ore and to provide a forum for consultations and the exchange of information on problems relating to the iron ore export industry.

The Association consists of a Conference of Ministers, which meets biennially and is the supreme authority of the Association, a Board comprising representatives of member countries which meets twice a year, and a Secretariat which is located in Geneva.

Intergovernmental Council of Copper Exporting Countries (CIPEC)

The CIPEC was established in 1967 by the Governments of Chile, Peru, Zaire and Zambia as an intergovernmental consultative organisation.

Australia and Papua-New Guinea were admitted as Associate Members and Indonesia as a Full Member in 1975; Yugoslavia was admitted as an Associate Member in 1977. Associate Members may participate in meetings but have no voting rights and are not bound by CIPEC's decisions.

The key objectives of CIPEC are to co-ordinate measures to achieve continuous growth in real earnings from copper exports and to harmonise the decisions and policies of members relating to copper production and marketing.

International Bauxite Association

Australia joined the International Bauxite Association (IBA) as a founder member in October 1974. Other members are Dominican Republic, Ghana, Guinea, Guyana, Haiti, Indonesia, Jamaica, Sierra Leone, Surinam and Yugoslavia. Members account for about three-quarters of world bauxite production with Australia accounting for nearly one third of world production.

The objectives of the Association are to promote the orderly and rational development of the bauxite industry; to secure for members fair and reasonable returns from the exploration, processing and marketing of bauxite and its products for the economic and social development of their peoples, bearing in mind the recognised interests of consumers; and generally to safeguard the interests of member countries in relation to the bauxite industry.

The Association consists of a Council of Ministers which meets once a year and is the supreme organ, an Executive Board consisting of senior officials which meets three times a year and a Secretariat which is located in Kingston, Jamaica.

The IBA provides members with an opportunity to discuss common problems and evolve co-operative policies to facilitate further development of their bauxite/alumina/aluminium industries. To date the Association's work has been mostly concerned with exchanging views and information on a range of industry matters. The commercial and technical aspects of formulating minimum export prices for bauxite and alumina has received particular attention. In December 1980 the Council adopted recommendations on minimum CIF prices for bauxite and alumina sold by member countries in 1981. Australia was not included in the majority that voted for the recommendations and is not bound by them. The Association publishes a Quarterly Review and a bi-monthly newsletter.

The 1981 meeting of the Council of Ministers was held in Australia (Canberra) in November.

MINERAL INDUSTRY STATISTICS

Statistics in the following pages refer mainly to the mining industry, mineral production, mineral exploration, mineral processing and treatment, and overseas trade.

Mining industry statistics

This section contains statistics of the mining industry in Australia obtained from the annual census of mining establishments. The annual mining census is conducted throughout Australia on an integrated basis with other economic censuses, e.g. the annual census of manufacturing establishments, electricity and gas establishments and the periodic censuses of retail and wholesale trade establishments.

Statistics are also available for *enterprises* engaged in the mining industry. The latest statistics for mining are in respect of 1978-79 and were published in *Enterprise Statistics: Details by Industry Class, Australia, 1978-79* (8103.0). Enterprise statistics for mining are now produced annually and should be available within two years of the end of the financial year to which they relate. A description of the statistics and broad summary tables, in respect of the 1977-78 and 1978-79 censuses and surveys are given in Chapter 17.

The following table shows key items of data for establishments in Australia for 1979-80 based on the 1978 edition of the *Australian Standard Industrial Classification* (ASIC). The 1978 edition of the classification replaces the 1969 preliminary edition which has been in use since the 1968-69 census.

A document fully describing the differences between the 1969 and 1978 editions of the ASIC is available on request.

MINING ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY CLASS, 1979-80

Industry ASIC code	Description	Establish- ments at 30 June	Average employment over whole year(a)			Wages and salaries (b)	Stocks			Total pur- chases, transfers in and selected expenses	Fixed capital expendi- ture Value added less disposals	
			Males	Females	Persons		Turnover	Opening	Closing			\$'000
		No.	No.	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
	Metallic minerals—											
	Ferrous metal ores—											
1111	Iron ores	25	6,884	1,000	7,884	151,761	1,058,050	89,159	107,187	477,051	599,027	63,408
1112	Iron ore pelletising	4	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
	Non-ferrous metal ores—											
1121	Bauxite	5	1,856	176	2,032	33,013	266,316	13,136	15,193	43,686	224,687	34,347
1122	Copper ores	16	3,955	246	4,201	67,862	324,426	30,749	49,703	90,221	253,158	16,501
1123	Gold ores	48	1,793	117	1,910	29,892	207,593	14,628	26,018	50,332	168,650	35,514
1124	Mineral sands	17	1,918	141	2,059	29,294	163,484	32,933	31,522	72,954	89,118	6,140
1125	Nickel ores	6	2,324	215	2,539	45,785	226,177	16,429	29,298	80,276	158,769	30,903
1126	Silver-lead-zinc ores	9	6,678	325	7,003	130,630	917,698	72,757	75,428	134,785	785,584	43,921
1127	Tin ores	70	1,705	132	1,837	26,078	150,572	8,413	11,159	42,311	111,007	25,451
1128	Uranium ores	2	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1129	Non-ferrous metal ores n.e.c.	16	1,406	191	1,597	26,644	150,645	17,611	26,723	52,823	106,933	10,749
11	Total metallic minerals	218	30,220	2,688	32,908	576,056	3,715,084	322,594	417,590	1,277,224	2,532,857	442,885
	Coal, oil and gas—											
1201	Black coal	120	25,793	632	26,425	514,874	2,214,358	222,612	231,488	813,790	1,409,444	406,054
1202	Brown coal	4	3,356	107	3,463	67,436	1,431,559	42,174	77,042	147,219	1,319,209	146,827
1300	Oil and gas	11										
	Construction materials—											
1401	Sand and gravel	327	1,533	203	1,736	21,750	146,242	7,479	8,842	69,293	78,311	6,705
1404	Construction materials n.e.c.	424	3,997	392	4,389	61,681	327,131	27,948	31,443	154,589	176,037	29,239
14	Total construction materials	751	5,530	595	6,125	83,432	473,373	35,427	40,285	223,882	254,348	35,944
	Other non-metallic minerals—											
1501	Limestone	48	671	11	682	10,180	42,082	2,854	3,080	20,130	22,179	38,994
1502	Clays	132	298	27	325	3,667	26,597	3,154	4,009	16,892	10,561	2,103
1504	Salt	22	570	78	648	10,785	46,191	8,356	7,411	17,661	27,586	6,744
1505	Non-metallic minerals n.e.c.	138	1,139	101	1,240	17,716	89,888	13,882	14,241	57,844	32,403	6,686
15	Total other non-metallic minerals	340	2,678	217	2,895	42,347	204,759	28,245	28,741	112,526	92,728	54,528
	Total mining											
	(excl. services to mining)	1,444	67,577	4,239	71,816	1,284,146	8,039,133	651,052	795,146	2,574,641	5,608,586	1,086,237

(a) Includes working proprietors.

(b) Excludes amounts drawn by working proprietors.

Mineral production

This section contains details of the output (quantity and value) of minerals produced and the metallic content of ores, concentrates, etc.

The statistics shown have been derived from data collected in the annual mining census and in returns to the various State Mines Departments, supplemented in some cases by information made available by the Department of National Development and Energy and from other sources.

For details of the scope of mineral production statistics and their relation to mining industry statistics, and the principles for measuring the output of minerals, see Year Book No. 61 and earlier issues.

Quantity of minerals produced

The following tables show particulars of the quantities of minerals produced during 1979-80 and earlier years, together with details of the aggregate quantity of each metal, metallic oxide or elements contained in the various metallic minerals produced.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, CONCENTRATES, ETC.

<i>Mineral</i>		1977-78	1978-79	1979-80
METALLIC MINERALS				
Antimony concentrate	tonnes	n.p.	1,518	1,270
Antimony content	"	n.p.	n.p.	n.p.
Antimony ore	tonnes	464	3	7
Antimony content	"	61	2	4
Bauxite	'000 tonnes	24,642	25,541	27,629
Alumina (Al ₂ O ₃) content	"	n.p.	n.p.	n.p.
Beryllium ore	tonnes	—	—	—
Beryllium oxide (BeO) content	mtu(a)	—	—	—
Bismuth concentrate	tonnes	5,743	n.p.	—
Bismuth content	tonnes	756	n.p.	n.p.
Copper content	tonnes	1,227	831	—
Gold content	kg	533	140	—
Selenium content	tonnes	31	—	—
Silver content	kg	210	122	—
Copper concentrate	'000 tonnes	750	819	812
Copper content	tonnes	198,290	216,714	206,130
Bismuth content	"	183	n.p.	n.p.
Gold content	kg	2,210	1,717	1,651
Lead content	tonnes	363	1,625	2,952
Silver content	kg	27,477	32,976	36,151
Zinc content	tonnes	1,259	2,680	3,877
Copper ore	tonnes	1,271	2,433	33,969
Copper content	"	101	174	9,312
Gold content	kg	—	—	2
Silver content	"	231	24	29
Copper ore for fertilizer	tonnes	—	—	—
Copper content	"	—	—	—
Copper oxide	tonnes	3,810	3,403	3,871
Copper content	"	2,953	2,632	2,993
Copper precipitate	tonnes	51	21	524
Copper content	"	36	16	430
Gold bullion (b)	kg	21,127	18,765	16,805
Gold content	"	16,291	15,902	14,405
Silver content	kg	1,407	1,577	1,512
Gold ore	tonnes	25	197	1,099
Gold content	kg	1	1	19
Iron ore (c)	'000 tonnes	89,872	84,595	96,998
Iron content	"	54,739	53,248	61,319
Iron oxide (d)	tonnes	51,156	47,711	46,870
Lead concentrate	'000 tonnes	622	658	654
Lead content	tonnes	385,510	394,913	n.p.
Antimony content	"	513	570	531
Cadmium content	"	51	101	128
Copper content	"	4,235	5,211	6,544
Gold content	kg	276	345	331
Silver content	kg	662,685	692,355	633,900
Sulphur content	tonnes	49,576	57,314	63,297
Zinc content	"	32,424	38,777	42,881
Lead-copper concentrate	tonnes	46,654	24,719	24,185
Lead content	"	12,845	5,155	5,562
Copper content	"	3,658	3,343	3,077
Gold content	kg	1,333	1,038	1,049
Silver content	"	67,382	49,995	43,765
Sulphur content	tonnes	11,478	7,558	7,193
Zinc content	"	6,685	2,546	2,984
Lead ore (e)	tonnes	51,066	5,367	18,786
Lead content	"	2,857	726	1,174
Silver content	kg	3,234	1,778	1,559

For footnotes see end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, CONCENTRATES,
ETC.—*continued*

<i>Mineral</i>		1977-78	1978-79	1979-80
Lead-zinc middlings	tonnes	628	—	—
Lead content	"	208	—	—
Antimony content	"	1	—	—
Cadmium content	"	1	—	—
Copper content	"	8	—	—
Gold content	kg	2	—	—
Silver content	"	200	—	—
Sulphur content	tonnes	179	—	—
Zinc content	"	188	—	—
Manganese ore—				
Metallurgical grade	'000 tonnes	1,325	1,385	2,173
Manganese content	"	628	656	1,034
Mineral sands (f)—				
Ilmenite concentrate (g)	"	1,137	1,207	1,336
Titanium dioxide content	tonnes	626,662	683,155	715,991
Leucoxene concentrate	'000 tonnes	17	19	27
Titanium dioxide content	tonnes	16,284	16,873	24,156
Monazite concentrate	'000 tonnes	9	19	15
Monazite content	tonnes	8,646	17,385	14,033
Rutile concentrate	'000 tonnes	274	269	301
Titanium dioxide content	tonnes	262,990	258,471	288,712
Xenotime concentrate	'000 tonnes	—	—	—
Yttrium oxide content	kg	4,848	6,060	7,273
Zircon concentrate	'000 tonnes	365	454	447
Zirconium dioxide content	tonnes	284,956	347,474	331,190
Nickel concentrate	'000 tonnes	467	353	347
Nickel content	tonnes	56,850	43,944	43,182
Cobalt content	"	234	145	258
Copper content	"	4,839	3,474	3,117
Palladium content	kg	356	175	202
Platinum content	"	141	69	83
Nickel ore	'000 tonnes	2,560	2,586	2,163
Nickel content	tonnes	30,141	36,441	21,211
Pyrite concentrate	'000 tonnes	252	111	16
Sulphur content	tonnes	114,690	52,986	7,637
Tantalite-columbite concentrate	tonnes	207	127	166
Tantalite-columbite content	kg	89,040	63,771	69,113
Tin concentrates	tonnes	22,684	22,618	23,083
Tin content	"	11,726	11,964	12,312
Tin-copper concentrate	tonnes	1,806	1,980	2,239
Tin content	"	45	47	45
Copper content	"	390	457	480
Tungsten concentrates—				
Scheelite concentrate	tonnes	n.p.	3,129	3,864
Tungstic oxide content	mtu(a)	n.p.	228,539	280,339
Wolfram concentrate	tonnes	n.p.	1,840	2,411
Tungstic oxide content	mtu(a)	n.p.	127,232	166,433
Zinc concentrate	'000 tonnes	850	879	903
Zinc content	tonnes	441,888	453,260	466,152
Cadmium content	"	1,472	1,559	1,616
Cobalt content	"	108	86	84
Copper content	"	1,228	1,587	1,932
Gold content	kg	227	297	251
Lead content	tonnes	16,943	18,647	20,140
Manganese content	"	5,534	5,856	5,297
Mercury content	kg	—	—	—
Silver content	kg	59,512	65,532	68,243
Sulphur content	tonnes	269,214	280,758	289,411
Zinc ore	tonnes	4,137	—	—
Zinc content	"	1,874	—	—

For footnotes see end of table.

QUANTITY OF MINERALS PRODUCED AND METALLIC CONTENTS OF ORES, CONCENTRATES,
ETC.—*continued*

Mineral		1977-78	1978-79	1979-80
COAL				
Black coal	'000 tonnes	79,338	81,197	81,249
Bituminous	"	73,654	75,332	74,402
Sub-bituminous	"	5,684	5,865	6,847
Brown coal (lignite)(h)	"	27,644	29,095	32,895
Brown coal briquettes	"	1,064	1,131	1,253
OIL AND GAS (i)				
Crude oil (stabilised)	'000 cu m	24,941	24,839	23,647
Natural gas	mil. cu m	6,720	7,686	8,876
Natural gas condensate(j)	'000 cu m	6	13	21
Ethane	"	110,455	144,025	147,098
Liquefied petroleum gases (k)—				
Propane	"	1,269	1,544	1,555
Butane	"	1,388	1,683	1,563
CONSTRUCTION MATERIALS(l)				
Sand	'000 tonnes	24,345	23,855	26,241
Gravel	"	14,394	13,958	14,998
Dimension stone	"	91	147	123
Crushed and broken stone	"	60,576	54,223	56,294
Other	"	26,905	32,899	38,072
OTHER NON-METALLIC MINERALS				
Asbestos	tonnes	50,590	67,514	90,524
Barite	"	11,035	n.p.	n.p.
Carbon dioxide . . . . .	"	..	..	..
Chlorite	tonnes	—	—	—
Clays—				
Brick and shale	'000 tonnes	8,549	8,028	9,005
Other(m)	"	1,412	1,162	1,107
Diatomite	tonnes	2,630	2,815	4,559
Dolomite	"	622,939	684,278	760,000
Felspar (including cornish stone)	"	2,505	3,506	3,396
Garnet concentrate	"	1,187	1,333	n.p.
Gypsum	'000 tonnes	900	1,074	1,349
Limestone (including shell and coral)	"	10,750	10,813	11,521
Magnesite, crude	tonnes	18,138	26,560	29,034
Mineral pigments—red ochre	"	193	737	242
Peat(n)	"	n.p.	n.p.	n.p.
Pebbles—for grinding	"	1,673	1,473	1,941
Perlite	"	829	1,971	2,516
Phosphate rock	"	397,041	6,986	7,458
Pyrophyllite	"	12,774	13,318	18,519
Salt	'000 tonnes	5,410	5,339	5,335
Silica	"	1,314	1,618	1,846
Sillimanite	tonnes	589	545	532
Talc (including steatite)	'000 tonnes	123	142	177

(a) Metric ton unit (mtu) equals 10 kilograms. (b) Includes alluvial gold. (c) Includes iron concentrate. (d) For cement manufacture, coal washing. (e) Includes silver-lead ore, silver-lead slimes and lead slag. (f) Details relating to rutile-zircon concentrates produced in one State and finally separated in another State are included in separate form in the data of the State of origin. (g) Includes Beneficiated Ilmenite. Also includes ilmenite from which titanium dioxide is not commercially extractable. (h) Excludes brown coal used for briquette production. (i) Source: Department of National Development and Energy and State Mines Departments. (j) Sales—excludes condensate blended and other petroleum products. (k) Excludes refinery production. (l) Incomplete. (m) Incomplete owing to difficulties of coverage. (n) Comprises peat for fertiliser and peat moss.

CONTENTS OF METALLIC MINERALS PRODUCED

<i>Contents of metallic minerals produced</i>		1977-78	1978-79	1979-80
Alumina (Al ₂ O ₃)	'000 tonnes	n.p.	n.p.	n.p.
Antimony	tonnes	n.p.	1,588	1,435
Beryllium oxide (BeO)	mtu(a)	—	—	—
Bismuth	kg	890,703	n.p.	n.p.
Cadmium	tonnes	1,545	1,660	1,757
Cobalt	"	2,646	3,451	3,133
Copper	"	217,083	238,688	235,122
Gold	kg	21,047	19,584	18,273
Iron (b)	'000 tonnes	54,739	53,248	61,319
Lead	tonnes	418,801	423,492	n.p.
Manganese	"	633,047	662,326	1,039,141
Mercury	kg	—	—	—
Monazite	tonnes	8,646	17,385	14,033
Nickel	"	86,991	80,385	64,393
Palladium	kg	356	175	202
Platinum	"	141	69	83
Selenium	tonnes	31	—	—
Silver	kg	837,315	874,075	791,760
Sulphur	tonnes	445,137	398,616	369,358
Tantalite-columbite (Ta ₂ O ₅ + Nb ₂ O ₅)	kg	89,040	63,771	69,113
Tin	tonnes	11,771	12,011	12,379
Titanium dioxide (TiO ₂)	"	905,936	958,499	1,028,859
Tungstic oxide (WO ₃)	mtu(a)	n.p.	355,771	449,372
Yttrium oxide (Y ₂ O ₃)	kg	4,848	6,060	7,273
Zinc	tonnes	484,376	498,484	518,040
Zirconium dioxide (ZrO ₂)	"	284,956	347,474	331,190

(a) Metric ton unit (mtu) equals 10 kilograms.
contained in iron concentrate.

(b) Excludes iron content of iron oxide not intended for metal extraction. Includes iron

Value of minerals produced

The following table shows the value of minerals produced in the past six years.

VALUE OF MINERALS PRODUCED
(\$'000)

<i>Mineral</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
METALLIC MINERALS						
Antimony—						
Concentrate	1,904	1,462	n.p.	n.p.	1,409	1,530
Ore	n.p.	n.p.	n.p.	n.p.	2	4
Bauxite	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Beryllium ore	1	—	—	—	—	n.p.
Bismuth concentrate	14,085	10,591	12,183	7,923	n.p.	—
Copper—						
Concentrate	168,047	159,876	182,448	151,487	256,469	327,471
Ore (a)	766	305	1,202	109	200	9,937
Ore for fertiliser	3	—	—	—	—	—
Oxide	1,406	1,900	2,730	3,656	4,409	5,745
Precipitate	31	42	31	27	14	598
Gold—						
Bullion (b)	43,139	43,735	47,501	82,122	101,592	203,337
Concentrate	—	—	219	215	746	2,522
Ore	8	10	3	3	9	228
Iron ore	613,169	674,515	746,577	769,408	801,636	1,004,308
Iron oxide	855	915	1,000	1,020	932	988
Lead concentrate	124,519	117,099	177,760	208,343	339,400	623,973
Lead-copper concentrate	7,609	8,363	10,822	15,745	16,531	41,193
Lead ore (d)	579	566	527	964	1,541	1,458
Lead-zinc middlings	2,422	2,094	5,630	110	—	—
Manganese ore	n.p.	n.p.	n.p.	n.p.	60,563	95,877
Mineral sands—						
Ilmenite concentrate (e)	14,270	15,835	17,753	21,860	23,768	27,252
Leucoxene concentrate	2,079	2,078	1,318	2,265	2,497	4,471
Monazite concentrate	515	774	1,178	1,621	4,205	4,350
Rutile concentrate	53,674	71,750	75,654	50,631	51,267	76,481
Xenotime concentrate	12	9	9	15	19	29
Zircon concentrate	58,128	60,935	42,026	25,729	27,189	28,175
Nickel concentrate	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Nickel ore	—	n.p.	n.p.	n.p.	n.p.	n.p.
Pyrite concentrate	441	771	709	833	710	99
Tantalite-columbite concentrate	942	1,256	1,127	3,670	5,202	12,339
Tin concentrate	49,138	49,060	70,022	108,927	135,365	166,674
Tin-copper concentrate	390	435	383	287	332	565
Tungsten ores and concentrates	11,385	15,497	34,204	n.p.	43,253	54,691
Uranium concentrate	—	2,641	15,460	24,077	47,832	62,342
Zinc concentrate	138,385	133,340	132,922	120,217	138,464	174,065
Zinc ore	2,439	1,600	325	362	—	—
Other metallic minerals	84	2,928	n.p.	n.p.	n.p.	n.p.
<i>Total metallic minerals</i>	<i>1,572,746</i>	<i>1,676,273</i>	<i>1,986,680</i>	<i>2,059,716</i>	<i>2,407,524</i>	<i>3,431,887</i>
COAL						
Black coal	874,879	1,211,199	1,438,289	1,576,914	1,646,549	1,760,095
Brown coal (lignite) (f)	40,556	48,346	55,905	64,925	79,630	91,821
Brown coal briquettes	11,391	11,974	14,925	16,536	25,063	24,938
<i>Total coal</i>	<i>926,827</i>	<i>1,271,519</i>	<i>1,509,119</i>	<i>1,658,375</i>	<i>1,751,242</i>	<i>1,876,854</i>
OIL AND GAS(g)						
<i>Oil and Gas</i>	<i>446,298</i>	<i>488,419</i>	<i>534,815</i>	<i>671,233</i>	<i>919,793</i>	<i>1,920,260</i>

For footnotes see end of table.

VALUE OF MINERALS PRODUCED—*continued*

<i>Mineral</i>	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
CONSTRUCTION MATERIALS(h)						
<i>Construction materials</i>	238,044	256,328	272,774	308,174	353,062	439,385
OTHER NON-METALLIC MINERALS						
Asbestos	7,960	18,406	20,382	20,514	21,149	27,240
Barite	303	n.p.	n.p.	404	n.p.	n.p.
Carbon dioxide	45	56	163	180	208	228
Chlorite	10,084	8,723	—	—	—	—
Clay—						
Brick clay and shale	10,241	12,634	12,821	13,676	15,513	23,092
Other clays	n.p.	4,335	4,774	7,085	8,059	10,802
Diatomite	45	60	71	310	380	730
Dolomite	991	1,262	1,421	1,654	2,107	2,370
Felspar (including cornish stone)	87	97	77	63	89	138
Garnet concentrate	—	—	11	21	45	n.p.
Gems	37,032	41,972	64,066	70,219	67,292	89,171
Gypsum	3,176	3,069	4,216	4,061	4,844	6,118
Limestone (including shell and coral)	24,221	26,087	30,154	34,159	39,193	42,585
Magnesite, crude	722	n.p.	340	411	1,503	1,979
Mineral pigments—red ochre	—	15	3	4	11	4
Peat(i)	146	n.p.	n.p.	n.p.	n.p.	n.p.
Pebbles—for grinding	27	38	35	27	53	65
Perlite	32	12	45	17	15	20
Phosphate rock	894	1,508	4,477	1,672	44	47
Pyrophyllite	156	200	187	229	345	519
Salt	21,951	29,394	33,623	38,558	38,091	40,817
Silica	6,301	6,559	n.p.	n.p.	11,531	14,103
Sillimanite	22	18	141	27	31	33
Talc (including steatite)	1,348	n.p.	n.p.	n.p.	n.p.	n.p.
Vermiculite	n.p.	—	n.p.	7	2	—
<i>Total other non-metallic minerals</i>	120,097	149,398	188,057	205,143	215,316	269,326
TOTAL						
Total, all minerals and construction materials	3,304,012	3,841,444	4,491,445	4,902,640	5,646,937	7,207,712

(a) Includes value of copper slag. (b) Includes alluvial gold. (c) Excludes value of Western Australian production. (d) Includes value of silver-lead ore, silver-lead slimes and lead slag. (e) Includes beneficiated ilmenite. (f) Excludes value of coal used in making briquettes. (g) The values shown are estimates based on prices prescribed in legislation quoted market prices and information from government departments. Includes values for crude oil natural gas, natural gas condensate, ethane, propane and butane. (h) Incomplete owing to difficulties of coverage in some States. (i) Comprises peat for fertiliser and peat moss.

Foreign participation of the mining industry in Australia

Summary information on foreign participation in the mining industry in Australia is shown in Chapter 24, Overseas Transactions. More detailed statistics are available in *Foreign Ownership and Control of the Mining Industry* (5317.0) and *Foreign Control in Mineral Exploration* (5323.0).

Mineral exploration (other than for petroleum and oil shale)

Definition

Exploration consists of the search for and/or appraisal of new ore occurrences and known deposits of minerals (including extensions to deposits being worked) by geological, geophysical, geochemical and other methods (including drilling). Exploration for water is excluded. The construction of shafts and adits is included if primarily for exploration purposes. Excluded are mine development activities carried out primarily for the purpose of commencing or extending mining or quarrying operations (including the construction of drives, shafts, winzes, etc. in underground mines, and the preparation of quarrying sites, including overburden removal, for open-cut extraction).

Sources of statistics

The statistics of exploration for minerals *other than petroleum and oil shale* are derived from the annual mineral exploration census conducted by the Australian Bureau of Statistics in each State and the Northern Territory (in New South Wales the census is conducted jointly with the State Mines Department).

Classification

The data obtained in the mineral exploration census are divided into the following categories:

(a) *Private exploration on production leases*—relates to exploration carried out on the production lease by privately-operated mines currently producing or under development for the production of minerals.

(b) *Other private exploration*—relates to exploration carried out by private enterprises on areas covered by exploration licences, authorities to enter, authorities to prospect and similar licences and authorities issued by State Governments for exploration of minerals. Also included is exploration by private enterprises which is not directly connected with areas under lease, licence, etc.

(c) *Exploration by government*—relates to exploration of minerals carried out by Federal and State Government Departments, local government authorities and business undertakings operated by those departments or authorities.

Expenditure, metres drilled

The following table shows expenditure and metres drilled on mineral exploration other than for petroleum and oil shale in Australia during the last six years.

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM AND OIL SHALE)						
	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Expenditure (\$'000)—						
On drilling	36,172	35,104	40,888	56,277	57,913	78,837
Other	88,029	82,033	108,605	120,058	144,067	231,596
Australia	124,200	117,137	149,493	176,336	201,980	310,433*
Metres drilled ('000)—						
Drilled-core	733	530	529	638	642	942
Drilled-non-core	1,775	1,589	1,434	1,893	1,871	2,133
Australia	2,509	2,119	1,963	2,531	2,513	3,076

Oil shale exploration

Statistics of exploration for oil shale are derived from an annual exploration census conducted by the Australian Bureau of Statistics.

Exploration consists of the search for and/or appraisal of new ore occurrences and known deposits of oil shale (including extensions to deposits being worked) by geological, geophysical, geochemical and other methods (including drilling). The construction of shafts and adits is included if primarily for exploration purposes. Excluded are mine development activities carried out primarily for the purpose of commencing or extending mining operations (including the construction of drives, shafts, winzes, etc. in underground mines, and overburden removal, for open-cut extraction).

In 1970-80 expenditure in Australia on private exploration for oil shale amounted to \$7,125,000 with 32,000 metres being drilled.

Petroleum exploration

Source of statistics

These statistics were collected and compiled by the Bureau of Mineral Resources, Geology and Geophysics, Canberra. Statistical and other information relating to petroleum exploration is published by the Bureau of Mineral Resources in *The Petroleum Newsletter* (issued quarterly) and *The Australian Mineral Industry Annual Review*, and by the Australian Bureau of Statistics in its quarterly publication *Mineral Exploration, Australia* (8412.0).

Scope

Petroleum exploration consists of the search for and/or appraisal of deposits of crude oil and/or natural gas and natural gas liquids by geological, geophysical, geochemical, and other exploration methods, including drilling. Included in the expenditure are the costs of drilling exploratory oil and/or gas wells and the testing of such wells. Also included are the costs of access roads, site construction, permits, licences and similar fees, relevant office buildings and furniture, transportation equipment, storage facilities, plant and equipment, and review work where these are undertaken primarily for purposes of exploration for deposits of petroleum. Details of developmental oil and/or gas wells are excluded.

Operations

The following table shows particulars of expenditure, and wells and metres drilled in petroleum exploration in recent years.

PETROLEUM EXPLORATION

(Source: Bureau of Mineral Resources, Geology and Geophysics)

		1977	1978	1979
Expenditure—				
Private sources	\$'000	84,970	111,566	222,616
Government sources	\$'000	4,704	4,915	4,870
Total	\$'000	89,674	116,481	227,486
Wells—				
Drilled (i.e. those which reached final depth)—				
As oil producers	No.	2	7	1
As gas producers	No.	2	3	8
As oil and gas producers	No.	—	—	—
Plugged and abandoned	No.	17	43	43
Total	No.	21	53	52
Average final depth of wells drilled	m	2,577	1,973	2,460
Drilling still in progress at 31 December (uncompleted holes)	No.	3	3	4
Wells drilled or drilling over 3,000 metres	No.	10	10	14
Metres drilled—				
Completed wells	m	49,307	104,583	127,403
Uncompleted holes	m	10,176	5,026	10,205
Total	m	59,483	109,609	137,608

Mineral processing and treatment

The extraction of minerals from ore deposits, as in mining and quarrying, is only a part of mineral technology, as few minerals can be directly used in the form in which they are mined. In most cases minerals must undergo considerable processing and treatment before utilisation. The sectors of the economy which carry out this work are classified for statistical purposes to Manufacturing Industry (see Chapter 17, Manufacturing and Internal Trade).

Principal products

The following table shows particulars of the production of certain important manufactured products of mineral origin during recent years.

PRODUCTION OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN				
Commodity		1977-78(a)	1978-79(a)	1979-80(a)
METALS(b)				
Non-ferrous—				
Alumina	'000 tonnes	6,694	6,921	7,290
Refined aluminium	tonnes	259,592	264,798	283,006
Blister copper(c)	"	167,947	170,458	163,608
Refined copper	"	155,353	137,863	137,000
Lead bullion (for export)(c)	"	155,641	162,185	167,744
Refined lead	"	207,939	217,992	204,000
Refined zinc	"	262,615	308,622	300,000
Refined tin	"	5,994	4,857	5,249
Ferrous—				
Pig iron	'000 tonnes	7,096	7,345	7,276
Steel ingots	"	7,532	7,541	7,895
Precious—				
Refined gold(d)	kg	17,869	15,563	15,038
Refined silver	"	259,217	302,032	293,966
FUELS				
Coal products—				
Metallurgical coke	'000 tonnes	4,310	4,620	4,302
Brown coal briquettes	"	1,064	1,131	1,253
Petroleum products(e)—				
Motor spirit	mil. litres	14,073	14,018	14,623
Furnace fuel	"	4,445	4,676	4,113
Automotive distillate	"	6,717	6,998	7,592
Industrial diesel fuel	"	1,523	1,312	1,092
BUILDING MATERIALS				
Clay bricks	millions	1,911	1,914	2,173
Portland cement	'000 tonnes	5,016	5,085	5,201
Plaster of paris	"	348	347	n.p.
Plaster sheets	'000 sq m	48,034	48,508	54,700
CHEMICALS				
Sulphuric acid	'000 tonnes	1,837	1,940	2,153
Caustic soda	tonnes	130,830	n.p.	n.p.
Superphosphate(f)	'000 tonnes	3,430	3,680	4,202

(a) Some products exclude production of single establishment manufacturing establishments employing less than four persons and production of establishments predominantly engaged in non-manufacturing activities but which may carry on in a minor way, some manufacturing. (b) Excludes secondary metal with the exception of pig iron and steel ingots. (c) Metallic content. (d) Newly-won gold of Australian origin. (e) Produced by Australian refineries from imported and indigenous petroleum. Source: Department of National Development and Energy. (f) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate, i.e. 22% P₂O₅ equivalent.

Overseas trade

Exports and imports

Data of imports and exports of minerals and mineral products have been extracted from the official trade statistics compiled in the Australian Bureau of Statistics. Particulars of the quantities and values (\$f.o.b. port of shipment) of the principal minerals and products exported from and imported into Australia during recent years are shown in the following table.

EXPORTS AND IMPORTS OF PRINCIPAL MINERALS AND MINERAL PRODUCTS

Commodity (a)	Quantity			Value f.o.b. (\$'000)			
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81	
EXPORTS (b)							
Non-ferrous—							
Copper—							
Concentrate	tonnes	131,661	157,481	133,046	43,845	88,560	75,924
Blister	"	12,094	24,664	24,387	26,244	48,907	57,237
Refined	"	53,677	47,737	72,204	76,816	93,396	114,880
Matte, slags, etc.	"	4,472	8,719	3,622	2,560	11,700	3,251
Lead—							
Concentrate	"	71,996	65,271	75,303	31,682	56,874	39,161
Bullion	"	159,637	179,845	121,600	150,618	366,196	200,586
Refined	"	152,240	166,714	146,833	101,400	171,980	97,758
Slags and residues	"	18,560	12,354	8,387	2,459	6,863	4,761
Zinc—							
Concentrate	"	453,118	459,994	444,246	57,127	77,856	81,332
Refined	"	193,826	173,761	349,507	110,963	115,844	132,130
Slags and residues	"	6,441	11,872	7,114	1,072	1,566	2,050
Tin—							
Concentrate	"	14,244	13,963	14,801	74,678	90,201	84,885
Refined	"	1,288	1,991	1,331	14,674	28,101	19,034
Aluminium—							
Alumina	'000 tonnes	6,408	7,236	6,414	718,939	970,865	992,726
Refined	tonnes	81,026	55,049	64,483	82,219	68,448	99,447
Ferrous and alloy—							
Iron ore—							
Pellets	'000 tonnes	8,130	5,797	2,325	165,390	123,827	50,309
Fines	"	38,851	41,696	42,993	391,287	492,207	571,250
Lump	"	32,565	31,474	29,554	411,021	460,361	495,405
Tungsten—							
Scheelite concentrate	tonnes	3,853	3,547	4,276	38,448	31,970	37,852
Wolfram concentrate	"	1,578	1,850	2,503	12,101	21,481	19,918
Pig iron	"	784,415	618,818	349,542	70,546	76,202	41,905
Steel ingots, blooms	"	1,241,224	653,918	255,674	193,911	138,164	50,392
Mineral sands—							
Ilmenite concentrate	'000 tonnes	977	1,115	911	22,421	19,959	19,505
Rutile concentrate	"	336	342	208	63,499	86,809	63,079
Zircon concentrate	"	423	490	496	29,920	33,638	37,898
Precious—							
Gold, refined	kg	13,900	5,507	3,443	22,329	94,105	55,698
Silver, refined	"	89,074	75,276	172,178	16,767	50,888	62,883
Coal, black	'000 tonnes	38,888	42,567	47,187	1,519,198	1,675,045	1,964,740
Crude oil (c)	'000 cu m	(d)370	(d)127	(d)151	40,475	18,818	25,163
IMPORTS							
Tin, refined	tonnes	204	38	106	2,701	572	1,256
Nickel (pigs, anodes, etc.)	"	1,532	600	591	5,905	3,228	5,041
Ferro-alloys	"	26,300	54,861	91,745	15,451	39,799	26,363
Gold—							
Unrefined bullion (e)	kg	512	973	357	2,737	12,921	5,528
Refined	"	40	38	703	267	631	10,035
Crude oil (c)	'000 cu m	10,293	11,240	15,855	762,843	1,404,266	1,490,616
Asbestos	tonnes	29,443	23,490	27,938	13,038	11,874	15,442
Diamonds—							
Industrial	metric carats	1,187,540	1,096,450	480,584	6,501	8,243	7,972
Gemstone	"	63,337	61,121	78,118	31,375	46,198	40,007
Phosphate rock	'000 tonnes	2,380	2,181	n.a.	83,266	80,324	101,895
Potassium fertilisers	tonnes	168,527	215,540	190,668	9,839	15,486	17,837
Sulphur	"	424,660	597,128	670,877	15,077	30,832	57,473

(a) In addition to the commodities listed, significant quantities of bauxite and nickel ores and concentrates are exported but details are not available for publication. (b) Quantities shown for metallic minerals are gross quantities, not metallic contents. (c) Includes also partly refined oil, topped crudes, enriched crudes and refinery feed stock. (d) Million litres. (e) Gold content.

Considerable quantities of metallic ores, concentrates, slags, and residues are exported from Australia for refining overseas. The following table shows selected items exported during 1980 and their principal metallic content as estimated by assay.

PRINCIPAL METALLIC CONTENTS OF SELECTED ORES AND CONCENTRATES ETC. EXPORTED FROM AUSTRALIA, 1980

<i>Metallic contents—estimated from assay</i>								
<i>Ores and concentrates, etc.</i>	<i>Copper</i>	<i>Lead</i>	<i>Zinc</i>	<i>Tin</i>	<i>Iron</i>	<i>Tungstic Oxides</i>	<i>Gold</i>	<i>Silver</i>
	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	kg	kg
Copper concentrate	45,963	1,903	2,046	—	—	—	102	7,536
Blister copper	17,304	—	—	—	—	—	226	1,493
Copper matte, slags, etc. (a)	5,027	3,663	927	—	—	—	2	2,540
Lead concentrate	4,477	15,593	5,435	—	—	—	779	30,100
Lead bullion	—	153,930	—	—	—	—	83	385,270
Lead slags and residues	—	2,678	—	33	—	—	23	1,217
Zinc concentrate	—	4,424	261,613	—	—	—	—	9,398
Zinc slags and residues	—	—	6,404	—	—	—	—	—
Tin concentrate	—	—	—	7,420	—	—	—	—
Iron ore—								
Pellets	—	—	—	—	1,896	—	—	—
Fines	—	—	—	—	27,613	—	—	—
Lump	—	—	—	—	20,681	—	—	—
Scheelite concentrate	—	—	—	—	—	2,647	—	—
Wolfram concentrate	—	—	—	—	—	1,533	—	—
Total metallic content	72,771	182,191	276,425	7,453	50,190	4,180	1,214	437,554

(a) Includes copper matte, copper slags and residues and copper-lead dross and speiss.

Prices

The following table shows average prices of some principal refined metals and ores and concentrates on Australian and certain major overseas markets. Prices of minerals such as iron ore, coal and bauxite are not shown as these minerals are commonly sold on a contract basis rather than on an open market basis.

AVERAGE DAILY PRICES OF SELECTED METALS AND METALLIC ORES AND CONCENTRATES: AUSTRALIAN AND OVERSEAS MARKETS(a)

(Source: Bureau of Mineral Resources, Geology and Geophysics)

METALS(a)													
<i>Period</i>	<i>Tin</i>			<i>Nickel</i>	<i>Aluminium</i>		<i>Gold</i>		<i>Silver</i>	<i>U.K.</i>			
	<i>Aust.</i>	<i>L.M.E.</i>	<i>Straits</i>		<i>U.S.A.</i>	<i>Aust.</i>	<i>U.S.A.</i>	<i>Premium markets</i>			<i>Aust.</i>	<i>U.K.</i>	
								<i>Australia and Overseas</i>					<i>U.K.</i>
	<i>(\$A—tonne)</i>	<i>(£Stg—metric ton)</i>	<i>(\$Mal—picul)</i>	<i>(\$US—lb)</i>	<i>(\$A—tonne)</i>	<i>(USc—lb)</i>	<i>(\$A—f. oz)</i>	<i>(\$US—f. oz)</i>	<i>(\$A—kg)</i>	<i>(Stg new pence—f. oz)</i>			
1979	14,157.08	7,287.52	1,960.12	2.72	1,160.59	70.33	266.32	307.19	360.54	519.15			
1980	15,440.51	7,225.74	2,160.36	3.43	1,501.83	76.76	547.45	606.11	615.92	898.11			
Highest	18,131.00	8,455.00	2,471.00	3.47	1,545.00	89.59	752.50	843.00	1,162.68	2,165.05			
Lowest	13,064.00	6,135.00	1,881.00	3.22	1,364.00	68.18	436.15	474.00	388.48	467.80			
<i>Period</i>	<i>Copper</i>		<i>Lead</i>		<i>Zinc</i>		<i>Aust.</i>	<i>L.M.E.</i>	<i>Prod.</i>	<i>U.S.A.</i>			
	<i>Aust.</i>	<i>L.M.E.</i>	<i>Aust.</i>	<i>L.M.E.</i>	<i>U.S.A.</i>	<i>Aust.</i>					<i>L.M.E.</i>		
												<i>(\$A—tonne)</i>	<i>(£Stg—metric ton)</i>
	<i>(\$A—tonne)</i>	<i>(£Stg—metric ton)</i>	<i>(\$A—tonne)</i>	<i>(£Stg—metric ton)</i>	<i>(USc—lb)</i>	<i>(\$A—tonne)</i>	<i>(£Stg—metric ton)</i>	<i>(Stg—ton)</i>	<i>(USc—lb)</i>				
1979	1,767.48	936.42	1,030.97	567.06	53.58	712.55	350.43	792.92	37.67				
1980	1,959.15	941.21	843.27	388.68	42.87	713.10	327.37	798.00	38.61				
Highest	2,800.00	1,375.00	1,150.00	588.00	55.00	745.00	403.00	825.00	42.00				
Lowest	1,600.00	756.00	650.00	301.00	34.00	695.00	282.00	780.00	36.50				

For footnotes see next page.

AVERAGE DAILY PRICES OF SELECTED METALS AND METALLIC ORES AND CONCENTRATES:
AUSTRALIAN AND OVERSEAS MARKETS(a)—continued

ORES AND CONCENTRATES					
Period	Tin Aust. (\$A-mtu)	Wolfram Europe (£Stg-mtu)	Ilmenite Europe (\$A-metric ton)	Rutile Europe (\$A-metric ton)	Zircon Europe (\$A-metric ton)
1979	124.60	136.83-142.16	17.00-19.00	260.00-290.00	53.75-63.75
1980	135.99	142.70-146.79	18.50-20.50	320.00-350.00	53.33-62.50
1980					
Highest	161.98	153.00	22.00	350.00	75.00
Lowest	112.72	136.00	17.00	320.00	50.00

(a) Where a daily price does not actually exist for a commodity, daily prices have been imputed from price data which are available.

NOTE: Prices data shown are those quoted in the relevant markets and are mainly derived from information collected and compiled by the Bureau of Mineral Resources. Overseas data are supplied to the Bureau of Mineral Resources by the *Metal Bulletin* and *Metals Week*.

REVIEW OF RECENT DEVELOPMENTS IN THE AUSTRALIAN MINERAL INDUSTRY

(Source: Bureau of Mineral Resources, Geology and Geophysics)

Major developments in the Australian mineral industry, particularly during 1980 and the first half of 1981, are reviewed briefly in subsequent parts of this section. Additional information on developments in the industry is available in *Australian Mineral Industry Annual Review 1979* published by the Bureau of Mineral Resources, Geology and Geophysics. That publication contains comprehensive reviews of mineral commodities of importance to the Australian economy, as well as a general review of the industry's performance during the year. The *Australian Mineral Industry Quarterly*, Volume 33, Number 4, details Australia's identified mineral resources, 1980.

General Review of 1980

The gross domestic product (GDP) of Australia in 1980 was \$122,745 million, of which an estimated \$4,500 million was generated by the mineral industry, excluding smelting and refining. If smelting and refining were included, an estimated \$2,300 million could be added to this figure, thus making the mineral industry the largest primary sector contributor to the GDP. Australia's export trade continues to expand to record levels, with Japan, USA and EEC being the main markets for mineral commodities.

The ex-mine value of minerals produced in 1980 increased to an estimated \$7,556 million, 18 per cent higher than in 1979; this was again the second largest rise ever recorded, generally reflecting a buoyant world demand for Australian mineral commodities. Quantity and value increases were recorded for most major commodities including black coal, brown coal, copper, mineral sands, iron ore, manganese ore, nickel concentrates, and uranium oxide (yellowcake). World demand for zinc declined, resulting in a fall in both the quantity and value of production. This decline may be attributed to recession in the steel and automobile industries, and the continuing trend of substitution for zinc end-use commodities. The USA automobile industry recession was also largely responsible for a decline in the production of lead, although both the value of production and the price increased.

The increase in the quantity and value of uranium was accounted for by the Nabarlek deposits in the Northern Territory.

The value of black coal production (\$2,050 million estimated) again exceeded that of any other single commodity, accounting for 27.1 per cent of the total value of mine output, and was 15.3 per cent greater than in 1979.

Iron ore (\$1,051 million) accounted for 13.9 per cent of the total value of mine output; silver, lead and zinc together (\$723 million) 9.6%, crude oil (\$757 million) 10.0 per cent, construction materials (\$448 million) 5.9 per cent, copper (\$407 million) 5.4 per cent, gold (\$227 million) 3.0 per cent, natural gas (\$176 million) 2.3 per cent, tin (\$157 million) 2.1 per cent and mineral sands (\$153 million) 2.0 per cent. The values of mine output of nickel and bauxite are confidential and are not available for publication. However, in quantitative terms, bauxite production declined slightly (1 per cent), and the nickel content of nickel ores and concentrates rose in 1980 by 7 per cent.

Overseas demand for Australian mineral products remains strong. 'Mines and quarries' was again the largest single export earning group in 1980-81. As with production, however, most exports of the smelting and refining section of the industry are attributed to 'Manufactures'. In terms of Bureau of Mineral Resources' coverage of the mineral industry, export values are therefore substantially understated by ABS statistics.

Imports—1980

The value of imports for mineral products rose by 63 per cent to \$2,131 million. Crude oil was the largest single mineral import, rising by 31 per cent to \$1,351 million, despite a fall in quantity of 23 per cent. Other significant mineral imports were gem diamonds, and fertiliser minerals (phosphate rock, elemental sulphur, and potassium salts). Imports of mineral primary products accounted for 12 per cent of the total value of merchandise imports compared with 8.9 per cent in 1979. Although the value of imports rose substantially, so also did the surplus in the balance of mineral trade which increased from \$4,557 million in 1979 to \$4,671 million in 1980.

Exports—1980

Australia's mineral exports rose in value by 16 per cent to \$6,803 million, a record of similar magnitude to the 19 per cent increase in 1979. In response to conditions of strong demand and rising prices early in the year, most major commodities performed strongly. Average price and value increases were recorded for coal, alumina, iron ore, copper, lead, zinc, nickel, tin, gold, silver and the mineral sands ilmenite and rutile. However, iron and steel exports again declined in response to increases in local demand.

Black coal remained the largest single mineral export earner, accounting for 25 per cent of the total value of mineral primary products exported. Iron ore was next, increasing in value by 15 per cent to \$1,164 million, followed closely by alumina, whose value increased by 30 per cent to \$1,021 million. These three items accounted for 57 per cent of the total value of exports of mineral primary products.

The index of exports of mineral primary products at constant prices, increased.

Pattern of mineral trade—1980. Australia exported metals and minerals to more than 100 countries, mostly to Japan and to a lesser extent, USA and countries of the EEC. Japan accounted for 65 per cent of Australian mineral exports by quantity and 42 per cent by value. Principal exports of mineral primary products to Japan were black coal, iron ore, aluminium, alumina, bauxite, copper, nickel, manganese ore, and mineral sands.

The proportion by value of Australian mineral exports to UK was 10 per cent, to the EEC (excluding UK) 12 per cent, and to the USA 13 per cent. Exports to UK and other EEC countries were mainly iron ore, black coal, lead and copper, and to USA alumina, nickel, bauxite, manganese ore, mineral sands, iron ore, lead and zinc.

Bauxite and Alumina

In 1980, production of bauxite decreased slightly to 27.2 million tonnes, alumina production to 7.2 million tonnes, while aluminium output was up 12.6 per cent to 303,494 tonnes. Australia was again the world's largest producer of bauxite and alumina.

An alumina refinery of initial rated capacity of 500,000 tonnes per year will be commissioned in 1982 at Wagerup, W.A. Capacity will be increased in stages to 2 million tonnes per year. Bauxite will be supplied from Willowdale, W.A. All alumina produced will be exported.

The first stage of the alumina refinery at Worsley, W.A., will be completed in 1983. Initial rated capacity is one million tonnes per year, with ultimate capacity of two million tonnes per year. Bauxite will be supplied from Mount Saddleback, W.A. All alumina produced will be exported.

The production capacity of the aluminium smelter at Kurri Kurri, N.S.W., was increased from 68,000 tonnes to 90,000 tonnes per year in 1981. The aluminium smelter to be constructed at Gladstone, Queensland, by Comalco Ltd, will have a first stage design capacity of 103,000 tonnes per year and will expand to 412,000 tonnes capacity by the end of the decade. The rated capacity of the other Australian aluminium smelter, at Point Henry, Victoria, supplied with Western Australian alumina, is now 165,000 tonnes per year, expansion from 100,000 tonnes being completed by the end of 1980.

The smelter to be built at Portland (Victoria) will have an initial capacity of 132,000 tonnes per year to be completed in 1983. Ultimate capacity will be about 528,000 tonnes per year by 1990. A smelter planned for Bundaberg (Queensland) will have an initial capacity of 99,000 tonnes per year; it will expand to 296,000 tonnes per year in the late 1980s. Construction of this smelter has been deferred pending improvement in demand for aluminium. Two smelters will be constructed near Newcastle (New South Wales). The Tomago smelter, to be completed in 1984, will have an initial capacity of 110,000 tonnes annually, and will be expanded to 220,000 tonnes per year in 1986. The Lochinvar smelter will have capacity of 236,000 tonnes per year and is planned to be completed in the mid-1980s, although a major partner, Alumax Inc. of USA, has withdrawn from the project.

Copper

A summary of the copper mining industry in Australia 1953 to 1975 and the sufficiency of present ore reserves was published in the *Australian Mineral Industry Quarterly*, Vol. 30, No. 1.

In 1980, mine production of copper increased to 243,540 tonnes.

Production commenced at an annual rate of 300,000 tonnes of ore in early 1981 at the Teutonic Bore copper-zinc mine, W.A. Work on two significant copper-zinc deposits near Benambra, Victoria, continues to delineate further base-metal resources.

Exploration drilling is continuing at the copper-uranium-gold prospect at Olympic Dam on Roxby Downs, S.A. where an exploration shaft is being sunk. Additional drilling at Balcooma, in northwest Queensland continues to outline further resources of copper, and copper-lead-zinc ore. At Scuddles, 4 km north of the main Gossan Hill deposit at Golden Grove in W.A., further copper-silver-zinc ore has been discovered.

At Tennant Creek, N.T., the Warrego and Gecko mine expansion continues in order to service the recommissioning of the flash smelter although the planned annual throughput has been reduced from 900,000 to 600,000 tonnes of ore.

Iron

A summary of growth of the Australian iron ore industry 1965 to 1975 was published in the *Australian Mineral Industry Quarterly*, Vol. 29, No. 1.

Mine production of iron ore in 1980 was 95.5 million tonnes, nearly 4 per cent higher than in 1979. Export of iron ore and iron ore pellets was 79.8 million tonnes valued at \$1,164 million. Australia was the world's largest exporter of iron ore in 1980 and the third largest producer.

Production of iron ore pellets fell substantially in 1980 following the closure of Hamersley Iron Pty Ltd's Dampier plant in February 1980 and Cliffs Robe River Iron Associates' Cape Lambert plant at the end of April 1980. Cost increases had made production uneconomic at prevailing prices. Both companies negotiated contracts for the sale of fines to replace exports of pellets.

Silver, lead and zinc

Mine production of lead and zinc metal in 1980 was 397,491 tonnes and 495,312 tonnes respectively, both less than the 1979 production.

A summary of the Australian lead and zinc industry from 1953 to 1973 was published in the *Australian Mineral Industry Quarterly*, Vol. 27, No. 4.

Production from the Que River lead-zinc-silver mine (Tasmania) commenced in February 1981. Ore is treated at the Rosebery concentrator, and zinc concentrates refined at the Risdon refinery. The Elura lead-zinc-silver deposit near Cobar, N.S.W., is to be developed. A decline shaft was begun in mid-1981 and production is expected to commence in 1982. Zinc concentrates will be shipped to the Risdon (Tasmania) refinery. Published reserves are 27 million tonnes averaging 8.3 per cent zinc, 5.6 per cent lead and 139 g/t silver. The modernisation of the lead concentrating plant at Mount Isa (Queensland) continues; production will increase from 150,000 to 180,000 tonnes annually.

Black coal

There has been a significant revival in the Australian black coal industry in recent years as a result of increased exports and increased consumption of black coal in iron and steel production, and electricity generation. These increases have more than balanced reduced consumption in some applications due to competition from fuel oil.

The expansion of the export trade has been of major significance. In 1955, exports were about 200,000 tonnes, valued at about \$1.7 million; in 1980, exports were 42.3 million tonnes, valued at \$1,680 million. These increased exports have largely been to Japan and to a lesser extent other Asian countries and Europe. Increasing demand for steaming coal, particularly from Japan, has resulted in exports of steaming coal rising to almost nine million tonnes in 1980. As a result of this increasing demand, new mines have been opened and others are under development in Queensland and New South Wales. Exploration for coal has been stimulated and further rich deposits of coking coal and steaming coal have been located. Raw coal production in 1980 was 93.4 million tonnes; saleable coal output rose to 76.3 million tonnes.

A paper entitled Coal Exploration in Australia has been published in the *Australian Mineral Industry Quarterly*, Vol. 31, No. 1.

Petroleum

At the end of 1980 there were 18 fields producing stabilised crude oil (which includes condensate marketed as part of a crude oil stream): Moonie, Alton, Conloi, Kincora, Cabawin, Bennett, Silver Springs and Trinidad in Queensland; Barrow Island, Yardarino and Dongara in Western Australia; and Barracouta, Halibut, Mackeral, Cobia, Tuna, Kingfish and Marlin offshore from Victoria in Bass Strait. The production of stabilised crude oil in 1980 amounted to 22.2 million kilolitres. This was a reduction of 12 per cent from the 1979 production level of 25.4 million kilolitres. The reduction was due mainly to industrial action involving production, shipping and refining difficulties. Production in 1978 was 25.2 million barrels which had increased by 1 per cent from the 1977 level of 25.0 million barrels.

Natural gas production in 1980 was 9,567 million cubic metres. About 12 per cent of this was used in the field and processing plants, the balance being sold mainly as fuel to markets in New South Wales, Queensland, Victoria, South Australia and Western Australia. The production level of 8,381 million cubic metres in 1979 was an increase of 14 per cent over the 1978 level of 7,324 million cubic metres. In 1977 natural gas production was 6,766 million cubic metres.

Seventeen offshore exploration wells were drilled in 1980, four fewer than in 1979; metres drilled decreased from 76,954 in 1979 to 62,012 in 1980. The year saw the winding down of exploration drilling in the deep waters of the Exmouth Plateau off northwest Western Australia; by the end of 1980 only one unit, the Sedco 471 remained in Australian waters.

Offshore development drilling continued in the Gippsland Basin on the Mackeral platform (4 wells) and Tuna platform (3 wells). Drilling on the Mackeral platform was completed in September 1980 and the drilling rig moved to the recently installed 27-well Snapper platform.

Onshore exploration drilling activity rose from 31 wells in 1979 to 77 in 1980; metres drilled increased from 61,845 to 138,813. The drilling was mainly centred in the Bowen-Surat Basin in Queensland, the Cooper Basin in South Australia, and the Perth Basin in Western Australia. Twenty-two onshore development wells were drilled, 25 less than in 1979 (Queensland 9, South Australia 6, Western Australia 7). Metres drilled for onshore development drilling fell from 40,961 to 37,484.

During 1980 significant onshore gas discoveries were made at Glen Fosslyn No. 1, in the Bown-Surat Basin, Queensland, and in Wareena No. 1, in the Cooper Basin in Queensland, at Woodada No. 1, in the Perth Basin, W.A. and in Beanbush No. 1 and Cuttapirrie No. 1 in the Cooper Basin in South Australia. Oil was encountered in Kincora No. 8 and oil indications were found in Barcoo Junction No. 1 in the Eromanga Basin, in Queensland. Both oil occurrences are to be further evaluated.

The Northwest Shelf natural gas project was officially launched during 1980 with the signing of contracts on 30 September between the Joint Venture partners and the Western Australia State Energy Commission for the supply of 10.9 million cubic metres of gas per day to the State for the next two years. A platform for the North Rankin field development has been ordered from overseas and the initial development of onshore facilities at Withnel Bay has started near Dampier. A major natural gas pipeline is to be constructed from Withnel Bay to Perth. Export contracts for the supply of LNG to Japan were being finalised at the end of 1980.

Nickel

A summary of the growth of the Australian nickel industry was published in the *Australian Mineral Industry Quarterly*, Vol. 28 No. 4.

Mine production of nickel in ore and concentrates was 74,323 tonnes in 1980. Australia was the fourth largest world producer. Production from Agnew, W.A., mine is being increased to reach 15,000 tonnes per year 'contained nickel' by 1984. Development of Mount Windarra continued in 1980 and a decision was made for the mine to re-open in 1981. The concentrates are toll-smelted at the Kalgoorlie smelter, together with those from Kambalda-St Ives-Nepean and the newly-opened Carnilya Hill mine, a joint venture between Western Mining Corp. Ltd and The Broken Hill Pty Co. Ltd. The Spargoville mine, which opened in 1975, closed early in 1980 with the exhaustion of economic ore reserves.

Mineral sands

The history of the mineral sands industry is presented in the *Australian Mineral Industry Quarterly*, Vol. 25 No. 1.

Considerable expansion from 43,000 to 58,000 tonnes per year has been completed in the Western Australian production capacity for the beneficiation of ilmenite. Australia is still the world's largest producer and exporter of natural rutile, ilmenite, zircon and monazite by the amalgamation of operating companies, particularly in Western Australia.

Diamonds

Diamond exploration in the Kimberley region of Western Australia has resulted in the discovery of a number of kimberlite pipes. On the basis of diamonds found, Conzinc Riotinto of Australia has set up a pilot plant to treat kimberlite at Ellendale, W.A. Another plant was established at Argyle, W.A., to bulk-test the diamond-bearing alluvials and kimberlite in the Smoke Creek area. A detailed feasibility study is underway on the AKI kimberlite pipe in the Argyle area, with a view to commercial production, possibly by 1985. Production from the smaller but high-grade Smoke Creek alluvials is also planned to begin in the near future.

Uranium

Construction of a metallurgical pilot plant at Kalgoorlie, W.A., to test ore from Yeelirrie, W.A., was completed in 1980.

During the year 1980-81, Mary Kathleen Uranium Limited produced 731 tonnes of uranium as yellow cake and Queensland Mines Limited produced 1,314 tonnes of uranium at Nabarlek.

In September 1980, the Commonwealth Government assigned its interest in the Ranger Uranium Project in the Northern Territory to Energy Resources of Australia Limited for a premium of \$125 million plus reimbursement of developmental expenses, interest and incidental charges previously incurred by the Government and the Australian Atomic Energy Commission.

Construction of the processing plant at Ranger was almost complete by June 1981 with the object of operation at designed capacity by October 1981. Preproduction mining operations commenced at the beginning of the 1981 dry season.

REFERENCES

Further detailed statistics and information on the subjects dealt with in this chapter are contained in the annual printed publication *The Australian Mineral Industry Annual Review* and other publications issued by the Bureau of Mineral Resources, Geology and Geophysics, which also issues, in conjunction with the ABS a quarterly publication, *Australian Mineral Industry Quarterly* (8403.0). The annual ABS statistical publications, *Census of Mining Establishments, Summary of Operations, Australia (Preliminary)* (8401.0); *Census of Mining Establishments, Details of Operations, by Industry Class, Australia* (8402.0); *Mineral Production, Australia* (8405.0); *Mineral Exploration, Australia* (8407.0) and the irregular publication *Census of Mining Establishments, Industry Concentration Statistics, Australia* (8411.0), contains economic statistics of the industry prepared and published as soon as possible after the data have been compiled. Other current statistics on mining or mine products are contained in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), and the monthly publication *Production Statistics, Australia* (8302.0). For uranium industry see Annual Reports of the Australian Atomic Energy Commission.

BLACK COAL IN AUSTRALIA

(Source: Bureau of Mineral Resources, Geology and Geophysics, Australian Mineral Industry Quarterly, 34 (1981).)

M. B. Huleatt

Introduction

Coal was first discovered in Australia in 1791 by an escaped convict near the site of Newcastle. This discovery was followed in 1793 by a report of coal at South Cape, Tasmania; 32 years later, in 1825, black coal was discovered near Wonthaggi, Victoria and in 1824 outcrops were found in the Ipswich district of Queensland. Discoveries at Irwin River, Western Australia and Leigh Creek, South Australia were made in 1846 and 1888, respectively.

Exploration and development

New South Wales

Mining began in 1799 with the collection of coal from outcrops near Newcastle for sale in Sydney, and the first export of Australian coal took place in 1801 when 150 tonnes of Newcastle coal was despatched to India.

Although coal was first discovered very early in the colony's settlement, no attempt at systematic investigation of coal resources was made for 75 years.

From about 1867, government geologists showed increasing interest in coal, and many geological investigations and drilling programs were undertaken. Increasing demand for coal by a growing steel industry and for the production of town gas in the early years of the twentieth century created further interest in exploration, particularly by companies.

A sharp brake was applied to the industry with the onset of the depression in the 1930s and it was not until after World War II that renewed interest was shown in coal as an energy form.

In the late 1940s and early 1950s a vigorous exploration program was undertaken by the Joint Coal Board with additional investigations by BMR and the Geological Survey of New South Wales. Exploration received a boost in 1957 when the Electricity Commission of New South Wales began exploration and development of coal deposits. Companies had continued active exploration during the 1950s with emphasis on supplying the steel industry's coal requirements.

The most important factor in exploration and development in recent years was the advent of a growing export market in the 1960s and 1970s. Exploration philosophies changed in this time—

attention was turned toward proving reserves in areas known to contain coal and in districts already producing coal. The Geological Survey and the Joint Coal Board concentrated efforts in areas outside allotted exploration leases and colliery holdings, while companies were responsible for exploration within lease boundaries.

Queensland

Although the initial discovery of coal was made in 1824 at Ipswich, the first true mining venture did not commence until 1846 at a location between Ipswich and Brisbane.

Following the discovery of coal at Blair Athol in 1846, interest in exploration grew steadily and government geologists in the latter part of the century concentrated activity in the Bowen Basin of Central Queensland. These investigations mainly took the form of mapping and interpretation of the geology; some drilling was done in the northern Bowen Basin in 1885, but it was only partly successful in delineating new coal reserves.

At the turn of the century attention focused on the Blackwater district where considerable drilling programs were undertaken by the Mammoth Coal Company and the Mount Morgan Gold Mining Co.

The depression years seriously restricted both exploration and mine development and although there were some small developments it was not until the early 1960s that the industry commenced a period of growth, which has continued to the present. As in New South Wales, it was assisted by the rapid growth in export markets, but Queensland coal producers with a limited domestic market and no local steel industry still are heavily dependent on export sales.

Exploration grew rapidly in the late 1950s and has continued at a high rate to the present. The early stages of this exploration resulted in the establishment of mines at Callide, Moura, Kianga, and Blackwater. Subsequent investigations led to the establishment of mines at Goonyella, Peak Downs, and Saraji; more recently, Gregory and Norwich Park mines have come into production.

Queensland coal exploration is now carried out in a pattern very similar to that in New South Wales: the Geological Survey of the Department of Mines undertakes investigations outside allotted exploration leases and colliery holdings, while companies continue exploration within lease boundaries.

Victoria

Black coal was first discovered at Cape Preston in 1825, but it was not until 1908 that drilling by the Department of Mines outlined a deposit at Wonthaggi on which a State coal mine was established.

The competition from brown coal caused a strong shift away from the use of black coal and in 1968 the State mine closed. Smaller mines established at Wonthaggi had closed years before. There are now no operating black coal mines in Victoria.

Tasmania

The first report of coal in Tasmania was in 1793 at South Cape. In the succeeding decades small occurrences were discovered in many places on the east coast and in northern districts, but the most important coalfield was discovered in 1886 at Mount Nicholas.

Mining of coal in the State began near Port Arthur in 1834 but this operation ceased when the penal colony was abandoned in 1877. Although many small operations commenced in the late 1800s and early 1900s only The Cornwall Coal Company's operation near Fingal, which was established soon after the discovery of the Mount Nicholas Field in 1886, has survived.

Scope for development and growth of coal mining in Tasmania has always been restricted because most of the State's electricity is provided by hydro-electric schemes, leaving only relatively small industrial consumers, and for some time railways, to maintain a demand for coal.

South Australia

Black coal was discovered at Leigh Creek in 1888. A shaft was sunk at the site in 1892, but the coal proved to be unsatisfactory for use in railway locomotives and the shaft was abandoned. A further attempt to mine the coal was undertaken in 1906 but it too was abandoned. It was not until 1944, after a series of detailed investigations, that mining began at the Telford open cut at Leigh Creek. The coal was once used by the railways and industry as well as for electricity generation, but now the entire production is consumed at the Port Augusta power station. In 1948 the mining operations came under the control of the Electricity Trust of South Australia.

Exploration in recent years has resulted in discoveries of large but low-quality deposits in the Arkaringa Basin to the west of Lake Eyre.

Western Australia

Black coal was discovered in Western Australia in 1846 at Irwin River southeast of Geraldton, and in 1883 the important Collie deposits were found.

Investigation of the Collie field commenced almost immediately and culminated in the establishment of a mine in 1898. After World War II a systematic survey of the Collie field was undertaken by the Geological Survey of Western Australia with assistance from BMR. This survey delineated the boundary of the deposits and allowed estimates of the reserves to be made.

Coal from Collie was originally used mainly in the State's rail system and to a lesser extent for electricity generation. The development of alumina projects in Western Australia has created a demand for coal, through increased power requirements, which has more than offset that lost as the railways converted to liquid fuel.

Exploration is continuing in various areas of the State, particular interest being shown in the prospective areas around Derby and Eneabba.

Current position

Black coal is mined today in every Australian State except Victoria and the Northern Territory, and exploration is being undertaken in all the States by companies, and in most States by government bodies. Research into the geology, exploration, mining, preparation, and use of coal is funded both by industry and government. Funding by the Federal Government is by way of grants from the National Energy Research Development & Demonstration Council.

Exploration is largely in the hands of private enterprise and almost \$47 million was spent by companies in 1979-80 in the search for coal. Of this, just over half was spent in Queensland and 30 percent in New South Wales. Expenditure in 1979-80 was almost twice that of the previous year and almost four times that in 1976-77, indicating the great resurgence of interest in coal as an energy source in recent years. Of the \$47 million spent on exploration in 1979-80 only \$6 million was spent within the boundaries of existing production leases.

TABLE 1. AUSTRALIAN COAL MINES, 30 JUNE 1980.

	<i>N.S.W.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
Open-cut	13	19	1	2	..	35
Underground	70	26	..	1	1	98

(Source: Joint Coal Board.)

The Joint Coal Board (1981) reported that, at the end of June 1980, there were 133 operational coalmines in Australia distributed as shown above. Of the 133 mines, 98 were underground and 35 open-cut mines. The location of mining areas is shown in Plate 39.

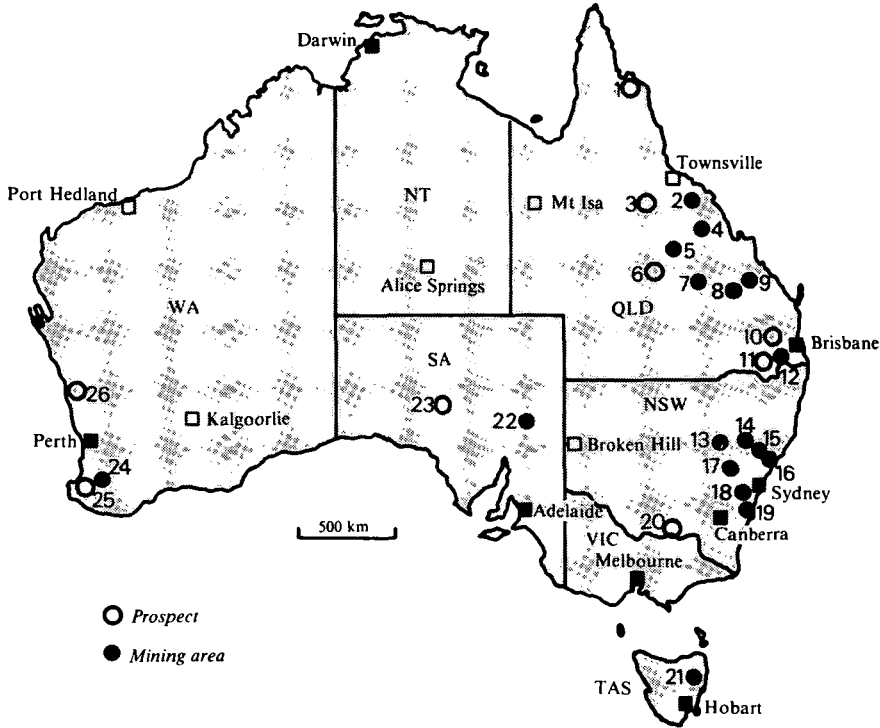
The importance of open-cut mining to the industry is well illustrated by the fact that in 1980 five open-cut mines produced 19.0 million tonnes (Mt) of saleable coal or almost 25 percent of total Australian production. The remaining 128 mines produced a total of 57.3 Mt. It is expected that this trend will be further accentuated when large open-cut mines like Gregory and Norwich Park work up to full capacity.

The five mines referred to are the Goonyella (3.6 Mt saleable coal in 1980), Peak Downs (3.7 Mt), and Saraji (3.9 Mt) operations of Central Queensland Coal Associates (CQCA), the Blackwater mine (3.8 Mt) of Utah Development Co. in Queensland, and the Ravensworth mine (4.0 Mt) operated by Costain Australia Ltd for the Electricity Commission of New South Wales.

Underground mines were the dominant producers of coal until 1974, when, for the first time, almost half the annual production of raw coal was from open-cut mines. Although the proportion of coal won by open-cut methods had been rising for many years a sharp increase occurred in 1972, as new mines in Queensland came on stream and worked up to full capacity. In that year an extra 10.5 Mt of open-cut coal was produced and the open-cut share of production rose from 30 to 40 percent. A similar but smaller increase in open-cut production and a reduction in underground production in 1974 increased the open-cut share of production to almost 50 percent. Since 1975, the relative proportions of underground and open-cut have stabilised, remaining steady at a little more than half for open-cut coal.

Over the last decade New South Wales, Queensland, and Western Australia have produced coal from both underground and open-cut mines. In New South Wales most coal has traditionally come from underground mines and that situation still prevails, although on a raw-coal basis their contribution has fallen from 92 percent in 1970 to 72 percent in 1980. In Queensland the reverse applies: open-cut production has been dominant and is becoming increasingly so. The proportion of total production won by open-cut mining in Queensland has risen from 70 percent in 1970 to 88 percent in 1980. A similar situation prevails in Western Australia where the proportion of production supplied from open-cut mines rose from 61 percent in 1970 to 80 percent in 1980.

The ability of the Australian coal industry to increase coal production in response to increasing demand was based largely on the following factors: the advent and growth of open-cut mines, the advent of mechanised mining, particularly in underground operations, and the existence of large unexploited resources.



- 1 Laura Basin 2 Bowen District 3 Pentland 4 Mackay District 5 Blair Athol
 6 Alpha 7 Blackwater District 8 Kianga-Moura District 9 Callide 10 Tarong
 11 Millmerran 12 West Moreton District 13 Ulan 14 Singleton-North West District
 15 South Maitland District 16 Newcastle District 17 Western District
 18 Burrigarang Valley District 19 South Coast District 20 Oaklands 21 Fingal
 22 Leigh Creek 23 Lake Phillipson 24 Collie 25 South Perth Basin 26 Eneabba

PLATE 39

Mining methods

Coal mining in Australia was essentially a manual operation until the mid-1930s. Most early mines were dug into coal seams from surface exposures, the coal being recovered by pick and shovel. The coal won was carried or pushed in trolleys to the surface, or to the bottom of a vertical shaft or inclined shaft and then hoisted to the surface. Some burden on the miners was removed with the introduction of pit ponies to haul coal.

Historically most of Australia's coal production has come from underground mines. From pick and shovel operations of limited production, these mines have been transformed by mechanisation to highly sophisticated operations capable of high rates of production. The most important development in underground mining has been the advent of machines for continuous and longwall mining.

Most underground coalmines in Australia use variations of the bord-and-pillar system of mining which, although theoretically capable of recovering all the coal, in practice usually recovers only about 60 percent. Continuous-mining machines are used in the bord-and-pillar system to break and extract coal from the working face, which is about 10 m wide, and load it into shuttle cars for transport.

Longwall mining is not widely used in Australia but its use is expected to increase. While it may be possible to achieve 100 percent coal recovery by longwall techniques it is generally considered that, with good mining conditions, a maximum recovery rate is about 90 percent. The longwall miner shears coal onto a conveyor from a working face 100-200 m wide.

One of the main advantages of the longwall system therefore is that it allows greater recovery than the bord-and-pillar system. To achieve maximum benefit from a longwall unit the coal seam should be of uniform thickness and not have any geological discontinuities, e.g. faults, or intrusions. Continuous miners, on the other hand, are able to mine coal more efficiently from seams affected by such discontinuities.

The introduction of high-capacity mechanised mining has meant that all material in the coal seam at the working face is mined. Consequently any stonebands or other impurities are mined along with the coal. Because it is usually not possible to separate such impurities at the working face, they must be removed later if the coal is to meet specifications.

Coal as mined is referred to as 'raw coal'. Raw coal is crushed and usually washed to remove the impurities. The largest coal preparation plants currently in use are able to process up to 2000 tonnes/hour. The Joint Coal Board reported that at the end of June 1980, coal producers in New South Wales were operating 35 washeries and that two additional plants were in operation at Port Kembla and Newcastle steelworks. In 1979 in Queensland 9 washeries serviced underground mines and 9 open cuts. The only other washery in Australia is a small plant servicing the Duncan mine in Tasmania. Once the coal has been crushed and washed the upgraded product is referred to as 'saleable coal'.

Employment

The black coal industry has always been a large employer, but the level of employment compared to production reflects the impact mechanisation has had on the industry.

In 1930 there was an average of 27,528 people employed in the black coal industry and production was slightly more than 9.5 Mt. By the end of 1980 employment was 27,591, yet production of raw coal for 1980 had risen to 93.4 Mt.

Employment levels in the industry have undergone several long-term fluctuations over the last fifty years, in response to a variety of social, economic, and technological pressures. From the high level in 1930 the Great Depression resulted in numbers falling to slightly less than 21,000 in 1931 and to 17,687 by 1935. From just before to just after World War II the increased demand for coal raised employment to a stable level of about 22,300.

In the late 1940s and the first half of the 1950s the demand for coal continued to rise in response to the post-war reconstruction and development boom. Employment in the industry grew strongly as a consequence, peaking at 27,135 at the end of December 1952 and 27,028 in June 1954.

By 1956 the first impact of oil as a substitute for coal was being felt. Production of coal stagnated in the late 1950s and grew only slowly in the first half of the 1960s. The effect of this slackening in demand and the progress made in mechanisation of mines was dramatic. Employment fell below 20,000 and for most of the 1960s was around 15,000 to 16,000.

The first three years of the 1970s saw some increase, with employment rates of about 18,500. The remainder of the 1970s saw a steady growth in employment. Perhaps the most important factor in bringing on this changed position was the increasing demand for coking coal by the Japanese steel industry. Although the demand for coking coal slackened, the impact of oil crisis of 1973 and the subsequent uncertainty of supplies resulted in renewed demand for thermal coal, which has ensured steady growth in employment.

Production, exports, and consumption

A statistical summary of Australian black coal production and trade since 1951 is given in the following Table 2 and Plate 40.

From 1799, when mining first began, to the end of 1980, over 1,963 Mt of coal was won. Despite some short-term setbacks, as occurred during the depression years of the 1930s, production has increased steadily.

Black coal production statistics are presented as tonnes of raw coal and tonnes of saleable coal. Until 1949 raw and saleable coal were virtually the same, but social, economic, and technical factors since then have resulted in a lowering of the proportion of saleable coal produced from raw coal.

Three distinct phases can be delineated in the production of raw coal since 1951; a slow increase from 1951 to 1959 (average increase 0.34 Mt/year), a faster increase from 1960 to 1967 (1.67 Mt/year), and a still faster increase from 1968 to 1980 (3.91 Mt/year). The second and third phases both reflect increased demand from the international market. The corresponding growth figures for saleable coal are lower, reflecting the increased tonnage of mined coal being discarded as washery reject material. The average growth was 0.22, 1.36, and 2.95 Mt/year for each phase. Strikes in 1980 adversely affected production; otherwise the third-phase averages would have been higher.

Accelerated growth of production in 1960-67 can be attributed to increased demand for coking coal from the Japanese steel industry, but for 1968-80 the situation is more complex. Until the early 1970s, increased demand for coking coal for steel production, particularly in Japan, continued to be the main factor. The effect of a faltering in the rate of growth of world steel production in the mid-1970s was offset by increasing demands for thermal coal and diversification of markets for coking coal. Demand for thermal coal was the direct result of the 1973 quadrupling of oil prices, causing many countries and energy-intensive industries to turn from oil to coal.

Exports of black coal have increased consistently from 1960 to the present. From 100,000 tonnes exported in 1951, exports grew slowly to 795,000 tonnes in 1959. For 1960 the figure was 1.6 Mt, valued at \$13 million, and for 1980 it was over 42 Mt, valued at \$1,684 million. Although the relative importance of Japan as a market for Australian coal has declined in recent years, in 1980 that country still took over 69 percent (29.3 Mt) of the coal exported from Australia. The Republic of Korea and Taiwan Province were the next most important customers, taking 5.7 percent (2.5 Mt) and 4.4 percent (1.9 Mt) respectively.

Though the growth in Australia's consumption since 1962 has been consistent, it has not matched the growth in exports. Exports have increased to over 420 times their 1951 level, but domestic consumption has only doubled in the same period, rising from 17.6 Mt in 1951 to 36.4 Mt in 1980. It was not until 1973 that the tonnage exported surpassed the tonnage consumed in Australia.

The electricity-generating industry is by far the largest consumer of coal in Australia. In 1980 it accounted for 67 percent of all coal used whereas the iron and steel industry accounted for only 22 percent. The equivalent figures for 1970 are: electricity generation 51 percent, and iron and steel industry 32 percent. New South Wales, the major consuming State, used over 23 Mt (64 percent) of all coal consumed in Australia in 1980, most of it for electricity generation.

It is expected that domestic consumption will continue to increase, but the growth rate will be dependent to a large extent on developments in the aluminium-smelting and cokemaking industries.

TABLE 2. BLACK COAL IN AUSTRALIA: PRINCIPAL STATISTICS
(^{'000 tonnes})

Year	Production		Saleable Raw (per cent)	Saleable domestic consumption	Exports	Imports	Stocks at year end
	Raw	Saleable					
1951	17,900	17,859	99.8	17,611	100	350	2,020
1952	19,720	19,665	99.7	17,896	205	283	3,869
1953	18,718	18,591	99.3	18,484	367	17	3,624
1954	20,069	19,835	98.8	19,240	364	3	3,859
1955	19,605	19,362	98.8	18,940	216	4	4,061
1956	19,578	19,322	98.7	18,773	282	5	4,346
1957	20,197	19,804	98.1	18,955	768	9	4,461
1958	20,852	20,140	96.6	18,807	822	6	4,971
1959	20,943	19,820	94.6	19,962	795	8	4,034
1960	23,350	21,917	93.9	20,107	1,602	5	4,233
1961	24,924	23,179	93.0	19,929	2,896	8	4,633
1962	25,374	23,501	92.6	20,210	2,956	7	4,922
1963	25,908	23,835	92.0	20,488	3,226	10	5,028
1964	28,718	26,276	91.5	21,880	4,883	11	4,612
1965	32,944	30,086	91.3	22,811	7,271	11	4,803
1966	35,111	31,657	90.2	22,504	8,373	13	5,307
1967	36,676	32,822	89.5	23,667	9,550	8	5,087
1968	42,568	37,917	89.1	24,429	12,291	9	5,995
1969	48,154	42,572	88.4	25,265	16,039	12	6,977
1970	52,350	45,407	86.7	25,141	18,296	10	8,847
1971	52,423	44,077	84.1	25,327	20,178	18	6,661
1972	65,537	54,647	83.4	26,608	23,511	9	10,834
1973	67,858	55,598	81.9	27,292	28,434	11	10,875
1974	70,435	57,943	82.3	29,019	29,440	15	10,454
1975	74,784	60,944	81.5	29,591	30,428	6	11,697
1976	84,224	68,198	81.0	31,327	32,917	11	14,037
1977	87,321	70,809	81.1	32,087	36,427	3	16,544
1978	89,345	71,831	80.4	32,967	38,095	23	16,830
1979	93,043	74,993	80.6	34,875	41,050	16	16,317
1980	93,406	76,304	81.7	36,381	42,284	2	13,623

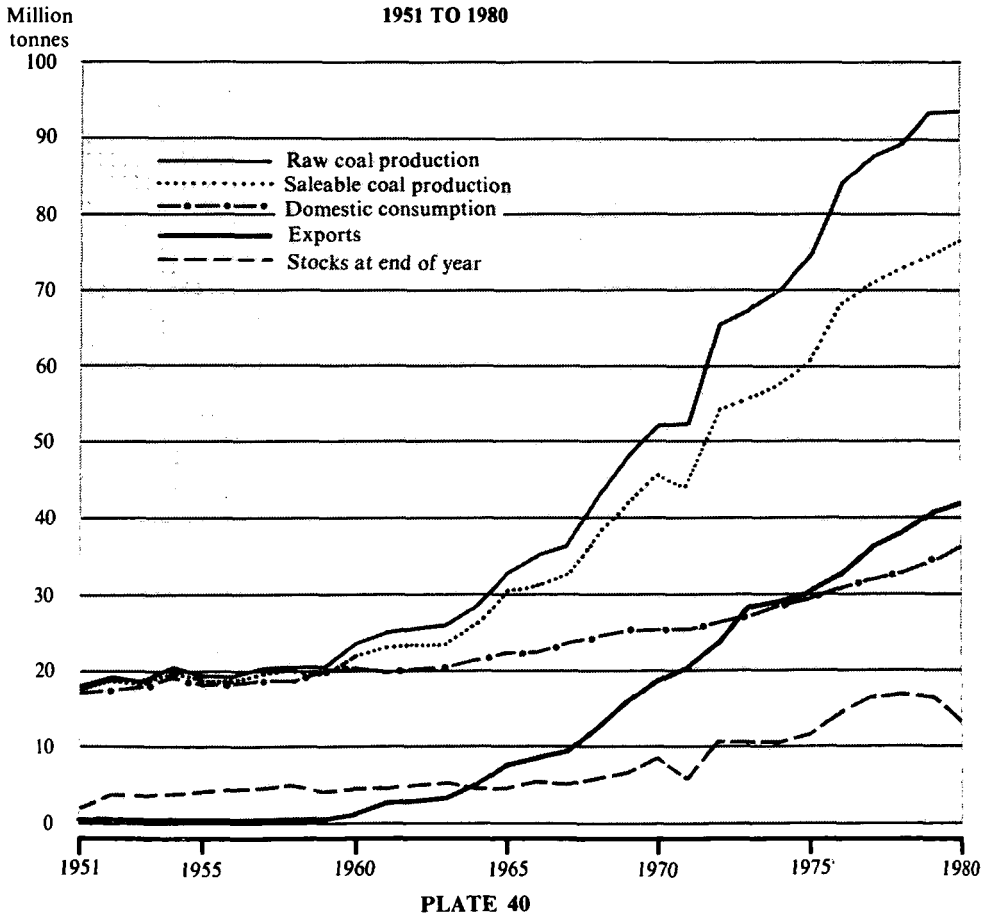
Source: Joint Coal Board, Bureau of Mineral Resources.

Resources

Australia's demonstrated economic resources of black coal are 50.4×10^9 tonnes in situ. Of this total only 28.7×10^9 tonnes is regarded as being recoverable with currently available technology and prevailing economic and social constraints. Queensland and New South Wales together have over 98 percent of the country's in situ demonstrated economic resources. An outline of Australia's demonstrated economic resources is given in Table 3.

As a result of renewed interest in coal as an energy source in recent years and the consequent increase in exploration, the level of demonstrated economic resources has increased substantially. From 34.7×10^9 tonnes in 1975 it rose to 50.4×10^9 in 1980. It is relevant to note that this increase (15.7×10^9 tonnes) is 30 times larger than the total amount of coal mined in that period (0.522×10^9 tonnes).

PRODUCTION, CONSUMPTION, EXPORTS AND STOCKS OF BLACK COAL IN AUSTRALIA,



**TABLE 3. AUSTRALIAN DEMONSTRATED RESOURCES OF
BLACK COAL
(million tonnes)**

	<i>In situ</i>	<i>Recoverable</i>
New South Wales		
Sydney Basin	21,234	11,001
Gunnedah Basin	972	637
Gloucester Basin	36	33
Oaklands Basin	500	450
Ashford	1	1
	<hr/> 22,743	<hr/> 12,122
Queensland		
Bowen Basin	22,678	12,854
Galilee Basin	800	450
Ipswich Basin	490	245
Tarong Basin	280	241
Callide Basin	205	142
Mulgildie Basin	15	7
Surat-Moreton Basin	2,428	2,118
Styx Basin	4	2
	<hr/> 26,900	<hr/> 16,059
Western Australia		
Collie	496	362
Tasmania	139	69
South Australia	120	120
	<hr/> 50,398	<hr/> 28,732

Source: Joint Coal Board, Queensland Department of Mines.

Resources currently less well known geologically ('inferred resources') total 477×10^9 tonnes, of which 273×10^9 tonnes is considered to be recoverable. Any coal deposit included in this category requires further testing by drilling, etc., before it can be classified as a demonstrated resource.

Thus Australia's total demonstrated-plus-inferred resources are 527×10^9 tonnes, of which just over 9 percent is demonstrated. The fact that there is detailed information available on such a small proportion of Australia's resources suggests that it is most important that exploration continue at a rate at least equivalent to that achieved in recent years. This point becomes all the more significant when the projected growth in both exports and domestic consumption is considered.

Over half the currently known inferred resources are in the Sydney Basin; however, very little work has been done on the estimation of inferred resources outside New South Wales. Although no concerted attempt has been made to estimate Queensland's inferred resources it is most probable that they would at least equal those of New South Wales.

The Bowen and Sydney Basins are the main regions which inferred resources will be upgraded to demonstrated resources. There are, however, other regions in most States that have the potential to contain considerable tonnages of demonstrated resources. In Queensland, outside the basins from which coal is currently being mined, the most prospective area is the Galilee Basin. The Queensland Department of Mines (1981) reports the quantity of demonstrated resources in the Galilee Basin as 800 Mt, located near the township of Alpha. Substantial but unquantified resources occur in the basin several hundred kilometres further north near Hughenden. Despite the remoteness of the Galilee Basin in comparison with the Bowen Basin, future exploration will almost certainly add considerable tonnages to Australia's demonstrated economic resources.

In South Australia the most prospective area for increasing the level of demonstrated resources is the Arckaringa Basin, although it is unlikely that this coal will be economically recoverable in the near future. The Department of Mines & Energy (1980) reported demonstrated resources of 600 Mt, with considerably larger inferred resources. Continuing private exploration has suggested that substantial tonnages occur to the north of the presently known Lake Phillipson deposit.

Considerable exploration has been carried out in Western Australia, and the prospects for increasing the State's demonstrated resources are good. There is a strong possibility that any coal discovered in these areas may not be economically recoverable in the near future. Both the northern and southern parts of the Perth Basin appear to have good prospects for the proving of deposits. Encouraging intersections of coal have been encountered in drillholes in the Canning Basin in the Derby region and further exploration could well delineate substantial deposits at these locations.

Coal occurrences are widespread in Tasmania, but in many areas of interest exploration and exploitation are hindered by the coal's being covered by *hard igneous rocks*. Recent exploration has indicated that the delineation of small but locally significant deposits will add considerably to Tasmania's demonstrated economic resources.

The areas discussed above are those considered most likely to have inferred resources upgraded to demonstrated economic or sub-economic resources in the next decade.

In addition to the demonstrated economic and inferred resources Australia has substantial but generally not well delineated resources of deeply buried coal. Included in this category is 130×10^9 tonnes in the Sydney Basin, and the South Australian Department of Mines & Energy (1980) have noted the presence of as much as 3000×10^9 tonnes between 1,400 and 4,000 m deep in the Cooper and Pedirka Basins. Although there is no prospect of these resources being utilised in the foreseeable future those in New South Wales may ultimately be recovered by underground mining. The deep resources in the Cooper and Pedirka Basins, towards the centre of the continent, will probably only ever be utilised if adequate technologies are developed for *in-situ* processing such as gasification.

Australia's coal industry in the world context

Australia was the world's ninth-largest producer of black coal in 1980, with about 3 percent of total world production of saleable coal. Of the coal traded internationally in 1980 Australia provided 42.3 Mt, making it the second-largest exporter after USA (Table 4).

Most of Australia's strength in the international coal trade is derived from its ability to produce far more coal than is required for domestic consumption. In 1980 Australia was able to export 55 percent of total saleable production. The only other country able to achieve a percentage close to this level was Canada with 49 percent, but it must be remembered that Canada also imports large tonnages of coal.

On estimates currently available Australia has 4 percent of the world's in-situ demonstrated economic resources and 6 percent of the world's recoverable demonstrated economic resources. However, very large inferred resources, which ultimately are likely to be economically mineable, are known to occur in both Queensland and New South Wales.

Technology

The increasing cost and potential shortage of petroleum will, in the future, result in greater demand for coal. Interest has been growing in the re-introduction of coal-fired ships in place of oil-fuelled ones. The first step in this direction has already been taken with an order for the construction of two coal-fired bulk carriers for use in the Australian coastal alumina trade.

TABLE 4. WORLD PRODUCTION AND EXPORTS OF BLACK COAL IN 1980

	Production (Mt, Sale- able coal)	Exports	
		Exports (Mt)	Production (percentage)
Australia	76.4	42.3	55
Canada	30.8	15.0	49
China	663.0	-	-
Germany, F.R.	94.5	12.6	13
India	107.5	-	-
Poland	193.1	30.4	16
South Africa	115.1	29.2	25
UK	128.2	-	-
USA	723.6	82.3	11
USSR	519.0	n.a.	-
Australia's ranking	9	2	1

Expanded use of coal may also be expected in the manufacture of bricks and cement and in the fueling of boilers previously operated with oil.

Possibly the most important innovation will be the development of a commercially viable fluidised-bed combustion system. This method of combustion can not only burn normal coal fuels efficiently but can also use lower-grade coals and much of the reject material discarded from coal washeries.

A very large additional tonnage of coal, both black and brown, will be required if commercial plants for converting coal to liquid fuels are set up in Australia. It has already been decided to establish pilot plants and undertake further feasibility studies of the production of liquid fuels from brown coal. Black coal is less certain to be used because it will face strong competition from oil shale as a source of liquid fuels.

The future

The Australian black coal industry is experiencing a period of sustained growth that appears certain to continue for many years. Stimulus for this growth is being provided by increasing demand for thermal coal from overseas buyers.

The actual level of production, consumption, and exports that will be achieved at any particular time in the future is arguable. Projections made by authoritative organisations usually differ, but they all agree that growth will be strong. A summary of some forecasts is given in the following table.

TABLE 5. FORECAST 1990 EXPORTS AND DOMESTIC CONSUMPTION OF AUSTRALIAN BLACK COAL (Mt)

	Exports			Domestic consumption		
	Thermal	Coking	Total	Thermal	Coking	Total
Department of National Development & Energy (1981)	70	60	130	-	-	-
Department of Trade & Resources (1981)	50-70	50-60	100-130	-	-	-
World Coal Study (1980)	42	68	110	64(c)	12(c)	76
Joint Coal Board (1980) (a)	57-100	58-80	115-180	57.3-75.3	16.7-22.7	74-98
BMR (b)	55	60	115	48	12	60
Actual 1980	8.9	23.3	42.2	28.1	8.2	36.3

(a) Joint Coal Board figures are estimates of demand rather than forecasts of actual exports or consumption. (b) Refer to text for discussion of Bureau of Mineral Resources estimates. (c) Estimates derived from World Coal Study (WOCOL) Report.

Exports

The BMR export projections have been made on the assumptions that markets will be available, that satisfactory prices will be negotiated, and that Australian infrastructure, availability of suitable personnel, and industrial relations will allow demand to be met. Although it is acknowledged that each of these factors may have a significant influence on the industry, it is not within the scope of this paper to discuss them; however, it is considered most likely that any difficulties that may arise will be resolved without serious long-term impact on the industry.

BMR's estimates of thermal and coking coal exports are based on categorisation of product by potential producers. While this does not influence the total export projection it does introduce an uncertainty into the individual product estimates. In view of the prevailing conditions in the world steel industries and the increasing demand for thermal coal, it is expected that some poorer coking coals will in fact be exported as thermal coals. Projected export for 1990 are 66 Mt of nominal coking coal and 49 Mt of nominal thermal coal. It is considered that up to 6 Mt of coking coal may in fact be used as thermal coal in 1990, and the export estimates by BMR shown in the previous table have been adjusted accordingly.

Should the current world oil supply and price situation deteriorate, the demand for thermal coal will increase. Alternatively, even if the position should improve, the difficulties and uncertainties in relation to oil created in the 1970s may act against any concerted move back to oil, although some plans to convert from oil to coal firing, particularly in older plants, may be cancelled.

Domestic consumption

Growth in domestic consumption is expected to be considerably slower than in exports. However, it too will be dominated by increased thermal coal use.

The BMR forecast presented here for thermal coal consumption is substantially less than the other estimates shown in the previous table. The reason for this is that the demand as a result of expansion in the aluminium industry is now expected to be less than was previously thought, and growth in other areas will not be sufficient to offset this loss.

The estimates for 1990 exclude any coal that may be used in the production of liquid fuels, because it is considered most unlikely that any significant tonnage will be so utilised by that year. Further, before any commitment is made to commercial coal conversion careful consideration must be given to the question whether that process is an optimum use of Australia's coal resources, particularly in view of the country's large resources of oil shale.

Adequacy of resources

All the forecasts presented in Table 5 suggest strong growth in the Australian coal industry over the next decade. The extent and level of knowledge of Australia's coal resources have been discussed above. The adequacy of those resources to meet the projected growth in the industry must also be considered.

The following discussion on the adequacy of resources must be based on projected raw coal production. For this reason the projections in the previous table, which are for saleable or disposable coal, are converted to raw coal equivalents according to the recovery rate prevailing in 1980 of 82 per cent.

Production between now and 1990 will probably be in the order of 1,300 Mt of raw coal. This demand would reduce today's recoverable demonstrated economic resources to 27,432 Mt. Converting the projections given in the previous table to raw coal, using the 1980 average recovery, one may calculate the life of the demonstrated economic resources as follows: for BMR projections, 129 years; for World Coal Board, 121 years and for Joint Coal Board, 119 years (low projection) or 81 years (high projection).

These figures are based on 1981 recoverable demonstrated economic resources and assume no growth in demand after 1990 and no technological changes that would allow increased recovery of coal. Exploration in the next decade will of course continue to elevate inferred and newly discovered resources into the 'demonstrated economic' category and demand after 1990 will most likely continue to grow. The extent to which addition to resources will outstrip increased use or vice versa is unknown, although the situation should be kept in perspective by noting that between 1975 and 1980 some 522 Mt of raw coal was mined while over 15,500 Mt was added to *in situ* demonstrated economic resources. Consequently, I would suggest that the resource life projections above are minima. However, these figures do not account for possible use of coal for synfuel production. If a decision is taken to use black coal as a feedstock for production of liquid fuels, consumption is going to increase greatly, putting additional strain on the resource.

On the basis it would appear that our present knowledge of Australia's demonstrated black coal resources may be adequate for medium-term use and planning. For longer-term planning and use, i.e. beyond 20-30 years, considerably more exploration and testing is necessary. The fact that 477,000 Mt of resources is categorised as 'inferred' means that, while such resources may well exist in the tonnages estimated at present, we do not know enough about them to determine if they can be mined economically or if the quality is acceptable to consumers.

A combination of many factors will ultimately determine the rate of growth of the Australian coal industry. Perhaps the greatest obstacle to achieving the projected growth rates might be the failure to customers to commit themselves to purchase coal in sufficient time to allow financing and all associated works at mines and ports to be completed. Within Australia obstacles to be overcome will include transport and port facilities of adequate capacity to handle the projected tonnages. Less obvious but of equal importance is the question of availability of trained manpower including miners, mining engineers, and geologists. Continued effort is required to upgrade our knowledge of the coal presently included in the 'inferred resources' category, and to quantify resources about which little is presently known. Despite these reservations, the Australian coal industry seems assured of a bright future.

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CHAPTER 17

MANUFACTURING AND INTERNAL TRADE

MANUFACTURING

Introduction

History

An historical summary of the development of the manufacturing industry in Australia since 1901 is contained in earlier issues of the Year Book.

Decentralisation and manufacturing industries

The decentralisation of secondary industries, and the steps taken by the Commonwealth and State Governments towards its development, are referred to in previous issues of the Year Book.

Bounties on manufacture

Bounties are paid by the Commonwealth Government to encourage local manufacture of certain products. The statutory provisions usually fix a term of operation of the bounty, provide for payment at a rate varying according to changes in the corresponding customs duty, specify the annual maximum amount of bounty payable, and require the bounty to be withheld or reduced if a manufacturer's net profit in production of the commodity exceeds a certain rate, or if rates of wages and conditions of employment in production of the commodity do not conform to prescribed standards. (See Chapter 22, Public Finance, for products on which bounties are paid.)

Government authorities

Industries Assistance Commission

The Industries Assistance Commission is a statutory authority which came into existence on 1 January 1974 as a result of a passing of the *Industries Assistance Commission Act 1973* by the Commonwealth Parliament. The Commission replaced the Tariff Board, which since 1921 had been responsible for advising the Government on assistance for industries mainly in the secondary sector of the economy. (The *Industries Assistance Commission Act 1973* was amended in March 1978.)

The Commission is an advisory authority, advising the Government. Its functions are to hold inquiries and make reports to the Government in respect to matters of assistance to industries in the primary, secondary and tertiary sectors of the economy and in respect to other matters referred to the Commission by the Government. The Government is required to seek the Commission's advice before it makes changes in the long term assistance afforded industries; but the Government is not obliged to accept the Commission's advice.

References from the Government requiring the Commission to inquire and report on certain matters mainly arise from representations to the Government from organisations, companies or individuals seeking assistance. References are also initiated by the Government and the Commission itself has the power to initiate an inquiry.

The receipt of a reference from the Government is the official document directing the Commission to inquire and report on matters in accordance with the terms of reference and the guidelines as set by the Government.

Public hearings are held by the Commission in Canberra and in capital cities throughout Australia. At these hearings evidence is taken on oath or affirmation. The Act requires the Commission to take into consideration only sworn evidence. The inquiry subject and the date and location of public hearings are advertised in the press and advised by Commission circular.

If after receiving a report from the Commission, the Government decides that assistance afforded a particular industry should be changed, it introduces a proposal to this effect in Parliament. Thus the final responsibility for altering assistance given to particular industries within Australia rests with Parliament.

Copies of the Commission's reports, when released for publication by the Government, are sold by Australian Government Publishing Service bookshops.

The Commission is also required to report annually to the Government on its operations and on the general structure of industry assistance within Australia and its effects on the economy.

Temporary Assistance Authority

The Temporary Assistance Authority (TAA), which replaced the Special Advisory Authority set up under the Tariff Board Act, came into operation on 1 January 1974 under the provisions of the *Industries Assistance Commission Act 1973* (since amended).

The main function of the TAA is to undertake inquiries and submit reports to the Government within 45 days of receipt of a reference from the Government on the question of whether urgent action is necessary to provide assistance to any industry that is experiencing difficulty due to the importation of specified goods. If urgent action is necessary the Authority recommends the nature and extent of the assistance to be provided.

The Authority's reports on individual inquiries are normally made public once the Government's decision is announced and are available, as is the annual report, from the Australian Government Publishing Service bookshops.

Bureau of Industry Economics

In September 1976, the Australian Government announced that the Bureau of Industry Economics would be established as a centre for research into the manufacturing and commerce sectors. The Bureau began operations in May 1977. Being formally attached to the Department of Industry and Commerce, it has professional independence in the conduct and reporting of its research.

The major objectives of the Bureau are to:

- carry out research work needed to assist the Government in the formation of industrial policy
- assist the Industries Assistance Commission (IAC) and other government bodies by making submissions on the results of its research
- attract a high standard of professional staff and publish its research findings
- complement the work of other research agencies and co-operate with universities and colleges in developing research programs.

The Bureau is also concerned with developments in mining, rural industry, public services (for example education, health, defence) and trade in goods and services which are linked with the manufacturing and commerce sectors.

A Council has been set up to advise the Minister of Industry and Commerce about the Bureau's work and to ensure that it is relevant to contemporary and long term issues in manufacturing and commerce. Members of the Council are drawn from a wide range of industries and backgrounds, including the universities and the trade union movement. In this way the Council of Advice provides a major link between the Bureau and the community. The Council assists with the development of the work of the Bureau and the effective dissemination of the results of the Bureau's work.

In its investigations, the Bureau principally makes use of economics and related disciplines. Technical and social factors affecting industry structure and performance are also taken into account.

The techniques of economic analysis used include supply and demand estimation, industry structure-performance relationships, input-output analysis, econometrics, cost-benefit methods and socio-demographic investigations. In addition, the Bureau is associated with the large-scale models of the Australian economy under development by the IMPACT team and at the Melbourne University Institute of Applied Economic and Social Research.

The staff of the Bureau includes officers with backgrounds in business, consultancy, government and university teaching and research. An initial nucleus of about 30 persons has been established and it is envisaged that additional recruitment will bring the size of the Bureau to about 100 persons within a few years.

Project control and resource commitments are determined by means of a feasibility study. Within the broad topic under investigation, several specific projects may be justified in relation to previous research findings, data availability, relevance to long-term policy issues and overall budget constraints. Some projects require special surveys where existing data sources are inadequate or more detailed information is required for particular industries. In certain projects the Bureau will undertake joint research with organisations in the private sector and consultants may be engaged where this will significantly enhance the quality of the research or will remedy any lack of in-house expertise.

When initial findings are available, work-in-progress papers are prepared to discuss the methods employed and to ensure that specialist qualified observers have an opportunity to comment on objectives of the research programme. Final reports on projects will be widely distributed with the aim of informing industry groups, government policy makers and teaching and research institutions about industrial and commercial developments.

Standardisation

The *Commonwealth Scientific and Industrial Research Organization* has functions concerned with the improvement of efficiency in industrial operations. For further particulars see Chapter 25, Science and Technology, in this Year Book.

The *Standards Association of Australia* is the organisation responsible for the preparation, on a national basis, of Australian standards for materials and products and standard codes of practice.

Formed as the Australian Commonwealth Engineering Standards Association in 1922, it was reconstituted as the Standards Association of Australia in 1929, and was incorporated by Royal Charter in 1950. It is an independent body having the full recognition and support of the Commonwealth and State Governments and of industry. Approximately half its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from the sale of publications. Organisations, companies, and individuals are eligible for subscribing membership.

The Association is controlled by a Council comprising representatives from Commonwealth and State Governments and their departments, from associations of manufacturing and commercial interests, and from professional institutions. Standards are prepared by committees composed of expert representatives from the interests associated with the subject under consideration. This assistance is on a voluntary basis.

Preparation of a standard is undertaken in response to a request from any responsible source, subject to verification that the standard will meet a genuine need. Standards may relate to one or more of several aspects of industrial practice such as terminology, test methods, dimensions, specifications of performance and quality of products, and safety or design codes. In general, standards derive authority from voluntary adoption based on their intrinsic merit, but in many cases where safety of life or property or consumer protection is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trade mark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the Australian Standard Mark, under conditions established by the Association.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electrotechnical Commission (IEC). Close links are maintained with overseas standards organisations, and the Association acts as Australian agent for the procurement of ISO and IEC publications and the standards of other countries.

The Association has two specialised libraries, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These libraries provide necessary material for committee work and a free information service to those concerned with standards.

The headquarters office of the Association is in Sydney, and there is a major branch office in Melbourne. Branch offices are located also in other capital cities and at Newcastle, New South Wales.

The *National Standards Commission* was established in 1948 and is presently located at North Ryde, Sydney. The original purpose was to advise the Minister for Science and the Environment on matters relating to weights and measures. It operated under the *Weights and Measures (National Standards) Act*, 1948. This was replaced in 1960 with a new Act which took account of advances in measuring technology and its impact in Australia. Amendments to the 1960 Act were made in 1966 and 1978. The present role of the Commission provides for the establishment and use throughout Australia of uniform units of measurement, uniform standards of measurement of physical quantities and for the examination and approval of the patterns of measuring instruments used for trade in order to control design and quality.

The Commission has close contacts with all States and Territorial weights and measures authorities who ensure by regular inspections that trade instruments continue to comply with the approved patterns.

Close liaison is also maintained with the manufacturing industry, retailers, consumers and other users to ensure a balance between design, quality and cost.

The Commission has regular contacts overseas and provides the Australian member accredited to the International Organisation of Legal Metrology. The Commission is directed by a board of five part-time Commissioners.

The *National Association of Testing Authorities* (NATA) organises testing facilities throughout Australia to serve private and governmental needs. Membership is open to authorities whose testing laboratories conform to the standards of staffing and operations defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued

by registered laboratories may be endorsed in the name of the Association. NATA endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of acoustic and vibration measurement, biological testing, chemical testing, electrical testing, heat and temperature measurement, mechanical testing, metrology, non-destructive testing and optics and photometry.

The *Industrial Design Council of Australia* (IDCA) is engaged in activities aimed at encouraging better design in Australian-made goods and fostering a wider appreciation of good design throughout the community. The Council is representative of industry, commerce and government, together with designers and educationists. It is financed by donations from industry and commerce, and by Commonwealth and State Government grants.

The Council's Field Advisory Service has a diagnostic and counselling role, assisting smaller manufacturers throughout Australia with product development policy and direction. Field advisers are based in IDCA State offices in Sydney, Melbourne, Brisbane, Adelaide, Perth and Hobart.

The Australian Design Award is granted for high-quality products of Australian design and manufacture. An index of these products is held in each State office. These products are also displayed in Australian Design Centres.

Regular contact is maintained with senior executives of manufacturing companies, departmental officers and designers through the Design Delegate program of lectures. Inquirers seeking professional design services are referred to qualified industrial designers. The Council is also concerned with raising the standard of training in industrial design in co-operation with education authorities.

The Council's National Secretariat is in Melbourne.

The *Australian Standard Commodity Classification* (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a large number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australian Standard Industrial Classification (ASIC)) in which they are typically produced.

The first edition of the ASCC was restricted to commodities originating in manufacturing industries. The second edition, which relates to the year 1977-78 was extended to also include commodities originating in the agriculture, forestry, fishing, hunting and mining industries. An updated edition of the ASCC manual for 1978-79 was published in late 1981.

The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports.

The ABS also publishes a statistical publication *Comparable Commodity Statistics of Production, Imports and Exports, Australia* (1310.0) containing commodity statistics of Australian production, imports and exports based on the standard (ASCC) items contained in the ASCC manual. The second edition of this publication published in early 1981 relates to the year 1977-78 and contains Australian production, import and export commodity statistics of manufactured goods classified in accordance with the standard (ASCC) items in the second edition of the ASCC manual. A similar statistical publication containing Australian production, import and export commodity statistics of goods originating in the agriculture, forestry, fishing, hunting and mining industries, classified in accordance with standard (ASCC) items in the 1977-78 edition of the ASCC manual, is expected to be published in 1981.

The *Australian Standard Industrial Classification* (ASIC) (1201.0 and 1202.0) was developed by the ABS as part of its program for the integration of economic statistics. Since its introduction by the ABS in the processing of the 1969 Integrated Economic Censuses, the ASIC has gained a wide acceptance by users of statistics outside the ABS and has been progressively applied in most ABS collections and compilations where data are classified by industry.

The ASIC has been devised for the purpose of classifying statistical units by industry. It has been designed primarily as a system for the classification of establishments (e.g. individual mines, factories, shops, etc.) although it may also be used for classifying other economic units such as enterprises.

The fundamental concept of this classification system is that an industry (i.e. an individual class, group, etc.) in the ASIC is composed of establishments that have been classified to it. Each industry class is defined in terms of the predominant activities of the establishment classified to it and these activities are specified in the ASIC as *primary activities* of the individual industry classes. These industry definitions are revised only at relatively infrequent intervals so as to minimise the disruption to time series data assembled on an ASIC basis.

As a result of a recent comprehensive review of the classification, the 1978 Edition of ASIC has been published. This revised edition is being progressively introduced in all relevant ABS collections.

Productivity action

For information about the Productivity Group Movement and Productivity Promotion Council of Australia see Chapter 25, Science and Technology.

Manufacturing industry statistics**Manufacturing industry statistics from 1901 to 1967-68**

A series of substantially uniform statistics exist from 1901 up until 1967-68 when the framework within which manufacturing statistics were collected was changed. The following table contains a summary of statistics on manufacturing activities in Australia over that period. More detailed manufacturing statistics in respect of this period were included in Year Book No. 57, pages 721-9, and in earlier issues.

MANUFACTURING INDUSTRY: AUSTRALIA(a), 1901 TO 1967-68

Year	Fac- tories	Employ- ment(b)	Value of—					
			Salaries and wages paid(c)	Materials and fuel used	Output	Production (d)	Land and buildings (e)	Plant and machinery (e)
	No.	'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1901	11,143	198	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1911	14,455	312	55,056	163,526	266,044	102,518	65,402	63,032
1920-21	17,113	367	125,864	427,118	647,986	220,868	121,662	137,310
1930-31	21,751	339	124,910	344,978	581,598	236,620	224,422	248,996
1940-41	27,300	650	275,838	773,762	1,289,590	515,828	288,188	322,712
1950-51	43,147	969	983,436	2,613,926	4,301,670	1,687,744	605,570	673,230
1960-61	57,782	1,145	2,289,230	6,115,930	10,465,765	4,349,835	2,389,140	2,785,565
1963-64	59,375	1,210	2,651,620	7,372,682	12,642,686	5,270,003	3,204,685	3,480,673
1964-65	61,042	1,269	2,993,709	8,140,600	14,037,355	5,896,754	3,505,859	3,766,253
1965-66	61,686	1,294	3,162,769	8,437,958	14,689,819	6,251,861	3,776,590	4,154,652
1966-67	62,500	1,309	3,407,683	9,015,844	15,892,845	6,877,001	4,061,193	4,706,843
1967-68	62,954	1,331	3,665,902	9,663,217	17,094,070	7,430,853	4,303,156	4,962,203

(a) Before 1 July 1964, excludes Northern Territory and Australian Capital Territory. (b) 1901 and 1911—average employment during period of operation. Later years relate to average employment over whole year. Working proprietors are included in all years. (c) Excludes amounts drawn by working proprietors. (d) Value added in process of manufacture (i.e. value of output less value of materials and fuel, etc. used). (e) Depreciated or book values at 30 June. Includes estimated values of rented premises and machinery.

Manufacturing industry statistics from 1968-69

As from the year ended June 1969, the Censuses of Manufacturing, Electricity and Gas have been conducted within the framework of the integrated economic censuses which include the Censuses of Mining, Retail Trade and Selected Services, and Wholesale Trade. As a result, manufacturing industry statistics for 1968-69 and subsequent years are not directly comparable with previous years.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, now covers all the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing, but the data supplied for it now cover (with a few exceptions) all activities at the location. The establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the business (enterprise) which owns and operates the establishment.

Census units were classified to industry according to the Australian Standard Industrial Classification (ASIC), described in the ABS publication *Australian Standard Industrial Classification* (1201.0 and 1202.0). The ASIC defines the industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses to be specified without gaps or overlapping between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. This classification is broadly convertible to the International Standard Industrial Classification adopted by the United Nations Statistical Commission. The adoption of the ASIC has resulted in changes in scope between the integrated economic censuses introduced in 1968-69 and the individual economic censuses conducted in previous years.

In the 1967-68 census there were approximately 62,600 manufacturing establishments (excluding electricity and gas establishments) with employment of 1,276,000. Of these, approximately 35,400, with employment of 1,097,000 would have been included in the 1967-68 census if ASIC had been used.

MANUFACTURING ESTABLISHMENTS: SUMMARY OF OPERATIONS, AUSTRALIA, 1968-69 to 1979-80

Census year	Establishments at 30 June	Average employment over whole year (a)			Wages and salaries (b)	Turn-over	Stocks		Purchases, transfers in and selected expenses (c)	Value added (c)	Fixed capital expenditure less disposals	
		Males	Females	Persons			Opening	Closing				
1968-69	No. 35,939	No. 927,211	No. 334,066	No. 1,261,277	\$m 3,908.1	\$m 18,646.5	\$m 3,102.5	\$m 3,319.6	\$m 11,514.9	\$m 7,348.8	\$m 903.0	
1969-70	35,674	950,055	345,578	1,295,633	4,328.7	20,687.6	3,322.8	3,634.7	12,862.3	8,137.1	1,030.7	
1970-71			No manufacturing census was conducted in respect of this year.									
1971-72	36,206	953,967	347,672	1,301,639	5,250.0	23,620.4	3,920.1	4,182.5	14,374.8	9,508.1	1,297.8	
1972-73	36,437	951,610	345,485	1,297,095	5,820.0	26,352.4	4,187.2	4,306.3	15,963.0	10,508.5	1,244.4	
1973-74	37,143	969,338	369,041	1,338,379	7,176.4	31,246.7	4,299.1	5,268.5	19,329.8	12,886.3	1,215.5	
1974-75(d)	36,836	931,367	333,440	1,264,807	8,588.0	35,468.0	5,267.2	6,572.2	21,712.3	15,060.7	1,456.4	
1974-75(e)	26,973	916,896	328,341	1,245,237	8,533.5	35,133.7	5,241.0	6,542.7	21,522.3	14,913.1	1,445.9	
1975-76	27,507	888,523	311,917	1,200,440	9,472.4	39,485.3	6,581.1	7,023.3	23,371.7	16,555.8	1,451.7	
1976-77	26,780	876,111	299,720	1,175,831	10,535.8	44,814.3	6,985.1	7,996.8	27,010.0	18,816.1	1,548.0	
1977-78(f)	25,998	855,448	290,237	1,145,685	11,151.4	48,210.8	7,880.2	8,510.8	29,066.5	19,739.8	1,871.8	
1977-78(g)	26,065	853,966	290,233	1,144,199	11,135.8	48,112.6	7,863.5	8,498.1	28,979.3	19,738.1	1,877.3	
1978-79(g)	26,312	852,982	290,909	1,143,891	11,966.4	55,211.3	8,515.4	9,299.6	33,765.4	22,230.1	2,262.8	
1979-80(g)	27,430	862,368	291,816	1,154,184	13,357.5	65,354.8	9,287.6	11,126.4	41,579.5	25,614.0	2,186.7	

(a) Including working proprietors. (b) Excluding the drawings of working proprietors. (c) Data in this column have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included. (d) These data and that of previous years includes the data of all manufacturing establishments. (e) These data and those of following years exclude single establishment manufacturing enterprises with fewer than four persons employed. (f) These data and those of previous years are classified to the 1969 (preliminary) edition of ASIC. (g) These data are classified to the 1978 edition of ASIC.

The items of data on the census forms were standardised for all census sectors, which has meant changes in the content of the statistics. For example, the value of 'turnover' is now collected instead of the 'value of output' at the factory, and purchases and selected expenses are collected as well as the value of specified materials, fuels, etc., used. However the underlying concept of 'value added', is similar to the former concept 'value of production', even though its method of derivation is different.

Even though the concept of 'value added' is similar to 'value of production', direct comparison of 1968-69 and previous figures is not possible because of the change in census units already mentioned which has resulted in the 'value added' for the whole establishment being reported, not merely the 'value added' for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the manufacturing census due to the adoption of ASIC. In addition, 'value added' as calculated for the Manufacturing Census differs from the concept used in National Accounts where the concept of 'value added' also excludes some administrative expenses and sundry charges and the change in stocks component is measured by valuing the physical change in stocks at current prices. It is not practicable in the Manufacturing Census to collect data fully in accord with the national accounts concept of 'value added'.

For a more detailed description of the Integrated Economic Censuses reference should be made to Year Book No. 56, Chapter 31.

Since the introduction of the system of integrated economic censuses the comparability of manufacturing census data has been affected by two additional changes to collection practices:

- (i) Commencing with the 1975-76 Manufacturing Census, only a limited range of data (i.e. employment and wages and salaries) is collected from single establishment manufacturing enterprises with less than four persons employed. This procedure significantly reduced both the statistical reporting obligations of small businesses and the collecting and processing costs of the Australian Bureau of Statistics without affecting the reliability of information for the evaluation of trends in the manufacturing sector of the economy (as these small enterprises contribute only marginally to statistical aggregates). In order to provide a link with past and future years, 1974-75 data was processed on both bases.
- (ii) Commencing with the 1977-78 census the classification of census units to industry is based on the 1978 edition of the ASIC which replaces the 1969 preliminary edition in use since the 1968-69 census. In general the impact of the change in industrial classification is minimal at the ASIC Division and Subdivision levels. A document fully describing the differences between the 1969 and 1978 editions of the ASIC is available on request from the Australian Bureau of Statistics.

Multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed

Main structural aggregates relating to number of establishments, employment, wages and salaries, turnover, purchases, transfers in and selected expenses, stocks, and value added are shown in the following tables. Further detailed statistics are contained in the following ABS statistical publications: *Manufacturing Establishments, Details of Operations by Industry Class, Australia* (8203.0), *Manufacturing Establishments, Summary of Operations by Industry Class, Australia* (8202.0) and *Manufacturing Establishments: Selected Items of Data Classified by Industry and Employment Size, Australia* (8204.0).

Summary of operations

The following table shows the summary of operations for manufacturing establishments.

MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY SUB-DIVISION: AUSTRALIA 1978-79 AND 1979-80

Industry sub-division		Establishments operating at 30 June No.	Average employment over whole year (a)			Wages and salaries (b) \$m	Stocks at 30 June			Purchases, transfers in and selected expenses(c) \$m	Value added(c) \$m	Fixed capital expenditure less disposals \$m
			Males No.	Females No.	Persons No.		Turn-over \$m	Opening \$m	Closing \$m			
ASIC code	Description											
1978-79												
21	Food, beverages and tobacco	3,326	138,961	50,694	189,655	1,971	12,545	1,330	1,484	8,663	4,035	460
23	Textiles	625	20,746	15,782	36,528	353	1,603	282	313	994	642	32
24	Clothing and footwear	2,025	18,880	62,000	80,880	657	2,199	329	392	1,213	1,049	26
25	Wood, wood products and furniture	3,817	63,238	11,220	74,458	655	2,685	354	392	1,529	1,194	71
26	Paper, paper products, printing and publishing	2,612	71,666	26,376	98,042	1,078	3,902	436	496	2,001	1,961	210
27	Chemical, petroleum and coal products	873	45,683	16,094	61,777	778	4,847	789	859	3,017	1,899	427
28	Non-metallic mineral products	1,616	40,065	4,922	44,987	535	2,412	353	362	1,332	1,089	145
29	Basic metal products	507	83,733	6,268	90,001	1,159	6,873	1,336	1,377	4,556	2,358	305
31	Fabricated metal products	3,939	85,654	20,198	105,852	1,046	4,173	621	691	2,390	1,853	93
32	Transport equipment	1,279	120,691	16,016	136,797	1,446	5,365	994	1,050	3,221	2,200	228
33	Other machinery and equipment	3,630	120,701	39,705	160,406	1,646	5,883	1,302	1,446	3,256	2,770	174
34	Miscellaneous manufacturing	2,063	42,964	21,544	64,508	642	2,724	388	439	1,594	1,181	93
	Total manufacturing	26,312	852,982	290,909	1,143,891	11,966	55,211	8,515	9,300	33,765	22,230	2,263
1979-80												
21	Food, beverages and tobacco	3,422	135,596	50,757	186,353	2,122	14,478	1,517	1,743	10,290	4,414	420
23	Textiles	650	21,668	15,831	37,499	409	1,806	315	373	1,156	708	46
24	Clothing and footwear	2,041	18,434	61,580	80,014	707	2,449	396	442	1,365	1,131	26
25	Wood, wood products and furniture	4,036	65,799	11,414	77,213	742	3,148	390	450	1,842	1,367	70
26	Paper, paper products, printing and publishing	2,800	73,687	27,892	101,579	1,238	4,551	507	615	2,411	2,248	179
27	Chemical, petroleum and coal products	909	44,644	15,650	60,294	832	5,975	858	1,147	4,064	2,201	356
28	Non-metallic mineral products	1,676	40,745	5,032	45,777	601	2,829	359	406	1,582	1,295	198
29	Basic metal products	523	87,481	6,626	94,107	1,358	8,930	1,381	1,661	6,231	2,979	324
31	Fabricated metal products	4,091	88,891	20,094	108,985	1,195	4,924	706	854	2,905	2,166	105
32	Transport equipment	1,418	120,771	16,113	136,884	1,625	6,293	1,009	1,252	3,977	2,560	217
33	Other machinery and equipment	3,706	120,543	38,885	159,428	1,805	6,783	1,399	1,634	3,835	3,182	161
34	Miscellaneous manufacturing	2,158	44,109	21,942	66,051	724	3,187	451	547	1,921	1,362	86
	Total manufacturing	27,430	862,368	291,816	1,154,184	13,358	65,355	9,288	11,126	41,580	25,614	2,187

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors. (c) Data in this column have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included.

Employment

The statistics on the number of persons employed shown in the following table relate to the average whole year employment, including working proprietors and those persons working at separately located administrative offices and ancillary units in the State.

It should be noted that persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in that State, even though the administrative offices or ancillary units may have served establishments located in another State.

**MANUFACTURING ESTABLISHMENTS—MALES, FEMALES AND PERSONS EMPLOYED BY
INDUSTRY SUB-DIVISION, 1979-80, AND TOTAL MANUFACTURING 1977-78, TO 1979-80**

<i>Industry sub-division</i>										
<i>ASIC code</i>	<i>Description</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
MALES EMPLOYED										
21	Food, beverages and tobacco	43,408	39,382	27,572	11,926	8,315	3,961	610	422	135,596
23	Textiles	6,072	12,040	658	1,546	504	848	—	—	21,668
24	Clothing and footwear	5,529	10,675	804	1,066	278	77	n.p.	n.p.	18,434
25	Wood, wood products and furniture	22,639	16,227	9,995	6,888	6,222	3,436	85	307	65,799
26	Paper, paper products, printing and publishing	26,275	24,324	7,202	5,535	4,532	4,757	176	886	73,687
27	Chemical, petroleum and coal products	20,744	15,012	2,590	2,500	2,781	1,016			
28	Non-metallic mineral products	14,864	11,062	5,787	3,274	4,675	738	829	199	44,644
29	Basic metal products	51,347	12,400	5,668	8,459	5,468	3,457			40,745
31	Fabricated metal products	32,583	29,250	10,677	7,207	7,187	1,424	166	397	88,891
32	Transport equipment	33,591	51,492	11,238	18,355	5,395	585	87	28	120,771
33	Other machinery and equipment	51,101	40,928	8,435	12,626	6,400	870	29	154	120,543
34	Miscellaneous manufacturing	15,718	19,167	3,010	4,116	1,704	351	n.p.	n.p.	44,109
Total manufacturing										
	1979-80	323,871	281,959	93,636	83,498	53,461	21,520	2,015	2,408	862,368
	1978-79	321,354	279,315	91,200	82,635	53,001	21,386	1,691	2,400	852,982
	1977-78	318,260	280,498	90,315	85,991	53,336	22,022	1,280	2,264	853,966
FEMALES EMPLOYED										
21	Food, beverages and tobacco	16,802	15,095	7,677	5,083	3,866	1,864	213	157	50,757
23	Textiles	4,741	8,170	600	1,113	276	930	—	—	15,830
24	Clothing and footwear	20,743	33,544	3,201	2,739	1,207	128	n.p.	n.p.	61,580
25	Wood, wood products and furniture	4,089	2,909	1,744	1,196	1,181	238	9	48	11,414
26	Paper, paper products, printing and publishing	11,529	8,944	2,431	2,001	1,823	705	105	354	27,892
27	Chemical, petroleum and coal products	9,510	4,780	449	472	376	63			
28	Non-metallic mineral products	1,932	1,912	395	322	393	45	110	22	15,650
29	Basic metal products	3,560	1,436	309	728	375	120			5,032
31	Fabricated metal products	7,961	7,019	2,031	1,586	1,174	215	29	79	6,626
32	Transport equipment	3,611	9,502	621	1,957	266	147	6	3	20,094
33	Other machinery and equipment	18,648	13,428	1,245	4,436	956	115	2	55	16,113
34	Miscellaneous manufacturing	9,436	8,615	1,267	1,912	633	68	n.p.	n.p.	38,885
Total manufacturing										
	1979-80	112,562	115,354	21,970	23,545	12,526	4,638	497	724	291,816
	1978-79	111,873	115,649	21,759	23,667	12,231	4,680	377	673	290,909
	1977-78	110,734	115,874	21,396	24,035	12,404	4,944	218	628	290,233
PERSONS EMPLOYED										
21	Food, beverages and tobacco	60,210	54,477	35,249	17,009	12,181	5,825	823	579	186,353
23	Textiles	10,813	20,210	1,258	2,659	780	1,778	—	—	37,499
24	Clothing and footwear	26,272	44,219	4,005	3,805	1,485	205	n.p.	n.p.	80,014
25	Wood, wood products and furniture	26,728	19,136	11,739	8,084	7,403	3,674	94	355	77,213
26	Paper, paper products, printing and publishing	37,804	33,268	9,633	7,536	6,355	5,462	281	1,240	101,579
27	Chemical, petroleum and coal products	30,254	19,792	3,039	2,972	3,157	1,079			
28	Non-metallic mineral products	16,796	12,974	6,182	3,596	5,068	783	939	221	60,294
29	Basic metal products	54,907	13,836	5,977	9,187	5,843	3,577			45,777
31	Fabricated metal products	40,544	36,269	12,708	8,793	8,361	1,639	195	476	94,107
32	Transport equipment	37,202	60,994	11,859	20,312	5,661	732	93	31	108,985
33	Other machinery and equipment	69,749	54,356	9,680	17,062	7,356	985	31	209	136,884
34	Miscellaneous manufacturing	25,154	27,782	4,277	6,028	2,337	419	n.p.	n.p.	159,428
Total manufacturing										
	1979-80	436,433	397,313	115,606	107,043	65,987	26,158	2,512	3,132	1,154,184
	1978-79	433,227	394,964	112,959	106,302	65,232	26,066	2,068	3,073	1,143,891
	1977-78	428,994	396,372	111,711	110,026	65,740	26,966	1,498	2,892	1,144,199

Wages and salaries

The following table shows wages and salaries of all employees of manufacturing establishments including those working at separately located administrative offices and ancillary units in the State. Drawings of working proprietors are not included.

**MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY INDUSTRY
SUB-DIVISION, 1979-80 AND TOTAL MANUFACTURING 1977-78 TO 1979-80**
(\$ million)

<i>Industry sub-division</i>											
<i>ASIC code</i>	<i>Description</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>	
21	Food, beverages and tobacco	721	629	390	175	133	59	10	6	2,122	
23	Textiles	118	226	11	29	8	16	-	-	409	
24	Clothing and footwear	229	400	32	32	11	2	n.p.	n.p.	707	
25	Wood, wood products and furniture	266	184	104	77	67	39	1	4	742	
26	Paper, paper products, printing and publishing	471	415	106	83	70	74	3	16	1,238	
27	Chemical, petroleum and coal products	420	272	41	40	44	15	15	3	832	
28	Non-metallic mineral products	229	169	78	47	63	10				
29	Basic metal products	804	193	89	124	90	44				
31	Fabricated metal products	463	406	130	87	86	16	2	6	1,195	
32	Transport equipment	447	737	130	241	60	8	1	-	1,625	
33	Other machinery and equipment	807	618	102	186	80	10	-	2	1,805	
34	Miscellaneous manufacturing	279	315	40	64	22	4	n.p.	n.p.	724	
Total manufacturing											
	1979-80	5,253	4,563	1,253	1,186	734	298	33	37	13,358	
	1978-79	4,689	4,102	1,125	1,052	671	266	28	34	11,966	
	1977-78	4,321	3,829	1,035	1,015	629	258	18	30	11,136	

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include sales of goods whether produced by the establishment or not, transfers out of goods to other establishments of the same enterprise; bounties and subsidies on production; plus all other operating revenue from outside the enterprise, (such as commission, repair and service revenue and rent, leasing and hiring revenue), plus capital work done for own use, or for rental or lease. Receipts from interest, royalties, dividends, and the sale of fixed tangible assets are excluded.

**MANUFACTURING ESTABLISHMENTS—TURNOVER, BY INDUSTRY SUB-DIVISION,
1979-80 AND TOTAL MANUFACTURING 1977-78 TO 1979-80**
(\$ million)

<i>Industry sub-division</i>											
<i>ASIC code</i>	<i>Description</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>	
21	Food, beverages and tobacco	4,512	4,435	2,963	1,042	1,006	414	83	24	14,478	
23	Textiles	589	930	51	135	34	66	-	-	1,806	
24	Clothing and footwear	866	1,355	92	104	27	5	n.p.	n.p.	2,449	
25	Wood, wood products and furniture	1,143	750	410	332	280	217	4	13	3,148	
26	Paper, paper products, printing and publishing	1,763	1,539	374	301	222	300	10	42	4,551	
27	Chemical, petroleum and coal products	2,696	1,750	902	226	326	75	134	19	5,975	
28	Non-metallic mineral products	1,042	703	463	225	300	59				
29	Basic metal products	4,040	1,318	1,199	793	1,093	374				
31	Fabricated metal products	1,839	1,599	618	387	375	68	17	20	4,924	
32	Transport equipment	1,494	3,034	629	936	168	29	2	1	6,293	
33	Other machinery and equipment	2,948	2,479	402	661	319	27	1	7	6,783	
34	Miscellaneous manufacturing	1,177	1,402	202	273	110	23	n.p.	n.p.	3,187	
Total manufacturing											
	1979-80	24,109	21,233	8,304	5,415	4,259	1,656	251	127	65,355	
	1978-79	20,650	18,228	6,591	4,536	3,499	1,401	186	119	55,211	
	1977-78	17,906	16,191	5,525	3,967	3,032	1,246	145	101	48,113	

Purchases, transfers in and selected expenses

The following table gives details of the value of purchases, transfers in and selected expenses. Figures include purchases of materials, fuels, power, containers, etc. and goods for resale, plus transfers in of goods from other establishments of the enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses, sales commission payments and rent, leasing and hiring expenses.

MANUFACTURING ESTABLISHMENTS—PURCHASES, TRANSFERS IN AND SELECTED EXPENSES(a), BY INDUSTRY SUB-DIVISION, 1979-80 AND TOTAL MANUFACTURING 1977-78 TO 1979-80
(\$ million)

<i>Industry sub-division</i>										
<i>ASIC code</i>	<i>Description^o</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
21	Food, beverages and tobacco . . .	3,154	3,173	2,122	729	733	307	60	13	10,290
23	Textiles	389	582	35	90	24	36	-	-	1,156
24	Clothing and footwear	524	730	46	51	12	2	n.p.	n.p.	1,365
25	Wood, wood products and furniture	671	432	235	210	157	128	2	6	1,842
26	Paper, paper products, printing and publishing	944	826	189	149	106	174	3	19	2,411
27	Chemical, petroleum and coal products	1,733	1,128	801	142	209	49	} 100	} 14	} 4,064
28	Non-metallic mineral products	601	362	258	128	168	38			
29	Basic metal products	2,744	943	916	628	685	228			
31	Fabricated metal products	1,060	912	400	236	235	43	12	7	2,905
32	Transport equipment	870	2,037	428	539	85	13	1	1	3,977
33	Other machinery and equipment	1,687	1,363	222	367	179	13	-	4	3,835
34	Miscellaneous manufacturing	695	864	124	157	69	11	n.p.	n.p.	1,921
Total manufacturing										
	1979-80	15,071	13,353	5,777	3,426	2,663	1,046	179	64	41,580
	1978-79	12,353	11,109	4,388	2,704	2,176	862	117	57	33,765
	1977-78	10,538	9,640	3,547	2,408	1,972	749	92	48	28,993

(a) Data in this table have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included.

Stocks

Statistics on the value of opening and closing stocks at 30 June are shown in the following table. Figures include all the stocks of materials, fuels, etc., and finished goods and work-in-progress of the establishment whether located at the establishment or elsewhere.

MANUFACTURING ESTABLISHMENTS—OPENING AND CLOSING STOCKS BY INDUSTRY SUB-DIVISION, 1979-80 AND TOTAL MANUFACTURING 1977-78 TO 1979-80
(\$ million)

<i>Industry sub-division</i>										
<i>ASIC code</i>	<i>Description</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
OPENING STOCKS AT 30 JUNE										
21	Food, beverages and tobacco	491	515	191	192	70	50	8	-	1,517
23	Textiles	95	162	14	23	5	15	-	-	315
24	Clothing and footwear	142	217	15	19	3	-	n.p.	n.p.	396
25	Wood, wood products and furniture	130	94	50	45	38	33	-	1	390
26	Paper, paper products, printing and publishing	195	187	39	33	20	28	1	4	507
27	Chemical, petroleum and coal products	434	254	92	28	36	14	} 34	} 2	} 858
28	Non-metallic mineral products	138	83	55	28	44	7			
29	Basic metal products	665	163	147	147	164	62			
31	Fabricated metal products	262	254	76	52	48	10	2	3	706
32	Transport equipment	226	537	87	139	16	5	-	-	1,009
33	Other machinery and equipment	594	550	79	119	53	3	-	1	1,399
34	Miscellaneous manufacturing	169	200	24	41	12	5	n.p.	n.p.	451
Total manufacturing										
	1979-80	3,538	3,216	871	866	508	233	45	11	9,288
	1978-79	3,183	2,959	748	839	512	226	38	12	8,515
	1977-78	3,026	2,695	674	779	411	224	45	10	7,864
CLOSING STOCKS AT 30 JUNE										
21	Food, beverages and tobacco	568	596	195	236	81	59	9	-	1,743
23	Textiles	122	181	16	27	9	17	-	-	373
24	Clothing and footwear	158	241	16	23	3	-	n.p.	n.p.	442
25	Wood, wood products and furniture	153	107	57	51	45	35	1	1	450
26	Paper, paper products, printing and publishing	239	222	48	37	23	39	1	5	615
27	Chemical, petroleum and coal products	565	325	156	34	46	20	} 36	} 2	} 1,147
28	Non-metallic mineral products	157	93	60	33	50	9			
29	Basic metal products	806	207	177	231	135	70			
31	Fabricated metal products	319	307	87	62	61	12	3	3	854
32	Transport equipment	261	664	112	190	20	6	-	-	1,252
33	Other machinery and equipment	688	654	85	136	66	4	-	1	1,634
34	Miscellaneous manufacturing	208	243	28	48	15	4	n.p.	n.p.	547
Total manufacturing										
	1979-80	4,246	3,840	1,036	1,110	556	276	50	13	11,126
	1978-79	3,560	3,217	867	858	510	235	42	11	9,300
	1977-78	3,193	2,896	744	857	533	218	47	11	8,498

Value added

The statistics on 'value added' contained in the following table have been calculated by adding to the value of turnover the increase (or deducting the decrease) in the value of stocks, and deducting the value of purchases, transfers in and selected expenses. A more detailed description of the method of deriving 'value added' is given on page 412.

MANUFACTURING ESTABLISHMENTS—VALUE ADDED(a), BY INDUSTRY SUB-DIVISION, 1979-80 AND TOTAL MANUFACTURING, 1977-78 TO 1979-80
(**\$ million**)

<i>Industry sub-division</i>										
<i>ASIC code</i>	<i>Description</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
21	Food, beverages and tobacco . . .	1,435	1,342	844	356	284	116	25	10	4,414
23	Textiles	227	367	18	50	14	32	-	-	708
24	Clothing and footwear	359	650	47	56	15	3	n.p.	n.p.	1,131
25	Wood, wood products and furniture	496	331	181	129	130	91	2	7	1,367
26	Paper, paper products, printing and publishing	863	748	194	157	119	137	7	23	2,248
27	Chemical, petroleum and coal products	1,094	693	165	90	127	32	36	6	2,201
28	Non-metallic mineral products	460	351	209	103	138	22			
29	Basic metal products	1,437	419	312	249	380	154	5	13	2,979
31	Fabricated metal products	837	740	229	161	153	28			
32	Transport equipment	659	1,124	226	448	87	15	1	1	2,560
33	Other machinery and equipment	1,355	1,160	185	311	152	15	1	3	3,182
34	Miscellaneous manufacturing	521	580	82	123	44	11	n.p.	n.p.	1,362
Total manufacturing										
	1979-80	9,745	8,505	2,692	2,233	1,643	654	77	64	25,614
	1978-79	8,675	7,377	2,322	1,851	1,322	549	73	61	22,230
	1977-78	7,535	6,751	2,048	1,637	1,182	491	55	53	19,755

(a) Data in this table have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included.

Number of establishments

The following table shows the number of establishments in each State in operation at 30 June for the years indicated. These figures relate to manufacturing establishments as such and do not include the numbers of separately located administrative offices and ancillary units.

MANUFACTURING ESTABLISHMENTS—NUMBER OF ESTABLISHMENTS IN OPERATION AT 30 JUNE 1980 BY INDUSTRY SUB-DIVISION, AND TOTAL MANUFACTURING 1977-78 TO 1979-80

<i>Industry sub-division</i>										
<i>ASIC code</i>	<i>Description</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
21	Food, beverages and tobacco . . .	1,002	982	589	371	325	120	21	12	3,422
23	Textiles	228	312	37	34	29	10	-	-	650
24	Clothing and footwear	767	1,038	88	78	61	6	1	2	2,041
25	Wood, wood products and furniture	1,361	1,156	596	311	427	149	12	24	4,036
26	Paper, paper products, printing and publishing	1,155	949	233	196	186	44	14	23	2,800
27	Chemical, petroleum and coal products	420	295	57	52	70	14	22	18	909
28	Non-metallic mineral products	563	397	294	137	205	46			
29	Basic metal products	214	175	52	34	34	9	15	17	523
31	Fabricated metal products	1,603	1,123	508	356	388	71			
32	Transport equipment	445	456	212	116	159	21	6	3	1,418
33	Other machinery and equipment	1,567	1,245	301	283	262	33	4	11	3,706
34	Miscellaneous manufacturing	833	764	203	175	155	20	6	2	2,158
Total manufacturing										
	1979-80	10,158	8,902	3,170	2,143	2,301	543	101	112	27,430
	1978-79	9,803	8,546	2,886	2,119	2,202	552	87	117	26,312
	1977-78	9,696	8,571	2,838	2,170	2,037	599	64	90	26,065

Single establishment manufacturing enterprises with less than four persons employed

Summary of operations

The following table shows the summary of operations for single establishment manufacturing enterprises with less than four persons employed.

SINGLE ESTABLISHMENT MANUFACTURING ENTERPRISES WITH LESS THAN FOUR PERSONS EMPLOYED: SUMMARY OF OPERATIONS, BY INDUSTRY SUB-DIVISION: AUSTRALIA, 1979-80 AND TOTAL MANUFACTURING 1977-78 TO 1979-80

Industry sub-division		Establishments operating at 30 June	Employment at 30 June (a)			Wages and salaries (b)	
ASIC code	Description		Males	Females	Persons		
			--No.--			\$m	
21	Food, beverages and tobacco	842	1,345	640	1,985	6.6	
23	Textiles	224	297	182	479	1.5	
24	Clothing and footwear	565	512	671	1,183	4.1	
25	Wood, wood products and furniture	3,029	4,825	1,124	5,949	16.1	
26	Paper, paper products, printing and publishing	1,288	1,750	946	2,696	11.1	
27	Chemical, petroleum and coal products	246	365	133	498	2.8	
28	Non-metallic mineral products	495	815	199	1,014	3.3	
29	Basic metal products	85	139	20	159	0.7	
31	Fabricated metal products	2,047	3,419	812	4,231	15.7	
32	Transport equipment	664	1,119	247	1,366	5.1	
33	Other machinery and equipment	1,641	2,576	779	3,355	15.7	
34	Miscellaneous manufacturing	1,594	2,205	897	3,102	9.3	
	Total manufacturing						
		1979-80	12,720	19,367	6,650	26,017	92.0
		1978-79	11,919	18,091	6,056	24,147	79.1
		1977-78	11,824	18,232	5,930	24,162	74.9

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

Principal manufacturing commodities

The factory production of certain commodities is shown in the monthly and quarterly publications of the ABS, and in the annual publication, *Manufacturing Commodities, Selected Principal Articles Produced, Australia (Preliminary)* (8365.0). A more comprehensive list of articles produced is contained in the annual publication, *Manufacturing Commodities, Principal Articles Produced, Australia* (8303.0).

The following table shows the total recorded production of some of the principal articles (i.e. of those for which production can be represented in quantitative terms) manufactured in Australia. A more complete list, where available, is published in the ABS publication 8303.0 mentioned above.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA

Commodity code	Article		1977-78	1978-79	1979-80p
	Acid (in terms of 100%)—				
401.29	Hydrochloric	tonnes	50,215	54,955	58,672
401.37	Nitric	"	174,436	177,329	166,647
401.57	Sulphuric	'000 tonnes	1,837	1,940	2,153
171.03, 04, 07, 08	Aerated and carbonated waters	'000 litres	998,664	985,757	935,498
	Air-conditioning equipment—				
657.03, 05	Room air conditioners (refrigerated)	No.	40,811	41,660	60,107
657.13, 15	Room air coolers (evaporative coolers)	"	61,374	56,495	89,691
657.21, 22, 23	Packaged unit air conditioners	"	22,217	23,902	30,448
	Animal feeds—				
	From wheat—				
152.06	Pollard	'000 tonnes	228	216	216
159.11	Poultry pellets and crumbles	"	1,201	1,276	1,455
159.15	Poultry mash	"	203	189	163
159.01	Canned dog and cat foods	'000 kg	163,365	190,436	199,578
159.02	Dog biscuits (whole)	"	19,628	7,802	5,839
159.03	Other manufactured dog and cat food	"	58,492	62,791	92,427
475.04, 06, 07, 85	Asbestos cement building sheets (finished)	'000 m ²	39,436	38,908	n.p.
	Bags, leather, fibre, etc.—				
	Handbags—				
864.31	Leather	'000	378	334	220
864.33	Plastic	"	612	376	335
864.39	Other	"	292	396	481
946.01-56	Hessian and calico bags	'000 doz	2,627	n.p.	n.p.
864.11-19	Suitcases, kitbags and trunks	'000	874	833	766
	Bath heaters—				
652.01	Electric	No.	6,399	5,434	5,295
652.03, 06, 08	Gas	"	n.p.	n.p.	n.p.
652.05	Solid fuel	"	884	685	115
779.02-37	Bathing suits(a)	'000 doz	311	372	n.p.
	Baths (exclude infants' baths)—				
671.03	Pressed steel—Enamelled	'000	136	124	150
671.01, 04, 08	Other (exclude pressed steel, galvanised)	"	27	22	26
	Batteries, wet cell type—				
685.13, 15	Auto (S.L.I.) 6 volts	"	279	262	263
685.17, 19	Auto (S.L.I.) 12 volts	"	2,773	3,018	2,788
685.33, 35	Radio, homelighter, fencer	No. of 2 volt cells	13,269	12,686	18,408
685.43-65	Traction, plant and other	"	175,926	171,720	206,291
172.02, 04, 06	Beer (excluding waste beer)	mil. litres	2,005	1,986	2,023
064.21	Biscuits	'000 kg	121,341	125,175	124,055
372.52-66, 374.51-57	Blankets, Woollen—Pure and Mixtures	'000	1,427	1,167	972
152.02	Bran (wheat)	'000 tonnes	96	99	89
172.21	Brandy	'000 litre al	2,678	2,382	1,921
777.41, 49	Brassieres	'000 doz	641	666	666
066.01-31	Breakfast food, cereal (ready to eat)	tonnes	77,814	78,850	77,333
472.01, 03	Bricks, clay	million	1,911	1,914	2,173
261.41	Briquettes, brown coal	'000 tonnes	1,064	1,131	1,230
051.30, 052.20	Butter—from cream (exclude whey cream)	'000 kg	110,558	97,663	81,733
773.51, 53, 74, 75, 83	Cardigans, jumpers, etc.	'000 doz	2,047	1,991	2,030
474.02	Cement, Portland	'000 tonnes	5,016	5,085	5,201
053.45	Cheese (non-processed)	'000kg	115,583	141,815	149,893
	Cloth (including mixtures)—				
373.10-52	Cotton(b)	'000m ²	37,703	40,188	43,188
	Rayon and acetate—				
374.02, 06, 14	Pure	"	11,644	13,518	13,612
374.04, 08, 16	Mixture	"	n.p.	n.p.	n.p.
374.20-35	Synthetic (non-cellulosic)	"	104,483	113,969	121,423
372.02-50	Wool (excluding blanketing and rug)	"	11,028	11,649	12,019
435.22	Coke—Metallurgical	'000 tonnes	4,310	4,620	n.p.
475.90	Concrete, ready mixed	'000m ³	10,331	11,065	11,412
	Confectionery—				
104.06-18	Chocolate	'000 kg	54,398	51,575	53,192
104.21-29	Other	"	59,251	56,042	53,609
452.04	Copper, refined(c)	'000 tonnes	158	138	137

(a) Includes swim shorts. Excludes infants' and babies' swim-wear. (b) Excludes tyre-cord fabric and towelling. (c) Primary origin only.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1977-78	1978-79	1979-80p
171.06, 10	Cordials and syrups	'000 litres	115,468	109,192	114,736
777.01-29	Corsets and corselets	doz	157,252	152,274	128,985
611.01	Cycles (complete)	'000	190	203	283
804.01	Dentifrices (toothpaste)	'000 kg	7,738	7,333	7,057
499.42	Electricity	mil. kWh	86,095	90,857	95,910
523.76-78	Electrodes for manual welding	'000 kg	17,659	20,452	21,727
502.22-39	Engines, spark and compression ignition (a)	'000	245	230	236
	Essences, flavouring—				
139.31	Domestic	'000 litres	539	462	724
139.35	Industrial	"	6,407	6,064	6,321
696.01, 03, 05	Fans, electric (propellor type)	No.	443,528	404,035	521,614
	Floorboards—				
332.06	Australian timber	m ³	265,292	205,993	209,348
332.08	Imported timber	"			
	Floor coverings—				
841.01-07	Textile	'000 m ²	27,422	28,528	30,582
841.31-61, 69	Smooth surface and embossed	"	6,085	5,870	5,513
841.67, 68	Timber parquetry	"	109	135	146
841.85	Underfelts, underlays, etc. (b)	"	9,127	7,821	7,745
692.21, 23	Floor polishers, electric	No.	12,391	10,252	8,146
	Flour—				
068.01	Self-raising	'000 kg	59,121	39,968	27,507
062.01, 10, 32	Wheaten (c)	'000 tonnes	1,101	1,078	1,081
	Fruit juices, natural—				
074.61-69, 79	Single strength	'000 litres	197,582	186,239	202,664
074.76, 89	Concentrated (d)	"	15,515	13,544	22,225
781.06-29	Gloves, work (e)	'000 doz pairs	3,017	3,200	3,994
127.21	Glucose	'000 kg	49,240	47,751	50,140
832.58, 59	Golf clubs	doz	27,338	32,601	26,038
	Handkerchiefs—				
786.01	Men's	'000 doz	735	n.p.	n.p.
786.11	Women's	"			
	Heaters, room—				
651.01, 03	Solid fuel	No.	3,537	4,693	7,426
651.11-20	Electric radiators and fires	'000	738	758	606
651.04, 05, 21, 22, 26, 27	Gas fires and space heaters	No.	70,784	79,835	79,643
775, 776	Hosiery—				
	Women's (including panty hose)	'000 doz pairs	5,387	6,109	6,734
	Men's	"	1,847	1,685	1,886
	Children's and infants'	"	1,152	1,258	1,482
051.56, 58, 59	Ice cream (f)	'000 litres	211,923	211,919	213,347
051.87, 89, 90	Infants', invalids' and health beverages from cows milk (g)	'000 kg	28,078	22,403	26,924
	Ink, printing—				
419.31	News	"	n.p.	n.p.	n.p.
419.43-59	Other	"	n.p.	17,067	15,707
	Iron and steel—				
442.04, 08	Pig iron	'000 tonnes	6,989	7,349	7,481
442.80-83	Steel ingots	"	7,445	7,431	n.p.
442.28	Blooms and slabs (h)	"	6,520	6,635	n.p.
693.51, 61, 63	Irons, electric (hand, domestic)	'000	774	686	n.p.
076.60	Jams (including conserves, jellies, etc.)	'000 kg	28,579	29,271	22,522
391.04	Lard	"	3,399	2,306	3,773
	Lawn mowers—				
699.52, 53	Petrol, rotary	No.	268,790	324,615	337,051
699.41, 45, 55, 61	Other types (i)	"	14,359	10,131	11,007
453.04	Lead refined (j)	'000 tonnes	208	218	204

(a) Petrol and diesel. Excludes car, motorcycle, truck, tractor, aero, and marine engines. (b) Needled (or bonded) felts of jute or jute/hair mixtures (for all purposes). (c) Includes wheatmeal for baking and sharps and other flour. (d) Excludes grape must. (e) Excludes fabric liners for dipped gloves but includes moulded or heat-sealed work gloves. (f) Includes ice cream combined with other confections, including those aerated milk-based confections which contain 10% or more butterfat. (g) Includes malted milk and milk sugar (lactose). (h) Primary mills output. (i) Petrol cylinder, electric and hand. (j) Includes lead content of lead alloys from primary sources but excludes lead-silver bullion.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1977-78	1978-79	1979-80p
	Leather—				
	Dressed or finished—				
301.43-65	Chrome tanned (including retanned)	'000 m ²	6,044	8,077	4,458
301.31-37, 83-89	Vegetable tanned, by weight	'000 kg	n.p.	2,254	2,426
301.67, 69	Vegetable tanned, by measurement	'000 m ²	225	249	192
	Lime—				
275.43, 45	Crushed	tonnes	212,032	238,821	288,688
479.18	Hydrated	'000 tonnes	115	113	132
479.12	Quick	"	563	422	429
802.21	Lipstick	'000 kg	40	39	41
063.11-21, 31	Malt (excluding extract)	'000 tonnes	423	460	537
	Margarine—				
121.01	Table	'000 kg	76,214	89,455	98,831
121.06, 08	Other	"	45,876	43,870	41,109
	Mattresses—				
844.22, 25, 27	Inner spring	'000	683	714	714
844.42, 45, 47	Rubber	"	10	10	10
844.52-67	Other	"	582	474	546
027.02-77	Meat, canned (a)	'000 kg	51,778	40,008	37,133
	Meters (domestic)—				
702.01	Electricity consumption	'000	206	237	n.p.
703.01	Gas consumption	"	88	96	n.p.
703.11	Water consumption	"	171	167	175
	Milk, condensed, concentrated and evaporated—				
051.21, 22	Full cream, coffee and milk, sweetened	'000 kg	17,996	16,630	16,532
051.23, 052.42	Full cream, unsweetened	"	37,703	39,529	50,574
051.28	Skim	"	25,704	29,348	13,567
	Milk powder in powdered form—				
051.72, 73	Full cream	"	76,367	75,030	80,255
051.76-79	Skim	"	81,413	74,471	54,155
051.81, 82	Buttermilk or mixed skim and buttermilk	"	9,297	8,187	6,354
503.13-32	Motors, electric (excl. automotive)	'000	2,862	3,183	4,358
	Motor vehicles, finished—				
581.02-08	Cars	No.	264,959	298,046	321,997
581.10-16	Station wagons	"	53,186	58,532	77,291
582.04	Utilities	"	21,979	19,832	18,795
582.06	Panel vans	"	20,221	14,492	10,449
582.08-24	Trucks and truck-type vehicles	"	10,091	8,686	8,603
	Motor vehicles, partly finished—				
581.22-28,					
582.31, 32	Cars, station wagons, utilities, vans	"	1,358	865	n.p.
582.33-46	Trucks and truck-type vehicles	"	18,927	22,271	17,315
589.81-89	Motor vehicle safety belts	'000	1,605	n.p.	n.p.
465.16, 17	Nails	tonnes	20,158	19,199	24,953
	Oatmeal and rolled oats—				
062.61, 63	For porridge, etc.	tonnes	15,637	17,683	19,086
393, 394	Oils and fats, crude—Vegetable	'000 kg	78,885	96,563	107,095
	Paints, etc.—				
	Architectural and decorative (b)—				
	Solvent thinned—				
410.01	Primers and undercoats	'000 litres	11,764	11,499	10,982
410.03, 05, 07	Finishing coats	"	27,585	27,585	28,322
	Water thinned—				
410.11, 13, 15	Plastic latex	"	35,826	38,054	42,760
410.17	Other water based	"	382	1,633	2,064
410.25	Tinting colours (all types) packed for sale or transfer out	"	509	579	616
	Paper—				
351.11	Newsprint	'000 tonnes	208	208	n.p.
351.18-79	Other	"	606	633	727
352.11-33	Paperboard	"	415	421	483
336.12	Particle board (resin bonded)	'000 m ²	522	564	667
975.04, 09, 11	Perambulators, pushers and strollers	'000	n.p.	n.p.	n.p.
479.22	Plaster of Paris	'000 tonnes	348	347	n.p.
479.32, 33	Plaster sheets—Non-acoustic	'000 m ²	48,034	48,504	54,770
334.32, 34, 36, 38	Plywood, 1 mm basis	"	84,681	86,440	89,933

(a) Excludes poultry and baby food.

(b) Excludes heavy duty coatings.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1977-78	1978-79	1979-80p
	Preserves—				
	Fruit—				
076.01-50	Canned or bottled	'000 kg	182,429	210,690	228,470
074.01	Pulp and puree—single strength	"	3,022	3,389	3,109
	Vegetables—				
094.02-47	Canned or bottled	"	127,814	139,787	131,739
092.02, 06, 10, 19	Quick frozen	"	130,321	143,073	160,646
	Pyjamas—				
774.27.29	Men's, youths' and boys', woven (suits only)	'000 doz	321	330	364
774.50-59, 64, 66	Women's, maids' and girls' (incl. nightdresses)	"	694	671	765
832.65, 85	Racquet frames (all types)	doz.	11,078	11,664	7,598
643.01-37	Radio receiving sets (including radiograms)	No.	216,174	163,036	199,017
	Records (phonograph)—				
646.35, 65	Single play	'000	7,249	7,767	10,357
646.37, 41, 67, 71	Extended play	"	144	288	269
646.43, 45, 73, 75	Long play	"	21,143	22,117	21,248
657.33, 34, 35, 41	Refrigerators, domestic, electric and gas	"	249	247	279
403.02, 18-96, 404	Resins, synthetic and plastics, for all purposes	'000 tonnes	482	580	816
061.67, 69	Rice, polished, unpolished and broken	'000 kg	n.p.	n.p.	n.p.
372.70, 72, 374.59	Rugs	'000	131	133	141
123.18-25	Sauce	'000 litres	31,531	32,713	33,796
062.04	Semolina	'000 tonnes	28	33	37
773.04-09	Shirts, woven (men's, youths' and boys'), collar attached (a)	'000 doz	477	460	497
653.01	Sink heaters, electric	No.	9,340	10,880	13,352
671.11-18	Sinks, steel and other (standard size)	"	220,855	209,786	n.p.
805.01-13	Soap, for personal toilet use (b)	tonnes	29,891	32,503	31,388
	Soup—				
	Liquid—				
122.02	Tomato	'000 litres	n.p.	n.p.	15,777
122.09	Other	"	21,890	21,252	23,560
122.13, 15	Dry-mix	'000 kg	5,227	6,103	5,747
127.11-19	Starch (incl. cornflour)	"	149,556	150,760	158,521
401.53	Stearine (stearic acid)	"	n.p.	n.p.	n.p.
461.20	Steel, constructional, fabricated	tonnes	431,823	497,215	543,266
	Stoves, ovens and ranges, domestic cooking—				
661.01-11	Electric(c)	No.	232,591	228,716	234,529
662.26, 31, 34, 36, 42, 43	Gas(d)	"	94,890	95,611	100,754
662.01, 03	Solid fuel	"	3,190	4,341	5,771
	Sugar—				
102.01	Raw	'000 tonnes	3,343	2,989	2,997
102.12	Refined	"	n.p.	n.p.	n.p.
405.36	Sulphate of ammonia	tonnes	229,453	220,553	199,956
415.07, 405.25	Superphosphate(e)	'000 tonnes	3,430	3,680	4,202
803.61	Talcum powder	'000 kg	4,451	4,254	4,302
	Tallow (including dripping), rendered—				
391.15	Edible	"	78,380	82,950	76,081
391.24	Inedible	"	329,269	326,948	270,069
643.57-60	Television sets (colour)	No.	368,109	292,161	331,971
645.51-58	Television picture tubes incorp. new screens	"	n.p.	n.p.	n.p.
	Tiles, roofing—				
475.30	Concrete	'000	154,246	151,361	186,960
472.12	Terracotta	"	51,326	50,600	46,420
	Timber—				
	From native logs—				
331.01-07	Hardwood, etc.	'000 m ³	3,056	3,110	3,280
331.09-19	Softwood	"	n.p.	n.p.	n.p.
331.23, 25	From imported logs	"	n.p.	n.p.	n.p.
661.21, 23	Toasters, electric (domestic)	No.	520,698	474,677	640,569
183.21-28	Tobacco	'000 kg	1,947	n.p.	n.p.
094.51	Tomato juice	'000 litres	8,818	7,538	8,974

(a) Business or formal. (b) Excludes powdered shampoo. (c) Includes wall ovens but excludes cooking tops and portable units. (d) Upright and elevated (with ovens) including wall ovens, but excluding hotplates, stovettes, etc. (e) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22% P₂O₅ equivalent.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS:
AUSTRALIA—continued

Commodity code	Article		1977-78	1978-79	1979-80p
094.53	Tomato paste and puree	"	n.p.	8,236	16,828
373.58-64	Towels	'000 doz	838	933	932
671.51-59	Toilet cisterns	No.	n.p.	591,131	513,087
683.03-11	Transformers, chokes and ballasts, for distribution of power and light, etc.	"	18,888	19,311	19,565
863.01	Umbrellas, street and general purpose	'000	n.p.	n.p.	n.p.
773.90-97					
774.01-18, 36-49, 61-73, 91-97	Underwear (men's, women's, children's)	'000 doz	6,051	5,964	6,926
692.02,04	Vacuum cleaners (domestic)	'000	175	219	251
	Wash basins—				
671.37	Earthenware	"	251	247	215
693.02-18	Washing machines, household, electric	"	282	358	372
	Weatherboards—				
332.12	Australian timber	m ³	11,317	17,773	18,076
332.14	Imported timber	"	1,791	2,457	3,375
152.14	Wheatmeal for stock feed	'000 tonnes	417	364	342
519.01	Wheelbarrows (metal)	No.	200,234	207,788	200,453
	Wine, beverage—				
172.42	Fortified	'000 litres	45,031	59,469	57,619
172.46	Unfortified	"	185,413	232,508	261,504
341.31-45	Wood pulp (air dried)	'000 tonnes	614	672	686
242.07-11	Wool, scoured or carbonised	tonnes	71,432	83,570	89,381
242.33, 35	Wool tops, pure	'000 kg	17,173	19,599	19,887
	Yarn (including mixtures)—				
364.11-50	Cotton	"	22,460	21,103	21,837
363.47-75	Woollen	"	13,821	14,799	14,620
363.17-31	Wool worsted	"	5,453	5,603	5,227
365.38-65	Rayon and acetate, spun	"	n.p.	n.p.	n.p.
365.90, 366.03, 04, 16, 29, 30, 42, 55, 56, 88, 96, 97	Synthetic (non-cellulosic) fibres spun	"	9,289	10,505	9,880
457.04	Zinc, refined (a)	'000 tonnes	263	309	300

(a) Primary origin only includes small quantities of zinc dust.

Enterprise Statistics—Integrated Economic Censuses and Surveys

The Integrated Economic Censuses and Surveys conducted by the Australian Bureau of Statistics have, since 1977-78, included *enterprises* primarily engaged in Mining and Manufacturing annually, Electricity and Gas Production and Distribution in 1977-78 and Construction statistics in 1978-79. Statistics in respect of enterprises have been published in *Integrated Economic Censuses and Surveys, Enterprise Statistics: Details by Industry Class, Australia* (Cat. No. 8103.0).

Below is a brief summary of the censuses collection units and methodology and a summary table of enterprise statistics. More detailed explanations on the censuses are shown in the above publication.

The business units, as standardised for purposes of the Integrated Economic Censuses and Surveys are at three levels: the establishment (and associated administrative offices and ancillary units); the enterprise; and the enterprise group.

The central unit from which statistical information was collected is the *enterprise*, defined broadly as the unit comprising all operations in Australia of a single operating legal entity. The term *legal entity* is used to cover a sole proprietor, or partnership, or company, but also includes co-operative societies and some government authorities mainly engaged in the industries included in the censuses and surveys.

The group of legal entities owned or controlled by a single company is recognised as a separate type of unit—the *enterprise group*. The basic unit for which most data were collected and tabulated is the *establishment*, defined in general as a unit comprising all the operations carried on by the one enterprise at a single physical location—such as an individual factory, shop or mine.

In the Integrated Economic Censuses and Surveys, information was collected using a common framework of reporting units (enterprises and establishments as defined above) and data concepts and in accordance with a standard industrial classification (the *Australian Standard Industrial Classification*, 1978 Edition). As a result the statistics for the industries covered by the censuses and surveys are provided with no overlapping or gaps in scope, so that aggregates for economic data such as value

added, employment, wages and salaries, fixed capital expenditure and stocks are obtained on a consistent basis for all industries and business units covered by the censuses and surveys. A detailed description of the integration of economic censuses is contained in Chapter 31, Year Book No. 56, 1970.

ENTERPRISES—SUMMARY OF OPERATIONS BY INDUSTRY, AUSTRALIA

Industry and year	Enterprises operating during year (a)	Persons employed at 30 June (b)	Wages and salaries (c)	Turnover (d)	Purchases and selected expenses (e)	Rent, leasing and hiring expenses (f)	Stocks at (g)		Value added (h)	Fixed capital expenditure less disposals (i)
							30 June	30 June		
	No.	No.	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Mining (excluding services to Mining)—										
1977-78	726	64,860	1,000.4	5,341.8	1,893.9	39.2	668.0	781.8	3,561.5	754.1
1978-79	745	68,351	1,092.9	6,296.5	2,062.5	58.7	812.0	781.7	4,144.8	1,030.2
Manufacturing—										
1977-78	21,786	1,146,807	11,340.2	48,648.9	27,828.9	556.2	8,556.4	9,218.9	21,482.6	1,988.3
1978-79	22,015	1,174,665	12,284.6	56,115.8	32,350.7	667.6	9,276.5	10,192.7	24,013.7	2,282.7
Electricity and Gas Production and Distribution—										
1977-78	73	79,789	940.8	3,564.3	1,398.8	10.6	253.3	297.9	2,210.0	964.7
1978-79	(j)	(j)	(j)	(j)	(j)	(j)	(j)	(j)	(j)	(j)
Construction (Non-government (k))—										
1978-79 (l)	52,250	239,113	1,997.9	11,517.5	7,585.5	216.5	879.9	1,029.5	3,865.2	207.6

(a) The number of enterprises in operation for all or any part of the year which were in the scope of the censuses and surveys. (b) Working proprietors and employees, including part-time and casual employees as at 30 June. (c) Wages and salaries paid during the year to employees of the enterprise. Drawings of working proprietors are excluded. (d) Sales of goods, commission revenue, repair and service revenue, rent, leasing and hiring revenue (as from the year 1978-79 inclusive), government bounties and subsidies and all other operating revenue except interest, royalties and dividends. (e) Purchases by the enterprise of goods for manufacture or resale, containers, stores and supplies (except office supplies) and charges for fuels, electricity and water, freight and cartage, vehicle running expenses, sales commission expenses, repair and maintenance expenses, and commission and sub-contract expenses. (f) Amount paid for rent and leasing premises, vehicles and equipment. (g) Stocks of materials, fuels, etc. work in progress and finished goods owned by the enterprise. (h) This is derived as turnover plus increase (less decrease) in stocks, less purchases and selected expenses, and from 1978-79 inclusive less rent, leasing and hiring expenses. (i) Outlay on new assets (including progress payments) and land and secondhand fixed tangible assets less disposals. (j) Not collected for the year 1978-79. (k) General Government data was collected and is shown in publication Integrated Economic Censuses and Surveys: 1978-79, Enterprise Statistics: Details by Industry Class, Australia (Catalogue No. 8103.0). (l) Collected every five years as part of the rotating economic censuses and surveys.

Foreign Ownership and Control in Manufacturing Industry

Summary information on foreign ownership and control in the manufacturing industry is shown in Chapter 24. More detailed statistics are available in *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups, 1972-73 (Advance Release)* (5314.0), *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups, 1975-76* (5315.0), *Foreign Ownership and Control in Manufacturing Industry, 1972-73 (Advance Release)* (5321.0) and *Foreign Ownership and Control in Manufacturing Industry, 1972-73* (5322.0).

INTERNAL TRADE

Wholesale Trade

For summary tables showing final figures from the 1968-69 census of Wholesale Trade see Year Book No. 61, pages 1070-2. Further and more detailed statistics are included in separate publications published by Central and State offices of ABS.

Retail Trade

Retail census

The definition of retail trade, for the purpose of the most recent retail census which was taken for the year ended 30 June 1980, is the resale of new and used goods to final consumers for personal and household consumption. For information and detailed tables relating to the 1979-80 Retail Census, reference should be made to the series of final census publications (8622.0 to 8627.0) for 1979-80. Summary of operations of establishments classified by industry group for Australia for 1979-80 are set out in the following table.

RETAIL ESTABLISHMENTS AND SELECTED SERVICE ESTABLISHMENTS(a): SUMMARY OF OPERATIONS, BY INDUSTRY GROUP OR CLASS(b), 1979-80

ASIC Code(c)	Industry group or class Description	Establishments at 30 June (No.)	Persons employed at 30 June (No.)(d)	Wages and salaries(e) (\$m)	Retail sales (\$m)	Turnover (\$m)	Stocks		Purchases, transfers in and selected expenses (\$m)	Value added (\$m)
							Opening (\$m)	Closing (\$m)		
RETAIL ESTABLISHMENTS										
481	Department and general stores . . .	856	98,926	712.9	3,972.2	4,214.6	598.3	687.7	3,179.3	1,124.6
484	Clothing, fabrics and furniture stores . .	17,908	81,797	519.1	4,057.5	4,143.4	740.4	851.3	3,140.5	1,113.7
485	Household appliance and hardware stores(f)	8,189	44,187	319.4	2,573.4	2,962.7	447.4	517.0	2,251.1	781.2
486	Motor vehicle dealers, petrol and tyre retailers(g)	26,516	175,995	1,319.2	12,467.6	18,203.2	1,625.7	1,752.8	15,130.8	3,199.6
488	Food stores	39,416	260,266	1,131.3	12,577.3	12,747.0	635.0	751.5	10,517.0	2,346.5
489	Other retailers . . .	17,607	76,209	406.9	3,251.5	3,385.4	469.1	549.9	2,489.4	976.7
	Total	110,492	737,380	4,408.7	38,899.6	45,656.3	4,515.9	5,110.1	36,708.2	9,542.3
SELECTED SERVICE ESTABLISHMENTS										
9133	Motion picture theatres	577	6,777	44.9	31.8	177.9	1.3	1.4	76.0	102.0
923	Restaurants, hotels and accommodation . .	17,702	183,310	1,021.6	2,618.3	4,670.2	135.5	160.5	2,617.0	2,078.2
9241,2,3	Licensed clubs(h) . .	3,243	52,297	423.1	697.4	1,515.2	48.2	50.1	577.6	939.5
934	Laundries and dry cleaners	1,365	12,106	91.3	1.5	223.5	6.8	8.0	66.7	158.0
935	Hairdressers, beauty salons	2,265	12,282	78.2	12.2	173.3	4.8	5.7	50.7	123.4

(a) Excludes all bread and milk vendors and single establishment enterprises with turnover of less than \$50,000 (except for ASIC classes 9232 and 9233 in ASIC group 923). For ASIC classes 9232 and 9233 all establishments are included irrespective of turnover size. (b) A class total or a total for a combination of classes has been shown where the scope of the census did not include all the ASIC classes in an ASIC group. (c) Australian Standard Industrial Classification. (d) Includes working proprietors. (e) Excludes drawing by working proprietors. (f) Includes household appliance and domestic hardware stores, watchmakers and jewellers, music stores and electric appliance repairers but excludes establishments predominantly engaged in selling building materials, paint, tools of trade, etc. (g) Establishments predominantly engaged in wholesaling new motor vehicles are included in this group. (h) Includes licensed bowling clubs, licensed golf clubs and licensed clubs, n.e.c.

Retail surveys

In intercensal periods, estimates of the value of retail sales by broad commodity groups are obtained quarterly by means of sample surveys for each State and Australia.

The following table shows the value of retail sales of goods in each of the commodity groups specified. The figures have been obtained from a sample based on the 1973-74 Retail Census. A new series based on the 1979-80 Retail Census will be commenced in April 1982. More detailed information concerning the quarterly surveys of retail trade is contained in the quarterly publication *Retail Sales of Goods, Australia* (8503.0).

VALUE OF RETAIL SALES: COMMODITY GROUPS (a)

(\$ million)

<i>Commodity group</i>	1977-78	1978-79	1979-80
Groceries	4,264.5	4,807.8	5,488.7
Butchers' meat	1,422.5	1,661.5	1,972.9
Other food (b)	2,366.6	2,646.7	2,940.3
<i>Total food and groceries</i>	<i>8,053.6</i>	<i>9,116.0</i>	<i>10,401.9</i>
Beer, wine and spirits	3,140.9	3,559.6	3,943.0
Clothing and drapery	3,601.5	3,876.3	4,144.0
Footwear	576.2	636.0	692.2
Hardware, china and glassware(c)	967.6	1,104.5	1,261.8
Electrical goods(d)	1,857.5	1,888.0	2,055.5
Furniture and floor coverings	1,291.9	1,365.0	1,484.7
Chemists' goods	1,240.5	1,359.1	1,472.1
Newspapers, books and stationery	866.4	961.0	1,088.4
Other goods(e)	2,047.3	2,304.3	2,554.3
Total (excluding motor vehicles, etc.)	23,643.4	26,169.8	29,097.9

(a) Excludes Northern Territory and Australian Capital Territory. (b) Includes fresh fruit and vegetables, confectionery, soft drinks, ice cream, cakes, pastry, cooked provisions, fish and wrapped lunches. (c) Excludes basic building materials, builders' hardware and supplies such as tools of trade, paint, etc. (d) Includes radios, television and accessories, musical instruments, domestic refrigerators, etc. (e) Includes tobacco, cigarettes, etc., sporting goods, etc., but excludes grain and produce and business machines.

Retail sales of goods at constant prices

The following table shows series of the value of retail sales of goods at constant prices. The scope of the series at average 1974-75 prices is identical to that of the series at current prices based on the 1973-74 Retail Census.

A detailed description of the nature of these estimates at constant prices, and of the sources and methods used in preparing them, can be found in the Explanatory Notes of the March 1978 issue of *Retail Sales of Goods* (8503.0).

VALUE OF RETAIL SALES OF GOODS AT CONSTANT PRICES BY BROAD COMMODITY GROUPS(a)

(\$ million)

<i>Broad commodity group</i>	<i>At average 1974-75 prices(b)</i>					
	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Food and drink	7,429.6	7,621.0	7,932.8	8,218.8	8,262.9	8,344.3
Clothing, hardware, electrical and furniture	5,984.9	6,217.3	6,221.2	6,101.1	6,144.2	6,330.7
Other	2,925.2	2,929.9	2,973.7	3,064.6	3,147.7	3,197.9
Total (excluding motor vehicles, parts, petrol, etc.)	16,339.7	16,768.2	17,127.7	17,384.5	17,554.8	17,872.9

(a) Excludes Northern Territory and Australian Capital Territory. (b) Series based on 1973-74 Retail Census.

CHAPTER 18

ENERGY

Introduction

Australia is an energy rich country, with major reserves of coal and natural gas and substantial reserves of uranium. Australia's known reserves of crude oil are however small. While Australia is currently about 65 per cent self-sufficient in liquid fuels, this may decline, in the absence of new discoveries, to about 50 per cent by 1990 and to perhaps less than 20 per cent by the end of the century. Whilst there are no known deposits of heavy-oil or tar sands, there are extensive deposits of oil shale which are located primarily in Queensland. Thorium, solar, wave, hydro-power, wind, ocean thermal, wood, geothermal, tidal and crops resources also represent actual or potential energy sources.

Assessments made during 1979 and 1980 indicate that Australia's demonstrated economic recoverable energy resources total 1,248 exajoules (joules $\times 10^{18}$) of which 58 per cent is accounted for by black coal, 26 per cent by brown coal, 12 per cent by uranium with demonstrated oil and gas resources representing only 3 per cent of the total. On a state basis 32 per cent of Australia's recoverable economic energy resources (other than uranium) are located in Victoria, almost all of which is brown coal. Queensland accounts for about 36 per cent of national energy resources and New South Wales for 30 per cent (most of which represents black coal). Significant reserves of natural gas are located in the Gippsland Basin and the Cooper Basin and substantial reserves are known to exist on the North-West Shelf.

Australia's energy resources, combined with abundant supplies of many raw materials, create the opportunity for a large expansion in energy exports and the development of energy intensive industries. Despite this relative abundance, Australia shares the world-wide concern regarding the growing shortage of energy resources, and in particular oil resources. The energy problem is a global one and Australia is participating in discussion on energy with its industrialised partners within the International Energy Agency (IEA) and in other international fora, especially the United Nations and its agencies. The IEA has emphasised the need for measures to reduce levels of oil imports, to use oil more effectively and to develop alternative energy sources.

The immediate aim of Australia's energy policy is to reduce dependence on imported oil and ensure that secure and stable supplies of energy—particularly liquid fuels—are readily available. In the longer term, the aim is to develop a diversified energy base which will minimise dependence on liquid fuels.

These objectives are being pursued by pricing and tax policies, the pursuit of energy conservation and inter-fuel substitution, the encouragement of exploration and development, support for major energy development projects, the stimulation of energy research and development, and active international co-operation.

The most significant development in shaping the current energy policy was the decision, taken in August 1978, to raise the price of domestically produced oil to full import parity. The move to full import parity pricing was complemented by an extension of the excise arrangements which provide for an appropriate sharing of the import parity price between the producers and Government. It was implemented by the addition of a crude oil levy on local production from fields discovered before 18 August 1976. Producers of oil from fields discovered on or after 18 August 1976 are not subject to any levy and receive the import parity price on the whole of their production. The proceeds of the levy accrue to consolidated revenue.

In 8 April 1980, the Government announced new pricing arrangements for liquefied Petroleum Gas (LPG). These arrangements complement the import parity pricing policy. The LPG pricing policy is aimed at diverting the high volumes of LPG exports into the Australian market particularly for automotive use where consumption of less abundant crude oil derived products can be displaced.

The Government's oil pricing policy provides a basic framework within which conservation, interfuel substitution, exploration and development and research into alternative fuels can be pursued. Continued gains are still being made in reducing the rate of consumption of petroleum products and in substituting coal and natural gas for oil-based fuels in both industrial and residential uses. The higher real price of oil has been important in encouraging an increase in exploration and development as well as the promotion of synthetic fuel production. For example, as part of the planned development of the Rundle project, studies are underway to determine the feasibility of establishing, at Rundle, a

commercial-scale plant to produce syncrude from oil-shale. The North-West Shelf project in Western Australia is another example of an important energy project in Australia. The project is expected to cost \$5,000 million in 1980 dollars or \$8,000 million in dollars of the day. This investment will provide a substantial proportion of Western Australia's energy requirements as well as being an important source of export income. The Western Australian State Energy Commission will be constructing a 1,500 km pipeline from Dampier to Perth to carry the gas to the south-west of the State. Natural gas provides an attractive alternative to crude oil products and the Government is anxious to extend natural gas pipelines to provide wider access to this energy source.

Advice and co-ordination

International Energy Agency

The International Energy Agency (IEA) was established in Paris in November 1974 as an autonomous institution within the framework of the Organization for Economic Co-operation and Development. (Australia did not seek membership at that time.)

In January 1979 Australia applied for membership. This application was accepted by the IEA Governing Board in March 1979, and Australia formally became the twentieth member of the IEA in May 1979. Other members of the IEA are Austria, Belgium, Canada, Denmark, the Federal Republic of Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States of America. The Agency is supported by a permanent Secretariat headed by an Executive Director.

The objective of the IEA is to implement the International Energy Program as set out in the Agreement authorising the establishment of the Agency. This Agreement encompasses an Emergency Oil Sharing Scheme (EOSS) to be activated in an emergency supply situation, an information system on the international oil market, regular consultations with the major oil companies, the promotion of relations with oil producing and consuming countries, and long-term co-operation in energy aimed at reducing dependence on oil. The IEA's long-term co-operation program includes the promotion of energy conservation, the acceleration of the development of non-oil energy sources and the encouragement of energy research and development projects.

Currently, the IEA's chief concern is to transform oil-dominated energy economies to a more balanced use of the major available energy sources, oil, coal, nuclear and gas, and to ensure energy efficiency is maximised. A Group Objective of limiting oil imports to 26.2 million barrels per day by 1985 has been adopted as a means of monitoring the desired structural change.

Principles for Energy Policy have been adopted to provide a framework to assist governments in the definition of national energy policies. Within this context, the IEA regularly carries out reviews of member countries' energy policies and programs.

The IEA adopted in May 1979 a set of Principles for IEA Action on Coal which emphasised the need to expand the production, trade and use of coal. It subsequently created a Coal Industry Advisory Board, composed of eminent individuals in the international coal industry, to offer expert advice to the IEA on the implementation of the Principles. Australia has three representatives on the Board.

The IEA decisions which are binding on members are made by the Governing Board of the Agency. The Governing Board is composed of Ministers (or delegates) from member countries. The Management Committee composed of senior officials from each member country, carries out functions assigned to it in the Agreement or delegated by the Governing Board. Standing Groups have been established to monitor developments in Long-Term Cooperation, the Oil Market, Emergency Questions and Relations with Producers and Other Consuming Countries. There is also a Committee on Energy, Research and Development.

National Energy Office

Reviewing energy policy and providing policy advice on an ever increasing range of energy matters is a major task for the National Energy Office. It provides policy advice on energy pricing and taxation, and also provides departmental support for the National Energy Advisory Committee (NEAC) and the National Energy Research, Development and Demonstration Council (NERDDC), and contributed substantially to participation by the Department of National Development and Energy in the work of the Australian Minerals and Energy Council (AMEC).

Research and Development

NERDDC

The Department of National Development and Energy through the National Energy Office provides policy and technical advice on energy research, development and demonstration (R,D & D) and administers the National Energy Research, Development and Demonstration Program (NERD & D Program).

The National Energy Research, Development and Demonstration Council (NERDDC) was established in May 1978. It advises the Minister for National Development and Energy on the development and co-ordination of a national program of energy research and the disbursement of funds under the NERD & D Program. Council consists of thirteen members drawn from government, private industry and tertiary institutions who are appointed by the Minister on the basis of established expertise in the energy field. It is supported by seven Technical Standing Committees, covering all major areas of energy technology, which provide expert technical advice. The NERD & D Program is funded from the accrued funds paid to the Coal Research Trust Account under the provision of the *Coal Research Assistance Act 1977* and from the Energy Research Trust Account for which funds are provided from a Department Appropriation for energy research.

This was the third full year of operation of NERDDC. During this year, a further \$18 million was committed to energy research projects over a wide range of energy technologies. This brought the total committed to date under the NERD & D Program to around \$60 million. Some rationalisation of the responsibilities of the Technical Standing Committees was carried out during the year, reducing the number to seven. NERDDC and its TSC's also assist the Department in monitoring scientific and technical progress and performance of projects being supported.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Energy research within the Institute of Energy and Earth Resources is carried out with the objectives of locating and characterising Australia's energy resources and planning their development and effective use, consistent with the minimisation of environmental stresses. Members of the Institute engaged in energy research are the Division of Applied Geomechanics at Syndal (Vic.); the Division of Energy Chemistry at Lucas Heights (N.S.W.); the Division of Energy Technology at Highett (Vic.); the Division of Fossil Fuels at North Ryde (N.S.W.); the Division of Mineral Chemistry at Port Melbourne (Vic.); the Division of Mineral Engineering at Clayton (Vic.); the Division of Mineral Physics at North Ryde (N.S.W.), Lucas Heights (N.S.W.) and Port Melbourne (Vic.), and the Physical Technology Unit at Ryde (N.S.W.).

National Energy Advisory Committee (NEAC)

The National Energy Advisory Committee was established on an interim basis in February 1977 and as a permanent committee in February 1978. Its functions include the provision of advice on Australia's energy reserves and on factors likely to influence the pattern of energy supply and demand, and future costs, in Australia; the assessment and development of our energy resources; and economy in the use of energy. The Committee is also required to offer advice on the balance of resources for research relating to the development of energy sources in Australia, and on development both here and overseas in respect of methods and technology associated with the production and distribution of energy.

The Committee consists of 19 members who have been selected with a view to covering a wide spectrum of expertise in the energy area, and appointed on the basis of the personal contribution which they can make to the work of the Committee, as distinct from any representational role they might otherwise perform. Since its inception, NEAC has published the following reports: *An Australian Conservation of Energy Program* (September 1977); *Australia's Energy Resources: An Assessment* (December 1977); *A Research and Development Program for Energy* (December 1977); *Motor Spirit—Octane Ratings and Lead Additives* (February 1978); *Electric Vehicles* (June 1978); *Exploration for Oil and Gas in Australia* (December 1978); *Fuel Economy Goals for Passenger Cars* (May 1979); *Efficient Use of Liquid Fuels in Road Vehicles* (July 1979); *Liquid Fuels—Longer Term Needs, Prospects and Issues* (December 1979); *Strategies for Greater Utilisation of Australian Coal* (May 1980); *Natural Gas: The Key Issues* (June 1980); *Alternative Liquid Fuels* (July 1980); *Energy Conservation in Buildings* (December 1980); *Australia's Energy Resources 1980* (December 1980); *Motor Spirit: Vehicle Emission, Octane Ratings and Lead Additives—Further Examination* (March 1981) and *Renewable Energy Resources in Australia* (July 1981).

Other Organisations

The *LPG Task Force* was established in 1978 to provide advice to the Government on development of the use of LPG as an automotive fuel. Its membership comprises representatives of bodies associated with the fuel supply and transport industries as well as Commonwealth and State Government. Among the matters considered are the development and adoption of nationally uniform standards and regulations for LPG vehicles, fuel composition and exhaust emission requirements, development of shipping and other infrastructure, public awareness of automotive LPG and demonstration through conversion of Commonwealth fleet vehicles.

Two committees with advisory responsibilities in regard to indigenous and imported crude oil supplies, petroleum stocks, refinery operations, and the distribution of refined petroleum products

were formed in 1979. They are the *Oil Supplies Advisory Committee* (OSAC) which consists of Commonwealth officers and representatives of oil production and refining companies operating in Australia, and the *Commonwealth/State Oil Supplies Liaison Committee* which consists of Commonwealth, State and Territory officials with responsibilities for oil supply matters. The two committees usually meet in joint session. Meetings are held approximately every three months or more frequently as circumstances dictate.

Resources

Black coal

Black coal is currently second to petroleum products as the largest source of primary energy in Australia. In geological terms it varies greatly in age, ranging from Permian to Miocene, or from about 225 million years to 15 million years of age. Within this range the Permian or oldest coal measures are of the highest quality. By world standards, in relation to her present population and consumption, Australia is fortunate in the availability of easily worked deposits of coal. The country's main black coal fields are located in New South Wales and Queensland, not far from the coast and from the main centres of population. Coal is a complex organic rock composed principally of carbon, hydrogen and oxygen, but also containing nitrogen, sulphur and other elements. It has formed from accumulated vegetable matter, which has subsequently undergone chemical and physical changes due to organic decay and to pressure and heat arising from burial. Coal also contains varying amounts of non-combustible materials such as silt and clay deposited as sediment among the vegetable debris: these contribute to the mineral matter content of coal which is related to coal ash. Most Australian coal deposits are classed as bituminous, but there is some sub-bituminous coal and a little anthracite. The bituminous coals have a wide range of properties: volatile contents range from high to low and, although ash tends to be high, the sulphur content is almost universally low.

Identified economic black coal resources amount to over 523,000 million tonnes of which more than one-half could be recovered. Economically recoverable demonstrated resources are currently about 27,500 million tonnes, almost all in the Sydney Basin in New South Wales and the Bowen Basin in Queensland. There are other coal-bearing basins in New South Wales and Queensland, and small deposits are being worked in Western Australia, South Australia and Tasmania.

For further details relating to the production of black coal in Australia see Chapter 16, Mineral Industry.

Brown coal

About 98 percent of Australia's brown coal identified resources are in Victoria, where the total is estimated at 123,700 million tonnes. Nearly all are located in the Latrobe Valley where 105,000 million tonnes are recoverable. Small deposits exist in other areas of south Gippsland, in south eastern Victoria at Gelliondale and in the south-central region at Anglesea, Bacchus Marsh and Altona. Deposits are also known at many places along the southern margin of the continent, as far north as central Queensland, and large deposits are being tested in the Kingston area of South Australia and the Esperance area of Western Australia.

Because brown coal has a relatively low specific-energy value and high water content, its utilisation depends on large-scale, low-cost mining and negligible transportation costs in its raw state.

In Victoria the brown coal industry has reached a high degree of sophistication in mining, on-site development for power generation, briquetting and char manufacture. In a Victorian Government *Green Paper* published in 1977 the then Victorian Ministry of Fuel and Power estimated that by the year 2000-01, Victorian brown coal requirements will be between 724 and 1,036 thousand terajoules, or between about 79 and 113 million tonnes per year (production of brown coal in Victoria during 1977-78 was 30,512,000 tonnes). The brown coal deposits of the Latrobe Valley have been developed by the State Electricity Commission of Victoria (SECV) for the generation of electricity. In over a century of operation more than 600 million tonnes of raw brown coal have been mined. This represents less than one per cent of the proven geological reserves.

Energy research and development statistics

The following statistics, derived from data collected in the 1979-80 Survey of Research and Experimental Development, present estimates of expenditure classified by energy objective. Further data relating to expenditure and manpower resources devoted to energy are published in *Research and Experimental Development: Energy Production, Utilisation and Conservation, All Sectors, Australia, 1979-80* (8110.0)

ENERGY RESEARCH AND EXPERIMENTAL DEVELOPMENT(a), AUSTRALIA, 1979-80
DETAILS OF R & D EXPENDITURE BY ENERGY OBJECTIVE(b)
 (\$'000)

Energy objectives(b)		Sector of performance(d)				Source of funds(f)
		Total expenditure(c)	Business enterprises(e)	General government and Higher education	Industry		Government
Energy codes	Description					
Production and utilisation of energy—						
513	Oil and gas—mining extraction techniques	170	(g)	(g)	(g)	(g)
111	—refining, transport and storage	1,311	756	555	753	558
112,523,533	—other	5,278	(g)	(g)	(g)	(g)
113,114,514,524,534	Oil shale and tar sands	696	(h)1,593	(h)4,552	(h)1,636	(h)4,508
512	Coal—mining extraction techniques	4,961	2,169	2,793	1,653	3,308
121	—preparation and transport	5,523	3,865	1,658	3,385	2,138
122	—combustion	3,844	3,216	627	2,956	888
211	—conversion	7,761	2,285	5,476	1,183	6,578
123,522,532	—other	8,464	6,742	1,722	5,706	2,758
131	Solar—heating and cooling	7,224	3,103	4,121	2,925	4,299
132	—photo electric	1,800	521	1,279	596	1,204
133	—thermal electric	287	73	214	16	271
141	Nuclear—non-breeder—light water reactor	18,558	5,815	16,289	6,177	15,927
142	—other converter reactor					
143,511,521,531	—fuel cycle					
144	—supporting technologies					
145	—breeder					
146	—fusion	3,545				
151	Wind	907	278	629	174	733
152	Ocean					
153	Geothermal					
221	Biomass	4,091	1,704	2,387	1,486	2,605
154	Other sources and new vectors	1,283	668	615	434	849
Conservation of energy—						
311	Industry	3,852	2,794	1,058	2,249	1,603
312	Residential and commercial	2,344	851	1,493	956	1,388
313	Transportation	4,775	3,502	1,273	2,551	2,225
314	Other	640	482	158	462	178
Other energy R & D (including supporting technologies)—						
411	Electric power conversion	2,262	1,614	648	1,456	807
412	Electricity, transmission and distribution	3,182	1,888	1,294	2,054	1,128
413	Energy storage, n.e.i.	1,098	(i)	(i)	(i)	(i)
414	Energy system analysis	869	30	839	59	810
415	Other	2,503	(j)619	(j)2,982	(j)772	(j)2,830
Total all energy objectives		97,228	44,567	52,661	39,636	57,592

(a) Refers to R & D activity predominantly directed towards producing, storing, transmitting, utilising and conserving energy. (b) The energy objective categories represent ultimate national needs rather than the immediate objective of the researcher or the organisation performing the energy R & D. (c) Includes expenditure associated with overhead staff providing indirect services to energy R & D. (d) The sector classification used is adapted from the guidelines specified by the OECD for use in the conduct of R & D studies. (e) Excludes enterprises in ASIC Division A—i.e. enterprises mainly engaged in agriculture, forestry, fishing and hunting. (f) In accordance with IEA practice, source of funds are classified as either Industry or Government. (g) Included with oil shale and tar sands (codes 113, 114, 514, 524, 534). (h) Comprises codes 513, 112, 523, 533, 113, 114, 514, 524, 534. (i) Included with other (code 415). (j) Comprises codes 413 and 415.

Petroleum

After World War II the Commonwealth Government actively encouraged petroleum exploration. The Bureau of Mineral Resources was able to provide much background information (mainly of the results of geological and geophysical surveys) to organisations participating in the search for petroleum and the State Mines Departments also afforded considerable assistance. The results of early efforts in the post war period were generally disappointing, but oil was struck at Rough Range, Western Australia, in 1953. Although the flow was short-lived, the discovery marked an important stage in the search, and provided a much needed stimulus for further exploration.

Petroleum is broadly defined as any naturally occurring hydrocarbon or mixture of hydrocarbons, whether in a gaseous, liquid or solid state (excluding coal). Nearly all petroleum occurs in sedimentary rock sequences which contain source and reservoir beds. Australian sedimentary basins that do contain petroleum are thought to be comparable in yield to overseas basins of the same type, but they lack the

anomalously rich basins that are found in parts of the Middle East, the United States of America and USSR. The nature of Australian source rocks and the temperatures that they have undergone have produced lighter oils and a higher proportion of gas to oil than is usual elsewhere in the world.

Recovery of oil, by means of wells drilled into a sub-surface reservoir that relies solely on the natural expansion of reservoir gas and/or on the natural drive of reservoir water, is called "primary". "Secondary" recovery methods involve the artificial reinjection of gas and/or the injection of water. Many other techniques, referred to as "tertiary", may further improve recovery. In modern production, various techniques for enhanced recovery are applied more or less from the beginning to obtain the optimum economic result, hence the ultimate recovery of oil depends on cost (including royalty and levy) and price. No combination of these techniques, however, is capable of recovering all of the oil in a reservoir.

The proportion of gas recovered from gas reservoirs is generally higher than the proportion of oil recovered from oil reservoirs. The ultimate recovery of gas is sensitive to cost (including royalty) and price. These factors control the number of wells that may be drilled to develop the reservoir, the pressure at which the field will have to be abandoned and the rate at which the field is to be produced. In terms of size, petroleum fields are not evenly distributed: large fields are few and they generally contain a major proportion of the total petroleum resources of a province. The large fields tend to be discovered early in the exploration of a province, and for this reason it is highly unlikely that the Gippsland Basin contains an oil field larger than Kingfish or that the Rankin Trend of the Dampier Sub-Basin contains a gas field larger than North Rankin.

Major prospects for new oil discoveries are in untested areas and it is likely that most of Australia's undiscovered oil will be contained in only a few fields. Extrapolation from known areas suggests that undiscovered oil will be of the lighter types and that more gas fields than oil fields will be found. Assessments by the Bureau of Mineral Resources, Geology and Geophysics in September 1980 of Australia's undiscovered petroleum as at 30 June 1980 indicate that there is an 80 per cent chance of finding, at least, another 150 million kilolitres (950 million barrels) of crude oil in Australia, and a 20 per cent chance of finding at least 600 million kilolitres (3,800 million barrels). The mean of the BMR estimate, which occurs at 34 per cent probability is, 420 million kilolitres (2,600 million barrels). This compares with recoverable identified economic resources of 300 million kilolitres (1,900 million barrels) and identified sub-economic resources of 39 million kilolitres (245 million barrels). For further details see National Energy Advisory Committee's Report No. 14, *Australia's Energy Resources, 1980 (December 1980)*.

Crude oil reserves. The remaining reserves of crude oil in Australia at 31 December 1980 are estimated to be 315.54 million kilolitres. This is made up of 277.51 million kilolitres in fields that have been declared commercial and combines both proved and probable reserves together with 38.03 million kilolitres of theoretically recoverable reserves which are geologically proved but currently uneconomic, or which require further appraisal and could be subject to major revision.

Natural gas liquids reserves. The remaining reserves of natural gas liquids at 31 December 1980 are: Condensate 115.07 million kilolitres (38.93 million kilolitres economic plus 76.09 million kilolitres currently uneconomic, etc.). Liquefied petroleum gas (LPG) 157.78 million kilolitres (79.83 million kilolitres plus 77.95 million kilolitres).

Natural gas reserves. The remaining reserves of natural gas (sales gas) at 31 December 1980 were 844.54 billion cubic metres (305.76 billion cubic metres plus 538.78 billion cubic metres). The tables show details. Australia's natural gas reserves are poorly distributed in relation to local markets except possibly in the case of the Gippsland Basin, Victoria. A high proportion of the total is offshore in the Dampier Sub-basin, Western Australia, and in the Gippsland Basin.

Crude oil production (including condensate marketed as part of a crude oil stream). In 1980 amounted to 22.24 million kilolitres, 3.13 million kilolitres or 12 per cent less than in 1979. Much of the decline was due to industrial action involving production, shipping and refinery facilities.

Naturally occurring LPG. Production in 1980 was 2,990 million kilolitres, almost one million kilolitres less than in 1979.

Natural gas production. In 1980 was 9,567 million cubic metres, 14.2 per cent more than in 1979. Of this, 8,921 million cubic metres was actual sales gas and 646 million cubic metres was absorbed in field and plant usage by producers.

REMAINING PETROLEUM RESERVES AT 31 DECEMBER 1980

(Source: Department of National Development and Energy)

Basin	Declared Commercial				Uneconomic			
	Crude oil 10 ⁶ kl	Condensate 10 ⁶ kl	LPG 10 ⁶ kl	Sales gas 10 ⁶ m ³	Crude oil 10 ⁶ kl	Condensate 10 ⁶ kl	LPG 10 ⁶ kl	Sales gas 10 ⁶ m ³
Bowen-Surat (Qld)	0.75	0.17	-	2.05	0.06	0.02	-	1.85
Adavale (Qld)	-	-	-	-	-	-	-	0.59
Gippsland (Vic.)	256.20	29.90	65.10	190.50	-	-	-	-
Gippsland and Bass (Vic./Tas.)	-	-	-	-	22.50	9.10	14.93	52.14
Cooper (S.A./Qld)	7.21	8.39	14.65	96.73	-	-	-	0.66
Carnarvon (Barrow Is.) (W.A.)	13.09	0.44	0.08	10.83	-	-	-	-
Carnarvon and Bonaparte (W.A./N.T.)	-	-	-	-	5.18	65.43	59.14	458.00
Perth (W.A.)	0.26	0.03	-	5.65	-	-	-	-
Amadeus (N.T.)	-	-	-	-	10.29	1.54	3.88	25.54
Total	277.51	38.93	79.83	305.76	38.03	76.09	77.95	538.78

PETROLEUM PRODUCTION IN AUSTRALIA

(Source: Department of National Development and Energy)

Year	Crude oil 10 ⁶ kl	Condensate (a) 10 ⁶ kl	LPG (b) 10 ⁶ kl	Natural (Sales) gas 10 ⁶ m ³
1975	23.829(c)	n.a.	n.a.	5.026
1976	24.249(c)	n.a.	n.a.	5.929
1977	24.986(c)	n.a.	2.680	6.766
1978	24.426	.705	3.920	7.324
1979	24.532	.836	3.920	8.381
1980	21.325	.915	2.990	9.567

(a) Commercial production of condensate. (b) Naturally occurring. (c) Contains condensate marketed as part of a crude oil stream.

Liquefied petroleum gas

Liquefied petroleum gas (LPG) is the most promising alternative liquid fuel for internal combustion engines in Australia in the short and medium term. The major constituents of LPG are propane, iso- and normal- butane, and propylene, which are gaseous at normal temperatures and pressures and are easily liquefied at moderate pressures or reduced temperature. In Australia the major sources of marketable LPG are crude oil and natural gas fields. LPG is also obtained as a co-product during oil refining and from petrochemical plants. Identified recoverable reserves of nearly 100 million tonnes are concentrated in Bass Strait, the North West Shelf and the Cooper Basin. In addition it is estimated by the Bureau of Mineral Resources, Geology and Geophysics, that there is an 80 per cent probability of future discoveries identifying a further 60 million tonnes of LPG. Production of LPG in Australia in 1980 was about 1.9 million tonnes, and is expected to increase to around 3 million tonnes by the late 1980s, declining gradually thereafter. About 85 per cent of LPG produced is extracted from crude oil and natural gas from the Bass Strait fields. Remaining LPG production is obtained from indigenous and imported crude oil processed at oil refineries around the country and as a by-product of the chemical industry.

Currently, of the major reserve basins, only Bass Strait is producing LPG at about 1.6 million tonnes per annum. The Cooper basin producers have announced their intention to proceed with a liquids scheme to recover LPG and condensate, to be on-stream in 1984. Annual output from the Basin could approach 500,000 tonnes by the mid 1980s. The North West Shelf Joint Venturers have announced firm plans to extract LPG from both domestic and export gas streams. Production of LPG from the North West Shelf, planned to commence in 1986, will be around 640,000 tonnes per annum and be maintained at this level through the 1990s.

About 70 per cent of Australia's LPG production is exported (1.4 million tonnes in 1980) under relatively short term contracts. Exports could be expected to be diverted at relatively short notice to meet domestic needs, given sufficient incentive. On present analysis export of LPG from Australia would cease by the early 1990s.

Pricing of Australian crude oil

The pricing of Australian crude oil at import parity levels is fundamental to energy policy in Australia. Crude oil is a scarce and valuable resource and the Government considers that it should be competitively priced, to ensure that its usage recognises this value. Import parity pricing is essential to encourage:

- conservation of liquid fuels;
- exploration and development;
- substitution by more plentiful gaseous and solid fuels;
- the economic development of liquid fuel substitutes.

As a result import parity pricing provides the basis for the long-term security of supply for Australia and the continuous adaption of the Australian economy to changing world energy prices.

The present pricing and excise arrangements for locally produced crude oil are based on the June 1979 and earlier Commonwealth Government announcements. Producers receive the full import parity price for oil discovered after 18 August 1976 (new oil) and a return that varies according to the rate of annual production of the producing field (or area) for oil discovered before that date (old oil).

For old oil the producer return plus the excise (net of the applicable rebate) equals the import parity price paid by the refiner.

The return to producers from parity related old oil defined as the greater of:

- the first 953,925 kilolitres (6 Million barrels) per annum produced from each field: or
- a percentage of production (55 per cent for medium fields and 50 per cent for large fields in 1981/82).

Parity related production receives a return which depends on the rate of annual production of the producing field as follows:

- For small fields, that is those producing less than 317,975 kilolitres (2 million barrels) per annum, the producers receive the import parity price less an excise of \$18.90 per kilolitre.
- For medium fields that is those producing at least 317,975 kilolitres (2 million barrels) but less than 2,384,813 kilolitres (15 million barrels) per annum, the producers receive \$67.07 per kilolitre for Bass Strait and \$67.63 for Barrow Island, the prices they were receiving on 30 June 1979 for parity related oil, plus 25 per cent of any increase in the import parity price since then.
- For large fields, that is those producing 2,384,813 kilolitres or more (15 million barrels) per annum, the producers receive \$60.29 per kilolitre increased by the lesser of the percentage increase in the CPI since the September quarter 1978 or the percentage increase in the import parity price after 1 July 1979.

Producers received a fixed return for that part of their old oil production which does not receive by the higher parity related return. Fixed returns received by the producers are based on the price applicable on 31 December 1978 (\$14.66 per kilolitre for Bass Strait and \$18.12 per kilolitre for Barrow Island) plus any increases in the compensation for credit terms since then.

The import parity price is currently reviewed every six months (1 January and 1 July) and is based on the landed cost of Saudi Arabian Light crude oil at the nearest refinery port to the producing field adjusted for domestic freight costs, quality differential and compensation for credit terms. The current import parity price, from 1 July 1981, is \$193.74/kl (\$30.79/barrels (bbl)) for Bass Strait crude, \$195.34/kl (\$31.04/bbl) for Barrow Island and \$201.27/kl (\$31.98/bbl) for Moonie and nearby areas. These prices are based on a \$US32/bbl price for the marker crude, Saudi Arabian Light.

Royalties are paid to the relevant State Government for onshore production and are shared between the *Commonwealth and the State* under the *Petroleum Submerged Lands (Royalty) Act 1967* in the case of offshore production.

Crude oil allocation scheme

The crude oil allocation scheme was introduced in 1965 to stimulate the production of Australian crude oil by guaranteeing a market for this production which was then a relatively expensive source of crude oil. The present allocation scheme first came into operation in September 1971. On 17 September 1980 the Minister for National Development and Energy announced the extension of this scheme, subject to some modifications, until 31 December 1984.

The scheme provides for the allocation of indigenous crude oil to refiner/marketers based on their market share of most refined petroleum products sold or consumed in Australia.

The only major petroleum product that currently does not attract an allocation is fuel oil delivered direct into customer owned storage. However, inland fuel oil sales are to be phased out from the products attracting an allocation over a two year period from 1 January 1981. By 1 January 1983, fuel oil sales will no longer make any contribution to a refiner's allocation of indigenous crude oil.

Another important modification made to the crude oil allocation scheme was that from 1 January 1981, producers of crude oil who continue the sale of gas condensate (liquid petroleum produced in association with natural gas) may retain an equivalent volume of crude oil for their own use for disposal. This producers' entitlement to crude oil is however subject to the crude oil excise and import parity pricing arrangements. Condensate marketed separately from a crude oil stream is not subject to allocation and excise and is sold at free market prices.

The crude oil allocation scheme facilitates an equitable distribution, to the refiners, of indigenous crude oil at the import parity price.

Pricing of liquefied petroleum gas (LPG)

In January and April 1980, the Government's decisions relating to the pricing of LPG were announced. The policy has been formulated against the background of relatively high proportions of domestically produced naturally occurring LPG being exported, in contrast to the need to import crude oil and some petroleum products to meet the demand for liquid fuels. The policy is designed to encourage the maximum efficient use of LPG in Australia, particularly in those areas such as automotive use, where LPG has a premium value. By this means Australia will reduce its dependence on imported oil and increase its security of supply.

To achieve this policy objective, the Commonwealth Government sets the price that the producers receive for LPG sold for automotive, domestic and traditional commercial/industrial uses at a level such that the resulting retail prices provide incentives for its use in these areas. There is considerable scope for diverting LPG sales from export markets into the local market, the level of indigenous supply being determined by the levels of production of crude oil and natural gas, of which LPG is a co-product. The Government's LPG price scheme, therefore, does not extend to non-traditional commercial/industrial uses, where readily available long-term alternatives such as electricity or natural gas exist, nor to exports or sales for petrochemical uses. In these areas, the price is determined by commercial negotiation.

The policy results, for example, in retail prices for automotive uses of LPG in Melbourne at about half the retail prices of motor spirit.

The price set by the Government for both naturally occurring and refinery produced LPG is determined at the lesser of \$205 per tonne indexed to increases in the import parity price since 1 January 1980, and the export parity price. Until 30 June 1981, the index linked price applied, but following a significant fall in the world market price for LPG, the price was set to apply from 1 July 1981 based on the export parity price, at \$228.88 per tonne.

Under the excise arrangements announced on 8 April 1980, producers of naturally occurring LPG from fields in production prior to 17 August 1977 pay excise at a rate equivalent to 60 per cent of the excess of the weighted average of domestic and export prices over \$147 per tonne. Naturally occurring LPG from fields brought into production on or after 17 August 1977 remains free of excise.

A factor in the retail price of LPG and reticulation gas produced from LPG and naphtha is the subsidy of \$80 per tonne introduced during 1980 for household users and commercial and industrial users in areas without access to natural gas. The subsidy is due for review by March 1983.

Oil shale

Oil shales are fine-grained Clastic sedimentary rocks containing an organic material, kerogen (which is insoluble in ordinary petroleum solvents) and a minor proportion of soluble hydrocarbons (such as bitumen). To obtain oil from shale the kerogen must be heated to about 500°C. The kerogen then decomposes to produce a liquid hydrocarbon mixture (crude shale oil), gases, and a solid residue (spent shale).

In-ground demonstrated resources of shale oil are about 21,400 million barrels, at Rundle (2,650) and Stuart (2,550) near Gladstone, Condor (about 8,200), near Proserpine, near Duaringa (4,880), 100km west of Rockhampton, Julia Creek (about 1,500), Yaamba (1,550), near Rockhampton, and small deposits mainly in New South Wales, Queensland and Tasmania.

Three types of oil shale deposit have been identified in Australia. They range in geological age from Cambrian to Tertiary. Marine deposits, associated with limestone and marine shale are generally of low to medium grade. They include a comparatively small occurrence of Cambrian age at Camooweal in northwest Queensland, some small deposits of Permian age near Devonport in northern Tasmania and a very extensive deposit of Cretaceous age (including the Julia Creek deposit) in the Toolebuc Formation which underlies a large area of Central Queensland.

Lake deposits may extend over hundreds of square kilometres and may be hundreds of metres thick. They are generally of low to medium grade with average yields of up to about 100 litres/tonne. Lake deposits occur in a number of Tertiary basins in eastern Queensland including the Narrows Graben near Gladstone (containing the Rundle and Stuart deposits); the Duaringa Basin; the Hills-

borough Basin near Proserpine (Condor); and the Yaamba Basin. Most of the lake deposits are in geographically favourable locations and for this reason appear to have the highest potential for exploitation.

Oil shales associated with coal seams are widespread in Permian and Jurassic strata in Queensland and New South Wales. The aggregate thickness of oil shale (generally up to 2 metres) and the areal extent (tens of square kilometres) of individual deposits are small relative to the other types of deposit, but yields of oil are high (400–700 litres/tonne). Many of these deposits are unsuitable for open-cut mining because of thick overburden and extensive faulting. Several deposits of this type were mined by underground methods in New South Wales between 1865 and 1952. During early exploitation most of the shale oil was refined to produce lighting oils and waxes and many of the small rich deposits were worked out. In later production, mainly during the Second World War, the emphasis was on the production of motor spirit and oils.

Of the Australian oil shale deposits currently under consideration for development the Rundle project is at the most advanced stage of study. Research and engineering studies are under way to examine the economic and technical feasibility of establishing a commercial-scale plant at Rundle to produce syncrude. A feasibility study completed in November 1980 indicated that a commercial operation could be established in due course at Julia Creek if the real price of oil continues to rise. Major engineering firms were called to submit tenders for the conduct of a feasibility study for the development of the Yaamba prospect and preliminary agreement was reached between possible participants in a development feasibility study of the Condor project.

Uranium

Australia has about 17 per cent of the Western world's low-cost uranium reserves. Deposits occur in the Northern Territory, Western Australia, South Australia and Queensland.

The chief use for uranium is as a fuel for power generation in nuclear reactors and in atomic energy research programs. Relatively small quantities of uranium depleted in the fissionable U^{235} isotope are used for ballast, counterweights and balances in aircraft, radiation shielding, in alloys as a catalyst and glass colorant and in electrical components. The requirement for uranium in power generation is so much larger than these other uses that natural uranium can be regarded for most practical purposes as a fuel for nuclear power reactors.

At present there are no firm plans for the construction of nuclear power plants in Australia.

Uranium exploration began in Australia in 1944 at the request of the United Kingdom and United States Governments. A number of significant deposits were identified, particularly in the Katherine/Darwin region of the Northern Territory and the Mt Isa/Cloncurry region in Queensland. Exploration activity reached a peak in 1954.

In the period 1954–71 about 9,200 tonnes of uranium oxide concentrate was produced from five plants at Rum Jungle, Moline and Rockhole in the Northern Territory, Mary Kathleen in Queensland and Radium Hill in South Australia. Uranium requirements for defence purposes decreased in the early 1960s and uranium demand and prices fell rapidly, whereupon exploration for uranium almost came to a standstill.

A revival in exploration in the late 1960s was encouraged by the announcement in 1967 of a new export policy, designed to encourage exploration for new uranium deposits while conserving known resources for future needs in Australia. The renewed exploration activity which followed was very successful—major discoveries were found in South Australia (Beverly Deposit) at end of 1969 and in the Northern Territory (Ranger, Nabarlek, Koongarra, Jabiluka) in 1970 and 1971. These and other discoveries have led to substantial additions to Australia's reasonably assured uranium resources which totalled 294,000 tonnes of uranium recoverable at less than US\$80 per kg U.

Uranium production at the Mary Kathleen Mine resumed in 1976; production in 1980–81 was 731 tonnes of uranium.

On 25 August 1977 following consideration of the reports of the Ranger Uranium Environmental Inquiry, the Government announced its decision to allow development of the Ranger uranium deposit to go ahead, and to consider further development on the basis of stringent criteria concerning the environment and Aboriginal welfare in the region. Exports of uranium will be subject to the Government's nuclear safeguards and non-proliferation policies. The Ranger Uranium Mine received authorisation under the Atomic Energy Act in January 1979 and production of uranium concentrate at a planned rate of 2,500 tonnes of uranium a year is expected to commence in late 1981. Government approval was given to the Nabarlek project in March 1979 and mining of the high grade deposit was completed in late 1979. Production of uranium concentrate from the stockpiled ore commenced in June 1980 production in 1980–81 was 1,314 tonnes of uranium and is expected to continue for several years. The Commonwealth has also approved the development of the Yeelirrie uranium project in Western Australia. The project will be developed and controlled under the Western Australia Uranium (Yeelirrie) Agreement 1978 between the Western Australian Government and the Western

Mining Corporation. Full scale production of uranium concentrate from the mine is not expected to commence before 1985 at the rate of about 2,500 tonnes a year for ten years and 1,000 tonnes a year for a further twelve years.

The *Australian Atomic Energy Commission* (AAEC) was established as a Statutory body by the Commonwealth Parliament under the *Atomic Energy Act* 1953.

The AAEC's activities are controlled by a Commission which is responsible to the Minister for National Development and Energy. The *Atomic Energy Act* provides for the Commission to consist of five Commissioners including a Chairman.

Moving in its earliest days towards the planning and construction of a nuclear research establishment at Lucas Heights near Sydney, the Commission arranged for a nucleus of scientists and engineers to obtain training and experience through overseas attachments, mainly in the United Kingdom. By the late 1950s a research and development (R & D) program had been initiated at its research establishment.

The Commission's current program places emphasis on the following areas: nuclear fuel cycle; energy research and assessment; radioisotopes and radiation; and international relations. The commission operates two nuclear research reactors 'HIFAR' 10MW thermal and 'MOATA' 100kW thermal at Lucas Heights.

Current expenditure by the AAEC is of the order of \$38 million a year. Staff totals some 1,200 professional, technical, trade, administration and support personnel.

The AAEC participates in the activities of the Australian Institute of Nuclear Science and Engineering. The Institute, which has a corporate membership comprising the Commission and the Australian universities, is concerned with the awarding of studentships, fellowships and research grants, with the organising of conferences and with arranging the use of AAEC facilities by research workers within the universities and colleges of advanced education. The Australian School of Nuclear Technology, located at Lucas Heights, is a joint enterprise of the AAEC and the University of New South Wales. Courses are provided regularly on such subjects as radionuclides in medicine, radiation protection and nuclear technology. Participants have been drawn from Australia, New Zealand, Asia, Africa, Papua New Guinea and the Pacific region.

The Government announced on 5 June 1981 that to provide an appropriate basis for the development, regulation and control of nuclear activities in Australia significant changes are necessary to Commonwealth legislation on nuclear matters. The Government has decided to establish a new legal base for these purposes in consultation with the States by developing State legislation complemented as necessary by the Commonwealth legislation.

Thorium

Thorium is about three times as abundant in the earth's crust as uranium. However, because of the resistance of primary thorium minerals to chemical alteration, secondary thorium minerals are rare, thorium therefore occurs in fewer geological environments than uranium. The bulk of potentially exploitable resources of thorium occur in essentially lower grade accumulations than the exploitable resources of uranium. Most of the world's thorium resources occur in monazite, a complex silicate which is currently recovered primarily for its content of rare-earth oxides. Primary thorium minerals (including monazite) are resistant to oxidation and form economically important placer deposits. Large deposits occur throughout the world in beach and stream placers and also as hard-rock deposits in veins, sedimentary rocks, alkalic igneous rocks and carbonatites.

In Australia, by-product monazite in titanium-bearing minerals sands on the east and west coasts of the continent is currently the only economical source of thorium, although other occurrences of thorium minerals are known. Australia currently supplies about half of the world's monazite requirements.

The Commonwealth Government controls the export of thorium and thorium minerals under the authority of the Customs (Prohibited Exports) Regulations as amended from time to time by Statutory Rules. The export of minerals containing thorium and thorium compounds and alloys is prohibited without the approval of the Minister for Trade and Resources.

Solar energy

Solar energy is available to a varying extent, over the entire surface of the earth and because of this it is difficult to evaluate in the same terms as the more conventional, intensive energy sources. Like wind, tidal and wave energy, solar energy is renewable (in a sense, of course, it is inexhaustible) and shares with these energy sources a number of properties which make it both difficult and costly to collect, store and transform into useful work. Solar energy has the inherent characteristics of low intensity and of geographic, seasonal and daily variations.

The Bureau of Meteorology has at present 22 solar radiation stations, 18 of which have been operating since 1970. These make continuous routine measurements to standards recommended by the World Meteorological Organisation. They are supplemented by other measurements such as air temperature, dewpoint and wind, needed for many uses.

In the past, the lack of developed or potentially viable systems for collection, storage, transmission and utilisation and the problem of coping with the weather and seasonal fluctuations have contributed to a reticence to consider solar energy seriously, particularly for large-scale usage. Its future potential will depend largely on technological developments and the rate of escalation in fuel prices.

Solar energy is available in the form of low temperature heat when collected with commercially available flat plate collectors. These and other low grade heat applications for domestic and industrial use, together with solar building design, are technologies available now, eg in the solar hot water industry sales have now reached \$22 million per annum. Collection of heat at higher temperatures to produce steam is a new direction in solar technology and its potential use lies in reducing the consumption of liquid fuels in industry.

As a source of electricity, solar energy in some specialist applications is already cost effective and may have further uses in supplying remote communities and mining townships, eg, solar energy is currently being used for navigation and communication purposes. Technologies are available now for air conditioning in those areas where electricity costs are high, but research is needed to improve their efficiency and reduce high capital costs. In the medium to longer term, plant material resulting from photosynthesis may be a useful source of liquid and gaseous fuels for transportation and there are even some longer range plans to use hydrogen as both an energy source and energy carrier.

Ocean thermal energy

Although the potential energy available from ocean thermal energy conversion (OTEC) is enormous, there are many problems to be overcome before it could become viable. These include the limited efficiency of the heat exchanges, the effect of micro-organisms and corrosion on underwater equipment and the economics of transporting power to land-based load centres. Many observers are pessimistic because of the complexity of these engineering problems and regard the potential of OTEC as speculative. In Australia, virtually no assessment of this energy source has been made. It has been suggested that tropical waters such as those off the Queensland coast would be suitable, but power generated from this area would be a considerable distance from the major power consumers in the south and not competitive with electricity based on coal. The first experimental plant, rated at 50 kW, commenced testing in the waters off the Hawaiian coast but little information on performance is yet available.

Wind energy

There are a number of difficulties in assessing wind power as an energy resource, most of these stemming from the fact that wind resources are sources of actual kinetic energy and like the other forms of solar-derived energy, cannot be defined and measured in the same way as resources of chemical, nuclear, or potential energy. Available wind energy varies with the wind speed, which in turn varies with geographic location, height above ground, time of day and the seasons of the year. Even over a restricted area, the wind speed can be sharply influenced by topography, shelter, sea breezes and diurnal heating.

Apart from a program carried out in South Australia in the 1950s there has been no systematic assessment of the wind resources of Australia. Wind measurements are made, however, at various sites throughout Australia for climatological and meteorological purposes.

The effective recoverability of wind resources is limited by the need to transmit the power over long distances in Australia and by the fact that no satisfactory means of storing wind energy on a large scale yet exists. At present the use in Australia of this resource is confined to windmills for water pumping and small electricity-generating wind machines. These have been a useful small-scale alternative to conventional sources of energy in remote and isolated areas of Australia and will probably continue to be so in the future.

Wind machines rated at 50kW and 25 kW are currently being demonstrated and tested in Western Australia and are expected to produce energy competitive with that produced by diesel power in the area and will provide valuable information for the assessment of energy from wind motors.

Future potential is almost entirely dependent on advances in technology which can make wind power competitive with conventional forms of power. A development of possible significance is the use of large wind systems integrated into existing grids, particularly in remote areas. However, in Australia there is not the same need for alternative means of large-scale electricity generation as in other countries because of our abundant coal resources. Most large-scale schemes depend on the conversion of wind energy to hydrogen for storage and distribution and there are many problems yet to be solved to

make this a realistic proposition. Therefore, it is unlikely that there will be large-scale use of this energy source in Australia this century.

Geothermal energy

Most of Australia's geothermal resources are of the conduction-dominated type. The most extensive and well documented study in Australia of subsurface temperatures has been made in boreholes in the Great Artesian Basin. In this basin, about 20 per cent of indexed water bores penetrate to depths greater than 1,000m and since geothermal gradients are generally greater than 30°C/1,000m, it is reasonable to assume that hot water can be obtained from such aquifers. Of the total number of indexed water bores, only a very small proportion have water temperatures greater than 100°C.

Australia's geothermal resources in other basins are probably comparable with that in the Great Artesian Basin, since the extrapolation of flow rates and temperatures to other sedimentary basins is considered geologically reasonable. The Great Artesian Basin extends mainly throughout Western Queensland, which would limit its potential use to remote homesteads and small townships. Economic and technical difficulties suggest that in the foreseeable future the use of our geothermal resources will be largely restricted to hot water supply, for space heating and light industrial purposes.

In Australia, it has been estimated by the Bureau of Mineral Resources that identified (demonstrated and inferred) geothermal resources are about 1 per cent of Australia's annual primary energy consumption. This estimate, however, does not imply that these resources are economic, nor that they could be used for efficient electricity generation. Undiscovered geothermal resources may be many orders of magnitude greater than the above estimate.

Tidal energy

Tidal energy is a dispersed energy source derived from regular fluctuations in the combined gravitational forces exerted by the moon and the sun, at any one point on the earth's surface, as the earth rotates. The mean tidal range in the open ocean is about 1 metre, but under suitable hydraulic and topographical conditions, much higher tides than this build up in places around coasts, due to resonance. Because only two commercial tidal plants exist so far in the world, relatively little is known about the possible environmental impact of large-scale utilisation. It is unlikely, however, that tidal installations would be entirely without effect on the ecological life of bays and estuaries within their area of influence due, for instance, to silting and concomitant dredging.

Around Australia there are theoretically very large amounts of tidal energy available, especially on the north-west coast where the tidal range is as great as 11 metres and where the topography is suitable. The tidal potential of this region has been the subject of a series of investigations, including one carried out in 1965 on one of the most promising sites at Secure Bay. It was concluded that a minimum of 12 years design and construction time would be required, although the cost of electricity at the site would be similar to that derived from conventional thermal stations. However, the long distances to potential markets result in a doubling of these electricity generation costs. Subsequent studies by the State Energy Commission of Western Australia have indicated that lead times and construction costs could be reduced but not sufficiently to make tidal energy economically attractive even if a suitable electricity consumer were nearby.

The likelihood of early exploitation of this resource would appear to be less than in other countries, if only because of the long distances involved in transmission to population centres. In Australia, the major consumer regions are located along coastlines where the tidal range is very small.

Biomass

Biomass (matter of biological origin) can be utilised as an energy resource in a variety of ways. From the viewpoint of national energy priorities its major potential is as a source of liquid fuels for transport, particularly ethanol and methanol.

In 1979, the CSIRO completed a survey of the potential for the production of these fuels from agricultural and forestry resources in Australia. The resources considered were potential new energy crops and forest plantations, as well as the residues from existing crop and forest production. In estimating potential new crop production, it was assumed that all land with suitable climate, soil and terrain for an energy crop would be available for energy farming; except land at present under crops or sown pastures.

The total biomass resources considered could provide a net liquid fuels output of 420 petajoules, 60% of the energy used as liquid fuel in transport in 1977-78. This is a net figure, taking into account the liquid fuel input into production, but not socio-economic considerations such as the possibility that there may be more profitable or socially desirable uses for the land available for new crops. It must be considered as an upper limit only. Largely as a result of the cost of the feedstocks, liquid fuel from biomass is not currently cost competitive with petroleum-based fuels.

Other energy crops

Other types of crops, which produce materials more amenable to conversion to fuel, may offer more potential. Crops at present being considered for this purpose include cereal grains, cassava and

sugar cane. Cereal grains and cassava produce starch. The conversion of sugar and starch to ethanol is a well established and straightforward industrial process. The major problems, which also arise with large tree plantations, are that crop production for energy must also compete with alternative uses of the agricultural resources employed (land, labour, capital, water, fertiliser) and that there are alternative uses for these crops, including human food, animal foodstuffs and fibre. The CSIRO is at present investigating the possibility of growing sugar cane, cassava and cereal grains for fuel production on land not now used for crop production. Their results may give an indication of the potential for producing energy in this way.

Ethanol from Sugar Cane

Crops under consideration as feedstocks for fuel ethanol production in Australia are sugar cane, cereal grains, cassava, sugar and fodder beet, and sweet sorghum. Starches and sugars from these crops can be converted by fermentation and distillation to ethanol using well established technology. Over 100 megalitres of ethanol for industrial and potable use is already produced each year from molasses, a by-product of the cane sugar industry. Up to 0.5 megalitres of this is being sold in a 10% ethanol blend with super grade petrol in Mackay for a 12 month marketing trial, which commenced in November 1980.

There is however little scope to increase production of molasses, and an expanded cane-based ethanol industry would need to use whole cane juice as feedstock. This is attractive because sugar cane has the highest yield of ethanol per hectare of the potential energy crops, averaging 7,000 litres. It has the added advantage that bagasse, the fibrous residue after crushing cane, can be used for the process heat, eliminating use of fossil fuel and substantially improving the energy balance for ethanol production.

There is considerable scope for expanded sugar cane production. Currently 350,000 hectares are assigned for growing cane. CSIRO has estimated that an additional 285,000 hectares could be used for cane production, but utilisation of most of this land would require the development of new irrigation and milling facilities. As an indication, this level of production would yield a net ethanol output equivalent to 7-10% of our current motor spirit needs. The major barrier to a fuel ethanol industry at present is the economics; the cost of production from cane is in the region of 45 to 50 cents per litre substantially higher than the cost of petrol.

Ethanol from Other Sources

Cereal and coarse grains (wheat, barley and grain sorghum) give much lower yields of ethanol per hectare, but much larger areas of land are available (11.6 million hectares), mainly in northern New South Wales and Queensland. Utilisation of much of this land would conflict with its present use as grazing land for sheep and cattle. Ethanol production from cereal grains yields a high protein by-product with potential for use as a human food additive or animal feed. The economics of a cereal based ethanol industry would depend heavily on whether markets would be available for the by-product.

Cassava is a tuberous crop with high starch content which grows in the same geographic regions as sugar cane but can tolerate poorer soil and lower rainfall. Cultivation trials on cassava are currently being conducted. The results suggest that cassava could well be grown as an ethanol feedstock in these areas, particularly on marginal agricultural land and land at present used for grazing. Cultivation trials are also being undertaken on sweet sorghum in Queensland and New South Wales, and on sugar beet in Tasmania.

Oil-seed crops

Owing to their poor compression ignition properties, ethanol and methanol are not ready substitutes for distillate as diesel fuel. On the other hand, recent research in Australia and overseas indicates that vegetable-oils give satisfactory performance as fuels in diesel engines, although further research is necessary to establish, for example, their effects on long term engine performance and durability.

In 1980-81 Australia produced 447,000 tonnes of safflower, sun-flower, soybean, rapeseed, linseed, cotton seed and peanuts from 418,000 hectares sown to oil seed crops. This yielded a net 126,000 tonnes of vegetable oil allowing for import and export of seed, and compares to an estimated Australian consumption of 220,000 tonnes.

At one tonne/hectare rapeseed or sunflower would yield 435 litres of oil, equivalent to 380 litres of dieseline per hectare. The cost of production is believed to be around 60c/litre, almost twice the cost of dieseline. CSIRO is gathering data on the scope for expanded production, under Project Crop-fuel.

Hydrocarbon plants

A number of plants produce hydrocarbon-like compounds which can be extracted and converted to liquid fuels by a catalytic cracking process. A recent study under the NERDD Program indicates that the extracts would cost \$116 to \$196 per barrel of oil equivalent. None of these crops are presently grown commercially.

Forests and Agricultural Residues

The rapid rate of depletion of fossil fuels is focussing attention again on wood as a renewable resource, and the potential production of fuels from agricultural wastes. Various fuels may be derived from wood, mainly methanol, ethanol and charcoal. Charcoal can be converted into fuel gas which is usable for a range of applications. Methanol can be produced by pyrolysis of wood and ethanol by hydrolysis and fermentation of cellulose.

Based on the definition and classification adopted by FORWOOD Conference, 1974, Australia's estimated productive forest area at 30 June 1978 was 43,825,000 hectares. Of this, plantations comprised 699,300 hectares (coniferous 655,100 and broadleaved 44,200 hectares). It is estimated that by 1984-85 total production and consumption in Australia will reach 1,442,000 tonnes in terms of primary energy consumer. This quantity represents 22.8×10^{16} Joules, an insignificant proportion of Australia's overall energy demand, although, especially in South and Western Australia, firewood has had some regional significance.

Another aspect of wood utilisation which is under study in Australia is forestry residues as a source of fuel. Forest residues are the products left after logging, stems which are removed in silvicultural treatments and the as yet untapped resources of woodland classed as unproductive. Mill residues comprise bark, sawdust, shavings, defective section of the tree bole and off-cuts. It is estimated that the production of sawmill wastes in Australia is 3.5 million tonnes/year. After allowing for the quantities chipped for pulp and other uses, about 2 million tonnes would be available as fuel. Some of this would be included in the consumption of firewood by industry. Utilising the unknown volume of forest residues and unproductive woodlands involve problems of concentration and transport.

The immediate need however is for liquid fuels. It does not seem likely that ethanol from wood will be able to compete with that from other feedstocks which do not require hydrolysis. Methanol is more promising, and use of 15-16 million tonnes of wood to produce a net 4,400 megalitres of methanol may be possible. However, methanol from wood could not compete economically against methanol from coal or gas.

Electric power

The information contained in this section relates to situations existing and projects contemplated, and may be considerably affected by changes in policy or plans, or by developments in the projects themselves. Greater descriptive and historical detail about the various systems is contained in earlier issues of the Year Book.

Hydro-Power

With the exception of Tasmania, Australia is not well-endowed with hydro-electric resources because of its generally low rainfall and limited areas of high relief. Its hydro-electric resources are confined almost entirely to Queensland, New South Wales, Victoria and Tasmania.

Currently the total installed capacity of hydro-electric generating plant is approximately 5,500 MW, which is about 25 per cent of the total installed capacity of the public electricity supply authorities and provides 20 per cent of the electricity generated owing to its lower use during off-peak periods. Although hydro-electric generating plant currently provides a significant amount of the electricity generated, its relative importance is expected to decline. Most of the economically favourable sites have been developed and only Tasmania and, to a lesser extent, north Queensland, have significant undeveloped resources. The relatively small resources remaining elsewhere may in time be developed for peak load power with or without pumped storage or as ancillary to water management projects. Examples of these respective types are the Shoalhaven Scheme in New South Wales and Dartmouth Dam in Victoria.

Hydro-electric power stations are characteristically high-capital-cost, low-running-cost developments and their economic feasibility compared with thermal stations utilising Australia's abundant resources of low-cost steaming coal is heavily dependent on interest rates and civil construction costs, both of which have increased appreciably in recent years. Tasmania's hydro-power potential is approximately half the total practical potential available in Australia. Currently about 50 per cent of Tasmanian practical potential, which has been estimated at 13,000 GWh/yr. has been developed and projects already committed will raise the proportion to 75 per cent by 1985.

The development of its hydro-power resources has resulted in Tasmania having had the lowest cost electricity in Australia for many years. In recent years, however, the price advantage of hydro-power over coal-fired thermal power has lessened due to the need to develop more remote sites, rising capital costs and high interest rates. Only Tasmania and Queensland have any significant amount of hydro-electric energy left to develop although there are useful amounts left in Victoria and New South Wales. Most of the Queensland potential is in high rainfall areas near Cairns and on the Burdekin River.

Snowy Mountains Hydro-electric Power Act 1949*

In July 1949 the Commonwealth Government established the Snowy Mountains Hydro-electric Authority (*Snowy Mountains Hydro-electric Power Act 1949*) and empowered it: to generate electricity by means of hydro-electric works in the Snowy Mountains area; to supply electricity to the Commonwealth Government (i) for defence and other purposes, (ii) for consumption in the Australian Capital Territory; and to supply the surplus to the States of New South Wales and Victoria.

The Snowy Mountains Act is supported by a detailed agreement between the States of New South Wales and Victoria and the Commonwealth Government with regard to the construction and operation of the Scheme, the distribution of power and water, charges to be made for electricity, and other such matters. The Snowy Mountains Council, established under the terms of the Agreement and consisting of representatives of the Commonwealth Government, the Authority and the States of New South Wales and Victoria, directs and controls the operation and maintenance of the permanent works of the Snowy Mountains Scheme for the control of water and the production of electricity.

Snowy Mountains Hydro-electric Scheme

The broad basis of the Snowy Scheme is to transfer waters, which would otherwise flow to the sea unharnessed, from the Snowy River and its tributaries to the inland system so that the water may be used for irrigation and to provide power. It involves two main diversions: the diversion of the Eucumbene, a tributary of the Snowy, to the Upper Tumut River; and the diversion of the main stream of the Snowy River at Island Bend and Jindabyne to the Swampy Plain River. These two diversions divide the scheme geographically into two sections: the Snowy-Tumut Development and the Snowy-Murray Development (*see* Plate 41, page 443). For purposes of both power production and irrigation it is necessary to regulate run-off, and this is achieved by the use of Lake Eucumbene (formed by the construction of Eucumbene dam) to control the waters of the Eucumbene and other storages to control the waters of the Murrumbidgee, and Tumut Rivers for the Snowy-Tumut Development and of the Snowy and Geehi Rivers for the Snowy-Murray Development. For a description of the Snowy-Tumut and Snowy-Murray Development, and progress of the scheme, *see* previous issues of the Year Book.

Utilisation of power from scheme

The Snowy Mountains Scheme is situated about midway between the principal load centres of Sydney and Melbourne and is connected to those cities by a 330 kV transmission lines. It is, consequently, in a position to take advantage of the diversity in the power requirements of these two load systems, a most important factor in so far as it affects the economy of operation of the supply systems of the two States. The average annual notified energy of the Snowy Mountains Hydro-electric Scheme is 5,129 GWh a year. The Commonwealth Government reserves 670 GWh for supply to the A.C.T.; for convenience, the Commonwealth Government's requirements are drawn from the New South Wales transmission network by an exchange arrangement between the Commonwealth Government and the Electricity Commission of New South Wales. Electricity over and above that required by the Commonwealth Government is divided between the states of New South Wales and Victoria in the ratio 2:1.

Electricity generation and transmission

NEW SOUTH WALES

Electricity Commission of New South Wales and electricity supply authorities

The main function of the Commission is the generation and transmission of electricity, which it sells in bulk to distributing authorities (mainly local government bodies) throughout a large part of the State, to the Government railways and to certain large industrial consumers. As the major generating authority, it is also responsible for the development of new power sources except in the Snowy Mountains region.

The retail sale of electricity to the public is, in general, carried out by separate electricity supply authorities. At 30 June 1981 there were 27 retail supply authorities throughout the State, comprising 23 electricity county councils (consisting of groups of shire and/or municipal councils), 1 city council, 1 shire council, and 2 private franchise holders.

Most electricity distribution areas have been consolidated into country districts consisting of a number of neighbouring local government areas grouped for electricity supply purposes and administered by a county council comprising representatives elected by the constituent councils. Of the 205 cities, municipalities and shires in New South Wales, 198 are included in one or other of the 23 electricity county districts.

* *See also* Chapter 15, Water Resources of this issue and the special detailed article in Year Book No. 42, pages 1103-30.

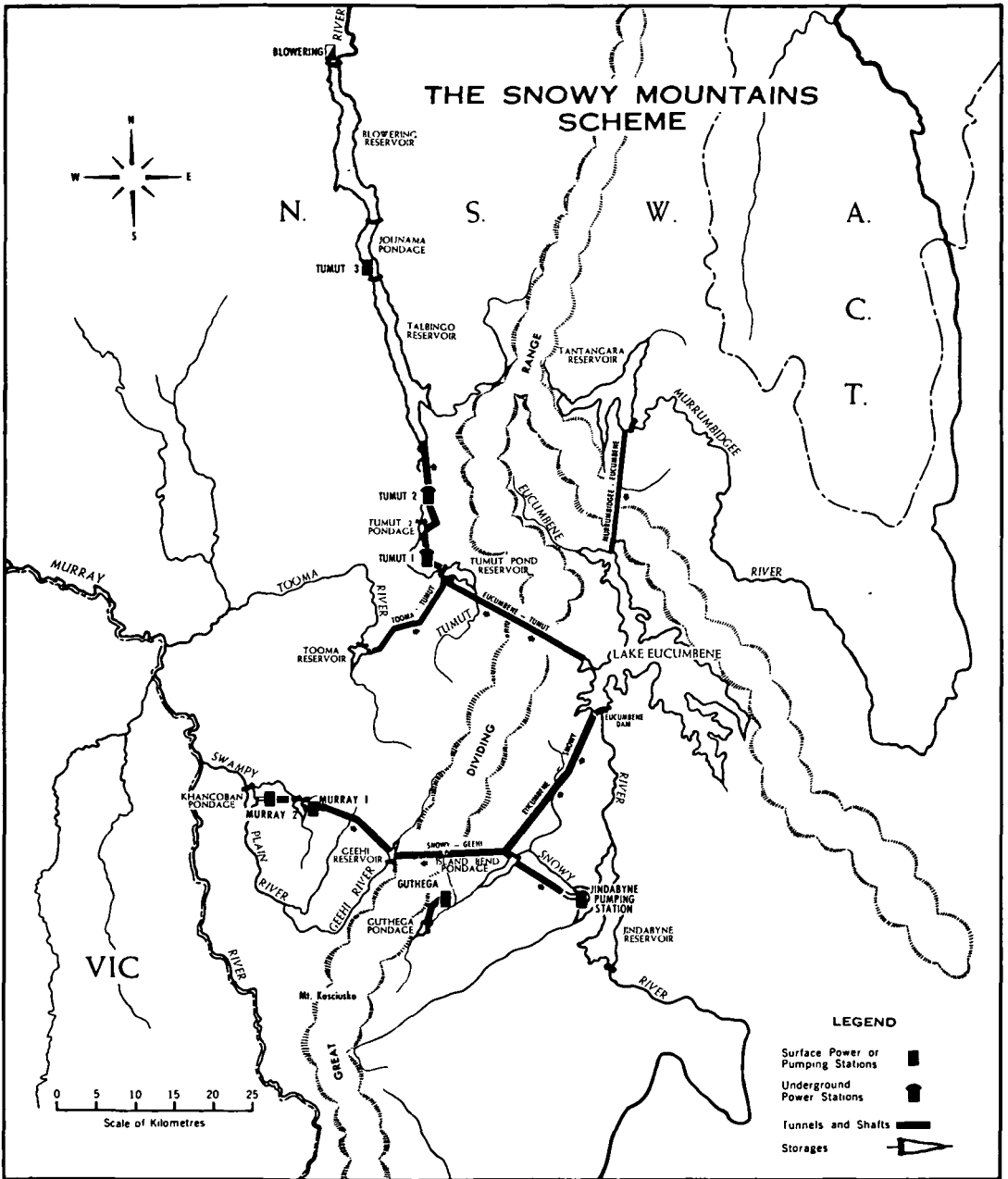


PLATE 41

The Energy Authority of New South Wales

The Electricity Development Act, 1945, confers broad powers on the Energy Authority to co-ordinate and develop the public electricity supply industry. The functions of the Authority include the promotion of the wise use of electricity, especially its use for industrial and manufacturing purposes and for primary production. Technical advice is given to retail electricity supply authorities on various aspects of their activities such as the framing of retail electricity tariffs, public lighting and the standardising of materials and equipment.

The Authority administers the Rural Electricity Subsidy Scheme under which the rural electrical development of the State has now been virtually completed where the extension of supply is economically feasible. Under the subsidy scheme, local electricity suppliers receive subsidies from the Authority towards the cost of new rural lines. At 30 June 1981 the Authority was committed to the payment of \$43,786,553 in subsidies, of which \$38,139,374 had been paid. Further details of the operation of the scheme are given in Year Book No. 56, page 956.

The Authority also administers the Traffic Route Lighting Subsidy Scheme, which provides for financial assistance to councils towards the cost of installation of improved lighting on traffic routes traversing built-up areas with the objective of reducing the incidence of at night road accidents. Since the introduction of the scheme in 1964, subsidy has been approved in respect of some 1,866 kilometres of traffic routes throughout the State.

Generation and transmission

Of the State's electrical power requirements during the year ended 30 June 1981, almost all was generated in New South Wales (89.8 per cent by coal fired power stations, 9.0 per cent from the Snowy Mountains Hydro-electric Authority and 0.9 per cent by other hydro-electric stations). Interstate imports of electricity accounted for the remaining 0.3 per cent.

Major generating stations. At 30 June 1981 the major power stations of the State system of the Electricity Commission of New South Wales and their nominal capacities were as follows: Liddell (Hunter Valley), 2,000 MW; Munmorah (Tuggerah Lakes), 1,400 MW; Vales Point (Lake Macquarie), 2,195 MW; Wangi (Lake Macquarie), 330 MW; Tallawarra (Lake Illawarra), 320 MW; Wallerawang (near Lithgow), 1,240 MW; Pyrmont (Sydney), 200 MW. The total nominal capacity of the Electricity Commission's system as at 30 June 1981 was 8,236 MW. The greater part of the Commission's generating plant is concentrated within a hundred and eighty-five kilometre radius of Sydney.

Major transmission network. The retailing of electricity to 97 per cent of the population of New South Wales is in the hands of local distributing authorities, which obtain electricity in bulk from the Commission's major State network. This network of 330kV, 132 kV, 66 kV and some 33 kV and 22 kV transmission lines links the Commission's power stations with the load centres throughout the eastern portions of the State, extending geographically up to 650 kilometres inland.

At 30 June 1981 there were in service; 3,709 circuit kilometres of 330 kV and 6,952 kilometres of 132 kV transmission lines (including 298 kilometres operating for the time being at 66 kV). There were also in service 4,368 kilometres of transmission line of 66 kV and lower voltages, and 524 kilometres of underground cable. The installed transformer capacity at the Commission's 168 substations was 27,415 MVA.

Separate systems and total State installed capacity. Several local government bodies operate their own power stations and generate a portion of their requirements which is supplemented by interconnection with the system of the Electricity Commission. Of these, the more important are the Northern Rivers County Council (installed capacity 15.1 MW) and the North-West County Council (17 MW). In addition, a private company operates small stations supplying the towns of Ivanhoe and Wilcannia. The aggregate effective capacity for the whole of New South Wales systems and isolated plants was approximately 7,788 MW at 30 June 1980, while the number of ultimate consumers at this date was 1,984,906.

Future developments

Future projects include the installation of 6,600 MW of coal-fired generating plant over the next six years. Four 660 MW units are being installed at Eraring Power Station on the central coast and will be commissioned progressively for full commercial service over the period 1982-1984. At Bayswater Power Station, which is situated in the Hunter Valley, construction has commenced on four 660 MW units for commissioning over the period 1985-1986. Two 660 MW units are planned for Mount Piper Power Station which is located on the western coalfield near Wallerawang. Commissioning of the Mount Piper units is planned for 1987.

Construction of a double circuit 500 kV transmission line between Eraring and Kemps Creek, west of Sydney has commenced. This transmission line will initially operate at 330 kV but operation at 500 kV is planned in 1984. A double circuit 500 kV transmission link will be constructed from Bayswater Power Station to Mount Piper Power Station and thence to Marulan where it will be interconnected with the existing transmission system between the Snowy Mountains and Sydney.

Hydro-electricity

The greater part of the hydro-electric potential of New South Wales is concentrated in the Snowy Mountains area (see Snowy Mountaint Hydro-electric Scheme, page 438). Apart from this area, major hydro-electric stations are in operation at the Warragamba Dam (50 MW) and Hume Dam (50 MW).

In addition, there are six smaller hydro-electric installations in operation in various parts of the State. A pumped-storage hydro-electric system to produce 240 MW has been installed as part of the Shoalhaven Scheme in conjunction with the Metropolitan Water Sewerage and Drainage Board.

VICTORIA

State Electricity Commission of Victoria

Established under earlier legislation and currently operating under the provisions of the *State Electricity Commission Act 1958*, No. 6377 as a semi-government authority, the principal function of the Commission is to generate or purchase electricity for supply throughout Victoria. The Commission may own, develop and operate brown coal open cuts, and briquetting plant and develop the State's hydro-electric resources. The Commission is required to meet from its own revenue, which it controls, all expenditure involved in operating its power and fuel undertakings and to provide for statutory transfers to the Consolidated Revenue Fund of the State.

Since it began operating in 1921 the Commission has expanded and co-ordinated the generation, purchase and supply of electricity on a State-wide basis to the stage where its system generates almost all the electricity produced in Victoria (which has an area of 228,000 sq km) and the transmission network covers practically the entire population of the State. As at 30 June 1981, the Commission had gross fixed assets of \$3,826 million, employed 21,226 persons, had a total income of \$891 million and, during the preceding twelve months, had increased sales of electricity by 8.5 per cent.

Victoria's electricity system is based on the utilisation of the extensive brown coal deposits in the La Trobe Valley in Central Gippsland, about 140 to 180 km east of Melbourne. Total geological resources of brown coal in the La Trobe Valley are estimated at 107,800 megatonnes and, of this quantity, about 30,000 megatonnes are economically winnable and 11,000 megatonnes are readily recoverable using present mining techniques.

In 1980-81 the output of brown coal from the Commission's three open cuts at Yallourn, Yallourn North and Morwell totalled 30.8 megatonnes of which 27.7 megatonnes were used in the Commission's power stations. A further 2.9 megatonnes were used to produce 1.1 megatonnes of briquettes and 0.23 megatonnes was sold to the public. Sales of briquettes to the public totalled 643,000 tonnes, producing an income of \$13.9 million and 473,000 tonnes were used as fuel in power stations.

Electricity generation transmission and supply

In 1980-81 the Commission generated in its thermal and hydro-electric power stations, or purchased 23,744 GWh. The total installed generating plant capacity at 30 June 1981 was 5,792 MW, inclusive of the capacity both within the State and available to Victoria from New South Wales.

The power stations are interconnected and feed electricity into a common pool for general supply. The major generating plant in the interconnected system is the 1,600 MW Hazelwood base load, brown-coal-fuelled power station near Morwell in the La Trobe Valley, which alone generates nearly 40 per cent of Victoria's electricity. Other brown coal power stations in the interconnected system comprise the established base load stations at Morwell and Yallourn and the partially completed Yallourn 'W' station. Peak load thermal stations are located in Melbourne (Newport, and Spencer Street) and at Jerralang in the La Trobe Valley. Hydro-electric stations are located at Kiewa, at Eildon, and at Dartmouth, also on the Rubicon and Royston Rivers near Eildon and at Cairn Curran. All generators for public supply within Victoria are owned by the Commission except Spencer Street Power Station, which remains the property of the Melbourne City Council although operated as a unit of the interconnected system.

Generation in thermal stations is supplemented by supply from the Commission's hydro stations in the mountains in the north-east of the State and by entitlements from the Snowy Mountains Hydro-electric Scheme in south-eastern New South Wales (one third of output after provision for the Commonwealth Government's needs) and the Hume Power Station on the Murray River boundary with New South Wales (half of output). The Snowy Mountains Scheme is linked to the Victorian system by two 330 kV transmission lines which also allow for a two-way interchange with New South Wales.

At 30 June 1981 the electrical transmission and distribution system in the State supply network comprised 112,934 kilometres of overhead lines and 4,023 kilometres of underground lines. There are 4 auto-transformation stations, 26 terminal substations, 184 zone substations and 87,098 distribution substations. Transmission is mainly by 500, 330, 220 and 66 kV lines which supply the principal distribution centres and provide interconnection between the power stations. The total route length of the 500, 330 and 220 kV lines is 3,762 kilometres.

The Commission sells electricity retail in all Victorian supply areas except for eleven Melbourne metropolitan municipalities. These municipalities purchase electricity in bulk from the Commission

and retail it to approximately 275,500 customers within the municipalities concerned under franchises granted by the Victorian Government before the Commission was established in 1921. Bulk supply is also provided to several municipalities in New South Wales and to a number of towns and areas bordering the Murray River.

Complete electrification of the State has virtually been achieved and only a few remote areas do not receive supply. At 30 June 1981 the Commission had 1,321,200 retail customers excluding bulk sales, and the income derived was \$708 million. There were 1,129,500 domestic, 81,700 industrial and 108,300 commercial consumers. In country areas electricity was supplied to about 78,200 farms. Sales of electricity during the period, including bulk supplies totalled 19,453 GWh and produced total income of \$863 million.

Current and future development

Power station projects currently under construction are Yallourn W, Stage 2 and Loy Yang in the La Trobe Valley. Yallourn W is designed as a 4 unit, base load station of 1,450 MW capacity fuelled by brown coal. The first two 350 MW units are now in commission. The second two units, each of 375 MW capacity, are scheduled to begin operating in 1981 and 1982. The 500 MW natural gas fired power station at Newport came into operation in 1981. A hydro-electric station with one 150 MW unit built at Dartmouth in conjunction with S.R. & W.S.C. Dam commenced operations early in 1981. The largest project is a major base load generating complex of about 4,000 MW capacity at Loy Yang in the eastern part of the La Trobe Valley, planned to come into service progressively from 1984. A new coalfield is being opened for this development.

QUEENSLAND

Legislation

Queensland's electricity supply industry is regulated by the *Electricity Act* 1976-80. This Act deals with the organisation and regulation of the generation, transmission, distribution, supply and use of electricity in Queensland and with matters of safety associated with these functions.

The State Electricity Commission of Queensland

The main functions of The State Electricity Commission of Queensland are to plan and ensure the proper development and coordination of the electricity supply industry throughout the State, to enforce safety regulations, to control electricity charges, to raise capital for development, and to administer all electricity supply legislation.

Organisation

Generation and main transmission are functions of The Queensland Electricity Generating Board. It operates the power stations and main transmission lines in the interconnected grid supplying energy from Cooktown to the New South Wales border and west to centres such as Winton and Julia Creek.

The Queensland Electricity Generating Board supplies energy in bulk to seven distributing Boards which supply retail consumers in their respective areas. These Boards are The South East Queensland Electricity Board, The South West Queensland Electricity Board, The Wide Bay-Burnett Electricity Board, The Capricornia Electricity Board, The Mackay Electricity Board, The North Queensland Electricity Board and The Far North Queensland Electricity Board.

Four of these distributing Boards (The South West Queensland, Capricornia, North Queensland and Far North Queensland) also operate small internal combustion stations in their respective areas.

Electricity generation, transmission and distribution

Over ninety-four per cent of the State's generation is derived from steam power stations fuelled by black coal. Hydro-electric stations located in North Queensland provide 5 per cent, depending on rainfall in the catchment areas, with the balance being generated by gas turbine and diesel power stations using light fuel oil. The Roma diesel power station also uses locally produced natural gas. Electricity generated by the public supply authorities in Queensland in 1980-81 totalled 12,176 million kWh. In addition 146 million kWh were purchased in bulk from other producers of electricity for re-distribution to consumers.

At 30 June 1981 the total generating capacity of the publicly-owned stations in the State was 3,314 MW, comprising 2,971 MW of steam plant, 132 MW of hydro-electric plant, 163 MW of gas turbine plant and 48 MW of internal combustion plant.

The regional locations, types and capacities of major publicly-owned power stations in Queensland are: Southern Region—Swanbank A (steam) 396 MW; Swanbank B (steam) 480 MW; Swanbank C (gas turbine) 30 MW; Tennyson (steam) 240 MW; Bulimba (steam) 180 MW; Middle Ridge (gas turbine) 60 MW. Central Region—Gladstone (steam) 1,375 MW; Gladstone (gas turbine) 14MW;

Callide (steam) 120 MW; Rockhampton (gas turbine) 25 MW. Northern Region—Kareeya (hydro) 72 MW; Barron Gorge (Hydro) 60 MW; Collinsville (steam) 180 MW and Mackay (gas turbine) 34 MW.

The electrical transmission and distribution system within the State comprised 121,027 circuit kilometres of electric lines and at 30 June 1981 supplied approximately 833,500 customers. The main transmission voltages are 275 kV, 132 kV, 110 kV, 66 kV and in certain areas 33 kV and 22 kV. The single wire earth return system is used extensively in rural electrification and nearly 30,800 kilometres of line for this system of distribution was in service at 30 June 1981.

Future development

Construction of the power station at Gladstone in Central Queensland is well advanced. When complete, this station will consist of six 275 MW steam sets and one 14 MW gas turbine set. The first four steam sets and gas turbine set are fully operational. The remaining two sets are due for completion in early 1981 and 1982 respectively.

Over \$100 million has been spent on construction of the Wivenhoe Pumped Storage Hydro Electric Project on the Brisbane River. The power station will consist of two 250 MW pump turbine units, and commissioning is expected in 1984 after an estimated expenditure of \$220 million. Contracts have been placed for all plant items and construction of the main power station structure together with installation of the main plant is well underway.

Work on the 1400 MW power station, comprising four 350 MW sets, being constructed on the Tarong coal field is advancing on schedule. Civil works associated with the project are well underway and contracts have been let for major construction works and plant items. The first set is programmed to commence service in mid 1984, the second in mid 1985, the third and fourth in 1986.

The 700 MW Callide 'B' power station consisting of two 350 MW sets is in the early stages of construction and is expected to be completed by 1987. In addition a 1400 MW power station consisting of four 350 MW generating sets is to be constructed in Central Queensland on a site yet to be determined.

SOUTH AUSTRALIA

Electricity Trust of South Australia

In 1946 the assets of the Adelaide Electric Supply Co. Ltd were transferred to a newly-formed public authority, the Electricity Trust of South Australia, which became responsible for unification and co-ordination of the major portion of the State's electricity supply and which took over the powers previously vested in the South Australian Electricity Commission. In addition to the powers specified in the Adelaide Electric Supply Company's Acts, 1897-1931, the Trust may supply electricity direct to consumers within a district or municipality with the approval of the local authority; arrange, by agreement with other organisations which generate or supply electricity, to inter-connect the mains of the Trust with those of other organisations; and give or receive supplies of electricity in bulk.

Capacity and production

Of the total installed capacity in South Australia at 30 June 1980, the Electricity Trust operated plant with a capacity of 1,890 MW, making it the most important authority supplying electricity in the State. There were approximately 560,000 ultimate consumers of electricity in the State, of whom 551,300 were supplied directly and approximately 8,500 indirectly (i.e. through bulk supply) by the Trust. Its major steam stations are Osborne (240 MW), Port Augusta Playford 'A' (90 MW) and Playford 'B' (240 MW), and Torrens Island (1,080 MW). The Trust also operates a turbo-generator station at Dry Creek (156 MW) and a small station at Port Lincoln (9 MW).

The two main fuels used by the Trust are sub-bituminous coal from Leigh Creek for the Playford power stations at Port Augusta and natural gas from the Gidgealpa-Moomba field for the Torrens Island and Dry Creek stations.

WESTERN AUSTRALIA

State Energy Commission of Western Australia

On 1 July 1975 the Government of Western Australia combined the State Electricity Commission and the Fuel and Power Commission to form a new organisation known as the State Energy Commission of Western Australia. The Commission is specifically charged with the responsibility for ensuring the effective and efficient utilisation of the State's energy resources and for providing its people with economical and reliable supplies of electricity and gas.

The Commission operates coal-burning power stations at South Fremantle, Bunbury and Muja and a coal and oil-burning station at Kwinana. A small hydro-electric station is situated at Wellington Dam

near Collie and there is a gas turbine generating plant at Geraldton. A uniform tariff electricity supply is provided from these stations through an interconnected grid system to the Metropolitan Area and the South-West and Great Southern Areas, including an area extending to Koolyanobbing and northwards as far as Binu beyond Northampton. The Commission also owns and operates diesel power stations at Esperance, Fitzroy Crossing, Halls Creek, Kondinin, Kununurra, Onslow and Port Hedland.

Small electricity supply systems too remote to be connected to the grid system or supplied from the Commission-owned diesel stations are still controlled by local government authorities but are being assisted through an agreement whereby the local generating plant and distribution system is operated by the Commission under a subsidy arrangement known as the Country Towns' Assistance Scheme. Under the scheme, the Commission undertakes to operate, maintain, replace or upgrade plant and supply equipment as necessary. At the present time there are 29 country towns supplied under the provisions of the Country Towns' Assistance Scheme.

At 30 June 1981 the Energy Commission's generating capacity from its interconnected grid system was 1,637 megawatts, while the capacity of its separate supply systems in country areas was 91.62 MW. Since then (August 1981) the Energy Commission has synchronised another 200 MW coal-fired generating unit at Muja Power Station, being the first half of the Stage C extensions at Muja. The second 200 MW unit is due to come on stream about August 1981. Construction is now underway to duplicate the Stage C extensions under what will be known as Muja Stage D. This will give Muja a capacity of 1,040 MW by mid-1985 making it the Energy Commission's biggest power station.

Meanwhile work is proceeding on the conversion of two 120 MW units at Kwinana Power Station from oil to dual coal/oil firing. This project, due for completion in April 1983, follows the successful conversion in 1979 of two 200 MW units at the station from oil to dual coal/oil firing. Another venture with which the Commission is involved is the Dampier to Perth natural pipeline project. Gas to be drawn from the massive offshore reserves in the North-West will overcome restricted supplies presently available at Dongara, and is expected to reduce W.A.'s dependence on oil from about 70% to about 45% by the mid-1980's. The Energy Commission will be responsible for the purchase of gas at Withnell Bay, near Dampier, for sale to customers in the Pilbara and South-West of the State. The Commission will design, finance, construct and operate the 1,500 km onshore pipeline to Perth and Wagerup.

The Commission is also studying various possible alternative methods of supplying power to remote areas of the State. Projects in this regard include the testing of wind powered electric generators on Rottnest Island and solar power plants at Meekatharra and at the Commission's Northern Gas Depot at Ballajura. The integration of separate power generation facilities in the Pilbara and a hydro-electric power station at the Ord Dam are also being considered.

Natural gas is reticulated in most areas of the Perth metropolitan region and in Pinjarra, simulated natural gas (SNG) is reticulated in the Bunbury area, and tempered liquefied petroleum gas (TLP) is reticulated in Albany.

Some details of the Commission's activities for the year ending 30 June 1981 are: number of electricity customers 431,696, gas customers 106,732; electricity generated for interconnected system 5,228 GWh and 127 GWh for Country Towns' Assistance Scheme; natural gas supplied 1,206 GWh, manufactured gas supplied 34.5 GWh; fuel used for electricity generation included 2,909,059 tonnes of coal, 93,888 tonnes of fuel oil and 858 tonnes of distillate.

TASMANIA

A considerable part of the water catchment in Tasmania is at high level. The establishment of numerous dams has created substantial artificial storage which has enabled the State to produce energy at a lower cost than elsewhere in Australia and in most other countries. Another factor contributing to the low cost is that rainfall is distributed fairly evenly throughout the year with comparatively small yearly variations. Abundant and comparatively cheap supplies of electricity played an important role in attracting industry to Tasmania. For information on hydro-electric development in Tasmania prior to the establishment of the Hydro-Electric Commission in 1930, see Year Book No. 39, pages 1192-3.

Hydro-Electric Commission

The Commission was created in 1930, taking over the activities of the Hydro-Electric Department and the existing small hydro-electric installations. Development initially concentrated on hydro-electric generation feeding into a State-wide power grid (King Island from 1951 and Flinders Island from 1968 are outside the grid and are supplied by diesel generators). Unusually low rainfall during 1967 severely restricted the State's generating capacity and prompted the construction of a substantial oil-fired thermal station with a capacity of 240 MW. This station, completed during 1974, is used as required.

Output and capacity of hydro-electric system

For information on the development of the Tasmanian generating system see Year Book No. 61, pages 984-985.

The generator capacity of the Tasmanian system was: hydro, 1,540.4 MW; oil-fired thermal, 240 MW; and diesel, 2.0 MW. Two generators in the Gordon River Hydro-Electric Scheme, Stage 1, were commissioned during 1978, increasing generating capacity by 288 MW. The hydro system's sustainable long-term average loading is estimated at 854 MW.

The current development program involves construction of a system based on the Pieman, Murchison and Mackintosh Rivers in Western Tasmania; these works, which were commenced in 1973, will add 385 MW to the State's power grid.

In October 1979, the Commission released a report which recommended to the Government that an integrated hydro development on the Lower Gordon, King and Franklin Rivers in south-west Tasmania be developed. Other viable alternatives to meet the State's forecast demand for electricity from 1990 to 2000 investigated included a separate development of the same three rivers, a coal-fired thermal station and importation of electricity from Victoria by an underwater cable. The recommended hydro development was planned to add 172 MW to average output in 1990 and a further 168 MW (average) in 1995. The estimated cost of electricity generated from this scheme was under half the cost of that obtainable from a coal-fired station and only 40 per cent of that obtainable via a Bass Strait link with Victoria. In July 1980 the Government set aside the H.E.C. recommendations in favour of a smaller hydro scheme on the Gordon River above its junction with the Olga River. This would leave untouched, the waters of the Franklin River. As at August 1981, no decision had been reached by State Parliament.

AUSTRALIAN CAPITAL TERRITORY

The supply authority is the A.C.T. Electricity Authority which took over the functions of the Canberra Electric Supply Branch, Department of the Interior, on 1 July 1963. Supply was first made available in Canberra during 1915 and was met from local steam plant. Connection to the New South Wales interconnected system was effected in 1929. The Authority electric supply requirements are met by a Snowy Mountains reservation of 670 GWh's and the balance provided by the Electricity Commission of New South Wales. Locally-owned plant consists of 3 MW diesel alternators which are retained as a standby for essential supplies. The total number of ultimate consumers at 30 June 1981 was 81,123. During the year 1980-81 the bulk electricity purchased was 1,558 GWh and the system maximum demand was 463 MW.

NORTHERN TERRITORY

The Northern Territory Electricity Commission is a Statutory Authority operating under the *Northern Territory Electricity Act 1978* (as amended to date), with responsibility for generation, distribution, transmission and sale of electricity in the Northern Territory. The Commission's responsibilities also include electrical safety and inspections.

In Darwin, the major electricity supply source is Stokes Hill Power Station, with an installed capacity of 141 megawatts, and standby gas turbines are located at Berrimah and Snell Street, with a combined capacity of 40 megawatts.

In the major centres of Alice Springs, Tennant Creek and Katherine, diesel power stations generate power with a capacity of 36.76 megawatts (Alice Springs), 7.8 megawatts (Tennant Creek) and 6.36 megawatts (Katherine). As additional sets are being installed at Alice Springs, provision is being made for dual firing in view of the forthcoming supply of natural gas from Palm Valley.

Installation of 6x1 megawatt English electric sets is now underway at Katherine which will boost total capacity to 14.36 megawatts by the end of November 1981. Tennant Creek's total capacity will rise to 8.64 megawatts by June 1982 with the installation of a sixth set.

The Commission operates a number of smaller diesel stations, by an agency arrangement, in the following smaller townships—Pine Creek (.95 MW), Elliott (.536 MW), Maratanka (.5 MW), Larrimah (.2 MW), Ti Tree (.318 MW), Borroloola (.560 MW), Newcastle Waters (58 kW) and Timber Creek (270 kW).

Many small communities in the Territory generate their own power using diesel fired conventional generating sets. The Department of Transport and Works has responsibility for the installation and maintenance of power generation in Aboriginal Settlements, which comprise the greater majority of these small outlying communities.

The following table shows details of thermal and hydro electricity generated in Australia during recent years.

ELECTRICITY (a)—THERMAL AND HYDRO

Year	Million kWh
1974-75	73,933
1975-76	76,597
1976-77	82,522
1977-78	86,095
1978-79	90,851
1979-80	95,910

(a) Figures represent estimates of total electricity generated by public utilities, factories generating for their own use, and factories supplying electricity for domestic and other consumption.

Electricity and gas establishments

The census of electricity and gas industries covers distribution as well as production and is conducted as a component of the ABS's integrated economic statistics system. This system has been developed so that data from each industry sector conform to the same basic conceptual standards thereby allowing comparative analysis between and across different industry sectors. The results of this census are therefore comparable with economic data collections undertaken annually for the mining and manufacturing industries and periodically for the wholesale trade, retail trade and construction industries.

The following table shows a summary of operations of electricity and gas establishments for 1979-80. Further details are available in the publication *Electricity and Gas Establishments, Details of Operations, Australia, 1979-80* (8208.0)

ELECTRICITY AND GAS ESTABLISHMENTS—SUMMARY OF OPERATIONS, 1979-80

State or Territory	Establishments at 30 June	Employment at 30 June			Wages and salaries (\$m)	Turnover (\$m)	Stocks		Purchases, transfers in and selected expenses (\$m)	Value added (\$m)	Fixed capital expenditure less disposals (\$m)
		Males (No.)	Females (No.)	Total (No.)			Opening (\$m)	Closing (\$m)			
New South Wales—											
Electricity	42	26,626	2,648	29,274	382.1	1,961.2	137.3	129.8	988.2	965.4	378.2
Gas	22	2,498	576	3,074	40.7	141.8	13.8	17.9	65.7	80.1	16.6
Victoria—											
Electricity	14	17,206	1,275	18,481	258.7	1,299.8	57.0	72.6	496.4	818.9	492.5
Gas	1										
Queensland—											
Electricity	10	9,774	1,206	10,980	149.2	870.0	43.7	46.1	498.7	373.7	327.6
Gas	7	585	109	694	7.9	42.1	2.4	3.8	21.2	22.3	2.7
South Australia—											
Electricity	10	5,411	353	5,764	81.2	300.0	17.3	19.0	120.9	180.7	62.6
Gas	4										
Western Australia—											
Electricity	11	5,390	386	5,776	83.0	382.8	24.9	38.9	192.0	204.8	111.8
Gas	2										
Australia (a) —											
Electricity	92	65,351	5,619	70,970	965.3	4,739.3	281.6	310.8	2,256.0	2,512.5	1,373.1
Gas	57	7,967	1,497	9,464	123.8	564.3	34.4	44.1	221.6	352.4	89.0

(a) Includes Tasmania, Northern Territory and Australian Capital Territory. At the end of June 1980 there were 2 electricity and 1 gas establishment operating in Tasmania; 2 electricity establishments in the Northern Territory and 1 electricity establishment in the Australian Capital Territory.

National Energy Survey

In November 1980 a survey was conducted throughout Australia to obtain information about the number and type of selected domestic appliances held by households. It was undertaken as part of the regular population survey which is based on a multi-stage area sample of private dwellings (houses, flats, etc) and non-private dwellings (hotels, motels, etc) and covers about two-thirds of one per cent of the population of Australia. For the purposes of the National Energy Survey certain types of dwellings, such as non-private dwellings (e.g. hospitals, motels, hotels), caravan parks and dwellings occupied by more than one household, or diplomatic personnel or persons from overseas holidaying in Australia, were excluded.

The following table shows households by major appliances and facilities. Further data relating to the National Energy survey are published in *National Energy Survey: Household Appliances, Facilities and Insulation, Australia, November 1980* (8212.0)

HOUSEHOLDS BY MAJOR APPLIANCES AND FACILITIES, NOVEMBER 1980
(*000)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
Electric refrigerator	1666.1	1242.3	710.3	441.2	407.1	131.7	29.4	69.6	4697.7
One door electric refrigerator (a)	1031.4	833.7	429.2	277.4	268.0	94.0	19.9	37.0	2990.5
Two door electric refrigerator									
(a)	773.8	492.6	353.1	203.4	178.0	41.3	14.0	36.7	2092.9
Non-electric refrigerator	5.4	*	8.5	*	3.1	*	*	—	21.6
Deep Freezer	690.2	503.9	333.1	206.8	180.9	76.9	18.2	28.6	2038.7
Stove	1377.8	1001.5	602.4	377.2	344.6	117.7	25.5	45.3	3892.0
Separate oven	278.5	242.1	109.0	63.8	64.4	14.6	3.2	24.2	799.9
Hotplate only	11.8	3.7	4.9	*	*	*	*	*	25.4
Microwave oven (b)	71.8	33.6	25.4	12.6	14.9	2.8	*	3.2	165.6
Electric frypan/skillet (b)	682.6	401.6	359.1	185.5	161.4	68.2	14.3	30.9	1903.5
Vertical grill (b)	166.9	103.2	50.8	50.6	28.5	14.6	2.6	6.0	423.2
Crockpot (b)	82.6	40.4	44.6	26.7	20.5	8.1	3.2	4.4	230.4
Dishwasher	227.9	190.5	108.4	39.4	39.5	14.2	3.4	17.4	640.7
Washing machine—									
Automatic	995.1	764.1	368.6	194.4	193.7	69.0	20.4	56.0	2661.3
Other	526.4	359.5	300.5	218.4	178.8	59.3	7.8	9.5	1660.1
Total	1521.6	1123.6	669.0	412.8	372.5	128.3	28.2	65.5	4321.4
Clothes drier (c)—									
Rotary	625.0	488.7	198.4	133.2	80.5	61.4	8.8	30.8	1626.9
Cabinet	76.0	60.6	11.6	28.6	10.3	5.2	*	2.8	195.4
Total	701.1	549.3	210.1	161.8	90.8	66.6	9.1	33.6	1822.3
Hotwater system—									
Shared	38.1	36.2	15.8	4.2	8.0	*	*	*	104.6
Non-shared	1584.6	1204.4	683.3	432.0	398.9	130.7	28.0	68.8	4530.6
Total	1622.8	1240.5	699.1	436.2	406.9	131.7	28.6	69.4	4635.1
Central heating	53.7	152.1	3.6	13.7	10.9	4.9	*	10.2	249.6
Oil heater	200.0	184.5	15.4	78.2	93.0	45.7	*	18.2	636.5
Fixed electric heater	192.7	329.6	30.5	65.4	31.6	49.2	2.4	40.3	741.6
Gas heater	189.6	633.4	10.6	135.2	61.8	10.5	*	7.0	1048.5
Woodfire/solid fuel heating	247.8	259.7	53.5	97.3	104.4	62.1	2.0	10.9	837.8
Portable heater	1400.2	858.4	511.2	368.5	308.2	115.6	4.7	56.1	3622.9
Air-conditioning	453.2	323.1	103.1	224.6	156.1	*	15.6	11.4	1288.3
Wall insulation (d)	138.6	185.0	52.4	32.6	17.2	16.7	2.8	6.2	451.4
Ceiling insulation (d)	541.8	654.0	97.4	227.9	154.2	47.8	11.1	48.8	1783.1
Swimming pool—									
With filter	142.5	102.0	55.9	29.8	45.3	5.0	4.2	4.9	389.4
No filter	9.4	12.0	2.9	*	*	*	*	*	27.9
Total	151.9	114.0	58.8	30.3	47.0	6.1	4.3	4.9	417.3
All Households	1676.7	1249.0	722.5	443.0	412.8	133.4	30.1	69.7	4737.3

(a) Refers only to external doors. (b) Included only if used more than once a week. (c) Where a household owned more than one drier, only the one used most often was counted. (d) Excludes households in flats and mobile and improvised dwellings. * Subject to sampling variability too high for most practical uses.

REFERENCES

Because the supply and use of energy involves aspects of so many different activities, energy statistics appear in a wide range of ABS collections and a correspondingly wide range of ABS publications. In order to assist those involved in discussions of energy topics to locate the information available in the ABS that may be of relevance to a particular topic a Directory of ABS Energy Statistics (1107.0) has been issued.

Other organisations which produce statistics in this field include the Department of National Development and Energy, the Joint Coal Board, the Australian Institute of Petroleum, the Electricity Supply Association of Australia and the Bureau of Mineral Resources, Geology and Geophysics. State Government departments and instrumentalities also are important sources of energy data, particularly at the regional level, while a number of private corporations and other entities operating within the energy field also publish or make available a significant amount of energy information.

CHAPTER 19 HOUSING AND CONSTRUCTION

This chapter gives details of: the characteristics of dwellings obtained from censuses (pages 453–4); government activities in the field of housing (pages 454–63); financial arrangements associated with the erection or purchase of homes (pages 463–6); a summary of building activities (pages 466–70); summary of construction (other than building) activities (pages 470–2); and summary of construction industry statistics (pages 472–75).

HOUSING Census dwellings

Further information on dwellings obtained from censuses is available in the detailed tables of the publications issued for each individual census. A list of the 1976 and 1981 Census publications is shown in the *ABS Catalogue of Publications, Australia* (1101.0). The most relevant 1976 census publication is *Population and Dwellings: Summary Tables* (2409.0 to 2417.0). More detailed unpublished dwellings information is available on microfiche and are listed in the *Catalogue of 1976 Census Tables-Final* (2103.0).

At each census of the population, in addition to the questions relating to personal particulars, there have been a number of questions relating to dwellings. A 'dwelling' is defined as any habitation occupied by a household group living together as a domestic unit, whether comprising the whole or only part of a building, and includes, in addition to houses and self-contained flats, a great variety of dwellings ranging from a single-roomed shack to a multi-roomed hotel or institution. This section contains particulars of such information on dwellings as is available from the 1976 Census, together with information from earlier censuses.

Number of dwellings

The following table shows the number of occupied and unoccupied dwellings in Australia at each census from 1947 to 1976. Occupied dwellings are classified into 'private' and 'non-private' dwellings.

Private dwellings were classified into the following categories for the 1976 Census:

private house—includes separate, semi-detached, attached and terrace or row houses.

villa unit—also includes dwellings variously described as town house, cottage unit, villa development, cottage flats.

self-contained flat—part of a house or other building which can be completely closed off and which has its own cooking and bathing facilities. Includes home units.

other private dwellings—comprises non-self-contained parts or rooms of houses, flats or other premises. Also includes sheds, tents, garages, caravans and houseboats occupied on a permanent or semi-permanent basis.

Non-private dwellings include hotels, motels, boarding houses and hostels, educational, religious and charitable institutions, hospitals, defence and penal establishments, caravan parks, staff barracks and quarters, etc.

An unoccupied dwelling is defined as a structure built specifically for private living purposes and which is habitable though unoccupied at the time of the Census. The total number of unoccupied dwellings shown for any area does not represent the number of vacant dwellings available for sale or renting.

DWELLINGS(a): AUSTRALIA, CENSUSES, 1947 TO 1976

Census	Occupied		Total	Unoccupied
	Private	Non-private		
1947	1,873,623	34,272	1,907,895	47,041
1954	2,343,421	36,932	2,380,353	112,594
1961	2,781,945	35,325	2,817,270	194,114
1966	3,155,340	33,917	3,189,257	263,873
1971	3,670,553	24,006	3,694,559	339,057
1976	4,140,521	21,543	4,162,064	431,200

(a) Excludes dwellings occupied solely by Aborigines before 1966.

The total number of occupied and unoccupied dwellings in each State and Territory at the Censuses of 1971 and 1976 were as follows:

DWELLINGS: CENSUSES, 1971 AND 1976

<i>State or Territory</i>	<i>Census 30 June 1971</i>		<i>Census 30 June 1976</i>	
	<i>Occupied</i>	<i>Unoccupied</i>	<i>Occupied(a)</i>	<i>Unoccupied</i>
New South Wales	1,364,542	124,522	1,499,001	152,960
Victoria	1,015,485	88,521	1,126,304	119,592
Queensland	517,245	51,077	602,426	62,686
South Australia	348,112	30,553	392,253	39,768
Western Australia	286,845	28,274	339,105	34,064
Tasmania	110,420	13,307	122,573	15,786
Northern Territory	17,792	929	23,270	2,292
Australian Capital Territory	38,118	1,874	57,132	4,052
Australia	3,694,559	339,057	4,162,064	431,200

(a) Includes non-private dwellings.

Former arrangements between Commonwealth and State Governments

Over the period between 1945 and 1971, public housing was provided under the terms of a series of Housing Agreements entered into between the Commonwealth and the State Governments. For more detailed explanations, see Year Book No. 61, page 228. For information regarding the *States Grants (Housing) Act 1971* see Year Book No. 59, page 210.

A further Housing Agreement was entered into between the Commonwealth and all States in 1973 in relation to welfare housing. It was amended in some minor respects in 1974. See Year Book No. 63, page 410 for further details.

1978 Housing Agreement

This Agreement between the Commonwealth and the six States (excluding Northern Territory) was operated for a three year term ending 30 June 1981. Commonwealth loans (advances) to the States were repayable over 53 years at an interest rate of 4.5 per cent per annum for Home Purchase Assistance and 5 per cent per annum for Rental Housing Assistance. The allocation of loans to these two programs each financial year was determined by the Commonwealth Minister in consultation with each State Minister.

Home Purchase Assistance

In the third year of the Agreement at least 40 per cent of total loans made to a State was to be allocated to that State's Home Purchase Assistance Account (HPAA). Funds available in the HPAA were used principally to make loans to terminating building or co-operative housing societies and approved State lending authorities for on-lending to home purchasers. The interest rate charged by a State to societies and approved lending authorities was not to be less than 5 per cent per annum in the first full financial year, increasing by 0.5 per cent per annum until a rate equivalent to 1 per cent below the long term bond rate was reached, and thereafter varying with movements in the long term bond rate. Eligibility conditions were set by the State ensuring that loans were only made to those who could not obtain mortgage finance on the open market. Provision was made in the Agreement for a number of flexible lending practices, such as escalating interest loans with income geared starts, to be applied by a State subject to variation in repayment in the event of hardship.

Rental Housing Assistance

Funds were used principally for the provision of rental housing by State housing authorities but could be used for other purposes such as urban renewal, funding of voluntary housing management groups and allocations to local government bodies to provide rental housing. Each State determined eligibility for rental housing ensuring that assistance was directed to those most in need. The level of rent was also fixed by each State having regard to a policy of generally relating rents to those on the open market. Rental rebates were granted to those tenants who could not afford to pay the rent fixed. Each State determined its own policy on sales of rental dwellings but all sales were to be at market value or replacement cost and on the basis of a cash transaction. Home Purchase Assistance funds could be used to finance the purchase of rental dwellings.

1981 Housing Agreement

A new Housing Agreement has been negotiated in 1981 under which the Commonwealth will continue payments to the States and the Northern Territory for housing assistance programs for the needy.

The Agreement will run for five years from 1 July 1981, continuing the following two programs:

- home purchase assistance program, which assists those persons wishing to buy or build a home but who are unable to obtain mortgage finance through the private market or from other sources;
- rental housing assistance program, for those who cannot afford suitable accommodation for themselves.

The provisions of the 1981 Housing Agreement, which is Schedule 1 to the 1981 Housing Assistance Act, broadly correspond with those of the 1978 housing legislation. However, there are some basic differences:

- the Commonwealth has guaranteed a minimum level of funding of \$200 million for each year of the Agreement. Additional funding for each year is to be determined in the Budget context. Total funding for 1981–82 is \$262.2 million: \$146 million in loans (advances) and the remainder as grants of which \$32.0 million is allocated for Pensioners, \$34.2 million is earmarked for Aborigines and a further \$50 million is “untied” assistance.
- all assistance, including non-repayable grants earmarked for Pensioners and Aborigines and untied grants are now subject to the terms of the Agreement. See Section below, “Rental Assistance to Pensioners Scheme” for past arrangements applying to this form of rental housing assistance.
- the Northern Territory is now included with the six States in the one Agreement.
- an interest rate of 4.5 percent per annum applies to all loans (advances).
- the maximum interest rate charged by a State to a lending authority under the home purchase assistance program now varies with the Commonwealth Savings Bank rate for housing loans.
- each State is to decide on the allocation of untied funds between home purchase and rental housing assistance programs.
- a policy of uniform rental rebates is to be developed by the Commonwealth and the States and a policy of progressive movement to full market rents is to apply.
- States grants for Aboriginal housing previously administered by the Department of Aboriginal Affairs are incorporated with Housing Agreement grants earmarked for Aborigines after 30 June 1981.

Housing Agreement (Servicemen)

Prior to 30 June 1971, housing for servicemen was provided under the terms of the 1956–1966 Housing Agreement which, in the main, was concerned with public housing and which expired on that date. With effect from 1 July 1971, a separate agreement was concluded between the Commonwealth and State Governments to provide for the construction of dwellings for allotment to servicemen and for improvements to existing accommodation occupied by them. Programmes are negotiated annually and the full capital cost is made available by the Commonwealth in repayable, interest-bearing loans to the States.

Operations under the 1973-1974 Housing Agreement, 1978 Housing Agreement and the Housing Agreement (Servicemen)

The following tables show the results of operations under the 1978 Housing Agreement and the Housing Agreement (Servicemen) during 1978-79 and 1979-80. Corresponding figures for 1978-79 appear in Year Book No. 65, page 451.

1978 HOUSING AGREEMENT: SUMMARY 1979-80

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
HOUSING FUNDS (\$'000)							
Commonwealth loans to States for housing . . .	52,512	41,744	16,336	23,984	15,072	10,352	160,000
Rental Housing Assistance Program	36,758	-	-	9,000	10,550	6,211	62,519
Home Purchase Assistance Account	15,754	41,744	16,336	14,984	4,522	4,141	97,481
Amounts drawn by institutions	47,754	67,675	35,930	64,393	9,183	9,427	234,362
Housing Agreement (Servicemen) loans	1,360	45	-	-	50	-	1,455
NUMBER OF DWELLINGS							
Rental Housing Assistance Program--							
Commenced	3,347	901	580	1,528	854	659	7,869
Completed	2,983	1,185	436	1,392	764	790	7,550
Under construction at 30 June 1980	3,317	1,169	448	1,069	392	410	6,805
Home Purchase Assistance Account--							
Purchased--							
New	832	265	605	1,121	16	6	2,845
Other	892	1,867	431	698	60	291	4,239
New construction--							
Approved	282	385	396	514	211	85	1,873
Commenced	485	1,345	361	n.a.	211	99	n.a.
Completed	457	1,404	351	n.a.	250	139	n.a.
Service housing--							
Agreed program	-	-	-	-	-	-	-
Completed (a)	58	1	2	-	-	-	61
Sales of Rental Dwellings	211	1,440	243	158	80	61	2,193

(a) Includes completions of houses for servicemen programmed in previous years.

1978 HOUSING AGREEMENT: SUMMARY 1980-81

	NSW	Vic.	Qld	S.A.	W.A.	Tas.	Total
HOUSING FUNDS (\$'000)							
Commonwealth loans to States for housing . . .	54,650	43,440	17,000	24,960	15,680	10,770	166,500
Rental Housing Assistance Program	32,790	21,720	-	9,960	9,408	6,462	80,340
Home Purchase Assistance Account	21,860	21,720	17,000	15,000	6,272	4,308	86,160
Housing Agreement (Servicemen) Loans	120	400	800	-	-	-	1,320

Rental Assistance to Pensioners Scheme

Year Book No. 61, page 229, gives information on the *States Grants (Dwellings for Aged Pensioners) Act 1969* and the *States Grants (Dwellings for Pensioners) Act 1974*. The latter was extended a further financial year to 30 June 1978 and a further \$10 million was allocated. From 1 July 1978 grants were provided to the States for 3 years to 30 June 1981 under Part III of the *Housing Assistance Act 1978*. The scheme allowed the States to provide rental housing assistance for other persons in need as well as pensioners defined in the Act. Grants could be used for purposes other than construction of housing, e.g. leasing from the private sector. On 28 June 1979 the Minister for Housing and Construction, in pursuance of section 11 of the Act, declared the following persons to be in need of assistance under this Scheme (a) Aboriginals in need of rental housing assistance, (b) Persons eligible for or receiving assistance under Part V of the 1978 Housing Agreement.

As noted in the section "1981 Housing Agreement" above, from 1 July 1981, payment of grants for pensioners and other persons in need are now subject to the terms of the 1981 Housing Agreement. State grants for Aboriginals previously administered by the Department of Aboriginal Affairs are included with these grants after 30 June 1981.

RENTAL ASSISTANCE TO PENSIONERS AND OTHER PERSONS IN NEED

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Total</i>
Number of units provided							
1977-78	152	146	76	87	58	14	533
1978-79	460	230	173	81	77	26	1,047
1979-80 (a)	652	261	220	284	150	50	1,617
Grants Paid							
1978-79 (b) \$'000	5,695	3,388	2,050	1,343	1,086	438	14,000
1979-80 (c) \$'000	34,542	22,231	15,700	11,851	11,071	4,605	100,000
1980-81 (c) \$'000	35,791	23,079	18,000	12,335	11,559	4,736	105,500

(a) Pensioners programs notified by States. (b) Assistance to pensioners. (c) Assistance to pensioners, aboriginals and other persons in need.

Commonwealth-Northern Territory Housing Agreement (1979)

On 11 March 1980 the Commonwealth and the Northern Territory formally entered into an agreement for the provision of rental housing assistance and home purchase assistance during the two financial years commencing on 1 July 1979. The principles and objectives established under the 1978 Commonwealth-State Housing Agreement are written into the Northern Territory Agreement and provisions made for policies and practices are substantially the same.

In 1979-80 the Commonwealth made available \$8.7 million in loans and \$5.3 million in grants; during 1980-81 \$9.0 million in loans and \$5.5 million in grants were provided.

Under the rental housing assistance program, 450 dwellings were commenced and 391 dwellings were completed during 1979-80, 30 dwellings were purchased or acquired during the year.

After 30 June 1981, the Northern Territory is included with the six States in the 1981 Housing Agreement.

Defence Service Homes

The *Defence Service Homes Act* 1918 assists certain former and serving members of the Defence Force to acquire a home on concessional terms.

The Defence Service Homes Corporation is, subject to the directions of the Minister for Veterans' Affairs, responsible for the administration of the Defence Service Homes Act.

Persons eligible for assistance under the Act include members of the Australian forces and nursing services enlisted or appointed for or employed on active service outside Australia or on a ship of war during the 1914-18 and 1939-45 Wars; persons who served in the warlike operations in Korea or Malaya or who have served on "special service" as defined in the *Repatriation (Special Overseas Service) Act* 1962; and members of the Defence Force who serve on continuous full-time service and national servicemen whose periods of service ended not earlier than 7 December 1972 and who meet certain prescribed conditions. The categories of eligible persons also include the widows and, in some circumstances, the widowed mothers of eligible persons, and persons domiciled in Australia and employed in certain sea-going service during the 1914-18 and 1939-45 Wars.

During 1980-81 the following loan conditions applied:

Maximum loan	: \$25,000
Interest rates	: 3.75 per cent per annum on the first \$12,000; 7.25 per cent per annum on any excess over \$12,000 up to \$15,000; 10.00 per cent per annum on amount in excess of \$15,000
Maximum repayment period	: The maximum repayment period permitted by the Act is 45 years or, in the case of the widow or widowed mother of an eligible person, 50 years; but, normally, the repayment period is limited to 32 years.

Operations under the Defence Service Homes Act

Since the inception of the Defence Service Homes Scheme in 1919, 363,229 loans have been granted to persons eligible for assistance under the Act. All figures shown include homes which were provided originally under the Housing Agreements with the States, and taken over in accordance with those agreements.

The following tables give details of the operations under the Defence Service Homes Act in the year 1980-81. The earliest year for which details are given in the tables is 1976-77; for earlier years see previous issues of the Year Book. The figures shown include operations in the Northern Territory, Norfolk Island and in Papua New Guinea.

DEFENCE SERVICE HOMES ACT: NUMBER OF LOANS GRANTED

Year	Construction of homes	Purchase of new homes	Purchase of previously occupied homes	Enlargement of existing homes	Total
1976-77	2,772	653	2,605	84	6,114
1977-78	2,379	695	2,970	71	6,115
1978-79	1,904	658	2,720	83	5,365
1979-80	1,734	566	2,846	105	5,251
1980-81	1,927	531	3,332	125	5,915

DEFENCE SERVICE HOMES ACT: STATE SUMMARY OF OPERATIONS

Year	N.S.W.(a)	Vic.	Qld(b)	S.A.(c)	W.A.	Tas	A.C.T.	Total
NUMBER OF LOANS GRANTED								
1976-77	1,809	1,443	1,035	598	780	126	323	6,114
1977-78	1,729	1,486	1,109	582	763	128	318	6,115
1978-79	1,657	1,042	1,068	559	540	102	397	5,365
1979-80	1,751	1,111	1,039	450	474	107	319	5,251
1980-81	1,584	1,309	1,287	495	684	138	418	5,915
CAPITAL EXPENDITURE (\$'000)								
1976-77	26,833	21,874	14,895	9,248	11,880	1,843	4,784	91,357
1977-78	24,948	22,417	15,700	9,769	11,049	1,807	4,631	90,321
1978-79	23,842	14,980	15,438	7,992	7,836	1,467	5,879	77,434
1979-80	25,035	15,835	15,149	6,235	6,923	1,508	4,740	75,425
1980-81	26,174	22,334	21,128	8,413	12,505	2,396	8,603	101,554
LOAN REPAYMENTS (\$'000)								
1976-77	25,095	20,758	9,413	6,173	7,598	1,841	(d)	70,878
1977-78	24,299	19,076	8,513	5,068	6,912	1,590	(d)	65,458
1978-79	29,928	20,670	10,416	6,578	7,848	1,951	(d)	77,391
1979-80	33,425	21,865	13,062	7,361	8,359	1,951	(d)	86,023
1980-81	36,290	22,475	14,990	8,144	9,203	1,833	(d)	92,935
NUMBER OF LOAN ACCOUNTS AT 30 JUNE								
1977	64,987	52,887	26,377	16,582	18,117	4,370	(d)	183,320
1978	63,864	51,693	26,319	16,456	17,970	4,299	(d)	180,601
1979	62,255	50,192	26,093	16,131	17,540	4,152	(d)	176,363
1980	60,839	48,090	25,529	15,600	16,971	4,006	(d)	171,035
1981	58,371	46,591	25,086	15,099	16,510	3,915	(d)	165,572

(a) Includes A.C.T. and Norfolk Island

(b) Includes Papua New Guinea

(c) Includes Northern Territory

(d) Included in New South Wales.

Home Savings Grant Scheme

The administration of the Home Savings Grant Scheme is a function of the Department of Housing and Construction. The purpose of the scheme is to encourage people to save over a period towards the ownership of their first home and to assist them financially with its acquisition by means of a home savings grant. A further objective is to increase the funds available in Australia for housing purposes by rewarding savings made with those institutions that provide the bulk of private housing finance. The grant is a tax-free gift, not a loan.

The Scheme was introduced in 1964. Persons who acquired their home on or before 31 December 1976 qualified under the *Homes Savings Grant Act* 1964, the conditions of which are explained in detail in Year Book No. 61, page 233. Details of grants made under this Act up to 30 June 1978 are available in Year Book No. 63, pages 415-6.

Persons acquiring their homes on and after 1 January 1977 may qualify under the *Homes Savings Grant Act* 1976. Applications for grants may be made by persons who, on and after 1 January 1977, contract to buy or build, or commence to construct their first home in Australia. There is no restriction on the marital status or age of the applicant except that persons under eighteen years of age must be married or engaged. The home must be intended as the applicant's principal place of residence. Persons who are not Australian citizens must have the right to reside here permanently. Applicants cannot have owned a home or received a grant before.

The amount of grant is related to the 'savings period', which is the period of one, two or three complete years immediately before the contract date, during which the applicant/s must have saved in an acceptable form. The grant is calculated on the basis of \$1 for each \$3 of acceptable savings, including savings held at the beginning of the savings period. A maximum grant of \$667 is payable in respect of a savings period of one year, \$1,333 for two years and \$2,000 for three years. Grants of \$667 first became payable for people contracting to buy or build their home from 1 January 1977. The larger grants first applied from 1 January 1978 and 1979 respectively.

A qualifying limit applies to the value of the home, including the land, for persons entering into their contracts after 24 May 1979. The limit is \$35,000-\$40,000 for contracts up to 18 August 1980; \$45,000-\$55,000 for contracts dated 19 August 1980 to 30 September 1980, and \$60,000-\$70,000 for contracts on or after 1 October 1980. The grant calculated on the basis of savings reduces progressively within these ranges, cutting out completely at the upper limit. A full grant, depending on the amount saved, is payable for homes valued at or less than the relevant lower value limit.

The main forms of savings that are acceptable are those most commonly used to accumulate savings for a home, that is, with banks (other than cheque accounts), building societies and credit unions. For those people who entered into a contract on or after 1 October 1980, another form of acceptable savings are Australian Savings Bonds held as Inscribed stock or for safe custody with a bank. Savings expended on or before the contract date in connection with the home, such as for the deposit on the home or for the land, are also acceptable.

A person who is eligible for a grant and whose contract is dated on or after 1 October 1980, may also be eligible for a Family Bonus. A Family Bonus of \$500 is payable for families with one dependent child and \$1000 for families with two or more dependent children at the contract date. A dependent child includes a student aged 16 to 25 years. The Family Bonus does not vary with the level of savings or the value of the home, provided the value does not exceed \$70,000.

Details of the new scheme are available in a leaflet, "The Home Savings Grant Scheme—How you can qualify", copies of which are available from the Department of Housing and Construction and from savings institutions. Further information on the operation of the scheme is contained in the Department's *Annual Report*.

Operations under the Home Savings Grant Scheme

Particulars of applications received and approved during 1980-81 and from inception in respect of the *Homes Savings Grant Act 1976*, are set out below.

HOMES SAVINGS GRANT ACT 1976: OPERATIONS 1980-81

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.(a)</i>	<i>W.A.</i>	<i>Tas.</i>	<i>A.C.T.(b)</i>	<i>Aust.</i>
Applications received								
No.	11,732	14,348	7,511	5,214	4,379	1,752	1,102	46,038
Applications approved								
No.	8,877	12,752	6,649	4,718	3,958	1,634	1,052	39,640
Grants approved \$'000	11,140	18,081	9,270	6,244	4,769	2,200	1,433	53,136
Average grant approved \$	1,255	1,481	1,394	1,323	1,205	1,346	1,362	1,340
Expenditure from Consolidated Revenue \$'000	11,507	13,160	7,768	5,149	4,031	1,882	1,095	44,592

(a) Includes Northern Territory. (b) Includes Queanbeyan, N.S.W.

HOMES SAVINGS GRANT ACT 1976: OPERATIONS, 1 JANUARY 1977 TO 30 JUNE 1981

<i>Period</i>	<i>Applications received</i>	<i>Applications approved</i>	<i>Grants approved</i>	<i>Average grant approved</i>	<i>Expenditure from consolidated revenue</i>
			\$'000	\$	\$'000
1 January 1977 to 30 June 1977	11,850	8,447	5,491	650	5,035
1977-78	58,433	49,790	36,131	726	33,995
1978-79	57,178	51,626	55,514	1,075	20,000
1979-80	44,499	47,668	59,987	1,258	71,502
1980-81	46,038	39,640	53,136	1,340	44,592
Total from 1 January 1977	217,998	197,171	210,259	1,066	175,123

Housing loans insurance scheme

The Housing Loans Insurance Corporation was established under the *Housing Loans Insurance Act* 1965 to insure approved lenders against losses arising from the making of housing loans. For further information regarding the Corporation and earlier operation of the Scheme, see Year Book No. 61, pages 235-6.

Following amendments to the Act in mid 1977, loans for owner-occupancy homes are insurable without limit on loan amount, interest rate or term. A once-and-for-all premium of 1.4 per cent of the amount of the loan is charged by the Corporation for the insurance of loans up to, but less than, 96 per cent of valuation, with the premium rate falling progressively to a minimum of 0.1 per cent on loans of less than 76 per cent of valuation. On loans from 96 to 100 per cent of valuation, the premium charged is 1.4 per cent of the valuation of the loan plus 10 per cent of the amount so calculated. The amendments to the Act also empowered the Corporation to insure loans for rental housing projects and loans to developers and builders.

From November 1965, when the Corporation commenced operations, until the end of June 1981, 416,000 loans to the value of \$8,584 million had been insured.

State housing authorities

The following paragraphs describe briefly the organisation of the various State housing authorities and their activities in the fields of home construction and provision of homes on a rental basis (see pages 463-6, for their financial advances to persons wishing to purchase or build a home). For summarised figures of total government construction of houses and other dwellings, see pages 467 and 468.

New South Wales—The Housing Commission of New South Wales. The Housing Commission of New South Wales was constituted in 1942, its principal function being the provision of low-cost housing to persons in the lower or moderate income groups.

Advances from the Commonwealth Government have provided most of the Housing Commission's capital funds and by 30 June 1981 had aggregated \$1,203,260,000 of which \$136,577,000 had been repaid. Other net funds of the Commission at 30 June 1981 comprised: repayable advances from the State, \$178,156,000; public loans raised by the Commission, \$17,020,000; grants from the Commonwealth Government, \$113,183,000; grants from the State, \$29,950,000 (including \$9,750,000 from Consolidated Revenue and \$20,200,000 mainly from proceeds of poker machine taxes); provision for maintenance of properties, \$14,877,000; and accumulated surplus, \$151,347,000. In addition, the Commission owed \$34,042,000 to creditors, mainly for purchase of land and work-in-progress. These funds were represented by fixed assets, \$1,600,096,000 (including \$172,206,000 debtors for purchase of homes); and current assets, \$12,265,000. In 1980-81, the Commission's income was \$166,613,000 (including rent \$143,409,000 and interest \$17,018,000); expenditure was \$152,035,000 (interest, \$56,699,000).

The permanent dwellings provided by the Commission have been erected under the Federal-State Housing Agreements or from State loans and grants. In 1980-81, 3,399 houses and flats were completed for the Housing Commission by private builders on contract to the Commission.

Upon request by other State Departments, the Housing Commission will erect houses for employees of those Departments, the Departments providing the necessary lands and funds. In addition, the Commission erects (with State funds) dwellings for employees of industries connected with decentralisation and development. Specially designed units are erected by the Housing Commission to provide dwellings for elderly persons at rentals within their means. The rents of these units, as at 30 June 1981, were approximately \$13.00 a week for elderly single persons and \$20.90 a week for elderly couples. At 30 June 1981, 10,951 units had been completed.

Victoria—Ministry of Housing. The Ministry of Housing co-ordinates all Government housing activities in Victoria. The authorities within the Ministry are the Housing Commission, Registry of Co-operative Housing Societies and Co-operative Societies, Home Finance Trust (see page 460), Decentralised Industry Housing Authority and Teacher Housing Authority.

Housing Commission, Victoria. The Commission was set up in 1938 as a result of the Housing Act of the previous year. Following an amendment to the Housing Act in January 1979, the function of the Commission is defined as assisting the Minister to carry out his duties, which include the determination of the present and future housing needs of the people of Victoria and the taking of steps in relation to: the provision of accommodation for persons in need; the provision of adequate and suitable houses for letting or leasing; the sale of houses to eligible persons; the making of advances to eligible persons for home purchase; the improvement of existing housing by the establishment and enforcement of adequate housing standards; encouraging and assisting in the provision of finance for persons building, purchasing or renovating houses; the development and sale of land for housing; the preparation and implementation of urban renewal proposals; the provision of parks, gardens and community facilities in

areas where land or houses have been provided; the provision of shops and commercial facilities or land therefor; the provision of movable units for the accommodation of pensioners on the land of a householder; the provision of housing for officers and employees of government departments and public authorities in circumstances where this is desirable; and the integration of housing under the Act with private housing.

Since the signing of the 1945 Housing Agreement, the construction of dwellings has been financed by the Commonwealth Government and Commission Funds.

At 30 June 1981, the Housing Commission had completed 91,682 dwelling units under the State Housing Scheme and Federal-State Agreements, Works and Services Loans, Service Personnel Agreements (Housing), and Grants for Aged Person Housing. Specially designed dwelling units are erected by the Commission to provide dwellings for elderly persons at rentals within their means. To 30 June 1981, 8,203 such units had been completed. These are also included in the figures for total constructions above.

Queensland—The Queensland Housing Commission. The Queensland Housing Commission was established in 1945 to assist in meeting the housing shortage. In addition, the Commission was empowered to build houses itself, either for sale or for rental.

During 1980–81 the Commission provided 2,732 dwelling units, bringing the total number under all schemes since the revival of housing construction in 1944–45 to 63,392. Of this number 39,811 houses, or 62.8 per cent, were for home ownership, and 23,581, or 37.2 per cent, were for rental.

In the field of rental housing the Commission administers and acts as the constructing authority under the Federal-State Housing Agreements and States Grants (Housing) legislation. Operating under the provisions of the *State Housing Act 1945–1979*, the Commission, through its scheme of mortgage finance, makes advances for the construction of dwellings to eligible persons who own a suitable building site. The number of dwellings completed during 1980–81 amounted to 1,949, making a total of 38,705 completions since the inception of the scheme. The Commission also has power to make advances, secured by mortgage, to firms for housing of employees. The Commission has power to sell houses under contract of sale conditions. Contract of sale agreements were made to purchase 271 of the Commission's houses during 1980–81.

South Australia—The South Australian Housing Trust. The South Australian Housing Trust was established under the South Australian Housing Trust Act, 1936. In 1940, when the Housing Improvement Act was assented to, the Trust became the housing authority to administer the Act and the Trust's powers were extended. It is also the housing authority for South Australia under the Housing Assistance Act, 1978.

The principal function of the Trust is to provide housing for rental or purchase by the middle-low income earner. It also provides accommodation for groups catering for the disadvantaged, the aged, the disabled, lone parent families, the unemployed, single men and so on. To facilitate the development of South Australia, the Trust, in conjunction with the Department of Trade and Industry, provides industrial land and factories throughout the State.

A total of 91,137 dwellings have been built, purchased or leased by the Trust since 1936. Subject to certain conditions, tenants may purchase the dwelling they rent from the Trust.

For further details see *South Australian Year Book*.

Western Australia—State Housing Commission of Western Australia. The activities of the State Housing Commission extend throughout the whole State. In addition to construction of a variety of dwellings for its own rental and purchase program as determined under the State Housing Act, the Federal State Housing Agreements prior to 30 June 1971, the *States Grants (Housing) Act 1978* and the 1978 Housing Agreement, its activities include: construction of houses for other Government Departments (both Commonwealth and State Government, and semi- and local government authorities) in Western Australia; and construction and maintenance of houses for the Government Employees' Housing Authority.

At 30 June 1981, the Commission had completed under all schemes since 30 June 1944 a total of 68,892 units of accommodation throughout the State (including 12,046 units completed under the *Defence Services Homes Act 1918*).

During the twelve months ended 30 June 1981, 1,156 units of accommodation were completed: metropolitan area, 567; country, 301; and north of the 26th parallel, 288. A further 510 units were under construction.

Building societies are a major source of housing finance in Western Australia. At 30 June 1981, it was estimated that the assets of all societies were about \$2,090 million. Currently, 9 permanent and 430 terminating societies are operating. Under the Housing Agreement with the Commonwealth the State is required by 1 July 1980 to allocate not less than 40 per cent of the funds the State receives under the Agreement to the Home Purchase Assistance Account. Advances are made from the account to

terminating building societies which in turn make loans available to eligible applicants being those persons unable to obtain mortgage finance assistance in the open market or from other sources.

Under the *Housing Loans Guarantee Act, 1957-1973*, the guarantees provided to financial institutions enable loans to be made to lending institutions with full security. The Act enables building societies and other approved bodies to make high ratio advances to families of low and moderate means without additional charge. The interest rate charged to the borrower may not exceed 12.25 per cent reducible. Loans may be made for up to 90 per cent of the value of the house and land. The maximum loan permitted in respect of the metropolitan region south of the 26th parallel is \$34,200. For a new house situated north of the 26th parallel and in the North West or Eastern Land Divisions, the maximum loan is \$61,200 and in the Kimberley Land Division \$63,900.

Tasmania—Department of Housing and Construction (Housing Division). The Department of Housing and Construction, established in September 1977, is comprised of the Housing and Construction Divisions. The Housing Division is continuing the functions of the former Housing Department which was established in 1953 for the purpose of administering that portion of the *Homes Act 1935* relating to the acquisition and development of land for housing purposes and the erection of homes for rental and sale to those deemed in need of assistance, and the *Casual Worker's and Unemployed Persons' Homes Act 1936*.

During 1980-81 dwelling completions numbered 668. Construction since 1944 totalled 19,980. At 30 June 1981, they comprised 17,445 detached and semi-detached units (9,884 of timber), 853 elderly persons' flatettes, 316 multi-unit flats, 1,337 villa units and 29 moveable units.

The Division now allots all welfare housing accommodation on a rental basis. Weekly rental of a new typical standard home was about \$40.00 at 30 June 1981. In certain necessitous cases, rental rebates are allowed. Under current policy a married couple occupying an elderly persons' unit and whose only income is the age pension pay \$16.00 a week, while a single person solely dependent on the pension pays \$10.00 a week.

Housing schemes in Australian Territories

Northern Territory. In 1946 control of all government-owned residences in the Territory (excluding those belonging to the Defence Services or Commonwealth Railways or attached to post offices) was vested in the Administration. The Northern Territory Housing Commission was established in 1959 and operates under authority of the *Housing Act 1979*. The Commission became autonomous on 1 October 1969 and, in addition to its role of providing residential accommodation to persons of limited means, its functions were broadened as from 1 July 1978 to include the provision of housing for employees of the Northern Territory Government and related authorities and the provision of residential, office, industrial or other accommodation for the Commonwealth and the Territory for public purposes and approved commercial and welfare organisations.

Australian Capital Territory. The Commonwealth Government provides houses and flats for rental to persons on low incomes who live or are employed in the Australian Capital Territory. At 30 June 1981 the Department of the Capital Territory controlled 6,889 houses and 3,263 flats for rental purposes. Government rental houses may be purchased by tenants.

Summary of rental activities of government authorities

The first of the following two tables shows the revenue from rental for dwellings under control of government housing authorities each year from 1975-76 to 1980-81, and the second shows the number of tenants paying rent for dwellings under control of government housing authorities at the end of each year 1975-76 to 1980-81.

GOVERNMENT HOUSING AUTHORITIES: REVENUE FROM RENTALS
(S'000)

Year	N.S.W.	Vic.(a)	Qld(b)	S.A.(c)	W.A.	Tas.	N.T.(a)	A.C.T.	Aust.
1975-76	63,870	42,031	19,326	28,930	17,040	5,569	2,486	10,839	190,091
1976-77	84,242	49,714	26,766	35,913	19,586	7,368	3,281	15,626	242,496
1977-78	99,566	53,753	32,069	42,331	24,337	9,855	4,467	20,538	286,916
1978-79	114,404	64,556	39,382	42,785	26,829	12,722	9,090	20,658	330,426
1979-80	127,584	68,819	42,924	46,775	27,934	16,100	11,768	20,123	362,027
1980-81	143,409	72,122	44,582	59,089	32,028	17,646	14,722	20,497	404,095

(a) Figures relate to Housing Commission only. (b) Excludes rentals in respect of tenanted temporary dwellings. (c) Excludes rentals in respect of temporary and emergency dwellings to 30 June 1977, by which date all had been removed.

GOVERNMENT HOUSING AUTHORITIES: NUMBER OF TENANTS PAYING RENT

Year	N.S.W.	Vic.(a)	Qld(b)	S.A.(c)	W.A.	Tas.(d)	N.T.(a)	A.C.T.(d)	Aust.
1975-76	78,325	40,057	20,508	37,473	24,791	6,150	3,109	11,152	221,565
1976-77	80,510	40,053	20,772	38,601	24,818	6,695	3,428	10,967	225,844
1977-78	82,893	40,151	21,863	39,757	24,323	7,489	3,665	10,575	230,716
1978-79	85,997	40,049	22,730	40,780	25,011	8,238	5,540	10,550	238,895
1979-80	90,124	40,090	23,063	41,892	25,867	9,258	6,121	10,282	246,697
1980-81	93,178	41,708	23,581	43,652	26,060	9,886	6,635	10,014	254,714

(a) Figures relate to Housing Commission only. (b) Excludes tenanted temporary dwellings. (c) Excludes temporary and emergency dwellings (all removed by 30 June 1977). (d) Number of occupied dwellings at 30 June.

Advances to home purchasers

Many prospective home purchasers wish to borrow for the purpose of constructing or purchasing their own homes. Usually the loan is covered by way of mortgage of the home to be constructed or bought. Such loans are provided from a number of private sources and from agencies owned or guaranteed by the Commonwealth or State Governments. The information in this section concerns the direct loans made to home purchasers by the more important institutional lenders. Loans to institutions which in turn lend moneys to home purchasers and loans to contract builders, etc. are excluded as far as possible. The loans may be for the construction of new dwellings, the purchase of existing dwellings, for additions, renovations, etc., as first or subsequent mortgages, overdrafts and so on. While figures of all loans to home purchasers are not available, the institutions mentioned account for a significant proportion of total loans. Details of the terms and conditions of lending are given, together with available information on the number and value of loans made.

State and Territory authorities and agencies

New South Wales: Rural Bank of New South Wales—Sale of Homes Agency. A Sale of Homes Agency was established in 1954 to arrange for the sale on terms of houses erected by the Housing Commission of New South Wales. Since 30 November 1976, the sale of these homes on a terms basis has not been permitted, although the Agency still acts as agent for the Commission in collecting instalments payable by purchasers of homes sold prior to that date. The Agency's operations began with the sale to selected purchasers of 100 houses made available by the Commission during 1954-55 and 1955-56. The sales were made on the basis of 10 per cent deposit and repayment of the balance over a maximum period of forty years, with interest at 4.5 per cent per annum. Total advances under that scheme amounted to \$646,648; at 30 June 1981 the advances outstanding amounted to \$92,113 in respect of 30 houses.

Between 1 July 1956 and 30 November 1976, the Sale of Homes Agency acted as the agent of the Housing Commission in arranging the sale on terms of houses erected under the Federal-State Housing Agreements. The terms of sale provided for a minimum deposit of \$200 and repayment of the balance over a maximum period of forty-five years, with interest rates since the inception of the scheme ranging from 4.25 to 6.75 per cent per annum. Particulars of the advances made by the Agency in connection with the sale of houses erected under the 1956, 1961, 1966 and 1973 Agreements and the *States Grants (Housing) Act 1971* are given in the following table.

RURAL BANK OF NEW SOUTH WALES—SALE OF HOMES AGENCY ADVANCES FOR HOMES SOLD UNDER THE 1956, 1961, 1966 AND 1973 FEDERAL-STATE HOUSING AGREEMENTS AND THE STATES GRANTS (HOUSING) ACT OF 1971

Year	Advances during year		Total advances to end of year		Advances outstanding at end of year(a)	
	Number of houses	Amount	Number of houses	Amount	Number of houses	Amount
		\$'000		\$'000		\$'000
1975-76	180	4,402	29,154	246,229	19,939	154,635
1976-77	22	573	29,176	246,802	18,905	144,899
1977-78	—	—	29,176	246,802	17,818	134,529
1978-79	—	—	29,176	246,802	16,802	125,126
1979-80	—	—	29,176	246,802	15,628	114,112
1980-81	—	—	29,176	246,802	14,517	103,869

(a) Comprises principal outstanding and loan charges due but not paid.

Prior to 30 November 1976 the Sale of Homes Agency also acted as agent for the Housing Commission in arranging the sale of houses erected by the Commission on applicants' land. Under this scheme persons who had established a housing need could apply to the Commission to have a standard-type dwelling erected on their own land. The houses were sold, at a price equivalent to their capital cost, on the same terms as for houses erected under the 1956 to 1973 Housing Agreements and the *States Grants (Housing) Act* 1971. Up to 30 June 1981, 769 houses had been built at a cost of \$8,223,000, the balance of indebtedness at that date was \$3,612,000.

Rural Bank of New South Wales—Other loans. The Rural Bank of New South Wales provides assistance to individuals for the erection or purchase of homes and for other approved purposes associated with homes. Advances are based on the bank's official valuation of the dwelling. The current rate of interest on new long-term loans for housing purposes is 11.25 per cent per annum.

Victoria: Housing Commission of Victoria. Commission policy is to encourage home ownership; of the 91,682 (1980–89,908) dwelling units built to 30 June 1981, under the State Housing Agreement the Federal State Agreements Housing Grants and Commission Funds, a total of 50,015 (1980–49,512) houses have been sold: 28,460 (1980–28,351) in the metropolitan area and 21,555 (1980–21,161) in the country.

Home Finance Trust. The Home Finance Trust is a corporate body constituted under the *Home Finance Act* 1962. It is authorised to receive money on deposit, the repayment of which is guaranteed by the Government of Victoria, for the purpose of making loans for housing on the security of first and second mortgages. Under the terms of the Act the Trust is precluded from making loans in certain circumstances.

The number of loans granted by the Trust to 30 June 1981 and subsisting totalled 2,198 (1980–2,437) on the security of first mortgage and 3,864 (1980–3,263) on second mortgage, the amount involved being \$21.5 million (1980–\$23.5 million) and \$18.4 million (1980–\$15.5 million) respectively.

(See Savings Banks, page 243 of Year Book No. 61, for activities of the State Savings Bank of Victoria.)

Queensland: Queensland Housing Commission. Loans from the Commonwealth and State Government are the major source of capital funds for the Commission. Under the *State Housing Act* 1945–79, an eligible person who is the owner of a suitable building site may obtain an advance, secured by mortgage on the land, from the Housing Commission for the erection of a dwelling. The Housing Commission also provides mortgage finance for the purchase of homes already built or to be built by private contractors. At 30 June 1981, the maximum advance under mortgage finance was \$25,000 with interest chargeable at 8 per cent, and repayments over periods up to 45 years.

South Australia: South Australian Housing Trust Sales Schemes. Prospective purchasers of Housing Trust houses may purchase either by paying cash or by paying a deposit and arranging for a loan on security of a first mortgage from any of the recognised lending authorities.

The interest rate was 11.5 per cent at 30 June 1981, and at the same date there were 4,149 second mortgages outstanding. A minimum deposit of \$500 was required under the now defunct rental-purchase scheme and at 30 June 1981 there were 4,332 advances outstanding under the scheme. The balance of the purchase price is repayable to the Trust in weekly instalments over periods up to 40 years at various rates.

Western Australia: State Housing Commission of Western Australia. Under current policy all sales are on a cash basis, with finance funded from the Home Purchase Assistance Account where the family is eligible, or from other lending authorities where the family is ineligible for Home Purchase Assistance Account finance.

Assistance through Terminating Building Societies is available to acceptable applicants from the Loans Priority List under first mortgage conditions if they are able to meet the eligibility requirements. Funds are not available for second mortgages.

The interest rate on advances varies from 6 per cent to 10 per cent depending on family income, and the maximum repayment period is thirty years.

The Societies are required to accept no less than 3 per cent of the value of the house and land as deposit, but a deposit of 5 per cent or greater is sought by the societies. If the amount of finance required is in excess of the combined maximum advance and deposit provided, a second mortgage or personal loan will be required to bridge the gap.

In the metropolitan area, to be eligible for assistance, applicants' incomes cannot exceed \$240.00 per week, plus \$5.00 per week for each dependent child in excess of two. The maximum value of house and land is \$30,000 with a maximum advance of 90 per cent of the maximum valuation being obtainable.

The remainder of the State is divided into areas in which the income eligibility varies from \$240.00 per week to \$320.00 per week plus \$5.00 per week for each dependent child in excess of two. The maximum advance in these areas is 90 per cent on the maximum value of house and land which varies from \$34,000 to \$67,000.

(See Savings Banks, page 243 of Year Book No. 61, for activities of the Savings Bank Division of the Rural and Industries Bank of Western Australia.)

Tasmania: Department of Housing and Construction, Housing Division. The interest rate on purchase contract loans at 1 July 1980 was 6 per cent. The number of loans outstanding at 30 June 1981 was 5,771 and the amount outstanding, \$47,682,000.

Agricultural Bank of Tasmania. The Agricultural Bank of Tasmania is responsible for the administration of funds made under the Home Purchase Assistance section of the *Housing Assistance Act 1978*. A new Housing Agreement operating from 1 July 1978 consolidates all past agreements. The State has also provided State Loan Funds for lending under the *Homes Act* specifically available for first home builders. Interest rates vary from 6 per cent to 10.5 per cent depending on need. The term varies depending on the applicants' capacity to repay.

Principles which apply under the new agreement include:

- To facilitate home ownership for those able to afford it but not able to gain it through the private market.
- Provide assistance for home ownership in the most efficient way and thus exclude from eligibility those not in need, to minimise continued availability of assistance to those no longer in need and to accord benefits which are designed so that assistance being provided is related to the particular family's or individual's current economic and social circumstances.
- The States are able to exercise maximum autonomy and flexibility in the administrative arrangements necessary to achieve these principles.

The following table shows details for recent years.

AGRICULTURAL BANK, ADVANCES FOR HOUSING (a)

Particulars	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Advances approved:						
Number	431	393	366	366	281	386
Value (\$'000)	6,100	8,355	8,354	7,532	6,551	10,129
Advances outstanding (b) (\$'000)	33,481	38,832	43,726	49,190	52,740	58,250

(a) Excludes advances to Co-Operative Housing Societies.

(b) At end of period.

Northern Territory: Loans Scheme. On 1 October 1979, the Northern Territory Government introduced a loans scheme to provide finance for the erection of houses, the purchase, enlargement or modification of existing dwellings or the completion of partially erected dwellings. This scheme was re-structured on 8 August 1980 and loans are now provided to a maximum of \$50,000 or 98% of house/land valuation. The scheme incorporates a system of variable escalating interest rates with income geared starts. The initial starting interest rates vary according to the borrowers' incomes and escalate by annual increments of 4% per annum up to a common maximum rate. The maximum period of repayment is forty-five years. Where borrowers are capable of obtaining finance privately, loans are proportionately lower and on a second mortgage basis.

In January, 1981 the scheme was further restructured to affect eligibility requirements. These included restriction of eligibility of single persons, increase of income limit for borrowers, and a prerequisite of twelve months residency prior to application. In addition, the emphasis was to be on purchase of new, rather than existing dwellings and potential borrowers who already owned a dwelling (including elsewhere in Australia) were no longer eligible.

Sales Schemes. Two schemes exist to allow eligible tenants of Northern Territory Housing Commission dwellings to purchase. Under the *General Public Sales Scheme*, sales are on a cash basis only to approved tenants who have completed a satisfactory tenancy of at least two years. A *Staff Sales Scheme* also operates to allow tenants of Northern Territory Public Service dwellings to purchase after a qualifying period of two years. Sales are for cash or on terms requiring a minimum deposit of 5 per cent of the purchase price with repayments over a maximum period of 45 years including interest at either 5.75 per cent or 8.75 per cent subject to a means test.

Australian Capital Territory: Loans to a maximum of \$28,000 over a maximum term of thirty-two years may be granted by the Commissioner for Housing for the purchase or erection of dwellings in the

Australian Capital Territory where the value of the dwelling does not exceed the median sale price of dwellings in the Territory. The following conditions must be satisfied before an applicant may qualify for the loan:

- may not already own a dwelling in the Australian Capital Territory or Queanbeyan
- must live or work in the Australian Capital Territory
- generally the applicant or their spouse must not have already received financial assistance from Government funds for housing in the Australian Capital Territory
- must not have assets exceeding \$15,000.

In addition to the above qualifications a means test is applied to applicants for loans. Applicants whose joint income does not exceed 120 per cent of the Australian male seasonally adjusted average weekly earnings may qualify for a loan. An additional income allowance of \$2.00 per week is made for each dependant child in excess of two.

The rate of interest for the first year of the loan is 5½ per cent effective. Thereafter the interest rate increases by ½ per cent each year until it reaches an effective rate of 12½ per cent. At 30 June 1981, 12,026 houses were under mortgage to the Commissioner.

In the past government rental houses valued at market prices were available for sale to tenants, with government funds being provided to finance purchasers. On 11 August 1981 this policy was amended so that only tenants who qualified for a concessional interest rate mortgage were eligible to purchase a government house. It was decided to delay the application of this policy to existing tenants for a period of two years. The current basis of a sale is a minimum deposit of 5 per cent of the purchase price fixed by the Department of the Capital Territory with a first mortgage of up to \$28,000 being provided by the Department. Mortgage repayment extends to a maximum of thirty-two years. A concessional interest rate commences at an effective rate of 5½ per cent and escalates by ½ per cent each year thereafter until a maximum non-concessional rate of 12½ per cent is reached. To qualify for this concessional rate of interest the combined incomes of breadwinner and spouse must not exceed 120 per cent of the Australian male seasonally adjusted average weekly earnings with an allowance of \$2.00 for each dependant child after the second being deducted from total gross income. Tenants not qualifying for the concessional rate of interest and who occupied government houses prior to the date of the policy change mentioned earlier may during the two-year moratorium period apply to purchase the house they are occupying. In these cases the basis of the sale is the same as above except that there is no means test and the effective interest rate is 12½ per cent. At 30 June 1981 15,712 houses had been sold to tenants, with 8,726 of these currently under mortgage.

Savings banks, trading banks, life insurance companies and registered building societies

For information on loans approved to individuals for owner occupied housing *see* Chapter 21, Private Finance.

CONSTRUCTION

Building

Building activity is a significant indicator of the level of economic activity. In addition, the level of building activity and the types of buildings being constructed affect the Australian physical and social environment. Building approvals statistics give an indication of the potential future level of investment of private individuals, companies and government agencies in approved building construction. As such, they provide information about potential future building activity. Building operations statistics show the level of actual building construction activity in terms of the level of commencements and completions, building jobs under construction and the value of work done and yet to be done on building jobs.

The building statistical collections cover all new dwellings, new other building jobs valued at \$10,000 and over, and alterations and additions (to both dwellings and other building) valued at \$10,000 and over. From 1966-67 to 1972-73, alterations and additions of \$10,000 and over were included with new dwellings and new other building. From 1973-74, alterations and additions (of \$10,000 and over) to new dwellings are shown separately, but for other building, new work and alterations and additions continue to be shown combined.

Number of new houses

The following table provides a summary of the number of new houses approved, commenced, completed and under construction by type of ownership in each State and Territory for the year 1979-80. For a graph showing these details over a ten-year period, *see* Plate 42, page 467.

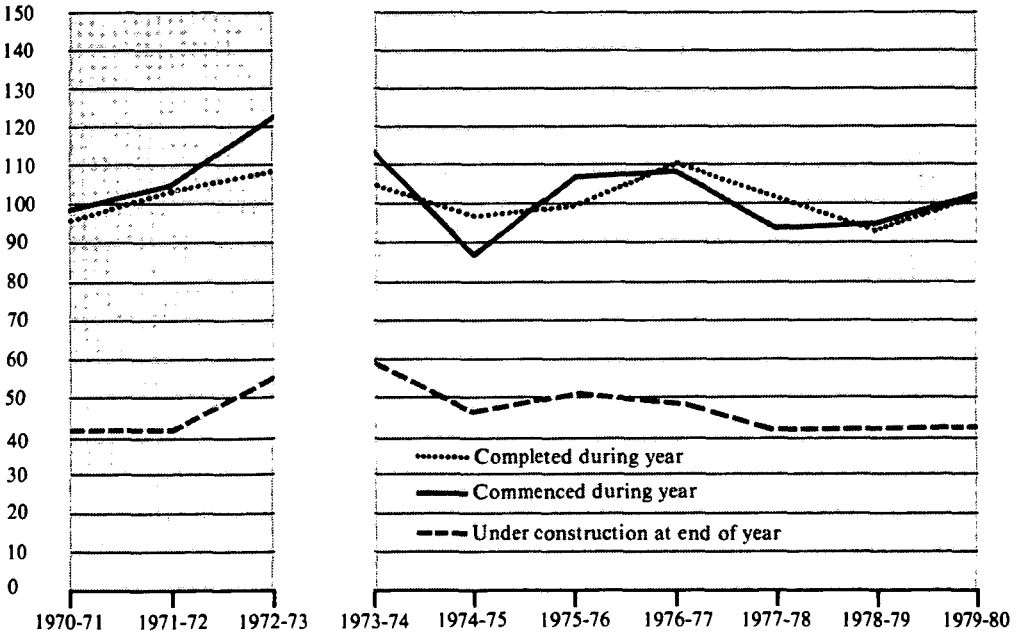
NUMBER OF NEW HOUSES 1979-80
('000)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Private—									
Approved	38.5	22.1	22.5	5.9	11.2	2.1	0.6	1.0	104.0
Commenced	32.2	21.1	22.1	5.4	10.7	2.0	0.5	1.0	95.1
Completed	30.1	21.7	22.1	5.8	11.0	2.2	0.5	1.4	94.8
Under construction (a)	15.0	11.0	5.1	1.7	3.3	1.3	0.3	0.4	38.1
Government—									
Approved	2.1	0.6	0.4	1.4	0.5	0.4	0.6	—	6.0
Commenced	2.2	0.8	0.3	1.2	0.6	0.4	0.6	—	6.2
Completed	1.5	0.9	0.4	0.8	0.7	0.5	0.5	—	5.3
Under construction (a)	1.6	0.5	0.1	0.9	0.2	0.2	0.4	—	3.8
Total—									
Approved	40.7	22.8	22.9	7.2	11.7	2.5	1.2	1.0	110.0
Commenced	34.4	22.0	22.5	6.7	11.3	2.4	1.2	1.0	101.3
Completed	31.5	22.6	22.5	6.7	11.6	2.7	1.0	1.4	100.1
Under construction (a)	16.6	11.5	5.1	2.6	3.5	1.5	0.8	0.4	41.9

(a) At end of period.

NEW HOUSES : AUSTRALIA, 1970-71 TO 1979-80

Number (' 000)



Note: Break in series from 1973-74

Number of new houses completed by material of outer walls

The use of certain materials for outer walls is dictated by such factors as cost, durability, appearance and climatic conditions. Changes in the materials used over time indicate changes in the characteristics of the housing stock.

The following table shows the number of new houses completed in each State and Territory during the year 1979-80, classified according to the material of their outer walls.

NUMBER OF NEW HOUSES COMPLETED BY MATERIAL OF OUTER WALLS 1979-80
(*000)

<i>Material of outer wall</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Double brick (a)	2.6	1.7	3.4	2.3	9.3	0.2	0.5	0.1	20.1
Brick veneer (a)	24.9	18.4	13.0	3.1	1.5	2.1	-	1.3	64.2
Timber	0.7	1.0	1.5	0.2	0.1	0.3	0.2	-	3.9
Asbestos cement	3.1	1.5	4.5	1.1	0.7	0.1	0.1	-	11.1
Other	0.3	0.1	0.2	-	-	-	0.2	-	0.8
Total	31.5	22.6	22.5	6.7	11.6	2.7	1.0	1.4	100.1

(a) Includes houses constructed of concrete masonry blocks, concrete and stone.

Number of new other dwellings

The level of other dwelling construction is highly variable and does not follow the traditionally regular pattern experienced in house construction. This can be explained partly by the generally larger size of other dwelling construction jobs and also by the extent of speculative building of private flats, home units and similar other dwelling projects. Although construction of government-owned other dwellings is substantial, the proportion of government-owned other dwellings to total other dwellings constructed is smaller than that of government-owned houses to total houses.

The following table shows the number of new other dwellings approved, commenced, completed and under construction by type of ownership in each State and Territory for the year 1979-80. For a graph showing these details over a ten year period, see Plate 43, page 469.

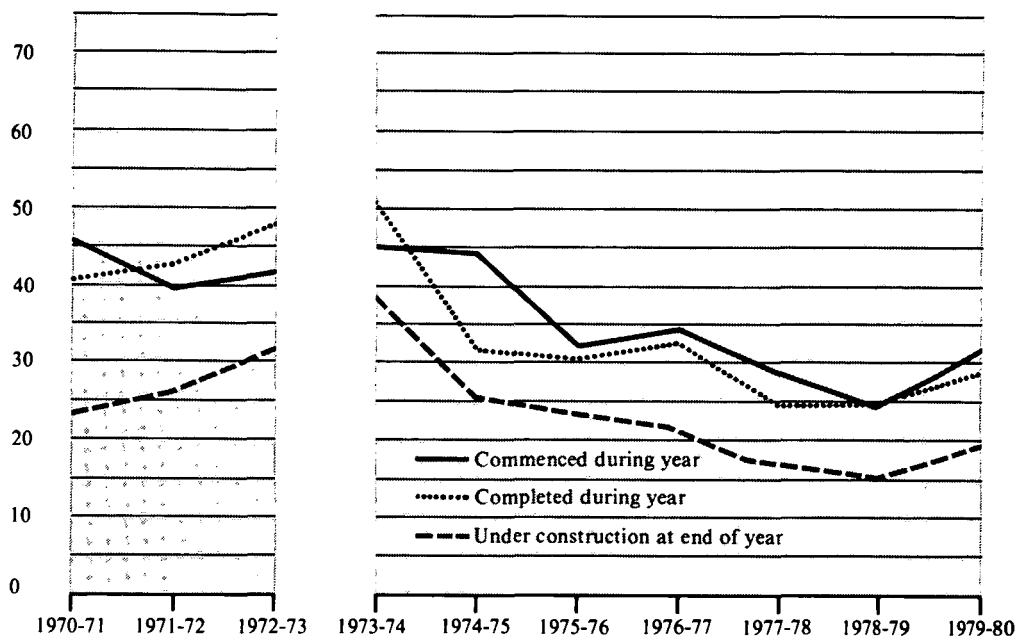
NUMBER OF NEW OTHER DWELLINGS, 1979-80
(*000)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
Private—									
Approved	12.8	3.4	8.0	0.9	4.2	0.5	0.4	0.7	30.8
Commenced	10.6	3.6	7.3	0.9	3.7	0.4	0.3	0.6	27.4
Completed	8.3	3.7	6.4	1.0	3.6	0.5	0.2	0.5	24.3
Under construction (a)	6.9	2.2	3.5	0.5	1.7	0.3	0.2	0.4	15.6
Government—									
Approved	1.8	0.7	0.4	0.5	0.7	0.3	0.1	-	4.5
Commenced	1.7	0.4	0.4	0.6	0.7	0.4	0.2	-	4.4
Completed	2.2	0.6	0.3	0.6	0.5	0.4	0.2	0.1	4.9
Under construction (a)	2.0	0.4	0.3	0.5	0.3	0.3	0.1	-	3.8
Total—									
Approved	14.6	4.0	8.4	1.4	4.9	0.8	0.5	0.7	35.3
Commenced	12.4	4.0	7.7	1.5	4.4	0.8	0.4	0.6	31.8
Completed	10.5	4.3	6.7	1.7	4.2	0.9	0.4	0.6	29.2
Under construction (a)	8.9	2.5	3.8	1.0	2.0	0.6	0.3	0.4	19.4

(a) At end of period.

NEW OTHER DWELLINGS : AUSTRALIA, 1970-71 TO 1979-80

Number (' 000)



Note: Break in series from 1973-74

PLATE 43**Number, average value, average value per square metre and average size of private contract built houses**

The following table shows the number, average value, average value per square metre and average size in square metres of private contract built new houses commenced in each Capital City Statistical Division, the Greater Darwin Area and the A.C.T. part of the Canberra Statistical District which comprises the urban areas of the A.C.T. The average value and average value per square metre are based on the final contract price of houses when complete (or estimates of this price) provided by contractors at the time of commencement of building work.

NUMBER, AVERAGE VALUE, AVERAGE VALUE PER SQUARE METRE AND AVERAGE SIZE OF NEW PRIVATE CONTRACT BUILT HOUSES COMMENCED 1979-80

	<i>Capital City Statistical Divisions</i>						<i>Greater Darwin Area</i>	<i>Canberra (A.C.T. part)</i>	<i>Total</i>
	<i>Sydney</i>	<i>Mel-bourne</i>	<i>Brisbane</i>	<i>Adelaide</i>	<i>Perth</i>	<i>Hobart</i>			
Number ('000)	14.9	10.5	7.9	2.6	7.1	0.4	0.1	0.9	44.5
Average value (\$'000)	37.2	34.7	29.7	35.7	32.1	35.6	43.7	36.9	34.4
Average size (sq. m)	151.7	150.5	144.3	159.7	159.8	140.5	139.6	152.8	151.8
Average value per sq. m (\$)	245	230	206	224	201	254	313	242	216

Value of buildings

The following table shows the value of all buildings approved, commenced, completed, under construction, work done and work yet to be done in Australia for the year 1979-80, according to the class of building. The classification of other building by type of building is according to the function a building is intended to serve as specified on building authorisations.

VALUE BY CLASS OF BUILDING, 1979-80

(\$ million)

<i>Class of building</i>	<i>Approved</i>	<i>Commenced</i>	<i>Completed</i>	<i>Under construction(a)</i>	<i>Work done (b)</i>	<i>Work yet to be done (a)</i>
New houses	3,678.3	3,540.3	3,406.4	1,616.1	3,497.3	840.5
New other dwellings	861.8	884.6	768.4	614.5	828.0	331.9
<i>Total new dwellings</i>	<i>4,540.1</i>	<i>4,424.9</i>	<i>4,174.7</i>	<i>2,230.7</i>	<i>4,325.2</i>	<i>1,172.3</i>
<i>Alterations and additions to dwellings(c)</i>	<i>433.0</i>	<i>396.8</i>	<i>362.6</i>	<i>169.5</i>	<i>384.7</i>	<i>82.9</i>
Hotels, etc.	155.9	138.3	122.9	85.3	122.7	48.0
Shops	401.5	473.0	535.7	311.2	491.7	155.7
Factories	630.1	617.6	501.1	489.9	478.6	288.8
Offices	496.5	525.6	485.5	785.5	538.1	318.4
Other business premises	289.1	332.1	325.6	241.7	329.4	117.5
Education	357.8	357.4	447.1	402.6	418.9	183.1
Religion	33.4	35.6	28.7	22.7	33.4	11.8
Health	145.3	147.0	413.1	424.3	307.9	162.0
Entertainment and recreation	231.7	251.7	213.8	283.5	264.6	152.7
Miscellaneous	236.6	267.6	268.3	373.0	310.1	185.8
<i>Total other building</i>	<i>2,977.6</i>	<i>3,145.9</i>	<i>3,341.6</i>	<i>3,419.7</i>	<i>3,295.2</i>	<i>1,623.9</i>
Total building	7,950.8	7,967.5	7,878.9	5,819.9	8,005.2	2,879.1

(a) At end of period. (b) During period. (c) Valued at \$10,000 and over.

Construction (other than building)

These statistics relate to work by private contractors on construction (other than building) prime contracts valued at \$100,000 or more, inclusive of all associated sub-contract work performed for the prime contractor. Alterations and additions undertaken as prime contracts valued at \$100,000 or more are included in the statistics. Repairs and maintenance contracts, construction undertaken by government authorities involving their own work forces, and construction on their own account by enterprises in the private sector, are excluded.

A revised classification of prime contracts based on the International Classification of all Goods and Services (ICGS) was introduced in 1979-80. A more detailed description of ICGS and its effects on the statistics can be found in the September quarter 1979 edition of *Construction (other than building) Operations, Australia* (8708.0)

The following tables show the value of construction (other than building) activity undertaken as prime contracts commenced, completed, under construction, work done and work yet to be done in Australia for the years 1979-80 and 1980-81.

VALUE OF CONSTRUCTION (OTHER THAN BUILDING) PRIME CONTRACTS BY OWNERSHIP,
1979-80
(\$ million)

	<i>Commenced</i>	<i>Completed</i>	<i>Under construc- tion(a)</i>	<i>Work done(b)</i>	<i>Work yet to be done(a)</i>
PRIVATE SECTOR					
Roadwork	92.5	85.9	57.6	89.7	27.1
Dams, water supply and distribution, sewerage and drainage	16.8	13.8	19.4	21.3	7.5
Electrical power transmission, heavy electrical generating plant	11.4	5.4	7.5	5.9	6.1
Harbours	16.3	9.4	14.3	14.1	5.5
Other heavy industrial plant etc.	351.2	275.8	346.3	264.9	207.0
Other(c)	113.1	182.5	94.8	135.6	50.3
<i>Total</i>	<i>601.2</i>	<i>572.8</i>	<i>539.9</i>	<i>531.7</i>	<i>303.5</i>
PUBLIC SECTOR					
Roadwork	169.1	175.8	151.9	171.0	64.2
Dams, water supply and distribution, sewerage and drainage	107.3	189.9	190.4	174.8	59.1
Electrical power transmission, heavy electrical generating plant	454.1	354.2	1,408.0	373.0	716.7
Harbours	57.8	20.2	216.5	79.4	66.3
Other heavy industrial plant etc.	171.4	79.3	357.4	144.2	181.6
Other(c)	728.8	201.5	972.1	274.6	728.6
<i>Total</i>	<i>1,688.5</i>	<i>1,020.9</i>	<i>3,296.3</i>	<i>1,217.1</i>	<i>1,816.5</i>
TOTAL					
Roadwork	261.6	261.6	209.5	260.8	91.2
Dams, water supply and distribution, sewerage and drainage	124.1	203.7	209.8	196.2	66.6
Electrical power transmission, heavy electrical generating plant	465.5	359.6	1,415.5	378.9	722.8
Harbours	74.1	29.6	230.7	93.5	71.8
Other heavy industrial plant etc.	522.6	355.1	703.8	409.2	388.6
Other(c)	841.9	384.0	1,066.9	410.2	778.9
<i>Total</i>	<i>2,289.8</i>	<i>1,593.7</i>	<i>3,836.2</i>	<i>1,748.8</i>	<i>2,120.0</i>

1980-81
(\$ million)

	Commenced	Completed	Under construc- tion(a)	Work done(b)	Work yet to be done(a)
PRIVATE SECTOR					
Roadwork	143.4	125.8	78.9	142.1	31.8
Dams, water supply and distribution, sewerage and drainage	21.4	30.1	13.8	22.9	9.1
Electrical power transmission, heavy electrical gen- erating plant	8.1	8.7	9.9	11.4	5.6
Harbours	17.9	16.4	18.8	19.8	6.5
Other heavy industrial plant etc.	571.0	277.7	699.6	457.1	382.6
Other (c)	191.7	90.3	231.7	155.7	123.0
<i>Total</i>	953.4	549.1	1,052.6	809.1	558.5
PUBLIC SECTOR					
Roadwork	180.9	204.6	140.2	191.1	65.6
Dams, water supply and distribution, sewerage and drainage	213.3	185.3	251.8	177.0	127.3
Electrical power transmission, heavy electrical gen- erating plant	648.3	284.7	1,989.6	513.5	1069.0
Harbours	150.3	140.3	266.9	80.9	173.0
Other heavy industrial plant etc.	257.1	150.6	493.5	199.9	263.7
Other (c)	484.9	237.8	1,320.3	363.1	961.9
<i>Total</i>	1,934.8	1,203.4	4,462.3	1,525.5	2,660.5
TOTAL					
Roadwork	324.2	330.4	219.1	333.2	97.3
Dams, water supply and distribution, sewerage and drainage	234.7	215.5	265.5	199.9	136.4
Electrical power transmission, heavy electrical gen- erating plant	656.4	293.4	1,999.4	524.9	1,074.6
Harbours	168.2	156.7	285.7	100.8	179.5
Other heavy industrial plant etc.	828.1	428.3	1,193.1	657.0	646.3
Other (c)	676.6	328.2	1,552.0	518.9	1,084.8
<i>Total</i>	2,888.2	1,752.5	5,514.9	2,334.6	3,219.0

(a) At end of Period. (b) During period. (c) Comprises bridges, railways, pipelines, street and highway lighting, telecommunications and miscellaneous.

More detailed information on building activity is contained in *Building Statistics, Australia* (quarterly) (8705.0). Current information is obtainable also in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (monthly) (1305.0), the *Building Statistics, Australia: Number of Dwellings, Preliminary Estimates* (quarterly) (8703.0), *Building Operations, Australia* (quarterly) (8704.0), *Building Approvals, Australia* (monthly) (8702.0) and *Construction (other than building) Operations, Australia* (quarterly) (8708.0). Details for particular States are available from publications issued regularly by the Deputy Commonwealth Statistician in each State. The *Building Industry Quarterly* published by the Department of Housing and Construction contains further information on current trends in housing activity.

The annual reports of the Commonwealth and State Government Housing Authorities show further details of government activities in the field of housing.

Construction Industry Statistics

This section contains statistics obtained from a sample survey of private sector construction establishments and of public sector enterprises engaged in construction activity, conducted in respect of 1978-79. This is the first time the ABS has obtained comprehensive information about the private sector construction industry, or of construction activity of the public sector.

The survey was undertaken in response to requests from both private and government organisations for such data about the construction industry. The private sector collection was conducted as a component of the ABS's integrated economic statistics system. This system has been developed so that

data from each industry sector conform to the same basic conceptual standards, thereby allowing comparative analysis across different industry sectors. The results of this survey are therefore comparable with economic censuses undertaken annually for the mining, manufacturing and electricity and gas industries and periodically for the wholesale, retail and selected service industries.

Private Sector Construction Industry Statistics

The collection has provided detailed information on employment, wages, operating expenses, turnover, value added, capital expenditure, and on the structure and size of establishments in the private sector construction industry. The following tables show for private sector construction establishments, summary statistics relating to their operations; and statistics on the value of construction work done, by industry class and broad commodity group, for 1978-79. Further detailed statistics are contained in ABS statistical publications: *Private Sector Construction Establishments, Details of Operations by Industry Class, Australia, 1978-79* (8714.0); *Private Sector Construction Establishments, Details of Operations by Industry Class, States and Territories, 1978-79* (8715.0-8722.0).

Public Sector Construction Activity Statistics

Theoretically the same conceptual framework applies to both the public and private sectors, i.e. preferably all public sector establishments and ancillary units classified to the industries in Division E (Construction) of the Australian Standard Industrial Classification (ASIC) should have been included in the scope of the Survey. However, at the time the survey was conducted appropriate definitions of public sector establishments and ancillary units had not been developed, because of widely divergent accounting systems within the public sector.

The public sector collection therefore measured the significance of construction activity undertaken by public sector enterprises using their own workforces. It provided information on direct expenses, payments to contractors, and employment associated with new construction and major alterations and additions. Because of the different concepts used in the collection of these data, the public sector results cannot be validly aggregated with those for the private sector. The following table shows construction expenditure of public sector enterprises by type of construction activity and level of government, for 1978-79. Further detailed statistics are contained in ABS publication: *Construction Activity in the Public Sector, Australia 1978-79* (8712.0).

Enterprise and Industry Concentration Statistics

Industry statistics shown earlier relate to establishments. Statistics are also available for enterprises engaged in the construction industry. These have been published in the publication: *Enterprise Statistics, Details by Industry Class, Australia 1978-79* (8103.0).

Similarly, industry concentration statistics have been published for 1978-79. These aim to show the extent to which a few enterprise groups predominate in the construction industries, and are available in the publication: *Construction Industry Survey, Industry Concentration Statistics, Private Sector, Australia 1978-79* (8723.0).

PRIVATE SECTOR CONSTRUCTION ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY CLASS, AUSTRALIA, 1978-79

ASIC Code	Industry class	Establishments operating at 30th June	Average employment over whole year			Wages and Salaries	Turnover	Stocks		Total purchases transfers in and selected expenses	Value added	Fixed capital expenditure less disposals
			Males	Females	Persons			Opening	Closing			
		No.	No.	No.	No.	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
4111	House construction	13,347	28,898	10,597	39,495	197,127	2,576,494	385,757	445,478	2,004,902	631,313	36,216
4112	Residential building construction, n.e.c.	1,217	3,353	964	4,317	32,647	421,812	122,583	165,828	369,551	95,506	11,292
4113	Non-residential building construction	2,719	31,618	3,361	34,978	404,674	2,917,730	127,773	127,996	2,271,577	646,376	23,486
411	Total building construction	17,283	63,868	14,922	78,790	634,448	5,916,037	636,113	739,302	4,646,031	1,373,195	70,994
4121	Road and bridge construction	592	10,023	714	10,737	136,025	671,666	25,506	27,924	439,091	234,993	20,082
4122	Non-building construction, n.e.c.	1,310	23,389	1,929	25,318	355,490	1,469,844	51,088	72,065	912,560	578,261	52,497
412	Total non-building construction	1,903	33,412	2,643	36,054	491,515	2,141,510	76,595	99,990	1,351,651	813,254	72,579
41	Total general construction	19,186	97,280	17,564	114,844	1,125,963	8,057,546	712,708	839,292	5,997,682	2,186,448	143,573
4231	Concreting	2,040	7,548	1,661	9,208	68,807	327,936	7,361	8,023	194,098	134,500	4,333
4232	Bricklaying	3,386	7,295	1,732	9,027	33,004	132,478	3,260	3,154	51,390	80,983	1,988
4233	Roof tiling	499	1,550	386	1,937	11,817	72,340	2,629	3,436	47,235	25,912	529
4234	Floor and wall tiling	1,055	1,629	722	2,351	5,827	46,326	1,677	1,981	25,517	21,112	881
4241	Structural steel erection	311	2,916	265	3,180	37,676	103,631	3,601	5,273	46,534	58,769	3,061
4242	Plumbing	6,267	19,012	5,051	24,062	151,529	651,007	30,177	34,951	360,405	295,376	9,514
4243	Electrical work	4,420	20,781	4,046	24,827	205,439	682,940	37,169	39,192	359,486	325,478	8,957
4244	Heating and air-conditioning	599	7,131	863	7,994	84,683	368,708	16,652	18,075	243,491	126,641	3,655
4245	Plastering and plaster fixing	1,484	4,965	1,080	6,046	38,972	188,092	6,806	7,321	112,597	76,010	2,063
4246	Carpentry	2,362	5,348	1,303	6,650	36,778	137,076	4,461	5,132	64,154	73,593	2,887
4247	Painting	5,280	12,100	2,946	15,045	74,338	273,803	6,608	8,113	108,382	166,926	4,393
4248	Earthmoving and dredging	1,874	7,721	1,555	9,277	82,019	356,759	13,913	15,156	186,576	171,426	24,359
4249	Special trades, n.e.c.	2,588	9,849	2,212	12,061	92,423	422,456	20,753	22,833	242,602	181,934	8,899
42	Total special trade construction	32,165	107,845	23,821	131,666	923,312	3,763,552	155,066	172,640	2,042,467	1,738,660	75,519
41-42	Total construction	51,351	205,125	41,385	246,510	2,049,275	11,821,098	867,773	1,011,931	8,040,149	3,925,108	219,093

PRIVATE SECTOR CONSTRUCTION ESTABLISHMENTS—VALUE OF CONSTRUCTION WORK DONE
BY INDUSTRY CLASS BY BROAD COMMODITY, AUSTRALIA, 1978-79

(\$'000)

Industry	Building					Total Non- building Demolition	Total construction work done
	Houses	Other residential buildings	Non- residential buildings	Total building	Total Non- building		
Total Building Construction (411)	2,540,254	536,414	2,799,341	5,876,008	66,732	880	5,943,621
Total Non-Building Construction (412)	10,034	2,588	36,024	48,645	2,031,479	199	2,080,323
Total General Construction (41)	2,550,287	539,002	2,835,365	5,924,654	2,098,211	1,079	8,023,944
Concreting (4231)	93,208	32,649	129,723	255,580	70,620	4	326,203
Bricklaying (4232)	76,310	12,881	38,590	127,779	4,279	13	132,071
Roof Tiling (4233)	60,677	3,464	5,739	71,681	26	-	71,707
Floor & Wall Tiling (4234)	28,185	3,313	12,766	44,263	875	-	45,138
Structural Steel Erection (4241)	2,831	582	53,537	56,949	44,947	183	102,080
Plumbing (4242)	314,717	52,327	244,463	611,507	30,613	-	642,120
Electrical Work (4243)	141,611	23,275	376,545	541,429	112,199	-	653,628
Heating & Air Conditioning (4244)	34,600	3,567	315,102	353,270	4,271	-	357,540
Plastering & Plaster Fixing (4245)	98,676	14,250	66,600	179,527	400	-	179,927
Carpentry (4246)	54,816	8,009	70,353	133,180	3,861	8	137,048
Painting (4247)	134,505	20,617	97,542	252,664	19,282	-	271,945
Earthmoving & Dredging (4248)	29,176	3,862	40,917	73,956	269,406	726	344,088
Special Trades n.e.c. (4249)	81,018	6,939	199,296	287,254	105,625	9,673	402,552
Total Special Trade Construction (42)	1,150,330	185,736	1,652,972	2,989,038	666,403	10,608	3,666,049
Total Construction (41-42)	3,700,617	724,737	4,488,337	8,913,692	2,764,614	11,687	11,689,992

PUBLIC SECTOR ENTERPRISES — CONSTRUCTION EXPENDITURE BY TYPE OF CONSTRUCTION
ACTIVITY AND LEVEL OF GOVERNMENT, AUSTRALIA AND STATE, 1978-79

(\$'000)

Type of Government	Building					Total Non- building Demolition	Total value of expenditure on construction activity
	Houses	Other residential buildings	Non- residential buildings	Total building	Total Non- building		
Commonwealth Government	11,672	1,948	234,331	247,952	676,372	np	np
State Government	163,605	34,276	630,385	828,266	997,749	np	np
Local Government	4,727	3,022	123,672	131,420	781,882	np	np
Total Australia	180,004	39,246	988,389	1,207,639	3,456,004	736	4,664,380

CHAPTER 20

TRANSPORT AND COMMUNICATION

This chapter contains information on shipping; railways; tram, bus and ferry services; motor vehicles; road traffic accidents; roads; air transport; postal services; internal and overseas telecommunication services; radio communication stations; broadcasting and television; and government bodies concerned with these activities.

More detailed figures and particulars for earlier years are included in the publications listed at the end of the chapter.

TRANSPORT ORGANISATIONS

The Australian Transport Advisory Council

In April 1946, the State and Commonwealth Governments agreed to establish a co-ordinating and advisory committee at Ministerial level to review annually the various laws and regulations deemed necessary to safeguard the interests of the State Governments and road users generally and to consider matters of transport policy.

The Australian Transport Advisory Council (ATAC), thus established, is comprised of the Commonwealth Minister for Transport and the Minister for the Capital Territory, each State Minister responsible for transport and roads, and the Northern Territory Minister for Transport and Works. The New Zealand Minister responsible for transport attends as an observer.

The Council primarily considers policy matters relating to transport operations, co-ordination and developments. Its functions are: to initiate discussion and report to the respective Governments as necessary on any matter raised by the Council or any State or Commonwealth Government Authority; generally to exercise its purely advisory functions and to report as necessary to the respective Governments concerned on any matter which will tend to promote a better co-ordination of transport development, while at the same time encouraging modernisation and innovation to meet changing needs; and to assist in maintaining continuous and comprehensive research in relation to transport development in Australia and abroad, such research to be carried out for the benefit of Australian Transport authorities and agencies.

The regulation of and the executive responsibility for transport is shared between the Commonwealth and State Governments. The ATAC is the meeting ground at a ministerial level and provides an effective means of inviting discussion and reaching uniformity of approach towards transport administrative procedures and policy. It also provides a means for reviewing and discussing national solutions to transport problems and the rectification of transport deficiencies generally. The Council has been active in: the establishment of special committees and conferences to examine and report on specific problems such as road safety, motor vehicle standards and safety features, motor vehicle emissions, transport economic research, driver licensing improvement, and highway planning; the exchange of views and the formulation of common policies on a wide range of transport matters; the effecting, at ministerial level, of Commonwealth/State and interstate co-operation on such matters as urban transport arrangements and funding, provision of funds for roads, construction and operation of interstate railway links, collecting of fines and fees interstate, policing of regulations, etc., and the publication of comprehensive surveys of Australian transport.

The Council is advised by the following four policy groups: *Co-ordinating and General Transport Group*, comprising principal Ministerial advisers, such as the Permanent Heads of the relevant Departments, deals with overall issues of policy co-ordination and development as well as topics which do not fall within the terms of reference of the other groups. *Railway Group*, comprising State and Australian National Railway Commissioners, together with Commonwealth Government representatives, advises on all railway matters considered by the Council. *Road Group*, comprising State Road Commissioners together with Commonwealth Government officials, advises the Council on matters concerned with the construction and maintenance of all classes of roads and their financing. The *Motor Transport Group*, consisting of the principal State officials in the motor vehicle safety and regulatory areas, together with Commonwealth Government representatives, advises the Council on

all matters arising from the work of the technical advisory committees and on vehicle safety standards, technical standards and on-road operation. The Group is advised by the following technical committees:

The Advisory Committee on Vehicle Performance; The Advisory Committee on Road User Performance and Traffic Codes; The Committee on Motor Vehicle Emissions; The Advisory Committee on Safety in Vehicle Design; The Publicity Advisory Committee on Education in Road Safety; and Ad-hoc advisory committees. In addition to these technical committees, the Energy Working Group and the Advisory Committee on the Transport of Dangerous Goods report to the Co-ordinating and General Transport Group.

In July 1969 ATAC established the Australian Motor Vehicle Certification Board to advise State and Territory registering authorities on compliance by new motor vehicles with Australian Design Rules (ADR's). The Board's principal function is to issue Compliance Plate Approvals, based on manufacturers' submissions, that a vehicle complies with those Rules applicable at its date of manufacture. Compliance with ADR's is a prerequisite to vehicle registration throughout Australia.

Transport Industries Advisory Council

The Transport Industries Advisory Council (TIAC) was formed following the March 1971 Australian Transportation Conference. The TIAC, an access channel between industry and the Commonwealth Minister for Transport, provides advice and comment to the Minister on policy issues as well as recommendations related to improving transport systems in Australia.

The 36 members of TIAC are drawn from senior management in all modes of transport, major consumers, Government bodies and unions. The Minister appoints members on the basis of personal expertise. New members, appointed annually, serve on the Council for extendable terms of three years. The full Council, which meets four times a year, operates through three Working Committees. The Council is represented at pre-budget economic consultative meetings with the Prime Minister and Cabinet Ministers.

The Council was largely responsible for initiating the Transport Activity Indicators Project which provides quarterly statistical information on transport in Australia. Examples of topics currently under consideration by TIAC include the Australian rail systems; a uniform code for the safe transport of dangerous goods; identification of real transport costs; need for a national transport strategy; undeclared hazardous cargo and industrial relations in the transport industry.

The TIAC has a small Secretariat located in the Commonwealth Department of Transport.

Marine and Ports Council of Australia

The Marine and Ports Council of Australia (MPCA) provides an advisory forum for Commonwealth and State Governments in which to discuss initiatives and developments in marine and port matters. Membership comprises the Commonwealth Minister for Transport (Chairman) and State and Territory Ministers whose portfolios include responsibility for port and marine matters.

Evolving from six meetings of a Commonwealth/State Ministerial Council for Port Development and Marine Affairs, the MPCA was convened for the first time in May 1976, bringing together Commonwealth and State policy-making machinery in relation to ports, the administration of shipping matters, cargo movements, shipping and marine laws, marine pollution control, safety and consultation on treaties. The Council now meets bi-annually.

To assist the Council in its deliberations there exists a Committee of Advisers comprising Commonwealth, State and Territory ministerial advisers, generally at permanent head level or equivalent, who are responsible for marine and port matters. This Committee makes recommendations to Ministers on matters referred to them by Ministers or from within the Committee.

Aviation Industry Advisory Council

The Aviation Industry Advisory Council (AVIAC) was established in 1978 to enhance the level of consultation between the aviation industry and the Government. The Council provides advice to the Commonwealth Minister for Transport on policies, plans and programs relating to the aviation industry within Australia, promotes the continuing development of a safe, efficient, economic aviation industry within Australia, and provides a forum for discussion of important matters of joint concern to the aviation industry and Government.

Membership of the Council consists of the Commonwealth Minister for Transport (Chairman); Secretary to the Department of Transport; Chairman of Qantas Airways Ltd, Australian National Airlines Commission (TAA), East-West Airlines; Joint Managing Directors of Ansett Transport Industries Ltd; National President of the General Aviation Association; and presidents of the Aircraft Owners and Pilots Association of Australia and the Royal Federation of Aero Clubs of Australia.

The AVIAC has established a Committee of Advisers to assist in the analysis and preparation of matters to put to the Council for deliberation and decision.

The Bureau of Transport Economics

This Bureau, which from June 1977 incorporated the functions of the former Commonwealth Bureau of Roads, undertakes research and analysis to assist the Commonwealth Government in the assessment, formulation and development of policy aimed at the efficient allocation of resources in the transport field. This work covers all transport activities and includes the analysis of funding for road investment as well as matters relating to the reduction of transport costs and the rational planning of future transport facilities. For administrative purposes the Bureau is attached to the Department of Transport, but it is responsible to the Minister for Transport for the conduct of its studies and investigations.

SHIPPING

Control of shipping

Commonwealth Government navigation and shipping legislation

Commonwealth Government Acts concerned with shipping are: the *Navigation Act* 1912, the *Sea-Carriage of Goods Act* 1924, the *Seamen's Compensation Act* 1911, the *Seamen's War Pensions and Allowances Act* 1940, the *Pollution of the Sea by Oil Act* 1960, the *Pollution (Shipping Levy) Act* 1972, the *Pollution (Shipping Levy Collection) Act* 1972, the *Australian Shipping Commission Act* 1956, the *Stevedoring Industry Act* 1956, the *Beaches, Fishing Grounds and Sea Routes Protection Act* 1932, the *Submarine Cables and Pipelines Protection Act* 1963, the *Lighthouses Act* 1911, the *Explosives Act* 1961, the *Inter-State Commission Act* 1975, the *King Island Harbour Agreement Act* 1973, the *King Island Shipping Service Agreement Act* 1974, the *Ship Construction Bounty Act* 1975, the *Trade Practices Act*, 1974, Part X, the *Shipping Registration Act* 1981.

Navigation Act 1912 as Amended

One of the largest Commonwealth Acts, the *Navigation Act*, provides for various regulatory controls over ships and their crews, passengers and cargoes, mainly for the preservation of life and property at sea. Substantial penalties are provided for serious offences. The Act gives effect to a number of important international conventions produced under the aegis of the International Maritime Consultative Organisation (IMCO).

Many of the 43 sets of Regulations under the Act are to be replaced under a system of Marine Orders that has been introduced.

Taken in the order in which they appear in the Act, the main substantive matters dealt with are as follows:

Masters and seamen. Some sections deal with the examination of masters, mates and engineers for certificates of competency. Other sections ensure that appropriate conditions apply to crews serving on ships by providing for the supervision of the engagement, discharge and payment of wages; discipline at sea; the settlement of wages and other disputes; the return to their home port of distressed seamen; taking charge of wages and effects of deceased seamen and of those who have deserted or been left behind; and enquiries into deaths at sea. These matters are administered by Mercantile Marine Offices established at numerous ports. The health of seamen is cared for by the prescription of scales of medicines and medical stores to be carried by ships, and there are provisions to give effect to International Labour Organisation Convention requirements for the accommodation of crews. Plans for new or altered accommodation in ships have to be approved by a Crew Accommodation Committee.

There are requirements for the manning of ships, designed to ensure that sufficient officers and men are carried for safety and operational purposes. Manning disputes are dealt with by statutory Committees of Advice. The Act provides for a Marine Council to advise the Minister on the suitability of persons for engagement as seamen.

Ships and shipping. There are particularly important provisions dealing with ship safety in such matters as survey of ships, load lines, life-saving and fire appliances, prevention of collisions, and carriage of potentially dangerous cargoes. Whilst in Australia, all ships come under the survey provisions of the Navigation Act and require certificates issued by the Department of Transport unless they are registered in a country which is a party to the Convention concerned and hold valid certificates issued by their Governments and conforming to the requirements of the Safety of Life at Sea and Load Lines Conventions. There is power to detain any ship the condition of which does not conform with the conditions set out in its certificate or which appears to be overloaded or otherwise unseaworthy.

Passengers. These provisions deal with matters necessary or convenient for regulating the carriage of passengers in respect of such matters as numbers that may be carried, accommodation and health aspects.

Coasting trade. Under the coastal trade provisions of the *Navigation Act*, the Australian coastal trade is reserved for licensed vessels, i.e. those which comply with Australian standards of manning, accommodation, and award conditions and wages. The Act does not restrict the class of ships which may obtain a licence. It is open to any vessel irrespective of the registry to obtain a licence on compliance with these conditions and to operate in the Australian coastal trade subject to approval being given for the importation of the vessel where necessary. Provision exists for unlicensed vessels to operate in the coast trade under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade. Strict control is exercised over the issue of permits for the carriage of coastal cargoes.

Wrecks and salvage. There are provisions in relation to wrecks and salvage, covering preservation of life and of the wreck and its cargo and related matters.

Prevention, etc., of pollution by oil of the Australian coast, coastal waters and reefs. Under these provisions, where oil is escaping, or likely to escape, from a ship, the Minister is empowered to take action to prevent or reduce pollution of the area.

Limitation and exclusion of shipowners' liability. These sections give effect to an international convention and make provision on the widest possible basis for the limitation of shipowners' liability in Australia.

Courts of Marine Inquiry. There are provisions for the holding of Courts of Marine Inquiry to investigate the circumstances attending any casualties to ships that come within Commonwealth legislative authority, usually following a preliminary investigation. Such courts are provided with power to examine all the circumstances and to deal with the certificates of ships' officers found to have been at fault.

Several significant amending Navigation Acts have been passed in recent years but are not yet fully in force. Those Acts deal with a wide range of matters and many amendments of a general, formal or consequential nature are already in force. Other important groups of amending sections are being, or are to be, brought into operation as the necessary Parts of Marine Orders, and Regulations become ready. In accordance with a Premiers' Conference Agreement, the *Navigation Act* now in effect clearly delineates Commonwealth, State and Northern Territory responsibilities for shipping and navigation.

The amending Acts comprise the *Navigation Amendment Act 1979* (No. 98 of 1979, which received Royal Assent on 22 October 1979), the *Navigation Amendment Act 1980* (No. 87 of 1980, which received Royal Assent on 29 May 1980), the *Navigation Amendment Act 1981* (No. 10 of 1981, which received Royal Assent on 25 March 1981) and the *Navigation (Protection of the Sea) Amendment Act 1981* (No. 36 of 1981 which received Royal Assent on 14 April 1981).

Shipping Registration Act 1981

The *Shipping Registration Act 1981* received Royal Assent on 25 March 1981, but at this date has not been proclaimed. This Act replaces Part I of the *U.K. Merchant Shipping Act 1894* under which ships in Australia were registered as British ships. The Act provides that all ships on the British register in Australia will be automatically transferred to the new Australian register. The Act has two basic objectives namely the conferring of Australian nationality on Australian-owned ships and the registration of ownership.

Taken in order in which they appear in the Act, the main substantive matters are as follows:

Registration of Ships: This part deals with the obligation to register Australian-owned ships, the ships permitted to be registered, the application for registration, particulars to be entered in the Register, the issue of Registration Certificates, Provisional Registration Certificates and Temporary Passes, changes in ownership, marking and naming of the ship, nationality of ships, flags to be flown, assuming and concealing Australian nationality.

Transfers, Transmissions and Mortgages: This part deals with the transfer, transmission of ship and shares, the taking out, transfer, transmission transfer and discharge of mortgages and the entry of this information into the Register.

Administration: This part deals with the appointment of the Registrar, delegation of the powers of the Minister and Registrar, the establishment of the Shipping Registration Office and Branch Offices.

Register of Ships: This part deals with the maintenance, rectification and inspection of the Register.

Transitional Provisions: This part deals with the change over from the previous law to the new legislation. This includes the completion of transactions commenced under the previous law and the acceptability of documents prepared under the previous law.

Australian Shipping Commission

The Commission was established by the *Australian Coastal Shipping Commission Act 1956*. The Commission's role has been to establish, maintain and operate interstate, overseas and territorial shipping services. The Commission's title was changed in October 1974 to the Australian Shipping Commission to reflect the increasing importance of its overseas trading activities. In 1980 the Australian Shipping Commission Act was amended to increase its borrowing powers and give it greater flexibility in having freight rates set.

As at 30 June 1981 the Commission, operating as the Australian National Line, owned and/or operated a fleet of thirty-one vessels. The fleet included 13 vessels engaged in overseas trades comprising five vehicle deck cargo ships totalling 104,792 tonnes deadweight; three cellular container ships totalling 94,386 tonnes deadweight; four ore-bulk carriers totalling 528,179 tonnes deadweight; and one hybrid container vessel of 22,195 tonnes deadweight.

The fleet also included eighteen vessels engaged in coastal trades comprising one vehicle deck passenger ship, the *Empress of Australia* of 2,735 tonnes deadweight; seven vehicle deck cargo ships totalling 52,315 tonnes deadweight; one container bulkship of 12,140 tonnes deadweight in the Darwin trade; one bulk carrier in the over 100,000 tonnes deadweight class; two bulk carriers in the 50-100,000 tonnes deadweight class; six other bulk carriers each less than 50,000 tonnes deadweight totalling 120,869 tonnes deadweight.

The Line operated specialised terminals at Adelaide, Melbourne, Burnie, Devonport, Bell Bay, Sydney, Port Kembla, Brisbane, Mackay, Townsville and Cairns.

The *Empress of Australia* carried 119,758 passengers between Melbourne and Devonport together with 32,893 vehicles during the year ending 30 June 1981.

Australian Shipbuilding Board

The Australian Shipbuilding Board provided advice to the Minister for Industry and Commerce on matters relating to the shipbuilding industry, including bounty prices and registration of yards within the terms of the *Ship Construction Bounty Act 1975*, subsidy assistance under the provisions of the *Australian Shipping Commission Act*, and other matters referred to the Board by the Minister. However, following the Review of Commonwealth Functions, the Board was abolished on 30 April 1981.

Shipbuilding Assistance

The shipbuilding industry in Australia has been assisted by the Government since the introduction of the shipbuilding subsidy scheme in 1947. The level of subsidy has been determined by the Government on the basis of inquiries into the industry by the former Tariff Board and, more recently, by the Industries Assistance Commission. These inquiries have been held in 1954, 1959, 1963, 1971, 1976 and 1977-79.

In May 1977, the Government sent a reference to the Commission on assistance to be accorded to the production of vessels under 6,000 t. The Commission reported to the Government on 25 July 1979 and on 29 November 1979 the Government announced new, simplified assistance arrangements for the Australian shipbuilding industry, with the introduction of the new *Bounty (Ships) Act* on 1 July 1980.

Under this Act, bounty continues to be accorded to the production in Australia of vessels over 150 gross construction tons, or over 21 metres in the case of fishing vessels. Bounty is payable on a 'cost of construction basis', at a rate of 27½ per cent, phasing down to a long-term rate of 20 per cent to apply from 1 July 1986.

Under the previous Act, the *Ship Construction Bounty Act 1975*, which applies to vessels for which public tenders closed on or before 30 June 1980, bounty was calculated on the basis of the lowest acceptable Australian tender. At 30 June 1981, there were 36 vessels being constructed under this Act at registered yards. The Act will run its course until the last of these vessels is completed, by about the end of 1982.

Vessels built at major yards include small cargo vessels, offshore supply vessels, passenger ferries, fishing vessels, dredgers, and barges. In addition, there are numerous smaller yards building non-bountiable vessels such as pleasure craft, small fishing vessels, and other small craft.

In 1980-81 a total of 50 vessels were completed at Australian yards (as compared with 37 in 1979-80, 47 in 1978-79 and 23 in 1977-78). Construction of large ships in Australia ceased in 1978 and the increased activity in 1978-79 was partly due to the effects of the Government's investment allowance. The allowance had been increased from 20 per cent to 40 per cent from 1 January 1976 and reverted to 20 per cent from 1 July 1978.

The figures for 1979-80 and 1980-81 reflect increased activity in the Australian shipbuilding industry and the amounts of Government financial assistance paid in these years show similar increases.

Total financial assistance to the Australian shipbuilding industry in 1980–81 amounted to \$17.3m (as compared with \$13.4m in 1979–80, \$10.8m in 1978–79, and \$13.6m in 1977–78). However, the figure for 1980–81 falls considerably short of the peak of \$43.7m recorded in 1975–76 prior to the cessation of large shipbuilding in Australia which, together with reduced rate of bounty assistance, accounted for the decline in 1978–79.

Importation of Ships

The control of imports forms an integral part of the Government's shipbuilding assistance arrangements, complementing the bounty legislation. Under the Customs (Prohibited Imports) Regulations all ships are 'prohibited imports' and may not be imported into Australia except with the written permission of the Minister for Transport.

Stevedoring Industry

In December 1977, legislation was introduced which provided for new administrative, financial and industrial arrangements for the stevedoring industry and abolished the Australian Stevedoring Industry Authority. The arrangements give the parties directly involved in the industry greater responsibility in the industry's affairs.

The Stevedoring Industry Finance Committee is responsible for the disbursement of funds collected through statutory man-hour and cargo levies.

A federal co-ordinating committee comprising representatives of the employers and the Waterside Workers' Federation (WWF) and Broken Hill Pty Ltd (BHP) and the Australian National Line oversees the operation of arrangements agreed to in the General Agreement between employers and the WWF. At the port level such matters are handled by Port Co-ordinating Committees set up in the major ports.

Under section 85A of the *Conciliation and Arbitration Act* 1904 a Port Conciliator Service was created to assist parties to an industry award to implement the procedures of that award for the prevention or settling of disputes.

A non-statutory Stevedoring Industry Consultative Council chaired by Sir Alan Westerman, CBE, has been established to provide a forum for discussion and liaison between government(s), user interests and the operating sections of the industry. The Chairman is appointed for a three year period by the Commonwealth Government.

The Statutory provisions relating to the industry are contained in the *Stevedoring Industry Finance Committee Act* 1977, the *Stevedoring Industry Levy Act* 1977, the *Stevedoring Industry Levy Collection Act* 1977, the *Port Statistics Act* 1977 and sections 85A, 86, 87 of the *Conciliation and Arbitration Act* 1904.

Tasmanian Freight Equalisation Scheme

The Commission of Inquiry into Transport to and from Tasmania in its Report published in March 1976 found that because of Tasmania's physical separation from the mainland by sea, Tasmanian shippers suffer a cost disability in moving non-bulk cargoes by sea between Tasmania and the mainland.

Following on from the Report, the Commonwealth Government introduced, with effect from 1 July 1976, the Tasmanian Freight Equalisation Scheme. The Scheme is designed to equalise door-to-door freight costs of moving certain eligible commodities between Tasmania and the mainland by sea with those for moving similar commodities over comparable interstate mainland rail and road routes.

The northbound component applies to Tasmanian consignors of specied goods by sea that are bought for use or exported for sale on the mainland. Under the southbound component certain producer raw materials, machinery and equipment are eligible for assistance. The northbound component was introduced in July 1976 and the southbound component in July 1977. Assistance under the latter applied to shipments made from 1 July 1976.

In 1980–81 assistance provided under the Scheme for northbound cargoes totalled \$27.4m, and \$2.1m in respect of southbound cargoes. Since its inception assistance provided under the Scheme up to the end of 1980–81 totalled \$119.1 million.

Responsibility for the administration of the Scheme lies within the Transport portfolio.

Revised rates of assistance for northbound cargoes were introduced on 1 July 1978 and revised southbound rates on 1 March 1980 following reviews of freight costs by the Bureau of Transport Economics. The Scheme is currently being reviewed to ensure it continues to meet the Government's objectives.

Trade Practices Act 1974 (Part X—Overseas Cargo Shipping)

The Overseas Cargo Shipping provisions of the *Trade Practices Act* (Part X) are administered by the Transport portfolio.

Part X establishes conditions for the operation of outwards shipping conferences and individual shipowners operating in Australia's outwards trades. Conference agreements between several shipowners in a particular trade make provision for the fixing of common freight rates. They may also include provisions for pooling arrangements and shares of the trade and rationalised sailing schedules. With suitable safeguards, these arrangements can have beneficial effects for shippers in that conference arrangements can lead to regular and predictable services at stable freight rates.

Part X, therefore, exempts conferences from the generally applicable anti-restrictive provisions of the Act, and seeks to ensure adequate safeguards to protect shippers through:

- requiring the filing of outwards conference agreements;
- requiring shipowners to give undertakings to hold meaningful negotiations with the designated shipper body, the Australian Shippers' Council (ASC);
- providing for disapproval of a conference agreement to be exercised by the Governor-General on a number of prescribed grounds, such as a failure on the part of the shipowner to comply with an undertaking, lack of due regard to the need for overseas shipping services to be efficient, economical and adequate, prevention or hindrance of an Australian flag operator from engaging efficiently in overseas cargo shipping to a reasonable extent.

Comparable provisions apply to individual shipowners who are not party to a conference agreement.

Marine pollution

The *Pollution of the Sea by Oil Act 1960*, Part VIIA of the *Navigation Act 1912* and the *Pollution of the Sea by Oil (Shipping Levy) and (Shipping Levy Collection) Acts 1972* currently provide the Commonwealth power to deal with matters relating to marine oil pollution.

The Acts respectively provide for the control of discharges at sea and provision of control equipment and procedures on ships; empower the Minister to intervene to take action to prevent or reduce pollution and makes provision relating to limitation of liability of oil tankers for oil pollution damage; and provide for the collection of a levy to finance the National Plan to Combat Pollution of the Sea by Oil.

Maritime Industry Commission of Inquiry

For details see Year Book No. 61, pages 370–1.

Collection and presentation of statistics

Basic documents

From 1 July 1966 shipping statistics have been compiled by the Australian Bureau of Statistics from returns submitted by shipping companies or their representatives to Customs Houses at the various seaports throughout Australia. A return is required for the departure of a vessel from a port as well as for its arrival at that port.

On 1 July 1979 revised Bureau of Customs forms (B380/B381) came into operation bringing changes in concepts and definitions. At the same time improvements were made in the coverage of the shipping and cargo statistics collection. Consequently statistics for 1979-80 onwards are not always comparable with data for previous periods.

Scope of the statistics

Arrivals and departures of vessels are treated separately in shipping statistics. Not all vessels are included in the statistics, as returns are not required for (i) naval vessels; (ii) yachts and other craft used for pleasure; (iii) foreign fishing vessels that neither load nor discharge cargo; (iv) Australian registered fishing vessels operating from Australian ports; (v) geographical survey vessels, seismic survey vessels, oceanographic survey vessels; (vi) offshore oil drilling rigs and vessels servicing them; (vii) vessels of 200 registered net tons and under.

Period covered by the statistics

The shipping statistics presented relate to overseas vessels arriving at or departing from Australian ports within the financial year.

Vessel characteristics

Vessel recording

Vessel movement statistics are recorded as "Vessel Number" and "Vessel Calls". "Vessel Number" relates to the number of overseas direct arrivals to, or departures from Australia. "Vessel Calls" relates to the number of port visits that an overseas vessel makes in Australia. For example, an overseas vessel which arrives direct in Brisbane and makes a further call in Sydney before departing for an overseas port from Melbourne is counted as one under "Vessel Number" for both arrivals (Brisbane) and departures (Melbourne) and as one arrival call and one departure call for each of the three ports.

Vessel type

All vessels are classified from *Lloyd's Register of Shipping* according to one of 13 vessel types which describe them in terms of their structure or design. These 13 vessel types are amalgamated into four broad categories as follows:

<i>Category</i>	<i>Vessel types</i>
(a) general cargo vessels	Container Ships Roll on—Roll off General Cargo Ships Livestock Cargo
(b) tankers	Gas carriers: refrigerated Gas carriers: non-refrigerated Tankers: Crude oil and petroleum products Tankers: Chemical and specialised
(c) bulk carriers	Dry Bulk Carrier Bulk/oil Carrier
(d) other vessels	Multi-purpose Passenger Other

Type of service

Vessels are also classified according to the type of service they provide, indicating the manner in which the vessel was operated on a particular voyage or leg of a voyage. The two types of service for which statistics are shown are:

- (a) liner service, (according to conference and non-conference) relates specifically to a vessel which is operated by a carrier providing services on a specified route on a relatively regular basis and
- (b) other service which refers to all vessels operating in other than a liner service.

Conference vessels—A 'conference' is an association of shipowners which regulates the freight rates and terms and conditions of carriage of goods in any particular trade. Conferences only operate liner services and not charter services. Conference arrangements normally include provisions for sharing the trade, rationalising sailing schedules and pooling arrangements for resources and/or revenue.

Country of registration

The country of registration or flag of the vessel refers to the country in which the vessel is registered according to *Lloyd's Register of Shipping*.

Recording of cargo loaded or discharged

Returns for arrivals show cargo discharged, and for departures cargo loaded, in terms of Revenue Tonnes. A revenue tonne is the unit of quantity predominantly used in the shipping industry. It is the basis on which freight is charged and is obtained by adding mass (tonnes weight) and volume (cubic metres) units.

Container cargo

Statistics of container cargo refer only to cargo shipped in 20 ft or 40 ft standard international containers. To provide a standard measure, all statistics relating to containers are expressed in terms of 20 ft units. A 40 ft container is therefore recorded as two twenty-foot equivalent units (or TEU's).

Country of loading or discharge of overseas cargo

In statistics of overseas shipping cargo, country of loading or discharge of cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting vessel. The countries shown are not necessarily the countries of origin or ultimate destination of cargo because previous or subsequent transshipments of cargo are not taken into account. The statistics of cargo classified by the country in which it was loaded or discharged cannot therefore be compared directly with statistics of overseas trade classified by country of origin or consignment.

The following table shows particulars of overseas shipping which arrived at or departed from Australian ports according to the country of registration of vessels.

OVERSEAS SHIPPING: VESSEL DEPARTURES AND ARRIVALS BY COUNTRY OF REGISTRATION, 1979-80

<i>Country of registration</i>	<i>Departures</i>		<i>Arrivals</i>	
	<i>Vessel number</i>	<i>DWT ('000 tonnes)</i>	<i>Vessel number</i>	<i>DWT ('000 tonnes)</i>
Australia	151	8,231	160	8,260
Belgium-Luxembourg	39	1,871	38	1,828
China—excl. Taiwan	270	9,564	268	9,202
—Taiwan	52	2,643	51	2,512
Denmark	82	1,796	85	1,848
France	32	1,883	31	1,853
Germany, Federal Republic of	136	2,503	136	2,562
Greece	429	13,996	432	14,230
Hong Kong	115	3,287	120	3,437
India	75	2,322	84	2,521
Italy	30	1,676	31	1,737
Japan	1,276	82,841	1,285	82,436
Korea, Republic of	112	3,609	114	3,663
Kuwait	39	1,085	38	1,013
Liberia	890	45,100	888	45,134
Malaysia	29	967	32	1,022
Netherlands	82	2,005	82	2,049
New Zealand	106	1,271	113	1,333
Norway	190	9,764	193	9,858
Panama	575	16,012	578	15,960
Philippines	37	1,350	37	1,370
Singapore, Republic of	293	4,657	299	4,817
Sweden	39	1,346	44	1,496
United Kingdom	577	17,556	579	17,551
United States of America	44	1,583	48	1,802
U.S.S.R.	186	2,121	194	2,183
Other countries	282	5,517	289	5,540
Total All Countries	6,168	246,555	6,249	247,218
With cargo	5,495	226,204	2,213	50,123
In ballast	673	20,351	4,036	197,094

Australian trading vessels

The following table shows particulars of all Australian trading vessels of 150 gross tons or more engaged in the regular overseas, interstate or intrastate services at 30 June 1981.

**AUSTRALIAN TRADING VESSELS OF 150 GROSS TONS OR MORE
30 JUNE 1981**

(Source: Department of Transport)
Australia

<i>Vessels</i>	<i>Number</i>	<i>DWT</i>	<i>Gross Tonnes</i>
Interstate—			
Australian owned, Australian registered	49	1,246,167	793,965
Australian owned, overseas registered	1	2,540	2,577
Overseas owned, Australian registered	5	102,063	67,823
Overseas owned, overseas registered	7	489,407	268,740
<i>Interstate fleet</i>	62	1,840,177	1,133,105
Intrastate—			
Australian owned, Australian registered	21	265,575	163,922
Overseas owned, Australian registered	1	58,077	36,088
<i>Intrastate fleet</i>	22	323,652	200,010
Coastal fleet	84	2,163,829	1,333,115
Overseas—			
Australian owned, Australian registered	13	446,395	316,518
Overseas owned, Australian registered	3	401,587	213,946
Overseas owned, overseas registered	5	143,458	89,986
Overseas fleet	21	991,440	620,450
Total Australian fleet	105	3,155,269	1,953,565

Harbour boards and trusts

For detailed information see the individual State Year Books.

Shipping at principal ports

The following table shows the total movement of overseas shipping and cargo at Australian ports, 1979-80.

OVERSEAS VESSEL AND CARGO MOVEMENTS AT AUSTRALIAN PORTS 1979-80

Australian port	Departures		Cargo loaded	Arrivals		Cargo discharged
	Vessel details			Vessel details		
	Vessel calls	DWT (^{'000 tonnes})	Gross weight (^{'000 tonnes})	Vessel calls	DWT (^{'000 tonnes})	Gross weight (^{'000 tonnes})
New South Wales—						
Sydney	1,658	33,863	6,184	1,714	35,689	3,267
Botany Bay	92	3,572	129	97	3,590	2,172
Newcastle	593	20,765	14,070	608	20,969	1,134
Port Kembla	252	11,324	7,010	262	11,497	723
Other	130	2,521	853	143	2,750	87
<i>Total</i>	<i>2,725</i>	<i>72,045</i>	<i>28,246</i>	<i>2,824</i>	<i>74,495</i>	<i>7,383</i>
Victoria—						
Melbourne	1,695	32,508	2,327	1,637	30,922	2,558
Geelong	271	7,313	3,776	283	7,600	1,347
Westernport	152	3,703	1,858	159	3,942	101
Portland	139	4,215	1,424	141	4,246	206
<i>Total</i>	<i>2,257</i>	<i>47,739</i>	<i>9,386</i>	<i>2,220</i>	<i>46,710</i>	<i>4,212</i>
Queensland—						
Brisbane	1,052	19,433	2,388	991	18,696	1,591
Gladstone	262	11,366	8,965	277	11,731	788
Hay Point	181	17,567	14,500	182	17,687	—
Townsville	224	3,511	950	224	3,511	606
Weipa	119	5,661	4,767	118	5,662	66
Other	424	5,055	2,488	434	5,164	162
<i>Total</i>	<i>2,262</i>	<i>62,593</i>	<i>34,056</i>	<i>2,226</i>	<i>62,451</i>	<i>3,214</i>
South Australia—						
Port Adelaide	551	8,608	1,570	544	8,535	416
Port Lincoln	141	3,900	1,039	144	3,986	95
Port Pirie	102	1,838	786	117	1,966	—
Port Stanvac	41	3,080	95	51	3,370	1,811
Thevenard	62	993	629	67	1,064	—
Whyalla	40	971	528	41	978	154
Other	95	2,156	1,054	98	2,197	29
<i>Total</i>	<i>1,032</i>	<i>21,546</i>	<i>5,700</i>	<i>1,062</i>	<i>22,096</i>	<i>2,506</i>
West Australia—						
Fremantle	1,159	27,198	6,638	1,174	27,760	5,355
Bunbury	172	4,599	2,956	169	4,539	181
Dampier	439	43,282	38,890	425	42,049	236
Geraldton	163	3,393	1,515	161	3,340	91
Port Hedland	394	33,544	29,305	388	32,614	117
Port Walcott	138	17,230	14,709	139	17,284	271
Yampi Sound	46	2,731	2,340	44	2,617	2
Other	311	4,948	2,243	304	4,846	284
<i>Total</i>	<i>2,822</i>	<i>136,925</i>	<i>98,597</i>	<i>2,804</i>	<i>135,049</i>	<i>6,539</i>
Tasmania—						
Hobart	141	2,208	741	130	2,109	104
Launceston	118	3,470	2,179	117	3,400	78
Port Latta	26	2,362	2,046	28	2,543	14
Other	99	1,909	302	99	1,955	97
<i>Total</i>	<i>384</i>	<i>9,949</i>	<i>5,269</i>	<i>374</i>	<i>10,007</i>	<i>293</i>
Northern Territory—						
Darwin	114	1,271	30	113	1,251	478
Other	174	6,779	4,875	175	6,854	795
<i>Total</i>	<i>288</i>	<i>8,050</i>	<i>4,905</i>	<i>288</i>	<i>8,105</i>	<i>1,273</i>
Port not available	293	5,233	1,619	169	1,835	799
Total all ports	12,063	364,080	187,778	11,967	360,748	26,219

Shipping cargo

The following table shows details of container and non-container cargo loaded and discharged at Australian ports during 1979-80.

OVERSEAS CONTAINER AND NON-CONTAINER CARGO LOADED AND DISCHARGED AT
AUSTRALIAN PORTS, 1979-80

(*000 revenue tonnes)

Port	Loaded			Discharged		Total
	Container cargo	Other cargo	Total	Container cargo	Other cargo	
New South Wales—						
Sydney	1,122	5,263	6,385	2,502	2,344	4,846
Botany Bay	-	129	129	-	2,172	2,172
Newcastle	19	14,052	14,070	28	1,120	1,148
Port Kembla	1	7,011	7,012	3	731	734
Other	41	818	859	88	43	130
<i>Total</i>	<i>1,183</i>	<i>27,273</i>	<i>28,456</i>	<i>2,621</i>	<i>6,410</i>	<i>9,030</i>
Victoria—						
Melbourne	1,942	818	2,760	2,558	2,049	4,607
Geelong	51	3,749	3,800	27	1,332	1,358
Westernport	-	1,858	1,858	-	101	101
Portland	-	1,424	1,424	-	206	206
<i>Total</i>	<i>1,992</i>	<i>7,850</i>	<i>9,843</i>	<i>2,585</i>	<i>3,687</i>	<i>6,272</i>
Queensland—						
Brisbane	550	1,903	2,452	358	1,681	2,039
Gladstone	-	8,965	8,965	-	788	788
Hay Point	-	14,500	14,500	-	-	-
Townsville	22	929	951	3	636	639
Weipa	-	4,767	4,767	-	67	67
Other	2	2,487	2,490	1	162	163
<i>Total</i>	<i>574</i>	<i>33,550</i>	<i>34,124</i>	<i>362</i>	<i>3,334</i>	<i>3,697</i>
South Australia—						
Port Adelaide	105	1,545	1,651	67	588	655
Port Lincoln	-	1,039	1,039	-	95	95
Port Pirie	4	784	789	-	-	-
Port Stanvac	5	90	95	-	1,811	1,811
Whyalla	11	517	528	-	154	154
Other	8	1,657	1,665	-	29	29
<i>Total</i>	<i>134</i>	<i>5,632</i>	<i>5,766</i>	<i>67</i>	<i>2,677</i>	<i>2,744</i>
West Australia—						
Fremantle	342	6,324	6,666	312	5,265	5,577
Bunbury	-	2,956	2,956	-	182	182
Dampier	-	38,890	38,890	-	236	236
Geraldton	1	1,515	1,515	-	91	91
Port Hedland	-	29,305	29,305	-	121	121
Port Walcott	-	14,709	14,709	-	271	271
Yampi Sound	-	2,340	2,340	-	2	2
Other	13	2,230	2,243	4	285	289
<i>Total</i>	<i>356</i>	<i>98,269</i>	<i>98,625</i>	<i>316</i>	<i>6,454</i>	<i>6,770</i>
Tasmania—						
Hobart	4	737	742	2	125	127
Launceston	1	2,180	2,182	1	80	81
Port Latta	-	2,046	2,046	-	14	14
Other	61	249	310	11	89	101
<i>Total</i>	<i>67</i>	<i>5,213</i>	<i>5,280</i>	<i>14</i>	<i>309</i>	<i>324</i>
Northern Territory—						
Darwin	-	31	31	-	487	487
Other	-	4,875	4,875	-	810	810
<i>Total</i>	<i>-</i>	<i>4,906</i>	<i>4,906</i>	<i>-</i>	<i>1,297</i>	<i>1,297</i>
Port not available	397	1,285	1,682	366	529	895
Total Australia	4,703	183,978	188,681	6,330	24,698	31,028

Overseas cargo according to major trade areas and vessel type

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas classified according to the major trade areas of the world and by vessel type.

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA: MAJOR TRADE AREAS BY VESSEL TYPE, 1979-80

('000 revenue tonnes)

<i>Trade area</i>	<i>General cargo vessels</i>	<i>Tankers</i>	<i>Bulk carriers</i>	<i>Other vessels</i>	<i>All vessels</i>
<i>Loaded</i>					
Europe	1,843	286	31,378	47	33,555
East Asia	1,797	136	15,285	8	17,225
Japan	3,095	1,729	110,901	9	115,734
N. America-E. Coast	524	61	2,284	7	2,876
N. America-W. Coast	314	38	3,289	89	3,729
Central America	48	-	9	-	57
S. America-E. Coast	43	-	110	1	154
S. America-W. Coast	71	53	345	-	468
West Africa	12	-	63	-	75
South East Africa	98	24	443	-	565
Red Sea	259	2	1,594	15	1,870
Persian Gulf	848	65	2,439	4	3,356
West India	185	37	418	-	640
East India	122	23	897	-	1,042
South East Asia	1,737	407	2,268	11	4,423
New Zealand	673	578	430	-	1,682
Papua New Guinea	461	83	-	-	544
Central Pacific	147	259	10	-	416
French Pacific	94	10	31	-	135
Pacific Islands	30	-	19	-	49
Other	23	30	28	4	85
Total Loaded	12,424	3,820	172,241	196	188,681
<i>Discharged</i>					
Europe	2,087	540	223	66	2,915
East Asia	1,042	32	140	1	1,215
Japan	2,853	373	1,693	-	4,919
N. America-E. Coast	1,175	842	433	2	2,451
N. America-W. Coast	847	92	1,158	234	2,331
Central America	4	103	22	-	129
S. America-E. Coast	-	-	-	-	-
S. America-W. Coast	59	-	-	-	59
West Africa	4	-	1	-	5
South East Africa	175	79	-	3	256
Red Sea	43	4,011	600	-	4,654
Persian Gulf	6	4,589	661	-	5,255
West India	125	47	-	-	171
East India	66	13	53	-	131
South East Asia	483	2,881	205	6	3,575
New Zealand	636	41	218	-	895
Papua New Guinea	64	27	-	-	92
Central Pacific	16	-	-	5	20
French Pacific	3	-	-	-	3
Pacific Islands	11	-	1,144	-	1,155
Other	18	77	701	1	797
Total Discharged	9,714	13,745	7,252	318	31,028

Overseas cargo according to major trade areas and type of service

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the major trade areas of the world, by type of shipping service.

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA: MAJOR TRADE AREAS BY TYPE OF SERVICE, 1979-80
(*000 revenue tonnes)

Trade area	Loaded			Discharged		
	Liner service		Other vessels	Liner service		
	Conference	Non-Conference		Conference	Non-conference	Other vessels
Europe	1,154	206	32,195	1,932	330	653
East Asia	422	211	16,593	745	261	209
Japan	1,004	203	114,527	1,166	174	3,579
North America—E. Coast	476	321	2,079	1,040	74	1,337
North America—W. Coast	334	158	3,237	851	344	1,136
Central America	29	13	16	1	2	127
South America—W. Coast	15	-	138	-	-	-
South America—E. Coast	25	3	440	27	-	32
West Africa	-	1	73	4	-	1
South and East Africa	7	59	499	6	139	111
Red Sea	67	56	1,747	-	40	4,613
Persian Gulf	70	89	3,197	2	4	5,249
West India	140	27	472	84	40	47
East India	41	15	986	24	9	98
S.E. Asia	578	188	3,657	338	74	3,163
New Zealand	485	26	1,171	599	33	262
Papua New Guinea	179	209	156	30	26	35
Central Pacific	44	83	290	5	11	4
French Pacific	30	64	40	-	3	-
Pacific Islands	8	18	22	10	1	1,145
Other	-	2	83	-	-	797
Total	5,109	1,952	181,620	6,865	1,565	22,598

Overseas cargo according to country of registration of vessels

The following table shows the total overseas cargo, loaded and discharged, according to the country in which the vessels were registered.

**OVERSEAS CARGO LOADED AND DISCHARGED, BY COUNTRY OF REGISTRATION OF VESSELS:
AUSTRALIA**

('000 revenue tonnes)

<i>Country of registration</i>	<i>1977-78</i>		<i>1978-79</i>		<i>1979-80</i>	
	<i>Loaded</i>	<i>Discharged</i>	<i>Loaded</i>	<i>Discharged</i>	<i>Loaded</i>	<i>Discharged</i>
Antilles (Netherlands)	119	470	197	409	10	277
Australia	3,576	952	4,087	1,116	6,254	1,545
Belgium-Luxembourg	594	152	1,389	176	1,334	549
Bermuda	661	249	737	194	586	84
China—excl. Taiwan	5,870	40	7,257	21	7,727	388
—Taiwan	1,793	30	2,371	14	2,180	42
Denmark	1,017	736	757	1,099	475	1,001
Finland	379	35	103	32	256	35
France	128	273	353	81	1,297	63
Germany, Federal Democratic Republic of	1,563	1,922	1,136	1,137	1,154	913
Greece	6,887	1,671	7,063	1,883	11,042	1,895
Hong Kong	2,031	315	2,237	333	2,225	549
India	2,111	104	1,696	88	2,055	152
Ireland	105	71	24	—	47	—
Italy	374	410	902	521	1,281	216
Japan	72,620	3,090	67,021	2,866	71,674	3,553
Korea, Republic of	1,925	39	3,499	48	3,369	80
Kuwait	165	—	93	72	127	51
Liberia	30,863	3,540	33,064	4,331	36,539	4,414
Malaysia	232	190	82	310	566	426
Nauru, Republic of	228	118	68	220	119	187
Netherlands	480	532	341	530	761	964
New Zealand	174	344	378	612	429	671
Norway	8,306	2,979	6,844	2,072	6,723	2,082
Panama	8,189	825	10,559	1,574	13,299	1,436
Philippines	1,230	—	1,262	51	997	240
Poland	73	69	83	56	82	144
Singapore, Republic of	1,848	889	2,252	1,138	2,787	812
South Africa, Republic of	162	90	209	112	230	197
Spain	—	183	147	80	114	—
Sweden	1,545	440	573	498	801	528
Thailand	—	135	—	272	—	134
Turkey	(a)	(a)	(a)	(a)	66	—
United Kingdom	9,545	5,036	8,248	5,519	9,413	5,606
United States of America	201	456	353	636	322	582
U.S.S.R.	595	125	695	202	1,122	310
Other Countries	1,112	472	1,222	329	1,216	904
Total, All Vessels	166,700	26,981	167,304	28,637	188,681	31,028

(a) included in 'other countries'.

Vessels registered in Australia

The following table shows the number and gross tonnage of trading vessels of 150 tons or more registered in Australia at 30 June 1981, classified according to: (i) year of construction; (ii) type of trade in which the vessels were engaged; and (iii) vessels built in Australian or in overseas shipyards.

AUSTRALIAN-REGISTERED TRADING VESSELS, 30 JUNE 1981(a)

(Source: Department of Transport)
Australia

Year of construction	Overseas and interstate vessels		Intrastate vessels		Built in Australian yards		Built overseas		Total	
	No.	Gross tons	No.	Gross tons	No.	Gross tons	No.	Gross tons	No.	Gross tons
1975 and earlier . . .	45	634,551	20	194,367	45	570,395	20	258,523	65	828,918
1976	5	167,700	-	-	3	28,267	2	139,433	5	167,700
1977	7	246,655	1	2,851	3	46,991	5	202,515	8	249,506
1978	6	76,571	-	-	1	25,849	5	50,722	6	76,571
1979	5	162,856	-	-	-	-	5	162,856	5	162,856
1980	-	-	1	2,792	-	-	1	2,792	1	2,792
1981	2	103,919	-	-	-	-	2	103,919	2	103,919
Registered in Australia	70	1,392,252	22	200,010	52	671,502	40	920,760	92	1,592,262

(a) Excludes vessels of 150 gross tons and under.

Miscellaneous**Shipping casualties**

Courts of Marine Inquiry are constituted by a magistrate assisted by skilled assessors and when necessary, are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the certificates of officers who are found at fault.

RAILWAYS**Government railways**

Government railways in Australia operate in all States and Territories and provide an important means of transportation. In 1978-79 a total of 110.0 million tonnes of freight was carried, an increase of 129.0 per cent over the 48.0 million tonnes carried in 1958-59. However, in the same twenty-year period, the number of passengers carried (mostly within the suburban areas of Sydney and Melbourne) declined by 29.3 per cent from 485 million in 1958-59 to 375 million in 1978-79. The number of train-kilometres run during 1978-79 (148 million) was an increase of 1.4 per cent since 1958-59 (146 million), which is an indication of the trend towards heavier train loads with the more powerful motive power now available. Since the introduction of the first mainline diesel-electric locomotives in 1950, their numbers have increased greatly until at 30 June 1979 there were 1,695 throughout Australia. Diesel-electric locomotives during 1978-79 hauled 97 million train-kilometres, while electric and other locomotives hauled 4 million train-kilometres.

The Australian National Railways Commission (ANRC) assumed full control over the Tasmanian and non-metropolitan South Australian railways on 1 March 1978. This change is reflected in the figures for the 1977-78 financial year as many data items, previously available separately from these three systems, are now included in the figures shown for the ANRC. Urban rail services in South Australia remain the responsibility of the State Transport Authority (STA) and particulars of these are shown as the South Australian railway system.

Due to changes in accounting procedures and the introduction of a multi-modal system of travel, i.e. one ticket can cover a journey involving more than one mode, the STA cannot provide, in many instances, separate particulars for train, bus and tram services operated by that authority. Where data is not separately identifiable it has been included in relevant tables in the railway section of this year book.

Railway development

Details outlining railway development in Australia are given in Year Book No. 61, page 380. The following table sets out the route-kilometres of government railways in each State and Territory from 1974 to 1979. Details prior to 1974 can be found in Year Book No. 61, page 381.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, 1974 TO 1979

(Kilometres)

30 June—	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1974 . . .	10,130	6,329	9,472	5,905	6,922	851	789	8	40,406
1975 . . .	10,131	6,331	9,780	5,909	6,805	851	789	8	40,604
1976 . . .	10,130	6,325	9,844	5,915	6,893	849	789	8	40,753
1977 . . .	10,130	6,251	9,796	5,911	6,895	864	278(a)	8	40,133
1978 . . .	10,138	6,036	9,787	6,383	6,494	864	278	8	39,988
1979 . . .	10,148	5,856	9,789	5,944	6,501	864	278	8	39,388

(a) Services on the Darwin to Larrimah line ceased on 1 July 1976.

One feature of the Australian government railways is the variety of gauges to which they are built. There are three principal gauges: 'broad' (1,600 mm), 'standard' (1,435 mm), and 'narrow' (1,067 mm). Extensive route-kilometres of 1,067 mm gauge railway were built in areas where traffic volumes were initially known to be small and where it was imperative to minimise the costs of construction. The following table shows the route-kilometres open in each State and Territory at 30 June 1979 according to gauge.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE, 30 JUNE 1979

(Kilometres)

Gauge	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1600 mm	(a)328	5,531	..	(b)2,537	..	..	..	..	8,396
1435 mm	(c)9,820	(d)325	111	1,871	2,108	..	..	8	14,243
1067 mm . . . . .	..	..	9,678	1,536	(e)4,393	864	278	..	16,749
Total	10,148	5,856	9,789	5,944	6,501	864	278	8	39,388
Per 1,000 of population	2.00	1.57	4.45	4.59	5.23	2.07	2.40	0.04	2.73
Per 1,000 square kilometre	12.66	25.73	5.67	6.04	2.57	12.71	0.21	4	5.13

(a) Part of the Victorian railway system. (b) Includes 142 kilometres of the Adelaide metropolitan railway system operated by the South Australian State Transport Authority. (c) Includes 47 kilometres of 1435 mm gauge line from Broken Hill to Cockburn operated by the Australian National Railways. (d) Includes 12 kilometres of 1435/1600mm dual gauge line which operates in the Melbourne metropolitan area. (e) Excludes 148 kilometres of 1067/1435 mm dual gauge line which is included in the figure shown for the 1435 mm gauge line.

Government railway systems

The six government owned railway systems are operated by the State Rail Authority of New South Wales (SRA), Queensland Government Railways (QR), Victorian Railways (VR), Western Australian Government Railways (WAGR), the State Transport Authority of South Australia (STA), and Australian National Railways (ANR).

As the Australian National Railways system includes routes in more than one State, and the Victorian system extends into New South Wales, the system route-kilometres shown in the following table do not represent route-kilometres within each State and Territory (these are shown in the previous table). The route-kilometres of each system open for traffic, according to gauge, at 30 June 1979 is shown in the following table.

**GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE
AND SYSTEM 30 JUNE 1979
(Kilometres)**

System	Gauge			Total
	1600 mm	1435 mm	1067 mm	
New South Wales . . . . .	..	(a)9,820	..	9,820
Victoria	(b)5,859	325	..	6,184
Queensland . . . . .	..	(c)111	9,678	9,789
South Australia	(d)142	..	..	142
Western Australia . . . . .	..	1,377	(e)4,393	5,770
National	(d)2,395	2,610	2,678	7,683
Australia	8,396	14,243	16,749	39,388

(a) Includes 456 kilometres which are electrified. (b) Includes 328 kilometres of 1600 mm gauge line operating in New South Wales. Includes 447 route-kilometres which are electrified. (c) Operated by the State Rail Authority of New South Wales which is reimbursed for the cost of operations. (d) See page 493. (e) Excludes 148 kilometres of 1435 mm/1067 mm dual gauge line which is included in the 1435 mm gauge line.

The SRA (1435 mm gauge) operates lines radiating southwest and west from Sydney, northwest from Newcastle, and north from Sydney to Brisbane. QR (1067 mm gauge) operates a coastal line from Brisbane to Cairns, with long branches inland from the major ports. VR (1600 mm gauge, with the 1435 mm gauge Albury to Melbourne line) operates a network throughout Victoria and extending into New South Wales. WAGR (1067 mm gauge) operates in south-western Western Australia, and also operates standard gauge (1435 mm) from Perth to Kalgoorlie, Esperance and Leonora. The STA (1600 mm gauge) operates railways in the Adelaide metropolitan area only. ANR operates the non-metropolitan railways in South Australia (1600 mm and 1067 mm gauge), including the isolated Eyre Peninsula system (1067 mm gauge), the Tasmanian main line from Hobart to Launceston, with its branches (1067 mm gauge) and the railways (1435 mm gauge) from Kalgoorlie to Broken Hill (the Trans-Australian Railway), Queanbeyan to Canberra, Port Augusta to Marree, and Tarcoola to Alice Springs. Services on the line between Darwin and Larrimah, the North Australia Railway, (1067 mm gauge) were withdrawn on 30 June 1976 and the line was officially closed effective as from 11 February 1981.

With regard to urban rail, Sydney and Melbourne have major electrified suburban rail systems which include some underground lines. The Brisbane suburban system is being upgraded and electrified. Adelaide and Perth have smaller-scale, non-electric urban rail networks. Rail services in the urban and inter-urban areas of Sydney, Newcastle and Wollongong are provided by the SRA in conjunction with the Urban Transit Authority of New South Wales which has responsibility for co-ordination of transport services in these areas. Similarly, metropolitan rail services in Perth are operated by the WAGR on behalf of and at the direction of the Metropolitan Transport Trust.

See also details in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0), and Year Book No. 58, page 348.

The Commonwealth Government has enacted legislation for the construction of a standard gauge connection between Adelaide and the Trans-Australian Railway at Crystal Brook. Work on this project is being undertaken by the Australian National Railways. When the link is completed, all mainland State capital cities will be connected to the standard gauge network.

The new all-weather standard gauge railway between Tarcoola, on the Trans-Australian Railway, and Alice Springs was officially opened in October 1980. Upon transfer of rail services to this new line, the narrow section of the Central Australia Railway from Marree to Alice Springs was officially closed effective as from 1 January 1981.

The Commonwealth Government also announced its intention to construct a standard gauge railway from Alice Springs to Darwin and \$10 million is to be provided over three years for preliminary planning and design work. This work is also being undertaken by the Australian National Railways.

Operations of Government railway systems

Particulars of train-kilometres, passenger journeys, passenger-kilometres, freight-tonnes carried, and freight tonne-kilometres included in this section refer only to operations for which revenue is received.

Summary of operations

GOVERNMENT RAILWAYS: SUMMARY OF OPERATIONS, SYSTEMS, 1978-79

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>National</i>	<i>Aust.</i>
Train-kilometres							
('000) (a) —							
Suburban passenger	20,715	13,386	3,693	3,957	2,201	—	43,952
Country passenger	9,704	6,650	3,939	..	1,118	3,171	24,582
Goods (b)	25,203	10,820	24,469	..	8,749	9,746	78,986
Total	55,622	30,856	32,100	3,957	12,068	12,918	147,520
Passenger journeys							
('000) (c) —							
Suburban	179,079	89,258	25,850	(g)70,526	n.a.	..	n.a.
Country (d)	3,670	4,065	1,425	..	234	677	10,071
Total	182,749	93,323	27,275	(g)70,526	n.a.	677	n.a.
Passenger-kilometres							
('000) (e) —							
Suburban	n.a.	1,458,932	n.a.	n.a.	n.a.	..	n.a.
Country	n.a.	432,045	n.a.	n.a.	98,329	296,203	n.a.
Total	n.a.	1,890,977	n.a.	n.a.	n.a.	296,203	n.a.
Freight—							
Tonnes carried							
('000) (d)							
Net tonne-kilometres	33,482	11,190	36,542	..	19,288	10,623	111,125
(million) (f)							
	8,776.7	3,145.3	10,925.2	..	4,178.8	5,029.5	32,055.5

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purposes. (b) Includes mixed train-kilometres. (c) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys. (d) Inter-system traffic is included in the total for each system over which it passes. (e) One passenger travelling one kilometre. (f) One tonne carried one kilometre. (g) See page 493.

Rolling stock

GOVERNMENT RAILWAYS: ROLLING STOCK INCLUDED IN CAPITAL ACCOUNT

(Number)

<i>System and date</i>	<i>Locomotives</i>			<i>Total</i>	<i>Coaching stock</i>	<i>Goods stock</i>	<i>Service stock</i>
	<i>Diesel-electric</i>	<i>Electric</i>	<i>Other(a)</i>				
30 June 1979(b)							
New South Wales	485	39	20	544	2,080	13,040	1,978
Victoria	266	35	41	342	1,517	12,645	1,181
Queensland	455	—	77	532	1,043	20,731	2,361
South Australia	2	—	4	6	165	—	14
Western Australia	194	—	21	215	137	10,356	482
National	293	—	40	333	113	10,391	1,176
Australia	1,695	74	203	1,972	5,055	67,163	7,192
30 June—							
1978(b)	1,674	74	194	1,942	6,872	71,043	7,225
1977	1,646	74	262	1,982	7,615	75,694	6,616
1976	1,590	75	326	1,991	7,592	78,405	7,256
1975	1,573	75	332	1,980	7,624	78,810	7,614
1974	1,563	76	372	2,011	7,870	79,086	7,723

(a) Includes non-passenger-carrying diesel power vans and steam locomotives.

(b) Excludes jointly-owned stock.

Train-kilometres

Train-kilometres by type of service and motive power

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES 1978-79

(*000 kilometres)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>National</i>	<i>Aust.</i>
Type of service—							
Passenger—suburban	20,715	13,386	3,693	3,957	2,201	—	43,952
Passenger—country	9,704	6,650	3,939	—	1,118	3,171	24,582
Goods(a)	25,203	10,820	24,469	—	8,749	9,746	78,986
<i>Total</i>	55,622	30,856	32,100	3,957	12,068	12,918	147,520
Type of motive power—							
Hauled by diesel-electric locomotives	30,653	15,120	29,642	4	9,468	11,983	96,871
Hauled by electric and other locomotives(b)	2,539	1,350	226	2	1	—	4,117
Powered coaching stock	22,430	14,386	2,233	3,950	2,599	934	46,532
<i>Total</i>	55,622	30,856	32,100	3,957	12,068	12,918	147,520

(a) Includes mixed train-kilometres. (b) Includes steam locomotives.

Total train-kilometres

TRAIN-KILOMETRES

(*000 kilometres)

<i>Year</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>National</i>	<i>Aust.</i>
1973-74	58,255	33,345	28,542	10,313	12,617	2,154	5,966	151,192
1974-75	55,661	33,876	30,114	10,189	12,866	1,983	5,936	150,624
1975-76	54,943	33,818	30,813	10,304	12,856	1,748	5,595	150,078
1976-77	57,039	33,489	30,206	10,742	12,846	1,667	5,134	151,125
1977-78	56,860	32,013	30,199	3,982	12,596	..	13,152	148,801
1978-79	55,622	30,856	32,100	3,957	12,068	..	12,918	147,520

Freight traffic

Freight carried

GOVERNMENT RAILWAYS: FREIGHT CARRIED(a), SYSTEMS

(*000 tonnes)

<i>Commodity and year</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>National</i>	<i>Aust.</i>
1978-79—								
Grain	3,260	2,884	1,816	..	3,109	..	1,093	12,162
Other agricultural produce	1,208	348	1,816	..	179	..	97	3,648
Coal, coke and briquettes	17,913	783	24,121	..	1,399	..	1,692	45,908
Other minerals(b)	2,939	745	3,949	..	10,680	..	1,653	19,966
Iron and steel	1,786	610	(c)	..	—	..	657	3,053
Fertilisers	271	672	122	..	479	..	484	2,028
Cement	425	774	139	..	68	..	464	1,870
Timber	94	180	113	..	210	..	821	1,418
Containers	2,724	831	759	..	—	..	1,067	5,381
Livestock	160	162	1,212	..	17	..	310	1,861
All other commodities	2,702	3,202	2,494	..	3,148	..	2,285	13,831
<i>Total</i>	33,482	11,190	36,542	..	19,288	..	10,623	111,125
1977-78	33,434	11,120	34,155	..	18,625	..	9,995	107,329
1976-77	33,777	10,971	34,237	6,402	19,003	1,644	3,909	109,943
1975-76	31,234	10,803	33,118	6,139	17,647	1,610	3,804	104,355
1974-75	33,476	11,057	30,208	6,738	16,153	1,731	4,102	103,465
1973-74	32,651	11,370	25,401	6,607	14,839	1,828	4,270	96,966

(a) Inter-system traffic is included in the total for each system (including each National railway) over which it passes. (b) Includes sand and gravel. (c) Included in item "All other commodities".

Freight net tonne-kilometres

GOVERNMENT RAILWAYS: FREIGHT NET TONNE-KILOMETRES, SYSTEMS

(Million)

Commodity and year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	National	Aust.
1978-79—								
Grain	1,231.3	829.8	(a)	..	939.7	..	188.1	(a)
Other agricultural produce	627.3	111.3	(a)	..	74.6	..	57.7	(a)
Coal, coke and briquettes	1,565.5	139.6	(a)	..	219.1	..	433.5	(a)
Other minerals(b)	581.3	130.1	(a)	..	1,444.2	..	381.4	(a)
Iron and steel	1,221.7	197.4	(a)	..	-	..	603.6	(a)
Fertilisers	166.6	168.4	(a)	..	184.8	..	163.5	(a)
Cement	141.5	115.3	(a)	..	29.4	..	66.0	(a)
Timber	92.8	59.9	(a)	..	69.1	..	168.2	(a)
Containers	1,522.0	342.4	(a)	..	-	..	845.8	(a)
Livestock	101.1	49.4	662.4	..	6.8	..	161.2	980.9
All other commodities	1,525.6	1,001.6	10,262.8	..	1,211.2	..	1,960.5	15,961.7
Total	8,776.7	3,145.3	10,925.2	..	4,178.8	..	5,029.5	32,055.5
1977-78	9,243.3	3,108.7	10,417.2	..	4,273.1	..	4,794.2	31,836.5
1976-77	9,320.2	3,042.2	10,286.6	1,834.0	4,532.5	247.5	2,732.4	31,995.4
1975-76	8,566.9	3,071.4	10,101.2	1,686.6	4,542.4	231.8	2,609.0	30,809.3
1974-75	8,782.3	3,091.4	9,118.0	1,756.9	4,262.4	273.3	2,507.4	29,791.7
1973-74	8,642.5	3,126.2	7,855.1	1,753.1	4,142.5	277.9	2,532.0	28,329.3

(a) Not available separately, included with 'All other commodities'. (b) Includes sand and gravel.

Finance

GOVERNMENT RAILWAYS: GROSS EARNINGS(a), SYSTEMS, 1978-79

(\$'000)

	N.S.W.	Vic.	Qld	S.A.(b)	W.A.	National	Aust.
Coaching—							
Suburban passenger	59,924	41,208	7,364	n.a.	n.a.	..	n.a.
Country passenger	25,992	16,012	6,444	..	3,617	10,078	62,143
Other	9,730	10,495	4,754	n.a.	2,377	1,960	n.a.
Total coaching	95,646	67,715	18,562	n.a.	5,994	12,038	199,955
Freight (goods and livestock)—							
Grain	(c)	26,649	20,650	..	34,096	7,397	n.a.
Other agricultural produce	(c)	4,225	15,490	..	4,199	1,303	n.a.
Coal, coke and briquettes	(c)	5,746	120,608	..	9,243	4,592	n.a.
Other minerals(d)	(c)	3,368	28,206	..	28,753	9,847	n.a.
Iron and steel	(c)	4,831	-	..	-	7,450	n.a.
Fertilisers	(c)	4,070	2,695	..	4,989	3,081	n.a.
Cement	(c)	4,957	2,014	..	1,306	2,057	n.a.
Timber	(c)	2,371	1,813	..	3,161	4,011	n.a.
Containers	(c)	6,095	9,152	..	-	16,479	n.a.
Livestock	(c)	1,789	30,551	..	312	4,920	n.a.
All other commodities	(c)	37,715	53,520	..	42,114	46,972	n.a.
Total freight	252,300	101,815	284,699	..	128,172	108,109	875,095
Miscellaneous	31,087	23,126	7,157	n.a.	20,431	11,682	93,483
Grand total	379,033	192,656	310,418	24,550	154,597	131,829	1,193,083(e)

(a) Excludes Government grants. (b) See page 493. (c) Not available separately. (d) Includes sand and gravel. (e) Includes South Australia.

GOVERNMENT RAILWAYS: WORKING EXPENSES, SYSTEMS, 1978-79

(\$'000)

	N.S.W.	Vic.	Qld	S.A.	W.A.	National	Aust.
Maintenance of way and works	110,330	(b)	98,215	n.a.	(a)39,046	r.a.	n.a.
Motive power(c)	230,266	(b)	139,281	n.a.	(a)41,348	n.a.	n.a.
Traffic	163,340	299,839	95,805	n.a.	58,188	n.a.	n.a.
Other charges	176,064	47,963	31,769	n.a.	21,155	n.a.	n.a.
Total	679,999	347,802	365,070	(d)71,043	(a)159,737	204,738	1,828,389

(a) Includes provision of reserves for depreciation. (b) Not available separately; included with traffic. (c) Includes maintenance of rolling stock. (d) See page 493.

GOVERNMENT RAILWAYS: GROSS EARNINGS, WORKING EXPENSES, AND NET EARNINGS, SYSTEMS

(\$'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	National	Aust.
GROSS EARNINGS								
1973-74	262,691	115,613	149,844	39,531	78,480	7,674	37,217	691,050
1974-75	291,373	129,942	183,687	47,950	106,844	8,266	41,367	809,429
1975-76	318,763	147,292	230,492	49,688	130,850	8,048	54,618	939,751
1976-77	351,875	163,512	262,561	54,284	137,323	8,780	62,590	1,040,925
1977-78	380,724	176,522	273,551	(c)6,113	149,477	(c)	(c)122,040	1,108,427
1978-79	379,033	192,656	310,418	(c)24,550	154,597	..	131,829	1,193,083
WORKING EXPENSES								
1973-74	349,897	188,599	162,101	(a)60,747	(a)81,916	15,598	44,423	903,281
1974-75	415,234	243,393	227,925	80,466	103,696	19,973	55,847	1,146,534
1975-76	472,188	271,940	265,662	91,352	118,607	22,087	64,279	1,306,115
1976-77	570,272	301,232	299,044	103,629	132,024	23,340	52,628	1,482,169
1977-78	643,623	332,508	337,002	(c)25,723	148,708	(c)	(c)195,796	1,683,360
1978-79	679,999	347,802	365,070	(c)71,043	159,737	..	204,738	1,828,389
NET EARNINGS(b)								
1973-74	-87,206	-72,986	-12,257	-21,216	-3,436	-7,924	-7,206	-212,231
1974-75	-123,861	-113,451	-44,238	-32,516	3,148	-11,707	-14,479	-337,104
1975-76	-153,425	-124,648	-35,170	-41,664	12,243	-14,039	-9,661	-366,364
1976-77	-218,397	-137,720	-36,483	-49,345	5,299	-14,560	9,962	-441,244
1977-78	-262,899	-155,986	-63,451	(c)-19,610	769	(c)	(c)-73,756	-574,933
1978-79	-300,966	-155,147	-54,652	(c)-46,493	-5,141	..	-72,909	-635,308

(a) Includes provision of reserves for depreciation. (b) Excess of gross earnings over working expenses as shown in this table. (c) See page 493.

GOVERNMENT RAILWAYS: SURPLUS OR DEFICIT, SYSTEMS, 30 JUNE 1979

(\$'000)

System	Net earnings—excess of gross earnings over working expenses	Plus grants and other earnings payable to railways				Less other expenses charged to railways					Surplus (+) or deficit (—)
		State Government grants	Road motor earnings	Other	Total	Interest and exchange	Sinking fund	Road motor expenses (a)	Other	Total	
New South Wales	—300,966	(b)9,349	..	..	9,349	64,915	13,185	..	(c)1,628	79,728	—371,345
Victoria	—155,147	(d)5	88	—	93	—	—	399	—	399	—155,453
Queensland	—54,652	—	—	—	—	56,733	—	—	(e)1,300	58,033	—112,685
South Australia(f)	—46,493	44,200	—	(g)21	44,221	—	—	—	—	—	—2,272
Western Australia	—5,141	—	1,370	—	1,370	16,836	—	3,475	(h)59	20,370	—24,140
National	—72,909	63,767	—	494	64,261	4,112	—	—	—	4,112	—12,760
Australia	—635,308	117,321	1,458	515	119,294	142,596	13,185	3,874	2,987	162,642	—678,656

(a) Includes interest and exchange. (b) Grants to meet losses on country developmental lines, and the employer liability to the Government Railways Superannuation Account. (c) Loan management and loan flotation expenses. (d) Kerang-Koondrook tramway recoup from Treasury. (e) Demolished assets written off. (f) See page 493. (g) Commonwealth Government U.P.T.I. Grant. (h) Australian currency revaluation adjustment.

Employment, salaries and wages

GOVERNMENT RAILWAYS: AVERAGE NUMBER OF EMPLOYEES (EXCLUDING CONSTRUCTION STAFF) AND SALARIES AND WAGES PAID(a), 1978-79

	N.S.W.	Vic.(b)	Qld	S.A.(c)(d)	W.A.	National (e)	Aust.
Salaried staff	9,573	5,384	4,111	431	2,123	2,537	24,159
Wages staff	33,192	17,893	20,435	2,007	7,590	9,806	90,923
Total staff	42,765	23,277	24,546	2,438	9,713	12,343	115,082
Salaries and wages paid	\$'000 515,291	262,137	282,734	28,638	104,054	143,754	1,336,608

(a) Excludes salaries and wages paid to road motor staff. (b) Includes construction staff. (c) See page 493. (d) Includes staff made available to the State Transport Authority by the ANRC. (e) Excludes staff made available to the South Australian STA.

Non-government railways

The Australian non-government railways covered in this section are those which operate outside industrial estates, harbour precincts, mines and quarries with a route distance exceeding two kilometres.

The figures in the following table have been compiled from information supplied to the Department of Transport, Australia or the Bureau of Transport Economics by the various railway operators. Prior to 1979-80 these statistics were collected and published by the Bureau of Transport Economics. In 1979-80 the collection was passed to the Department of Transport, Australia. All operators provided details of tonnes carried and most provided details of tonne-kilometres performed. In a few cases the tonne-kilometre figures have been estimated by the Department of Transport, Australia or the Bureau of Transport Economics using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS 1974-75 TO 1979-80

<i>Year</i>	<i>Iron ore railways</i>	<i>Sugar tramways</i>	<i>Other non-government railways(a)</i>	<i>Total non-government railways(a)</i>
TONNES CARRIED (million)				
1974-75	95.7	17.2	21.2	134.0
1975-76	83.8	18.8	17.8	120.5
1976-77	86.6	20.1	20.3	127.0
1977-78	85.9	20.3	17.9	124.0
1978-79	79.5	18.6	19.6	117.7
1979-80	88.3	18.3	20.6	127.2
TONNE-KILOMETRES (million)				
1974-75	29,559	275	341	30,175
1975-76	25,748	302	298	26,348
1976-77	26,646	322	369	27,337
1977-78	27,723	325	324	28,372
1978-79	24,930	299	324	25,553
1979-80	27,128	292	345	27,765

(a) Includes transfers to and from Government railways.

TRAM, BUS, AND FERRY SERVICES

Systems in operation

Trams and trolley-buses. At 30 June 1979 tram services were in operation in Melbourne, Victoria and in Adelaide, South Australia. The last of the trolley-bus services ceased to operate in Australia with its replacement by buses in Perth, Western Australia, on 29 August 1969. Regular tram services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972. However services are operated in both cities, on an irregular basis, but generally at holiday periods, as a tourist attraction.

In many parts of Australia private lines used for special purposes in connection with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways, and the traffic on them has nothing in common with that of the street tram used for the conveyance of passengers.

Buses. Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services located in all State capital cities; Canberra, Australian Capital Territory; Newcastle, New South Wales; Rockhampton, Queensland; Fremantle and the Eastern Goldfields area, Western Australia; Launceston and Burnie, Tasmania; Darwin, Northern Territory; and for country road services operated by the Victorian Railways, the State Rail Authority of New South Wales, the Western Australian Government Railways, and the Australian National Railways. Particulars of bus services under the control of private operators for the States of New South Wales, Victoria, Queensland and South Australia are given in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0) for years prior to 1976-77.

Ferries. Ferry passenger services are operated in the following States: New South Wales, at Sydney and Newcastle; Western Australia, on the Swan River at Perth; Tasmania, on the Mersey River at Devonport and on the Derwent River at Hobart; and the Brisbane River at Brisbane. Control is exercised by both government authorities and private operators. Particulars of the operations of these services are given in previous issues of this Year Book and in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0). There are no ferry passenger services in South Australia or Victoria.

Government and municipal tram and bus services

Because of the development in recent years of the various forms of public road transport under the control of single authorities and the gradual replacement of tram services by bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL STATES AND TERRITORIES, 1978-79

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Route-kilometres at 30 June—									
Tram(a) kilometres	..	220	..	11	..	..	..	..	231
Bus "	1,064	276	747	901	8,478	462	100	800	12,828
Vehicle-kilometres—									
Tram '000	..	24,191	..	776	..	..	..	..	24,967
Bus "	65,181	12,879	20,749	36,634	42,048	9,562	1,149	13,491	201,693
Rolling stock at 30 June—									
Tram number	..	730	..	26	..	..	..	..	756
Bus "	1,719	299	572	838	933	304	31	374	5,070
Passenger journeys—									
Tram '000	..	101,070	..	(b)	..	..	..	..	(g)101,070
Bus "	199,850	19,927	49,399	(b)	54,287	17,299	796	16,000	(g)357,559
Gross revenue(c)—									
Tram and bus \$'000	44,101	36,100	16,775	(b)	17,384	4,186	402	4,793	(g)123,741
Working expenses(d)—									
Tram and bus \$'000	114,211	62,672	24,416	(b)	33,745	10,373	619	12,608	(g)258,644
Net revenue—									
Tram and bus \$'000	-70,111	-26,572	-7,641	(b)	-16,360	-6,187	-217	-7,814	(g)-134,902
Employees at 30 June—									
Tram and bus number	6,731	4,749	1,471	(b)	2,189	598	80	729	(g)16,547
Accidents—									
Tram and bus(e)—									
Persons killed number	7	14	1	5	-	-	-	-	(g)27
Persons injured "	n.a.	796	296	320	407	33	1	75	(f)(g)1,885

(a) Gauge 1435 mm throughout. (b) Not separately available. See page 493. (c) Excludes government grants. (d) Includes provision of reserves for depreciation, etc., where possible. (e) Excludes accidents to employees. (f) Excludes New South Wales. (g) Excludes details of metropolitan tram and bus services operated by the South Australian State Transport Authority. See page 493. Minus sign (-) denotes deficit.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

		1973-74	1974-75	1975-76	1976-77	1977-78	1978-79
Route-kilometres at 30 June—							
Tram	kilometres	227	228	228	228	228	231
Bus	"	11,780	11,859	11,217	12,142	12,649	12,828
Vehicle kilometres—							
Tram	'000	24,555	24,516	24,945	24,940	24,955	24,967
Bus	"	179,702	188,062	190,131	192,003	197,660	201,693
Rolling stock at 30 June—							
Tram	number	734	729	765	765	774	756
Bus	"	4,761	4,914	4,995	4,897	5,050	5,070
Passenger journeys—							
Tram	'000	110,791	112,329	107,375	104,188	102,581	(f) 101,070
Bus	"	417,513	(a) 413,844	403,058	404,228	413,987	(f) 357,558
Gross revenue (b)—							
Tram and bus	\$'000	105,149	112,690	121,420	123,740	134,457	(f) 123,741
Working expenses (c)—							
Tram and bus	\$'000	146,655	187,787	208,241	239,107	267,281	(f) 258,644
Net revenue—							
Tram and bus	\$'000	-41,506	-75,098	-86,821	-115,366	-132,824	(f) -134,902
Employees at 30 June—							
Tram and bus	number	17,549	17,829	17,846	18,276	(f) 16,613	(f) 16,547
Accidents—							
Tram and bus (d)—							
Persons killed	number	10	14	22	25	22	(f) 27
Persons injured	"	2,587	(e) 1,245	(e) 1,535	(e) 1,609	(e) 1,727	(f) 1,885

(a) Excludes Northern Territory. (b) Excludes government grants. (c) Includes provision of reserve for depreciation, etc., where possible. (d) Excludes accidents to employees. (e) Excludes New South Wales. (f) Excludes details of metropolitan tram and bus services in South Australia. See page 493. Minus sign (-) denotes deficit.

MOTOR VEHICLES

Arrangements for the registration of motor vehicles and the licensing of drivers and riders are not uniform throughout Australia, since they are the function of a separate authority or authorities in each State and Territory.

Tables in this section include vehicles owned by private individuals, local government authorities, State Governments, and the Australian Government (excluding those belonging to the defence services).

Survey of motor vehicle usage

A survey was conducted throughout Australia in late 1979 by the Australian Bureau of Statistics for the purpose of gathering information on the usage of motor vehicles. Previous surveys were conducted in 1963, 1971 and 1976. The owners of approximately 53,000 vehicles other than buses were approached for information relating to the usage of their vehicles over the twelve months ended 30 September 1979. The framework from which the sample was drawn was obtained from the motor vehicle registration authorities in all States and Territories. The survey was based on respondents' recollection of their usage of the selected vehicles over their period of ownership during the survey year.

The main purpose of the survey was to determine the total distance travelled by vehicles, classified according to area and purpose of travel. Information was also obtained from the survey on: (i) tonne-kilometres; (ii) average load carried; (iii) vehicle usage (i.e. for hire and reward, ancillary or other); (iv) main type of operation; (v) fuel consumption; (vi) occupant-kilometres; and (vii) driver characteristics.

The following table shows, for Australia, total annual kilometres travelled for the twelve months ended 30 September 1979 classified by vehicle type and purpose of travel. The percentage standard errors (S.E.%) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained from a comparable complete enumeration, and about nineteen chances in twenty that the difference will be less than two standard errors. For example, if an estimate of 3,000 million kilometres has a standard error of 5 per cent (i.e. 150 million kilometres), then there would be approximately two chances in three that a comparable complete collection would give a figure within the range of 2,850 million kilometres to 3,150 million kilometres and about nineteen chances in twenty that the figure would be within the range of 2,700 million kilometres to 3,300 million kilometres.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE AND PURPOSE OF TRAVEL, TWELVE MONTHS ENDED 30 SEPTEMBER 1979 (FINAL)

Type of vehicle	Laden business		Unladen business		Total business (a)		Paid to and from work		Unpaid to and from work		Private		Total	
	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %	million kilometres	S.E. %
Cars and station wagons	..	..	..	..	17,027.2	3.9	2,358.0	7.4	17,088.9	2.5	48,383.1	1.4	84,871.5	1.1
Motor cycles	..	..	..	..	168.9	10.4	52.5	15.7	606.6	5.5	940.1	5.0	1,768.2	3.6
Utilities and panel vans	5,315.1	5.5	2,232.2	8.1	8,298.3	4.7	376.3	15.8	2,219.8	7.5	5,033.3	5.2	15,928.0	2.6
Rigid trucks	3,801.8	1.7	1,658.2	2.4	5,460.1	1.7	36.4	10.6	167.9	20.0	172.7	6.4	5,837.2	2.0
Articulated trucks	1,806.1	1.2	773.5	1.4	2,580.4	1.0	3.6	21.0	19.5	7.2	4.0	11.6	2,607.4	1.0
Other truck type vehicles	..	..	..	..	232.0	8.7	3.5	35.4	28.7	13.2	192.7	8.6	456.9	5.4
Total	10,922.9	2.7	4,663.9	4.0	33,766.9	2.3	2,830.3	6.5	20,131.5	2.3	54,725.9	1.3	111,469.2	0.9

(a) Includes the total kilometres travelled for business purposes of cars, station wagons, motor cycles and utilities and panel vans predominantly used for private purposes. The dissection of business travel into laden/unladen was not sought for these vehicles.

Motor vehicles on register

Details of motor vehicles on the register are compiled by up-dating motor vehicle census data from information made available by the various motor vehicle registration authorities in the States and Territories. Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971, 1976 and 1979. At these census dates considerably greater information concerning the particulars shown in the tables following is available. Final detailed results of the 1979 census have been published in separate census publications for each State and Territory and for Australia.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1979 (FINAL)
(*000)

State or Territory	Motor cars and station wagons			Trucks		Other truck type vehicles	Buses	Motor cycles	Total (a)
	Utilities	Panel vans	Rigid	Articulated					
New South Wales	1,906.6	146.7	129.6	136.6	15.4	10.2	13.0	93.2	2,451.3
Victoria	1,554.4	109.2	54.9	127.8	10.4	9.8	9.0	48.5	1,924.0
Queensland	855.0	157.8	57.6	48.9	7.2	3.4	4.9	78.6	1,213.4
South Australia	543.8	42.0	23.8	38.7	4.6	5.0	3.6	30.4	691.8
Western Australia	521.1	58.2	46.9	52.5	4.0	5.5	4.3	27.2	719.6
Tasmania	175.1	19.2	10.4	11.6	1.4	2.0	2.0	4.6	226.1
Northern Territory	24.4	10.1	2.5	1.5	0.5	0.1	0.2	2.3	41.6
Australian Capital Territory	89.3	5.0	5.3	2.4	0.2	0.3	0.8	3.6	106.9
Australia	5,669.6	548.2	331.0	419.9	43.7	36.3	37.8	288.3	7,374.7

(a) Excludes tractors, plant and equipment, caravans and trailers.

MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE, AUSTRALIA
(*000)

30 June	Motor cars and station wagons	Utilities, trucks, panel vans, other truck type vehicles and buses	Total (excludes motor cycles)	Motor cycles
1975	4,858.5	1,140.2	5,998.7	277.7
1976	5,072.8	1,215.0	6,287.8	293.0
1977	5,243.0	1,279.6	6,522.6	295.5
1978	5,462.2	1,359.9	6,822.1	292.4
1979	5,657.2	1,412.7	7,069.9	288.2
1980	5,799.3	1,463.6	7,262.9	310.6

MOTOR VEHICLES(a) ON REGISTER PER 1,000 OF POPULATION, STATES AND TERRITORIES

30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1975	419.8	447.2	412.1	467.1	470.7	461.8	334.5	433.7	435.6
1976	426.8	466.6	445.4	482.2	493.4	481.1	315.6	436.8	451.9
1977	435.1	470.1	463.9	498.7	523.7	494.9	328.0	456.3	463.4
1978	446.7	487.9	485.8	505.4	546.0	515.1	375.1	436.0	478.8
1979	457.2	498.2	504.1	509.8	557.5	531.0	371.9	465.6	490.2
1980	470.2	490.4	523.0	519.5	565.6	531.6	362.7	450.6	496.9

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type of vehicle in preliminary monthly bulletins, and by type and make of vehicle in monthly and annual bulletins of Motor Vehicle Registrations.

In these statistics 'registrations' mean registrations processed by the motor vehicle registration authorities in the States and Territories during the period.

A revised classification of motor vehicles has been adopted for publication of statistics of new motor vehicle registrations from 1 July 1976. The principal difference between this classification and that which it replaces involves the categories utilities, panel vans, trucks and other truck type vehicles. The principle of accepting vehicle-type data as recorded by the registration authority has also been accepted. Consequently, figures shown from July 1976 are not strictly comparable with data for previous periods.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

State or Territory	Motor cars and station wagons		Panel vans	Trucks		Other truck type vehicles	Buses	Total (excludes motor cycles)	motor cycles
	Utilities			Rigid	Articulated				
1980-81—									
New South Wales	166,733	12,134	17,118	13,270	1,446	772	1,598	213,071	26,664
Victoria	114,699	7,126	3,845	10,463	933	531	1,023	138,620	14,450
Queensland	77,917	16,531	7,429	3,704	749	239	591	107,160	13,759
South Australia	36,629	2,942	2,506	2,745	437	161	270	45,690	6,596
Western Australia	41,660	4,439	4,790	4,958	425	138	473	56,883	6,088
Tasmania	13,563	1,758	855	509	153	73	96	17,007	1,278
Northern Territory	3,319	2,081	530	166	74	16	39	6,225	991
Australian Capital Territory	7,967	463	318	670	52	9	80	9,559	973
Australia	462,487	47,474	37,391	36,485	4,269	1,939	4,170	594,215	70,799
1979-80	451,950	43,826	30,169	33,541	4,282	1,611	3,045	568,424	53,947
1978-79	463,453	41,591	32,068	33,756	4,496	1,891	3,171	580,426	37,278
1977-78	432,439	45,946	40,312	35,034	4,000	2,474	3,712	563,917	38,049
1976-77	447,103	(a)48,419	(a)39,532	(a)36,051	(a)4,752	(a)2,749	3,205	581,811	50,321
1975-76	454,637	43,500	38,296	39,574	4,139	474	3,743	584,363	60,017

(a) Not directly comparable with previous figures.

Drivers' and riders' licences

At 30 June 1980, the numbers of licences in force to drive or ride motor vehicles were: New South Wales, 2,980,397; Victoria, 2,120,469; South Australia, 756,978; Western Australia, 700,398; Tasmania, 228,251; Northern Territory, 64,678; Australian Capital Territory, 132,150. Particulars are not available for Queensland.

ROAD TRAFFIC ACCIDENTS

Compulsory fitting and use of seat belts and protective helmets in Australia

Information on the compulsory fitting and use of seat belts and protective helmets in Australia is given in Year Book No. 61, page 395.

Accidents involving casualties, persons killed, persons injured

Since 1 January 1980 the ABS in the compilation of national statistics on road traffic accidents has adopted a new definition of injury and injury accidents. An injury is now defined as injury to any person involved in a road vehicle accident resulting in the injured person being admitted to hospital. An injury accident is therefore defined as a non-fatal road vehicle accident in which at least one injured person was admitted to hospital. Statistics prior to this date on injury accidents and number of persons injured are therefore not comparable.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES^(a) (ADMISSIONS TO HOSPITALS): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1980

State or Territory				Per 100,000 of mean population			Per 10,000 motor vehicles registered ^(b)		
	Number of accidents	Persons killed	Persons injured	Number of accidents	Persons killed	Persons injured	Number of accidents	Persons killed	Persons injured
New South Wales	9,911	1,303	11,463	193	25	223	39	5	45
Victoria	7,074	657	8,466	182	17	218	36	3	43
Queensland	4,195	557	4,803	187	25	214	33	4	38
South Australia	2,322	269	2,724	179	21	210	33	4	38
Western Australia	2,566	293	3,080	203	23	244	34	4	41
Tasmania	776	100	889	184	24	210	34	4	39
Northern Territory	347	63	402	285	52	330	74	13	86
Australian Capital Territory	222	30	228	98	13	101	21	3	22
Australia	27,413	3,272	32,055	188	22	219	36	4	42

(a) Accidents reported to the police or other relevant authority which occurred in public thoroughfares and which resulted in death within thirty days or personal injury to the extent that the injured person was admitted to hospital. (b) Number of motor vehicles (excluding tractors, plant and equipment) on register at 30 June 1980.

ROAD TRAFFIC ACCIDENTS INVOLVING FATALITIES

Year	N.S.W	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
Accidents involving fatalities—									
1975	1,150	784	553	310	259	108	50	32	3,246
1976	1,119	830	497	277	255	97	48	33	3,156
1977	1,118	835	515	270	259	99	39	26	3,161
1978	1,222	775	532	254	304	96	58	27	3,268
1979	1,125	750	544	277	257	83	43	24	3,103
1980	1,152	608	508	240	268	96	55	27	2,954
Persons killed—									
1975	1,288	910	635	339	304	122	64	32	3,694
1976	1,264	938	569	307	308	108	51	38	3,583
1977	1,268	954	572	306	290	112	47	29	3,578
1978	1,384	869	612	291	345	106	68	30	3,705
1979	1,290	847	613	309	279	93	53	24	3,508
1980	1,303	657	557	269	293	100	63	30	3,272

ROADS*

An article dealing with the development of roads in Australia is given in Year Book, No. 60, pages 385-93.

Summary of roads used for general traffic

Proclaimed or declared roads. The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1980. The central road authority in each State assumes responsibility under the Act for the whole, or a proportion, of the cost of construction and/or maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points: availability of funds; whether the road is, or will be, within one of several classes of main trunk routes; the value of the roads as connecting links between centres of population or business; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes (e.g. insufficiency of funds, man-power or materials), construction or maintenance may not keep pace with gazettal of roads, and, therefore, the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, STATES, 30 JUNE 1980
(Kilometres)

<i>Class of road</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.(a)</i>	<i>Total</i>
State Highways	(b)10,494	7,321	10,342	13,431	7,717	1,958	108,707
Trunk roads	7,092	14,564	152				
Ordinary main roads	18,304		8,612				
<i>Total main roads</i>	<i>35,890</i>	<i>21,885</i>	<i>19,106</i>	<i>13,431</i>	<i>15,298</i>	<i>3,097</i>	<i>108,707</i>
Secondary roads	(c)299	-	13,018	-	8,734	289	22,340
Development roads	3,461	-	8,025	-	-	128	11,614
Tourist roads	444	798	-	-	-	150	1,392
Other roads	2,609	(d)1,031	-	-	-	-	3,640
<i>Total other roads</i>	<i>6,813</i>	<i>1,829</i>	<i>21,043</i>	<i>-</i>	<i>8,734</i>	<i>567</i>	<i>38,986</i>
Grand total	42,703	23,714	40,149	13,431	24,032	3,664	147,693

(a) Figures as at 30 June 1979. Figures as at 30 June 1980 are not yet available. (b) Includes 131 kilometres of freeways and tollways. (c) Metropolitan only. (d) Forest roads.

Total roads. The following table represents an attempt to classify all the roads open for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

ALL ROADS OPEN FOR GENERAL TRAFFIC LENGTHS, STATES AND TERRITORIES, 30 JUNE 1980
(Kilometres)

<i>Surface of roads</i>	<i>N.S.W.(a)(b)</i>	<i>Vic.(c)</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.(c)</i>	<i>Tas.(c)</i>	<i>N.T.(c)</i>	<i>A.C.T.</i>	<i>Total (a)</i>
Bitumen or concrete	70,277	61,315	46,566	18,340	32,593	7,196	5,598	1,865	243,750
Gravel, crushed stone or other improved surface	66,616	48,569	34,785	20,895	39,214	13,867	4,123	327	228,396
Formed only	39,188	23,846	56,435	24,274	46,126	613	4,975	42	338,773
Cleared only	13,092	22,759	22,960	37,024	40,788				
Total	189,173	156,489	160,745	100,533	158,721	21,676	21,347	2,234	810,918

(a) Excludes 15,397 kilometres of road dedicated but not trafficable. (b) Figures as at 30 June 1978. Figures as at 30 June 1980 are not yet available. (c) Figures as at 30 June 1979. Figures as at 30 June 1980 are not yet available.

Expenditure on roads and bridges

Primary responsibility for the construction and maintenance of roads and bridges rests with State and local authorities. For detailed information see the individual State Year Books.

* Includes bridges.

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (NAASRA) was established in 1934. The present member authorities are: Department of Main Roads, New South Wales; Country Roads Board, Victoria; Main Roads Department, Queensland; Highways Department, South Australia; Main Roads Department, Western Australia; Department of Main Roads, Tasmania; Northern Territory Department of Transport and Works; Commonwealth Department of Housing and Construction.

The Association's objectives are to provide a central organisation where, by co-operative effort, a uniform approach to the improvement, planning and development of the Australian road system can be achieved. National standards for road and bridge construction and maintenance and improved administrative and financial control methods are developed by committees of experienced staff from the authorities, with secretarial services provided by a small staff located in Sydney.

This Secretariat arranges publication of the policies and standards which are widely used by road authorities, local government and universities; co-operates with the Standards Association of Australia on the preparation of national codes of practice; and acts as an Australian centre for contact with overseas road bodies and for the circulation of standards published by them.

The Association regularly confers with the Department of Transport Australia, the Bureau of Transport Economics and the Australian Transport Advisory Council on major road policies. As part of the Commonwealth Government's external aid program and in conjunction with the Department of Foreign Affairs, member authorities of the Association conduct engineering training courses for experienced engineers from African and Asian countries.

The Association is a member of the Permanent International Association of Road Congresses (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board

The Australian Road Research Board (ARRB) is a non-profit-making company founded in 1960 by the National Association of Australian State Road Authorities (NAASRA), and now located at Vermont in Victoria. It is financed by Federal and State Government Road Authorities whose permanent heads make up ARRB's Board of Directors. The Executive Director, a full-time employee and member of the Board, is responsible for administering the Directors' policies.

The ARRB regularly undertakes and sponsors road and road transport research over a comprehensive range of subjects and disseminates results to appropriate organisations, engineers and scientists involved in the design, location, construction, upkeep and use of roads. In selecting and monitoring its research projects, and developing a longer term research plan, ARRB is assisted by a senior advisory Steering Committee and four Technical Committees in the areas of Road Technology, Road Users, Road Transport and Local Government, the members of which are experts drawn from government, commerce and education.

ARRB disseminates road research information through its major biennial conferences, first held in 1962, and regular symposia, seminars and workshops, and through its publications which include the *Conference Proceedings*, symposium and workshop papers, a quarterly journal *Australian Road Research* and various reports and technical manuals arising out of its many research projects. ARRB also maintains a unique library of road literature and operates an expanding computer-based information service called Australian Road Index (ARI) which abstracts and indexes Australian road literature. ARRB also acts as the Australian member of the OECD's International Road Research Documentation (IRRD) system. Both ARI and IRRD information is available to members of AUSINET, the Australian Computer network for information exchange and retrieval. ARRB also maintains close contacts with international road research bodies.

AIR TRANSPORT

Department of Transport

Commonwealth control of air transport in Australia is exercised by the Department of Transport. The Department's jurisdiction covers Australia and areas of the Indian and Pacific Oceans. Details about air transport control and operations are given in the annual reports to the Commonwealth Parliament by the Minister for Transport.

International activity

International organisations. The International Civil Aviation Organization (ICAO) had a membership of 148 nations in June 1981. Australia has continued its position as a member of the Council, which it has held since ICAO was established in 1947.

International agreements. Australia had air service agreements in force with twenty-six countries at 30 June 1981. Under these agreements Australia is granted rights to operate services between Australia to and through the countries in question; these rights are exercised by Australia's international airline Qantas. In return, the designated airlines of the other countries which are partners to these agreements are granted traffic rights in Australia. Australia also had air service arrangements granting traffic rights with four other countries at 30 June 1981.

International air services. At 30 June 1981, twenty-two overseas international airlines were operating regular scheduled air services to Australia. These were: Air-India (India), Air Nauru (Nauru), Air New Zealand (New Zealand), Air Niugini (Papua-New Guinea), Air Pacific (Fiji), Alitalia (Italy), British Airways (Britain), Canadian Pacific Air Lines (Canada), Cathay Pacific (Hong Kong), Continental Airlines (United States of America), Deutsche Lufthansa (Federal Republic of Germany), Garuda (Indonesia), Japan Air Lines (Japan), Jugoslovenski Aerotransport (Yugoslavia), KLM Royal Dutch Airlines (Netherlands), Singapore International Airlines (Singapore), Pan American World Airways (United States of America), Philippine Air Lines (Philippines), South African Airways (Republic of South Africa), Thai Airways International (Thailand), Malaysian Airways System (Malaysia), and Union de Transport Aeriens (France). Qantas, Australia's international airline, operates a fleet of aircraft of which one is a Hawker Siddeley 125, and twenty-two are Boeing 747 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International operations. The table following shows particulars of international airline traffic during 1980-1981 moving into and out of an area which embraces Australia and Norfolk Island. These figures do not include traffic between Australia and Norfolk Island.

**AIR TRANSPORT: INTERNATIONAL AIRLINE TRAFFIC TO AND FROM
AUSTRALIA(a), 1980-81 P**

<i>Type of traffic</i>	<i>Number of</i>		<i>Freight</i>	<i>Mail</i>
	<i>flights</i>	<i>Passengers</i>	<i>tonnes</i>	<i>tonnes</i>
Traffic to Australia—				
Qantas Airways Limited	3,601	920,846	26,757	953
Other airlines	6,634	1,211,589	45,328	5,097
All airlines	10,235	2,132,435	72,085	6,050
Traffic from Australia—				
Qantas Airways Limited	3,591	838,239	19,607	2,577
Other airlines	6,578	1,141,713	35,485	1,421
All airlines	10,169	1,979,952	55,092	3,998

(a) Australian mainland and Norfolk Island.

Statistics covering the operations of Australia's regular overseas services are shown in the following table. These operations include all stages of Qantas flights linking Australia with overseas countries.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S REGULAR OVERSEAS SERVICES

		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Hours flown	number	86,231	85,839	79,499	75,643	70,065	74,879
Kilometres flown	'000	65,045	65,221	61,586	58,962	59,040	59,109
Passengers—							
Embarkations	number	1,418,541	1,488,858	1,551,679	1,569,374	1,782,673	1,933,580
Passenger-kilometres	'000	9,434,345	10,541,870	11,318,928	12,029,554	14,317,936	16,296,416
Freight—							
Tonnes uplifted	tonnes	29,974	33,417	34,380	40,972	51,373	52,326
Tonne-kilometres	'000	213,748	243,911	258,748	301,253	373,534	412,518
Mail—							
Tonnes uplifted	tonnes	2,950	2,997	3,205	2,981	3,238	3,878
Tonne-kilometres	'000	24,043	26,217	27,788	27,618	32,019	36,226

Regular air services within Australia

Interstate services. The majority of scheduled interstate services with passenger and all-freight aircraft are provided by two airlines only: the private enterprise airline Ansett Airlines of Australia (a division of Ansett Transport Industries (Operations) Pty Ltd, which is a subsidiary of Ansett Transport Industries Ltd); and the Commonwealth Government's, Australian National Airlines Commission trading as Trans-Australia Airlines (TAA). All principal routes are competitive, with

both airlines providing equal capacity over the network in accordance with legislation passed by the Commonwealth Parliament. The two principal Acts which have to date provided the legislative basis of this competition are the *Airlines Agreements Act* 1952 and the *Airlines Equipment Act* 1958. The *Airlines Equipment Act* established the machinery for the achievement and maintenance of comparable, but not necessarily identical, aircraft fleets between TAA and Ansett Airlines of Australia, and was designed to prevent the provision of excess aircraft capacity. The *Airlines Agreement Act* established the basis of control of the two-airline competitive system. In June 1981 the Parliament passed a package of legislation consisting of the *1981 Airlines Agreement Act*, the *Airlines Equipment Amendment Act* and the *Australian National Airlines Repeal Act* and the *Independent Air Fares Committee Act*.

The *Airlines Agreement Act* ratified the *1981 Airlines Agreement* which provides for the continuation of the airline policy in respect of scheduled trunk route passenger services and clearly defines the role for regional airlines and commuter operators; the *Airlines Equipment Amendment Act* provided for the import by specialist freight operators and regional airlines of large turbo jet aircraft; the *Australian National Airlines Repeal Act* provides for the restructuring of TAA as a public company; and the *Independent Air Fares Committee Act* provides for the establishment of a committee with authority over fares for domestic regular public transport services. In addition to purely interstate services, both Ansett Airlines of Australia and Trans-Australia Airlines operate intrastate routes, most of which are non-competitive.

At 30 June 1981, the Ansett Airlines of Australia fleet included thirteen Boeing 727s, twelve DC-9s, nine Friendships, three Electra freighters and three helicopters. At the same date, Trans-Australia Airlines operated a fleet of twelve Boeing 727s, twelve DC-9s and ten Friendships.

Intrastate services. In addition to the intrastate services operated by Ansett Airlines of Australia and Trans-Australia Airlines there are a number of smaller regional airlines operating from Sydney (Air New South Wales and East-West Airlines), Adelaide (Airlines of South Australia), Perth (Airlines of Western Australia), Cairns (BPA Pty Ltd), and Darwin (Airlines of Northern Australia). In general, regional airlines are concerned primarily with carriage of traffic to and from their base cities. Except for the independently-owned East-West Airlines and BPA Pty Ltd, all regional airlines are divisions of Ansett Transport Industries (Operations) Pty Ltd. The larger aircraft used by these regional airlines are F28 Fellowships and F27 Friendships.

Commuter services. These are regular public transport flights by charter firms with small single and twin-engined aircraft operating to fixed and published timetables. They primarily provide air links between towns and country areas which are not served by the major airlines. At 30 June 1981 forty-seven charter operators were operating commuter services in Australia. Details of the operations of these commuter services are excluded from the statistics shown in this section.

Scheduled domestic airline services. Statistics of all regular airline services are set out in the following table.

AIR TRANSPORT: OPERATIONS OF REGULAR INTERNAL SERVICES, AUSTRALIA(a)

		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Hours flown	number	282,706	270,928	258,151	279,385	280,233	284,381
Kilometres flown	'000	135,455	130,100	122,933	134,702	135,409	138,185
Passengers—							
Embarkations	number	9,393,104	9,315,141	9,348,697	10,289,477	10,720,181	11,504,957
Passenger-kilometres	'000	7,374,126	7,280,993	7,329,665	8,180,418	8,618,671	9,485,635
Freight—							
Tonnes uplifted	tonnes	107,813	106,061	108,108	120,887	127,528	129,775
Tonne-kilometres	'000	97,914	97,499	96,315	106,460	110,746	109,603
Mail—							
Tonnes uplifted	tonnes	9,613	9,708	9,636	11,307	13,126	15,053
Tonne-kilometres	'000	9,023	9,113	9,148	10,718	12,518	14,206

(a) Includes flights of all Australian-owned airlines, with the exception of those of Qantas Airways Limited, between airports located within Australia. The domestic carrier, East-West Airlines, commenced services between Australia and Norfolk Island in March 1977 and particulars of these flights are included from that time. Prior to March 1977, Australia-Norfolk Island flights were serviced by Qantas and details of those flights were included with statistics of regular overseas services.

Internal airline passenger embarkation and disembarkation. The statistics set out in the next table have been compiled by aggregating all internal airline passenger traffic loaded and unloaded at each airport. They include passengers on flights between Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

INTERNAL AIRWAYS PASSENGER EMBARKATIONS AND DISEMBARKATIONS AT PRINCIPAL AUSTRALIAN AIRPORTS

<i>Airport</i>	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Sydney	4,953,051	4,788,086	4,839,215	5,274,577	5,539,561	5,961,807
Melbourne	4,037,585	4,125,932	4,149,390	4,552,462	4,743,757	5,104,448
Brisbane	2,218,780	2,119,538	2,075,381	2,252,888	2,282,641	2,521,119
Adelaide	1,494,675	1,454,917	1,615,684	1,729,030	1,801,084	1,931,395
Canberra	981,815	901,837	881,668	966,388	945,260	967,803
Perth	696,527	629,530	704,041	792,768	830,273	910,637
Hobart	375,769	403,759	403,069	437,948	455,577	473,567
Townsville	320,153	329,831	322,498	353,522	363,285	378,884
Coolangatta	300,854	314,780	320,425	409,151	457,789	570,137
Launceston	287,741	304,784	309,341	353,596	387,456	390,215
Cairns	266,620	275,439	270,147	307,525	345,344	387,095
Mackay	213,972	249,196	244,025	254,954	253,229	261,982
Darwin	241,003	208,806	199,963	225,052	249,056	278,669

General aviation activity, which covers all flying other than scheduled airline operations has grown rapidly throughout Australia in recent years and is an important sector of the Australian aviation industry. Hours flown by general aviation during 1980-81 were estimated at 1.83 million, approximately 4.4 per cent more than the previous year.

Aerodromes

The number of aerodromes throughout Australia and its external territories at 30 June 1981 was 440. Eighty were owned by the Commonwealth Government and 360 by local authorities and private interests. The number of licensed helipads throughout Australia and its territories is 5. Capital expenditure on aerodrome and building construction was \$37.144 million in 1980-81. Maintenance expenditure on Commonwealth Government-owned aerodromes during 1980-81 was \$8.027 million. Expenditure on development and maintenance grants to licensed aerodromes participating in the Local Ownership Plan totalled \$4.229 million.

Airway facilities

A total of 459 navigational aids were in service at 30 June 1981. The total includes 248 non-directional beacons (NDB) (includes 221 standard NDB's and 27 locators), 107 distance measuring equipment (DME), 11 international distance measuring equipment (DMEI), 1 visual-aural range (VAR), 74 VHF omni-directional ranges (VOR), 17 instrument landing systems (ILS) and one twin locator approach system.

One hundred and fifty-one aerodromes are now equipped with night landing facilities. Ninety-five Australian-designed 'T' systems (T-VASIS) are operating. Seven long-range surveillance radars, two short range and seven secondary surveillance radars are also in operation. There are twenty-five fully-equipped Air Traffic Control Centres and forty-three flight service units in operation.

Air transport registrations, licences, etc., in force in Australia

At 30 June 1981 there were 6,525 aircraft registered in Australia. At the same time there were also 54,667 pilots' licences in force, of which 24,644 were private pilots' licences, 5,320 commercial pilots' licences, 1,477 senior commercial pilots' licences, 2,321 air transport pilots' licences, and 20,905 student pilots' licences. In addition there were 733 flight engineer licences, and 17 flight navigator licences in force.

Accidents and casualties

AIR TRANSPORT: ACCIDENTS INVOLVING CASUALTIES(a), AUSTRALIA(b)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Number	30	33	44	40	47	45
Persons killed	54	40	54	41	52	43
Persons seriously injured	22	25	24	29	43	34

(a) Accidents involving civil aircraft (including registered gliders) which resulted in death or serious injury. Excludes parachutists and casualties involving non-registered aircraft. (b) Excludes accidents outside Australia involving aircraft on the Australian register; includes all accidents to overseas registered aircraft that occur in Australia.

POSTAL, TELECOMMUNICATION AND RADIOCOMMUNICATION SERVICES

In this section, particulars for the Australian Capital Territory are included with those for New South Wales, and the South Australian figures include particulars for the Northern Territory, unless otherwise indicated. The Central Offices of the Department of Communications are located in Canberra, Melbourne and Sydney.

Department of Communications

The Postal and Telecommunications Department was created on 22 December 1975. It replaced the Postmaster-General's Department, assuming those PMG functions remaining after the formation of the Postal and Telecommunications Commissions on 1 July 1975. Following the election in November 1980, the name of the Department was changed to the Department of Communications. A major activity of the Department is the administration of the *Wireless Telegraphy Act* 1905 which concerns the regulation and management of the radio frequency spectrum for radiocommunications within the Commonwealth and its Territories.

The Department also undertakes, planning for the development of broadcasting and television services in Australia and the determination of standards and practices for technical equipment used in broadcasting and television services for which formal responsibility attaches to the Minister for Communications pursuant to the provisions of the *Broadcasting and Television Act*.

Among its duties are the planning, procurement and operation of the proposed National Communications satellite system, in association with other departments and authorities.

Another function of the Department is to provide policy advice to the Minister on postal, telegraphic, telephonic, broadcasting and other like services which are subject to legislation for which the Minister for Communications is responsible.

Authorities responsible to the Minister for Communications have been established to provide within Australia a network of facilities which enable people and organisations:

- to send letters, printed matter, parcels and money in Australia and overseas and to receive such items within Australia from overseas;
- to converse by telephone in Australia and overseas;
- to send and receive written messages, data pictures and other visual matter by electrical means within Australia and to and from overseas;
- to relay on the telecommunications network, radio and television broadcasts emanating within Australia and those on relay to and from overseas.

Australian Postal Commission

The Australian Postal Commission was established under the *Postal Services Act* 1975. It commenced operations on 1 July 1975 and trades under the name Australia Post.

The establishment of the Australian Postal Commission was accompanied by a complete reorganisation of the management of postal services in Australia. The Commission was given a charter to improve postal services whilst avoiding the large financial losses of previous years. The Postal Services Act sets specific financial objectives for the Commission, which are designed to enable postal services to be operated on a business-oriented basis.

In accordance with the *Postal Services Act* 1975, the Australian Postal Commission is required to pursue, as far as practicable, a financial policy to secure revenue sufficient to meet all expenditure chargeable to revenue and provide at least half of its capital expenditure.

Since 1 July 1975, Australia Post has taken a number of initiatives to develop new services and maintain existing ones while at the same time maintaining competitive pricing. The initiatives include:

- the introduction on 1 July 1981 of Australia Post Express, a fast service for urgent postal articles;
- the introduction of reduced rate and discount mail services for bulk lodgment of mail;
- the introduction of a concessional rate for domestic greeting cards in November and December;
- the introduction of a new Postal Money Order Service;
- the revision of the Registered Publications Service;
- the introduction of an overnight parcel service between all capital cities;
- a new policy for rural and remote mail deliveries which provides for a minimum of twice-weekly delivery wherever practicable;

- the extension of the high-speed International Priority Paid service network;
- the extension of the Surface Air Lifted network; and
- the introduction of the Bulk Direct Mail Service for approved addressed advertising mail.

The Commission has undertaken a program to decentralise the mail network as a means of improving efficiency and, more particularly, the reliability of the mail service. Plans for decentralised mail networks have already been approved for New South Wales, Victoria and Queensland. These involve establishment of regional mail centres in metropolitan and country areas to replace the former highly centralised network which relied heavily on a single facility in the capital cities. The new arrangements are complete in Victoria, almost complete in New South Wales and under way in Queensland. The following tables indicate Australia Post's financial results, services and operations for 1980-81. Selected tables also show figures for earlier periods.

AUSTRALIAN POSTAL COMMISSION: REVENUE AND EXPENDITURE, 1976 TO 1981
(S'000)

<i>Year ended 30 June—</i>	<i>1976</i>	<i>1977</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>	<i>1981</i>
Revenue—						
Mail services	402,221	435,790	456,739	528,978	582,200	668,676
Money order, postal order services	7,481	6,881	6,242	5,434	6,350	7,758
Commission on agency services	85,892	101,739	95,636	93,171	82,189	83,471
Other revenue	10,044	17,186	20,110	18,907	19,442	22,147
Total	505,638	561,596	578,727	646,490	690,187	782,052
Expenditure—						
Operating and general	354,995	395,675	426,100	476,915	530,875	625,005
Transportation	46,723	50,168	55,343	44,842	52,744	61,018
Depreciation, superannuation, long-service leave, interest	72,258	86,854	95,217	102,144	94,876	108,772
Total	473,976	532,697	576,660	623,901	678,495	794,795

**AUSTRALIAN POSTAL COMMISSION: STATEMENT OF REVENUE
AND EXPENDITURE FOR THE YEAR ENDED 30 JUNE 1981**
(S'000)

Revenue—	
Mail services	668,676
Postal money order services	7,758
Commission on agency services	83,471
Other revenue	22,147
Total	782,052
Expenditure—	
Operating and general	625,005
Transportation	61,018
Depreciation	14,555
Superannuation	68,500
Long Service Leave	23,642
Interest	2,075
Total	794,795
Operating surplus (deficit)	(12,743)
Appropriations—	
Unappropriated accumulated surplus brought forward	11,686
Operating surplus (deficit) for the year	(12,743)
Accumulated surplus available for the appropriation/(deficit)	(1,057)
Appropriation—	
For Capital Financing	11,686
Unappropriated accumulated surplus/(deficit) carried forward	(12,743)

**AUSTRALIAN POSTAL COMMISSION: SUMMARY OF TRANSACTIONS
AFFECTING FIXED ASSETS, 1980-1981**
(\$)

<i>Class of assets</i>	<i>Balance at 1 July 1980</i>	<i>Adjustments (a)</i>	<i>Additions in the year</i>	<i>Asset expenditure written out</i>	<i>Balance at 30 June 1981 (b)</i>
Land	30,258,191	-	5,957,710	232,184	35,983,717
Buildings	187,031,413	179,433	16,083,659	2,009,327	200,926,312
Motor vehicles	15,892,049	(1,289,946)	4,809,530	3,758,518	18,233,007
Plant	36,499,785	-	1,361,651	2,885,216	34,976,220
Equipment	20,836,863	1,897,286	4,375,270	420,596	22,894,251
<i>Total of fixed assets</i>	<i>290,518,301</i>	<i>786,773</i>	<i>32,587,820</i>	<i>9,305,841</i>	<i>313,013,507</i>
<i>Less accumulated depreciation</i>	<i>59,479,305</i>				<i>66,887,313</i>
Net book value of fixed assets	231,038,996				246,126,194

(a) Adjustments required to implement new depreciation accounting arrangement for improvements to leasehold properties, motor vehicles, office machines and bicycles. (b) At cost.

**AUSTRALIAN POSTAL COMMISSION: ANALYSIS OF TRANSACTIONS
AFFECTING ACCUMULATED DEPRECIATION, 1980-81**
(\$)

<i>Class of asset</i>	<i>Balance at 1 July 1980</i>	<i>Adjustments (a)</i>	<i>Depreciation provided for in 1980-81</i>	<i>Accumulated depreciation written out</i>	<i>Balance at 30 June 1981</i>
Buildings	34,528,038	(179,433)	4,841,151	612,834	38,576,922
Motor vehicles	3,463,422	1,289,946	3,830,320	2,442,638	6,141,050
Plant	15,049,252	-	2,844,598	2,885,216	15,008,634
Equipment	6,438,593	(1,897,286)	3,038,797	419,397	7,160,707
Accumulated depreciation	59,479,305	(786,773)	14,554,866	6,360,085	66,887,313

(a) Adjustments required to implement new depreciation accounting arrangement for improvements to leasehold properties, motor vehicles, office machines and bicycles.

**AUSTRALIAN POSTAL COMMISSION: PERSONS ENGAGED IN PROVIDING POSTAL SERVICES AT
30 JUNE 1980 AND 1981**

	<i>N.S.W. (Incl. H.Q. A.C.T.)</i>		<i>Vic.</i>	<i>Qld</i>	<i>S.A. (Incl. N.T.)</i>		<i>W.A.</i>	<i>Tas.</i>	<i>Aust. 1981</i>	<i>Aust. 1980</i>
Official staff (a)—										
Full-time Permanent	597	10,444	7,491	3,927	2,764	2,241	671	28,135	26,037	
Full-time Temporary	11	2,625	1,262	273	138	183	119	4,611	6,129	
Part-time	1	1,141	535	313	293	236	94	2,612	2,494	
Other staff (b)	-	3,085	1,851	1,612	874	709	404	8,535	8,635	
Total	609	17,295	11,138	6,125	4,069	3,369	1,288	43,893	43,295	

(a) 'Official Staff' are those whose employment is governed by the *Postal Services Act 1975*. (b) Includes persons who are not employed under the *Postal Services Act*, but who are employed on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Commission.

AUSTRALIAN POSTAL COMMISSION: MAIL DELIVERY NETWORK AND POST OFFICES AT 30 JUNE 1980 AND 1981

	<i>N.S.W</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Aust. 1981</i>	<i>Aust. 1980</i>
Contract road services	1,720	752	1,022	287	426	155	4,362	4,405
Households receiving mail	1,827,574	1,305,386	723,682	477,240	433,974	137,452	4,905,308	4,738,431
Businesses receiving mail	172,086	114,423	72,891	41,558	42,030	11,508	454,496	425,846
Post Offices—								
Official—								
At 1 July 1980	508	330	222	164	161	42	1,427	1,433
At 30 June 1981	509	332	219	162	158	42	1,422	1,427
Non-official—								
At 1 July 1980	1,184	938	577	506	335	202	3,742	3,915
At 30 June 1981	1,149	916	562	483	329	196	3,635	3,742
<i>Total post offices</i>	<i>1,658</i>	<i>1,248</i>	<i>781</i>	<i>645</i>	<i>487</i>	<i>238</i>	<i>5,057</i>	<i>5,169</i>

AUSTRALIAN POSTAL COMMISSION: TOTAL POSTAL ARTICLES HANDLED ('000)

<i>Year ended 30 June</i>	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total postal articles handled</i>	<i>Mail carried on domestic air services (included in total handled)</i>	
					<i>Articles</i>	<i>Gross weight</i>
1976	1,992,397	79,755	136,394	2,208,546	431,328	kilograms 5,594,724
1977	1,975,417	82,158	140,802	2,198,377	496,470	6,448,310
1978	2,072,239	81,907	149,393	2,303,539	516,330	6,706,242
1979	(a)2,267,596	(a)87,757	149,278	2,504,631	661,352	8,590,967
1980	2,379,953	94,826	156,573	2,631,352	769,391	9,994,392
1981	2,503,450	107,798	155,642	2,766,890	949,995	12,340,441

(a) Estimating methods were refined in 1980 and volumes for 1979 have been reassessed on a comparable basis.

AUSTRALIAN POSTAL COMMISSION: ORDINARY POSTAL ARTICLES(a) ('000)

<i>Year ended 30 June</i>	<i>Standard letters</i>				<i>Non-standard articles</i>			
	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>
1979	(b)1,950,740	(b)73,332	108,923	(b)2,132,995	(b)293,926	11,966	35,547	(b)341,439
1980	2,033,092	79,414	112,093	2,224,599	320,803	12,769	39,847	373,419
1981	2,124,622	90,569	110,463	2,325,654	349,352	14,440	40,897	404,689

STATES—YEAR ENDED 30 JUNE 1981

New South Wales	847,927	38,601	49,498	936,026	153,973	7,079	18,333	179,385
Victoria	574,209	27,313	43,231	644,753	105,818	4,207	15,498	125,523
Queensland	299,039	8,231	5,603	312,873	40,556	1,332	3,728	45,616
South Australia	183,483	7,386	5,135	196,004	22,101	695	1,170	23,966
Western Australia	163,156	8,642	6,996	178,794	20,315	1,088	2,168	23,571
Tasmania	56,808	396	..	57,204	6,589	39	..	6,628

(a) Includes Certified, Messenger Delivery and Priority Paid Mail. have been reassessed on a comparable basis.

(b) Estimating methods were refined in 1980 and volumes for 1979

AUSTRALIAN POSTAL COMMISSION: REGISTERED ARTICLES(a) AND PARCELS
(^{'000})

Year ended 30 June	Registered articles			Parcels				Total articles
	Posted for delivery in Australia	Posted for places abroad	Received from abroad	Posted for delivery in Australia	Posted for places abroad	Received from abroad	Total articles	
1976	3,877	1,533	2,807	8,217	15,300	1,050	1,950	18,300
1977	3,370	1,375	2,696	7,441	16,900	1,030	1,970	19,900
1978	3,122	1,422	2,794	7,338	18,234	1,068	1,998	21,300
1979	(b)3,092	1,371	2,790	(b)7,253	(b)19,838	1,088	2,018	(b)22,944
1980	3,107	1,451	2,758	7,316	22,951	1,192	1,875	26,018
1981	3,204	1,470	2,330	7,004	26,272	1,319	1,952	29,543

STATES—YEAR ENDED 30 JUNE 1981

New South Wales	1,133	787	1,318	3,238	10,391	577	756	11,724
Victoria	800	462	843	2,105	7,436	440	740	8,616
Queensland	554	62	42	658	4,030	109	175	4,314
South Australia	321	71	22	414	2,126	85	84	2,295
Western Australia	271	86	105	462	1,799	99	152	2,050
Tasmania	125	2	..	127	490	9	45	544

(a) Totals include Certified, Messenger Delivery and Priority Paid Mail.

(b) Estimating methods were refined in 1980 and volumes for 1979 have been reassessed on a comparable basis.

**AUSTRALIAN POSTAL COMMISSION: SPECIAL SERVICES:
ARTICLES HANDLED**

(^{'000})

Year ended 30 June	Certified mail	Messenger delivery	Priority paid mail
1976	5,424	1,129	1,386
1977	4,927	1,007	1,449
1978	5,473	1,013	1,783
1979	5,056	1,048	2,020
1980	5,780	1,169	2,350
1981	5,889	1,370	2,669

STATES—YEAR ENDED 30 JUNE 1981

New South Wales	1,649	972	1,320
Victoria	1,749	219	658
Queensland	1,108	63	256
South Australia	563	59	249
Western Australia	579	53	153
Tasmania	241	4	33

Telecommunications services within Australia

The Australian Telecommunications Commission commenced operations on 1 July 1975, taking over the telecommunications functions of the former Postmaster-General's Department.

The functions of the Commission as set out in the *Telecommunications Act 1975* are:

- to plan, establish, maintain and operate telecommunications services within Australia;
- to operate such other services as the Commission is authorised by this Act to operate;
- to provide, at the request of the Australian Government, technical assistance outside Australia in relation to the planning, establishment, maintenance and operation of telecommunications services in countries outside Australia; and
- to do anything incidental or conducive to the performance of any of the preceding functions.

Financial results

The following tables show the earnings, expenses and funds situation for the latest available three years of the Commission's operations.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: REVENUE
(*\$'000*)

<i>Year ended 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Telephone rentals	495,420	533,295	602,655
Telephone calls	1,078,830	1,211,057	1,355,373
Telephone connections and rearrangements	80,719	88,206	102,091
Telegrams	31,303	35,187	32,497
Telex rentals	18,655	21,495	25,644
Telex calls	26,081	24,890	28,936
Other earnings(a)	125,490	130,274	133,613
Total	1,856,499	2,044,404	2,280,810

(a) Major items within this classification are: fees for advertisements in telephone directories, proceeds of sales of fixed assets, telephone service connection fees and telex call fees.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: EXPENDITURE
(*\$'000*)

<i>Year ended 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Maintenance of plant	386,723	424,736	576,760
Operating	288,573	307,994	399,873
General and administrative	105,160	137,001	178,739
Accommodation	74,705	85,917	99,382
Depreciation	366,514	410,412	447,383
Superannuation	106,669	118,887	—
Long service leave	25,949	30,849	—
Interest	317,288	338,090	367,127
Total	1,671,580	1,853,884	2,069,264

AUSTRALIAN TELECOMMUNICATIONS COMMISSION:
FUNDS STATEMENT
(*\$ million*)

<i>At 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Source of funds—			
From the Commonwealth	65.0	—	—
From the public	200.3	177.6	268.6
From trading activities—			
Net trading result	184.9	190.5	211.5
<i>Plus non-cash charges—</i>			
Depreciation	372.3	416.4	454.5
Excess of liability over cash payment for—long service leave superannuation	10.3	15.4	16.4
	—	66.5	44.4
<i>Total</i>	<i>832.8</i>	<i>866.4</i>	<i>995.4</i>
Application of funds—			
Increase in fixed assets and stores holdings	949.5	936.1	998.3
<i>Less non-cash charges capitalised—</i>			
Depreciation	-10.9	-12.2	-13.6
Long service leave liability	-17.1	-16.6	-16.7
Superannuation	—	-61.4	-55.3
Increase in current assets over current liabilities	-108.3	7.1	76.9
<i>Plus transfers from long term liabilities</i>	<i>19.6</i>	<i>13.4</i>	<i>5.8</i>
<i>Total</i>	<i>832.8</i>	<i>866.4</i>	<i>995.4</i>

A brief history of the development of telecommunications in Australia is shown in Year Book No. 59, pages 378-82. Common internal telecommunication operations comprise telephone, telegram, telex and data services. The following tables give details of these services.

TELEPHONE SERVICES IN OPERATION AT 30 JUNE 1980

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Australia</i>
Type of service—							
Ordinary exchange services	1,597,853	1,228,142	568,854	407,632	342,182	114,227	4,258,890
Party line services	2,154	190	1,767	476	300	—	4,887
Private branch exchange	186,577	119,815	49,291	38,457	43,946	8,544	446,630
Public telephones	12,900	6,870	5,305	3,159	2,908	1,113	32,255
Connected to—							
Automatic exchanges	1,768,105	1,344,507	604,066	441,059	387,567	123,884	4,669,188
Manual exchanges	31,379	10,510	21,151	8,665	1,769	—	73,474
Located in—							
Metropolitan local service area	1,088,230	989,977	332,820	337,091	297,191	56,416	3,101,725
Country areas	711,254	365,040	292,397	112,633	92,145	67,468	1,640,937
Total	1,799,484	1,355,017	625,217	449,724	389,336	123,884	4,742,662

TELEPHONE INSTRUMENTS IN SERVICE

<i>At 30 June—</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>Australia</i>
1978	2,537,345	1,749,733	735,262	531,475	472,788	154,713	6,181,316
1979	2,714,946	1,909,119	797,906	576,901	514,460	163,244	6,676,576
1980	2,885,117	2,053,799	861,909	621,592	566,831	173,742	7,152,990
Number per 100 population at 30 June	53.8	53.0	38.5	43.5	44.6	41.3	49.1

LOCAL AND TRUNK LINE TELEPHONE CALLS

<i>Year ended 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Effective paid local calls	4,186,000,000	4,483,000,000	4,786,559,000
Local calls per service	1,037	1,041	1,041
Trunk line calls	462,000,000	523,000,000	589,774,000
Trunk lines calls per service	114	121	129
Total calls	4,648,000,000	5,006,000,000	5,376,333,000

Subscriber Trunk Dialling (STD) facilities were introduced during the year 1961-62. For the year ended at 30 June 1979, 88.8 per cent of trunk calls were made by STD.

Telegrams

Telegrams can be lodged at any post office or telephone office or from any public telephone equipped for multi-coin operation. In addition, telegrams can be dispatched from any subscriber's telephone or telex service. The number of telegrams of various types transmitted within Australia is set out below.

TELEGRAM TRAFFIC

<i>Year ended 30 June—</i>	<i>1978</i>	<i>1979</i>	<i>1980</i>
Ordinary	7,775,779	6,024,376	4,631,985
Urgent	164,497	184,934	153,718
Lettergrams	18,916	(a)6,688	—
Meteorological	635,598	534,482	349,445
Service	371,252	324,286	295,747
Total telegrams	8,966,042	7,074,766	5,430,895

(a) Lettergrams discontinued from 1 October 1978.

Telex

Particulars of the operations of the telex network, which are additional to the telegraph traffic shown above, are as follows.

TELEX NETWORK SERVICES AND INTERNAL CALLS

<i>Year ended 30 June—</i>	<i>Number of services</i>	<i>Internal calls during the year</i>
1978	22,724	32,177,000
1979	25,901	35,797,000
1980	29,731	37,415,000

Further detailed statistics are contained in the Commission's Annual Reports.

Overseas Telecommunications Services

The Overseas Telecommunications Commission (Australia) (OTC), established by the Overseas Telecommunications Act 1946, is a Commonwealth Statutory Authority responsible for the establishment, maintenance, operation and development of all public telecommunications services between Australia and other countries, between Australia and its external territories and with ships at sea. It has a specific responsibility under section 38A, to make its services available at the lowest possible rates of charges. OTC is responsible to the Commonwealth Parliament through the Minister for Communications.

Telephone, telex, public message telegram, phototelegram, switched data and leased circuit services are provided to most countries and places throughout the world by means of submarine cables, communications satellites and, in a decreasing number of cases, short wave radio. Television relay is provided to and from countries with access to satellite communications facilities. Recently introduced services include INTERPLEX (a large scale, common-use, leased-message switching system), MIDAS (a multimode international data acquisition service) and OVERSEASFAX (an international facsimile service for document transfer).

Following from a Government decision in September 1980 and pending further Government consideration of ownership issues, and as an interim measure, OTC has been designated as the authority to own and manage the National Communications Satellite System.

International consultation

OTC participates in the Commonwealth Telecommunications Organisation (CTO), the International Telecommunication Union (ITU) and the International Telecommunications Satellite Organisation (INTELSAT) which owns and operates the international telecommunications satellite system, and the International Maritime Satellite Organisation (INMARSAT), which, commencing in 1982, will own and operate an international satellite system for the provision of high-grade telecommunications, including distress and search and rescue communications, with ships at sea.

Establishments

The Commission's Head Office is in Sydney and it has offices in Melbourne and Brisbane. The Commission owns and operates International Gateway terminals at Paddington and Broadway in Sydney which interface with the national telecommunications network; cable stations at Cairns (Qld) and at Guam in the Mariana Islands; satellite earth stations at Carnarvon (W.A.), Ceduna (S.A.) and Moree (N.S.W.); international radio stations at Doonside and Bringelly (N.S.W.) and at Gngara (W.A.); and fourteen coast radio stations at points around the Australian coast and one at Norfolk Island for communicating with ships at sea.

Submarine cables

OTC is a part owner of the following submarine cables (the year in which they opened for service is in brackets): COMPAC, Sydney-Auckland-Suva-Hawaii-Vancouver (1963); SEACOM, Sydney-Madang-Guam-Hong Kong-Kota Kinabula (Malaysia)-Singapore (1967); TRANSPAC II, Hawaii-Guam-Okinawa (1975); HAW III, Hawaii-U.S. Mainland (1975); TASMANN, Sydney-Auckland (1976); A-PNG, Sydney-Port Moresby (1976); OLUHO, Okinawa (Japan)-Philippines-Hong Kong (1977); ASEAN P-S, Philippines-Singapore (1978); ASEAN I-S, Indonesian-Singapore (1980) and IOCOM, Penang-Madras (1981).

In November 1979 the Government gave approval for OTC to participate in a replacement Pacific cable system (ANZCAN) linking Australia and New Zealand with Fiji, Hawaii and North America, with onward connections to Britain and Europe. OTC's investment in the system, which is expected to enter service in 1984, will be approximately \$200 million at June 1981 exchange rates.

Satellites

OTC is the fifth largest shareholder in INTELSAT which operates communication satellites over the Indian, Pacific and Atlantic Oceans, and a major shareholder in INMARSAT (see above). INTELSAT satellites now carry more than half of Australia's international telecommunications and, through OTC, provide capacity through which the remote area television service is provided by the ABC.

1980-81 Statistics

As at 31 March 1981, OTC staff totalled 2,400; revenue for the previous 12 months was approximately \$212 million and profit before tax was \$50.4 million. Telephone service, which is available to 211 overseas destinations, provided about 66 per cent of revenue, telex about 18 per cent and telegraph about 4.6 per cent. International Subscriber Dialling (ISD), by which the customer can dial his or her own overseas telephone calls, is now available to more than 100 destinations. Over 99 per cent of international telex calls from Australia are now automatically subscriber connected.

Facilities to match growth

The high growth in demand for the Commission's services requires that the capacity of its major transmission and switching plant be at least doubled every three years. The OTC is applying computer techniques extensively in a number of its services, including telephone, telex, MIDAS (multimode international data acquisition service) and INTERPLEX (private message-switched networks).

Charges

Tariff reductions were introduced on selective routes in the high customer usage telephone and telex services. Some increases were necessary in telegram tariffs due to the high cost, labour intensive nature of the service.

Detailed information on OTC

The Commission reports on its operations to Parliament through its Minister about September each year. Traffic, financial and other information is contained in its Annual Report, copies of which are available on request to the OTC.

International telecommunication traffic

The following table shows particulars of overseas telecommunication traffic between Australia and overseas countries for the years ended 31 March 1980 and 1981.

INTERNATIONAL TELECOMMUNICATION SERVICES: YEARS ENDED 31 MARCH 1980 AND 1981

Service		Transmissions					
		From Australia		To Australia		Total	
		1979-80	1980-81	1979-80	1980-81	1979-80	1980-81
Telephone	'000 paid minutes	62,389	82,380	51,800	67,100	114,189	149,480
Telex	'000 paid minutes	16,795	20,024	16,950	20,425	33,745	40,449
Television programs	paid minutes	8,637	7,316	18,123	34,661	26,760	41,977
Telegraph services	'000 words	54,801	49,525	38,695	35,691	93,496	85,216

Coastal stations

The Overseas Telecommunications Commission operates fourteen coastal radio stations at points around the Australian coast, and one at Norfolk Island. During the year ended 31 March 1981 the Coastal Radio Service handled 7,237,000 paid words to ships and 6,485,000 words from ships. Ship calls over the radiotelephone service extended over 438,000 paid minutes.

Radiocommunication stations authorised

At 30 June 1978 there were 460,171 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 6,316 were stations established at fixed locations, 24,000 were land stations which were established at fixed locations for communication with mobile stations, 13 were space and broadcasting stations, 420,442 were mobile stations and 9,400 were amateur stations. Particulars of broadcasting stations are shown on page 523.

BROADCASTING AND TELEVISION

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting and Television Act 1942*, is one of the responsibilities of the Minister for Communications. Federal bodies which are involved include the Postal and Telecommunications Department, the Australian Broadcasting Commission (ABC), the Special Broadcasting Service, the Australian Broadcasting Tribunal, the Australian Telecommunications Commission and the Overseas Telecommunications Commission.

Basically, the Australian broadcasting system is comprised of the following types of stations:

- national radio and television stations broadcasting programs produced by the Australian Broadcasting Commission;
- commercial radio stations operated by companies under licence;
- public radio and television stations operated by corporations under licence on a non-profit basis; and
- stations operated under the aegis of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Communications assumed the responsibility for broadcasting planning, including all matters relating to the technical operation of stations, and for the investigation of interference to the transmission and reception of programs.

The Commercial Radio and Television Service

Commercial radio and television stations are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Communications. The stations obtain income from the broadcasting of advertisements. At 30 June 1981 there were 134 commercial radio stations in operation in Australia. Call signs for radio stations are prefixed by numerals indicating each State of Australia. (2—New South Wales, 3—Victoria, 4—Queensland, 5—South Australia, 6—Western Australia, 7—Tasmania, 8—Northern Territory). In addition there were fifty commercial television stations and 102 commercial television translator stations in operation in Australia. A television translator station is a station of low power designed to receive the signals of another station and re-transmit them; it does not originate programs. There are twelve limited coverage repeater stations in Australia operated by mining companies which transmit programs recorded on magnetic tape.

The Public Broadcasting and Television Service

The Broadcasting and Television Act also makes provision for the grant of licences for the operation of public radio and television stations. At 30 June 1981, 28 public radio stations were broadcasting "special purpose" programs ranging from fine music to ethnic languages. A number of public radio stations are associated with tertiary educational institutions.

The Special Broadcasting Service

The Special Broadcasting Service (SBS) was established by the Commonwealth Government on 1 January 1978 to provide multilingual radio services and, if authorised by regulations, to provide multilingual television services. A regulation authorising the provision of multilingual television services was gazetted in August 1978. The Service is also empowered by the *Broadcasting and Television Act (1977)* to provide broadcasting and television services for such special purposes as are prescribed by the Government.

In carrying out its functions the SBS provides:

- *multilingual broadcasting services to:*
 - the Melbourne metropolitan area and Geelong through radio station 3EA which broadcasts in 42 languages for 126 hours per week
 - the Sydney metropolitan area through radio station 2EA which broadcasts in 48 languages for 126 hours per week
 - the provincial centres of Newcastle and Wollongong in N.S.W. through 2EA translator stations.
- subsidies to public broadcasting stations in Adelaide, Brisbane, Canberra, Hobart, Perth, Albury, Armidale, Bathurst, Lismore and Newcastle for the production and presentation of ethnic radio programs.
- a subsidy to Whyalla Ethnic Broadcasters Inc. for the production of ethnic radio programs for presentation on commercial radio station 5AU Whyalla.
- a *multicultural television service* on VHF Channel 0 and UHF Channel 28 to the Sydney and Melbourne metropolitan areas and Geelong.

Broadcasting services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977 and is responsible for certain of the functions previously performed by the Australian Broadcasting Control Board (abolished 31 December 1976), including the licensing and supervising of the operations (other than technical aspects) of all stations except national stations. The Tribunal is empowered to grant, renew, suspend or revoke licences, to determine program and advertising standards applicable to licensed stations, and to determine the hours of transmission of licensed stations. In particular, the Tribunal is required to conduct public inquiries into the granting of licences following the invitation of applications by the Minister. The Tribunal may also conduct enquiries into the renewal of licences, the setting of standards of broadcasting practices, alleged breaches of licence conditions and such other matters as the Minister may direct.

The National Broadcasting Service

In sound broadcasting the programs of the National Broadcasting Service are provided by the Australian Broadcasting Commission through transmitters operated by the Australian Telecommunications Commission.

Technical facilities. At 30 June 1981 the National Broadcasting Service comprised 124 transmitting stations, of which ninety-two were medium frequency, thirteen frequency modulation and eight high frequency (six internal and twelve Radio Australia).

The medium-frequency transmitters operate in the broadcast band 526.5 to 1,606.5 kilohertz. The high-frequency stations, using frequencies within the band of three to thirty megahertz, provide services to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland.

Many of the programs provided by country stations are relayed from the capital cities using high-quality program transmission lines. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia. When necessary, this system is extended to connect both the national and commercial broadcasting stations.

At 30 June 1981 eighty of the Australian medium-frequency stations were situated outside the six State capital cities.

Program facilities. The programs of the Australian Broadcasting Commission cover a wide range of activities. The proportions of broadcasting time allocated on Radio 1 stations to the various types of program during 1980-81 were as follows: entertainment 58.5 per cent; news 8.3 per cent; sporting 14 per cent; spoken word 8.8 per cent; drama and features 0.6 per cent; parliament 6.9 per cent; religious 1.3 per cent; rural 0.7 per cent; and presentation 0.6 per cent. By contrast, the ABC's Radio 2 station's programming was: classical music 53.3 per cent; light music 0.9 per cent; entertainment 3.2 per cent; drama and features 5.5 per cent; young people's programs 0.3 per cent; education 6.1 per cent; spoken word 13.4 per cent; religious 3.8 per cent; news 8.2 per cent; rural 3.3 per cent; and presentation 1.3 per cent. Radio 3 (regional) stations feature a higher proportion of news and rural programs. Further particulars of the operations of the Australian Broadcasting Commission in respect of music, drama and features, youth education, talks, rural broadcasts, news, and other activities are shown in the Forty-ninth Annual Report of the Australian Broadcasting Commission.

Overseas Broadcasting Service

There are eight high-frequency stations at Shepparton, two at Lyndhurst, Victoria and two at Carnarvon, Western Australia which provide the overseas service known as Radio Australia. As in the case of the National Broadcasting Service, these stations are maintained and operated by the Australian Telecommunications Commission, and their programs are arranged by the ABC. The programs, which, as well as entertainment, give news and information about Australia presented objectively, are directed to most parts of the world but with special emphasis on Asia and the Pacific. They include 67 news bulletins a day. The overseas audience has been quite substantial in recent years, as evidenced by a large number of letters from listeners abroad (377,697 in 1980-81, and 566,084 in 1979-80), Radio Australia broadcasts in nine languages—English, Indonesian, Japanese, Neo-Melanesian, Thai, French, Standard Chinese, Cantonese and Vietnamese.

BROADCASTING STATIONS: 30 JUNE 1981

Type of station	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
National—									
Medium frequency	21	6	21	10	20	6	6	2	92
High frequency	1	2	2	—	1	—	—	—	6
Frequency modulation	3	2	1	2	2	2	—	1	13
Overseas—									
Short wave (Radio Australia)	—	10	—	—	2	—	—	—	12
Commercial—									
Medium frequency	43	24	29	10	17	8	2	2	135
Frequency modulation	2	2	1	1	1	—	—	—	7
Public broadcasting—									
Medium frequency	2	2	1	1	1	—	—	1	(a)8
Frequency modulation	8	4	3	2	2	2	2	—	23

(a) Includes broadcasting stations 2EA and 3EA operated by the Special Broadcasting Service.

Television services

The National Television Service

The National Television Service is provided by the Australian Broadcasting Commission through transmitters operated by the Australian Telecommunications Commission. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956. At 30 June 1981, 217 stations were operating—85 transmitters and 132 translator stations.

The television programs provided by the Australian Broadcasting Commission cover a wide range of activities. The proportions of television time allocated among the ABC's various departments at 30 June 1981 were as follows: drama 20.68 per cent; public interest 13.63 per cent; sporting 15.83 per cent; news 6.78 per cent; variety and acts 5.03 per cent; education 27.87 per cent; musical performance 1.4 per cent; religious 1.3 per cent; special arts and aesthetics 1.31 per cent; cartoons 0.35 per cent; panel and quiz games 0.32 per cent; and presentation 6.0 per cent. The average weekly transmission time for the 217 national television transmitters was eighty-five hours during the year ended 30 June 1981.

During the year ended 30 June 1981, forty-six new national translator channels went into operation in New South Wales, Queensland, South Australia, Western Australia and the Northern Territory.

Colour television

Colour television (PAL) was introduced in Australia late in 1974 and services became fully effective in March 1975.

TELEVISION AND TRANSLATOR STATIONS: 30 JUNE 1981

Type of station and location	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Total
National—									
Metropolitan television	1	1	1	1	1	1	1	1	8
Country television	13	7	31	6	15	2	4	—	78
Translator	35	10	37	10	21	14	4	1	132
<i>Total, National</i>	<i>49</i>	<i>18</i>	<i>69</i>	<i>17</i>	<i>37</i>	<i>17</i>	<i>9</i>	<i>2</i>	<i>218</i>
Commercial—									
Metropolitan television	3	3	3	3	2	1	1	1	17
Country television	11	6	8	3	4	1	—	—	33
Translator	36	12	24	5	7	17	—	1	102
<i>Total, Commercial</i>	<i>50</i>	<i>21</i>	<i>35</i>	<i>11</i>	<i>13</i>	<i>19</i>	<i>1</i>	<i>2</i>	<i>152</i>

Related publications

More detailed figures and particulars for earlier years are included in the annual publications, *Rail, Bus and Air Transport, Australia* (9201.0), *Commonwealth Government Finance* (5502.0), and *Motor Vehicle Registrations, Australia* (9304.0). Current information on subjects dealt with in this chapter appears in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), *Overseas and Coastal Shipping, Australia* (annual) (9207.0), two monthly publications, *Registration of New Motor Vehicles, Australia* (9301.0) and *Motor Vehicle Registrations, Australia* (9303.0), one monthly publication, *Road Traffic Accidents involving Fatalities, Australia* (9401.0), and the quarterly publication *Road Traffic Accidents involving Casualties (Admissions to Hospitals), Australia* (9405.0).

Information additional to that contained in ABS publications is available in the annual reports and other statements of the Department of Transport, the various harbour boards and trusts, the several Government railway authorities, the Australian Postal Commission, the Australian Telecommunications Commission, and the Australian Broadcasting Commission.

CHAPTER 21

PRIVATE FINANCE

This chapter contains statistics on the activities and structure of financial institutions including banks, building societies, insurance companies, finance companies, credit unions and co-operative societies together with descriptions of their operations and relevant controlling legislation.

MONEY

Currency

Australia has a decimal system of currency, the unit being the dollar which is divided into 100 cents. Australian notes are issued in the denominations of \$1, \$2, \$5, \$10, \$20 and \$50 and coins in the denominations of 1c, 2c, 5c, 10c, 20c and 50c.

For additional information on note issues and coinage, refer to the List of Special Articles, etc. towards the back of this Year Book.

AUSTRALIAN NOTES ON ISSUE (\$ million)

	<i>Last Wednesday in June</i>					
	1976	1977	1978	1979	1980	1981
\$1	53.6	57.4	60.8	64.7	68.6	74.1
\$2	127.8	133.0	136.0	140.6	145.1	152.7
\$5	116.4	121.8	126.7	135.5	143.2	153.9
\$10	655.2	628.8	604.5	582.4	567.6	555.9
\$20	1,334.6	1,489.0	1,620.5	1,756.4	1,903.9	2,060.0
\$50	633.8	860.8	1,121.7	1,427.7	1,757.8	2,190.7
Total	2,921.4	3,290.8	3,670.2	4,107.4	4,586.1	5,187.3
<i>Held by banks</i>	<i>352.5</i>	<i>378.1</i>	<i>413.1</i>	<i>451.1</i>	<i>500.9</i>	<i>578.1</i>
<i>Held by public</i>	<i>2,568.9</i>	<i>2,912.8</i>	<i>3,257.1</i>	<i>3,656.3</i>	<i>4,085.2</i>	<i>4,609.2</i>

AUSTRALIAN DECIMAL COIN: NET ISSUES BY RESERVE BANK (\$ million)

	<i>Last Wednesday in June</i>					
	1976	1977	1978	1979	1980	1981
1c	1.4	1.3	1.3	1.2	1.3	1.5
2c	2.2	2.1	2.4	1.9	2.4	2.9
5c	3.3	2.8	2.9	3.4	4.4	5.1
10c	2.1	3.2	3.5	3.7	4.9	5.8
20c	6.2	6.8	7.4	8.2	11.8	14.8
50c	7.2	11.0	15.4	10.0	12.3	12.1
Total	22.4	27.2	32.9	28.4	37.0	42.1

Volume of money

Statistics of the volume of money in the following table include notes and coins in the hands of the public, deposits of the public with trading banks (including the Reserve Bank) and deposits with all savings banks.

The volume of money is a measure of specified financial assets held by the non-bank public.

The financial assets included in the volume of money in the following table represent only part (albeit a major part) of the public's total holdings of liquid financial assets. An expanded view of the volume of money would include the public's holdings of such other claims as finance company debentures, deposits and shares of building societies, loans to authorised dealers in the short-term money market, government securities, etc.

VOLUME OF MONEY

(Source: Reserve Bank of Australia)

(\$ million)

Average of weekly figures for June	Notes and coins in the hands of public	Deposits of public with all trading banks			Deposits with all savings banks(c)	Total volume of money
		Current(a)	Fixed(a)	Certificates of deposit(b)		
1976	2,797	6,775	7,571	878	14,651	32,672
1977	3,157	7,220	8,778	912	16,197	36,264
1978	3,542	7,724	9,314	718	17,854	39,151
1979	3,963	9,183	10,449	529	19,654	43,777
1980	4,420	10,423	10,243	3,012	21,061	49,159
1981	4,977	11,673	13,767	1,966	23,028	55,411

(a) Excludes deposits of the Commonwealth and State Governments and inter-bank deposits. (b) Excludes holdings of the Commonwealth and State Governments and banks. (c) Interpolated 'weekly average' based on end-of-month figures.

FINANCIAL REGULATION

Commonwealth legislation for economic management

With Federation in 1901 the new Commonwealth Parliament was given power under Section 51 of the Commonwealth Constitution to legislate with respect to 'Banking, other than State Banking, also State Banking extending beyond the limits of the State concerned, the incorporation of banks, and the issue of paper money'. In 1911 the Commonwealth entered the field of banking with the establishment of the Commonwealth Bank of Australia, which conducted both trading bank and savings bank operations.

From 1911 to 1945 the functions of central banking became more and more the responsibility of the Commonwealth Bank and in 1945 the Commonwealth Parliament directed it to act as a central bank. In the ensuing period of economic growth and financial development, the need for effective regulatory control of finance through banks became increasingly recognised. During 1959 the Commonwealth Parliament enacted the following legislation:

- (a) The *Banking Act* 1959 which applies to all banks operating in Australia, including the external territories of the Commonwealth, except State banks trading in their own State. The objects of the Act are:
- (i) to provide a legal framework uniform throughout Australia for regulating the banking system;
 - (ii) to safeguard depositors of the banks from loss;
 - (iii) to provide for the co-ordination of banking policy under the direction of the Reserve Bank;
 - (iv) to control the volume of credit in circulation and bank interest rates; and
 - (v) to provide machinery for the control of foreign exchange.
- (b) The *Reserve Bank Act* 1959 which provides for the constitution and management of the Reserve Bank of Australia, the administration of the *Banking Act* 1959 and the management of the Australian note issue.
- (c) The *Commonwealth Banks Act* 1959 which provides for the constitution and management of the Commonwealth Banking Corporation, Commonwealth Trading Bank of Australia, Commonwealth Savings Bank of Australia, and the Commonwealth Development Bank of Australia.

Information on more specific aspects of the growth and control of the banking industry is contained in earlier issues of the Year Book (Nos. 31, 37, 45, 46 and 61).

More recently, as a result of the further development of the financial market and the increasing significance in the market of the non-bank financial institutions such as finance companies, building societies, merchant banks and money market dealers, the *Financial Corporations Act* 1974 was introduced. The object of this Act is to assist the Government to achieve effective management of the Australian economy by providing a means for the examination and regulation of the activities of non-bank financial institutions having regard to economic stability, the maintenance of full employment, the efficient allocation of productive resources, the ensuring of adequate levels of finance for housing and the economic prosperity and welfare of the people of Australia. Details of the operation and application of the Act are given in Year Book No. 62, page 541.

Statistics compiled from information collected from corporations registered under the Act are provided in the tables on pages 539-540.

Other Commonwealth legislation directly affecting financial institutions

Insurance. Section 51 of the Commonwealth Constitution confers the necessary powers on the Commonwealth Parliament to legislate with respect to 'insurance, other than State insurance; also State insurance extending beyond the limits of the State concerned'. Commonwealth legislation includes the *Marine Insurance Act 1909* defining the limits of marine insurance and regulating the terms of contracts, etc.; the *Life Insurance Act 1945* generally regulating life insurance business in Australia; and the *Insurance Act 1973* generally regulating general (non-life) insurance business in Australia. The *Marine Insurance Act 1909* has limited application.

Life Insurance Act 1945. The objects of this Act are:

- (a) to replace all State legislation on the subject of life insurance except that relating to the life insurance operations of State government insurance offices within the State concerned, and to provide uniform legislation for the whole of Australia;
- (b) to appoint a Life Insurance Commissioner to exercise active supervision of the activities of life insurance companies, with a view to securing the greatest possible protection for policy holders; and
- (c) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 20 June 1946. The Life Insurance Commissioner issues an annual report which contains detailed information on the operations of life insurance companies.

Insurance Act 1973. The objects of this Act are:

- (a) to appoint an Insurance Commissioner to exercise active supervision of the activities of companies conducting general (non-life) insurance business, apart from State government insurance whether or not extending beyond the limits of the State concerned and other organisations specified in the Act, with a view to securing the greatest possible protection for policy holders; and
- (b) to set up adequate machinery for dealing with any company that fails to maintain a required minimum standard of solvency.

The Act came into operation on 19 June 1973. The Insurance Commissioner issues an annual report which contains detailed information on the operations of insurance companies.

State legislation

In each State there exists legislation designed to regulate the activities and monitor the solvency position of particular types of financial institutions which operate on a co-operative basis and lend predominantly to members or consumers. In general, they form the groups covered later in this chapter under the headings of Permanent Building Societies, Terminating Building Societies and Credit Unions.

In some States there is also legislation for the incorporation of State government bodies which operate as banks or insurance offices. Though the regulations in Commonwealth legislation do not directly apply to these bodies, details of their operations have been included in the relevant parts of this chapter because they have agreed to supply information consistent with regulatory reports on a voluntary basis.

BANKS**Reserve Bank of Australia**

The Reserve Bank of Australia preserved and continued in existence the original corporate body known as the Commonwealth Bank of Australia under the new name Reserve Bank of Australia.

The general functions of the Reserve Bank are set out in Section 10 of the *Reserve Bank Act 1959*, which states:

'It is the duty of the Board, within the limits of its powers, to ensure that the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia and that the powers of the Bank under this Act, the *Banking Act 1959*, and regulations under that Act are exercised in such a manner as, in the opinion of the Board, will best contribute to:

- (a) The stability of the currency of Australia;
- (b) The maintenance of full employment in Australia; and
- (c) The economic prosperity and welfare of the people of Australia'.

Management

The policy of the Reserve Bank is determined by a Board consisting of the Governor (Chairman), the Deputy Governor, the Secretary to the Treasury, and seven other members appointed by the Governor-General. The Bank is managed by the Governor, who acts in accordance with the policy of

the Board and with any directions of the Board. The Bank is required to inform the Government of the monetary and banking policy of the Board. In the event of a disagreement between the Government and the Board as to whether the monetary and banking policy of the Bank is directed to the greatest advantage of the people of Australia, the Governor-General, acting with the advice of the Executive Council, may determine the policy to be adopted by the Bank.

Central Banking Business

Under the *Commonwealth Bank Act 1911* and the war-time powers conferred by the National Security Regulations, the Commonwealth Bank gradually assumed the functions of a Central Bank. Part III of the *Commonwealth Bank Act 1945* formally constituted the Bank as a Central Bank and granted the necessary powers to carry on the business of a Central Bank, these powers being carried through into the present Act constituting the Reserve Bank.

Note Issue Department

The Note Issue Department, established in 1920 when the control of the Australian note issue was transferred from the Commonwealth Treasury to the Commonwealth Bank, was maintained in the same form under the *Reserve Bank Act 1959*. The Reserve Bank may, through this Department, issue, re-issue and cancel Australian notes.

Rural Credits Department

The Rural Credits Department, established in 1925 for the purpose of making short-term credit available for the orderly marketing of primary produce, was continued in the same form under the *Reserve Bank Act 1959*. The Reserve Bank may, through this Department, make advances upon the security of primary produce placed under the legal control of the Bank, or other security associated with the production or marketing of primary produce, to co-operative associations or marketing boards formed under the laws of the Commonwealth or a State or Territory of the Commonwealth or other bodies specified by proclamation. The period of the advance is not to exceed one year.

RESERVE BANK OF AUSTRALIA: LIABILITIES AND ASSETS (\$ million)

LIABILITIES

30 June—	Capital and reserve funds	Special reserve— IMF special drawing rights	Australian notes on issue	Deposits of trading banks		Deposits of savings banks	All other liabilities	Total
				Statutory reserve deposit accounts	Other			
1976	69.3	200.6	2,921.4	779.7	74.7	1,053.9	1,271.1	6,370.8
1977	137.3	218.2	3,319.3	1,584.4	29.5	1,055.7	1,765.4	8,109.9
1978	1,189.3	218.3	3,688.1	726.7	10.7	1,122.6	1,723.0	8,678.8
1979	1,953.5	321.3	4,113.3	1,115.5	21.0	815.7	1,906.2	10,246.5
1980	4,061.8	389.6	4,549.3	1,376.1	9.6	553.3	1,067.5	12,007.1
1981	3,160.8	388.1	5,094.1	1,846.1	9.0	128.8	1,252.9	11,879.8

ASSETS

30 June—	Gold and foreign exchange (a)	Australian Government securities (b)	Loans, advances, bills discounted	Bank premises (c)	All other assets	Total
1977	2,466.6	4,205.2	975.0	65.6	397.5	8,109.9
1978	3,047.6	4,365.8	707.0	72.5	485.8	8,678.8
1979	3,706.8	5,173.2	613.6	89.9	663.0	10,246.5
1980	5,504.3	5,197.6	608.3	112.1	584.8	12,007.1
1981	5,454.4	4,728.1	837.3	132.0	728.1	11,879.8

(a) Includes currency at short call and International Monetary Fund drawing rights. (b) Includes Treasury bills and Treasury notes. (c) At cost, less amounts written off.

Trading banks

Commercial banking in Australia is conducted by twelve trading banks. Five large private trading banks, together with the Commonwealth Trading Bank, are generally referred to as the major trading banks. These banks provide widespread banking facilities throughout Australia. The remaining six banks comprise one small local bank, two overseas banks which have been represented in Australia for many years and three State-owned banks operating only within their respective States.

The major trading banks are as follows: Commonwealth Trading Bank of Australia; Australia and New Zealand Banking Group; Bank of New South Wales; The Commercial Bank of Australia Ltd; The Commercial Banking Company of Sydney Ltd; and The National Bank of Australasia Ltd.

The other trading banks are: Bank of Queensland Ltd; Bank of New Zealand; Banque Nationale de Paris; The State Bank of New South Wales (previously The Rural Bank of New South Wales); State Bank of South Australia; and The Rural and Industries Bank of Western Australia (Rural Department).

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks within the years shown.

AUSTRALIAN TRADING BANKS(a): LIABILITIES AND ASSETS(b) (\$ million)

LIABILITIES								
	Paid-up capital	Reserve funds (used in business of banks)	Final dividend proposed	Balance of profit and loss account	Total shareholders' funds	Balances due to other banks	Deposits, bills payable and other liabilities(c)	Total
1975	426.4	494.8	22.4	48.7	992.4	1,122.4	21,274.6	23,389.4
1976	450.4	539.0	30.8	58.1	1,078.3	1,220.3	24,077.0	26,375.6
1977	529.7	663.3	37.1	72.9	1,303.0	1,741.9	26,286.1	29,331.1
1978	594.6	796.7	42.7	104.1	1,538.0	2,356.2	28,697.7	32,591.9
1979	692.9	1,203.5	55.6	145.6	2,097.6	2,914.0	33,511.1	38,522.7
1980	769.6	1,450.3	69.8	201.5	2,491.2	3,488.6	38,593.4	44,573.2

ASSETS									
	Coin, bullion, notes and cash at Reserve Bank	Australian public securities					Other securities	Loans to authorised dealers in short-term money market	Total
		Money at short call overseas	Australian Government		Local and semi-government securities	Other public securities			
			Treasury bills and notes	Other securities					
1975	378.9	46.0	1,044.0	2,720.9	77.6	167.0	456.9	327.0	
1976	345.8	58.4	313.5	3,737.4	90.0	220.6	509.1	543.8	
1977	338.2	82.4	93.3	3,531.5	117.3	197.1	630.8	368.5	
1978	357.6	144.3	192.3	3,874.5	143.6	440.9	698.5	693.2	
1979	368.7	162.6	154.5	4,156.5	183.9	419.5	892.8	580.0	
1980	523.9	270.0	284.3	4,270.6	315.3	277.1	1,227.6	624.0	

	Statutory reserve deposit account with Reserve Bank	Cheques and bills of, and balances with and due from other banks	Loans, advances and bills discounted	Bank premises, furniture and sites	Bills receivable and remittances in transit	All other assets	Total
1975	641.9	996.6	13,158.3	311.7	1,911.2	1,151.6	23,389.4
1976	791.3	982.1	14,817.6	369.7	2,147.0	1,449.1	26,375.6
1977	1,293.2	1,444.9	17,182.8	445.2	1,896.7	1,709.0	29,331.1
1978	666.6	1,534.9	18,768.2	504.2	2,173.7	2,399.3	32,591.9
1979	1,102.5	2,424.2	21,509.3	554.3	2,414.0	3,599.8	38,522.7
1980	1,373.6	2,771.9	24,705.7	595.8	1,841.2	5,492.2	44,573.2

(a) Excludes the overseas banks but includes the deposits and assets held against the deposits of the Savings Bank Division of the Rural and Industries Bank of Western Australia. (b) Relates to liabilities and assets both inside and outside Australia. (c) Includes provisions for contingencies.

Figures shown in the table below are the average of liabilities and assets within Australia (including external territories) of the banks on the weekly balance days (Wednesdays) during the period concerned.

ALL TRADING BANKS: AVERAGE LIABILITIES AND ASSETS WITHIN AUSTRALIA

(\$ million)

LIABILITIES(a) (b)

June	<i>Deposits repayable in Australia</i>				Total	Balances due to other banks	Bills payable and all other liabilities to the public	Total
	Current							
	Fixed	Bearing interest	Not bearing interest					
1976	9,778.0	927.4	6,249.4	16,954.8	603.7	2,079.0	19,637.6	
1977	11,464.7	990.2	6,634.2	19,089.1	607.9	2,358.0	22,055.0	
1978	11,596.0	1,045.0	7,105.3	19,746.2	682.8	2,907.5	23,336.6	
1979	12,577.3	1,159.8	8,441.8	22,178.9	900.4	4,347.9	27,427.1	
1980	14,755.5	1,247.7	9,639.9	25,643.2	790.0	5,555.3	31,988.5	
1981	17,187.8	1,218.4	10,899.7	29,305.9	820.9	7,302.9	37,429.6	

ASSETS(b)

June	Coin, bullion, notes and cash at Reserve Bank	Australian Government securities		Local and semi-government securities	Loans to authorised dealers in short-term money market	Statutory reserve deposit account with Reserve Bank	Loans, advances and bills discounted	All other assets	Total
		Treasury bills and notes	Other securities						
1976	345.6	191.0	3,410.9	32.8	182.3	840.5	12,575.6	2,774.2	20,352.9
1977	380.0	78.8	3,567.9	46.1	144.4	1,704.2	14,006.0	3,203.4	23,130.7
1978	409.4	97.9	3,609.1	45.1	190.9	734.0	15,777.2	3,968.8	24,832.3
1979	435.3	204.4	3,951.2	71.8	265.3	1,125.5	17,653.3	5,443.4	29,150.2
1980	485.6	182.8	4,118.1	205.1	384.3	1,385.6	20,402.0	6,912.1	34,075.7
1981	550.4	838.3	4,415.4	219.8	264.5	1,852.6	23,028.7	8,652.0	39,821.7

(a) Excludes shareholders' funds.

(b) Excludes inter-branch accounts and contingencies.

Major trading banks: classification of advances and deposits

In the classification of advances and deposits, borrowers and lenders are classified into two main groups:

Residents—comprising all institutions (including branches of overseas institutions) engaged in business in Australia and individuals permanently residing in Australia; and

Non-residents—comprising all other persons and institutions, including companies incorporated abroad, which, although represented, do not carry on business in Australia.

Residents are further classified into:

Businesses—partnerships, companies and other institutions engaged in business in Australia; individuals actively engaged in business or a profession on their own behalf; and mutual, cooperative and benefit societies which distribute their profits to members by way of dividends, rebates of charges for goods and services, or increased benefits.

Public authorities—local and semi-government authorities including separately constituted government business undertakings, but not the Commonwealth and State Governments.

Persons—individuals other than those carrying on a business or profession.

Non-profit organisations—organisations which are not operated for the purpose of making a profit or gain to individual members, but for the purposes of the organisations or for the benefit of the community in general.

**MAJOR TRADING BANKS:
CLASSIFICATION OF ADVANCES AND DEPOSITS WITHIN AUSTRALIA**
(*\$ million*)

	<i>Advances</i>				<i>Deposits</i>			
	<i>At second Wednesday of:</i>				<i>At second Wednesday of:</i>			
	<i>July 1979</i>	<i>January 1980</i>	<i>July 1980</i>	<i>January 1981</i>	<i>July 1979</i>	<i>January 1980</i>	<i>July 1980</i>	<i>January 1981</i>
Residents—								
Businesses								
Agriculture, grazing and dairying	1,780.3	1,767.2	2,102.5	2,167.9	1,392.6	2,023.7	1,448.1	2,123.1
Manufacturing	1,829.0	1,947.6	2,282.6	2,097.6	570.2	737.1	558.5	640.3
Transport, storage and communication	257.9	268.4	312.7	317.3	182.9	219.7	190.7	214.1
Finance	812.2	930.4	960.1	908.4	1,215.9	1,447.9	1,073.7	1,030.7
Commerce	1,735.6	1,885.3	2,010.1	2,009.3	877.7	1,051.1	877.0	1,088.2
Building and construction	482.5	487.7	514.3	526.0	404.4	456.5	405.7	487.8
Other businesses	2,200.1	2,320.3	2,470.1	2,701.2	2,049.5	2,154.3	2,239.3	2,474.9
Unclassified	337.4	301.7	326.7	343.9	491.0	614.9	478.6	456.9
<i>Total business of which—</i>	<i>9,434.9</i>	<i>9,908.7</i>	<i>10,979.1</i>	<i>11,071.7</i>	<i>7,184.1</i>	<i>8,705.0</i>	<i>7,271.5</i>	<i>8,516.1</i>
Companies	5,665.6	5,954.1	6,362.1	6,335.6	3,282.9	3,908.9	3,145.1	3,592.2
Other	3,769.3	3,954.6	4,617.1	4,736.1	3,901.2	4,796.2	4,126.4	4,923.8
Public authorities	111.3	137.6	127.2	165.3	1,415.7	1,636.1	1,094.6	1,092.2
Persons	5,661.9	6,177.0	6,612.1	7,112.9	8,339.2	9,201.3	9,382.4	11,002.4
Non-profit organisations	141.4	156.7	156.8	169.3	850.3	834.2	855.4	808.6
<i>Total residents</i>	<i>15,349.5</i>	<i>16,380.0</i>	<i>17,875.3</i>	<i>18,519.3</i>	<i>17,789.4</i>	<i>20,376.6</i>	<i>18,603.9</i>	<i>21,419.3</i>
<i>Total non-residents</i>	<i>19.7</i>	<i>39.9</i>	<i>31.1</i>	<i>34.4</i>	<i>280.0</i>	<i>329.0</i>	<i>396.8</i>	<i>407.7</i>
Total	15,369.2	16,419.9	17,906.4	18,553.7	18,069.4	20,705.7	19,000.8	21,827.0

Interest rates

At 30 June 1981, the maximum rates of interest were: (i) on fixed deposits of less than \$50,000, for periods of 3 months and less than 6 months—10.50 per cent to 12.25 per cent, 6 months and less than 2 years—11.25 per cent to 12.75 per cent, 2 years and less than 4 years—11.25 per cent to 12.00 per cent; (ii) on fixed deposits of \$50,000 and over, 30 days to 4 years—not subject to maximum rate; (iii) on certificates of deposit of \$50,000 and over, 3 months to 4 years—not subject to maximum rate; (iv) on overdrafts under \$100,000—12.50 per cent; (v) on overdrafts over \$100,000—not subject to maximum rate; (vi) on personal loans—8.75 per cent.

Branches and agencies

At 30 June 1981 the major trading banks operated 4,738 branches, and the other trading banks 370 branches. Of the total 5,108 branches, 2,776 were located in metropolitan areas. Trading bank facilities were also available at 1,021 agencies throughout Australia.

Debits to customers' accounts

TRADING BANKS: AVERAGE WEEKLY DEBITS TO CUSTOMERS' ACCOUNTS^(a)
(*\$ million*)

<i>June</i>	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
1976	5,079.1	4,442.3	1,209.5	676.9	756.5	173.8	32.8	152.4	12,523.2
1977	5,443.8	5,209.3	1,421.8	789.7	875.5	184.0	36.3	150.7	14,111.2
1978	7,316.5	5,552.6	1,528.1	846.8	1,079.7	190.9	35.7	246.0	16,796.3
1979	8,147.8	7,050.1	1,712.4	924.5	1,370.3	243.8	43.1	186.9	19,678.9
1980	10,516.4	7,854.9	2,108.4	1,021.0	1,498.7	268.0	76.1	240.0	23,583.6
1981	12,319.1	8,871.0	2,522.5	1,169.6	1,821.4	280.6	78.4	346.8	27,409.3

(a) Covers all trading banks and in addition the Rural Credits Department of the Reserve Bank and the Commonwealth Development Bank. Excludes debits to the Commonwealth and State Government accounts in capital cities.

Savings banks

Prior to 1956 savings bank operations were conducted by the Commonwealth Savings Bank, two trustee savings banks in Tasmania, and State-owned banks in Victoria, South Australia and Western Australia. In January 1956 private savings banks were established as subsidiary companies by two of the private trading banks. By mid-1962 all the major private trading banks had established savings

bank subsidiary companies. In May 1972 the Bank of New Zealand Savings Bank Limited was granted an authority to carry on savings bank business in Australia.

All savings banks, including trustee savings banks but not State savings banks, are subject to the *Banking Act 1959*.

Liabilities and assets

Balance sheet information contained in the following table does not relate to uniform accounting periods but rather to the balance dates of banks falling within the years shown.

SAVINGS BANKS (a): LIABILITIES AND ASSETS (b)

(\$ million)

LIABILITIES

	Paid-up capital	Reserve funds (used in the business of the bank)	Balance of profit and loss account	Total share-holders' funds	Depositors' balances	Balances due to other banks	Bills payable and all other liabilities (c)	Total
1975	43.0	227.0	11.1	281.0	12,984.8	96.7	549.6	13,912.2
1976	49.0	262.0	14.1	325.1	14,956.3	65.2	633.5	15,980.1
1977	60.0	302.9	19.1	381.9	16,432.0	133.7	682.5	17,630.0
1978	60.0	370.8	22.6	453.4	18,078.7	86.1	751.4	19,369.6
1979	85.0	639.2	32.9	757.1	19,811.6	105.1	622.9	21,296.7
1980	92.0	737.2	41.8	871.1	21,276.8	110.4	732.4	22,990.7

ASSETS

	Coin, bullion, notes and deposits with Reserve Bank	Deposits in Australia with trading banks	Australian public securities		Local and semi-government securities	Other securities	Total
			Commonwealth and State Governments				
			Treasury bills and notes	Other securities			
1975	978.5	430.9	50.4	3,001.8	3,298.1	43.6	
1976	1,099.3	314.4	48.6	2,896.5	3,898.6	55.8	
1977	1,136.2	283.4	53.9	2,643.7	4,472.2	48.6	
1978	1,146.9	218.4	97.1	2,514.5	4,899.8	54.5	
1979	850.5	258.7	594.6	2,469.0	5,303.6	53.4	
1980	616.6	252.2	1,070.6	2,112.9	5,662.8	56.8	

	Loans to authorised dealers in short-term money market	Cheques and bills of, and balances with and due from other banks (d)	Loans advances and bills discounted	Bank premises, furniture and sites	Bills receivable and remittances in transit	All other assets	Total
1976	68.2	322.9	6,805.1	204.9	55.8	210.1	15,980.1
1977	67.9	300.1	8,056.5	240.6	81.3	245.6	17,630.0
1978	118.0	351.4	9,371.4	276.6	71.2	249.6	19,369.6
1979	137.5	372.8	10,614.1	317.8	47.5	277.4	21,296.7
1980	178.9	406.8	11,930.8	365.9	70.4	265.9	22,990.7

(a) Excludes Savings Bank Division of the Rural and Industries Bank of Western Australia. (b) This table relates to liabilities and assets both inside and outside Australia. (c) Includes provisions for contingencies. (d) Includes deposits with and loans to specified lenders other than trading banks.

Branches and agencies

At 30 June 1981 the savings banks operated 5,678 branches and 12,163 agencies, of which 3,174 branches and 5,923 agencies were in metropolitan areas.

Development banks

Commonwealth Development Bank of Australia

The Commonwealth Development Bank of Australia was established by the *Commonwealth Banks Act* 1959 and commenced operations on 14 January 1960. It was formed basically from an amalgamation of the Mortgage Bank and Industrial Finance Departments of the former Commonwealth Bank of Australia. The functions of the Development Bank are to provide finance for the purpose of primary production (which includes fishing, forestry and all forms of rural activity) and for the establishment or development of small business undertakings (ie with shareholders'/proprietors' funds not exceeding \$3 million) in cases where such finance is not otherwise available on reasonable and suitable terms and conditions.

Two types of facility are provided—loans over medium to long terms and equipment finance over short terms. Loans to primary industry may be for all types of farm development, property purchase and restructuring of private mortgage debt. Loans to small businesses may be for establishment of new enterprises or for development of existing businesses in all sectors including manufacturing, retail and wholesale trade, transport, tourism, professions, entertainment and service industries. Equipment finance is provided for the acquisition of plant and vehicles for both primary industry and business undertakings.

The Commonwealth Development Bank is managed by a General Manager under the Managing Director of the Commonwealth Banking Corporation and its policy is determined by the Board of that Corporation.

Australian Resources Development Bank Limited

The Australian Resources Development Bank Limited was established in 1967 with equity capital of \$3 million subscribed by the major trading banks. It was given the status of a bank under the *Banking Act* 1959 and opened for business on 29 March 1968. The main object of the Australian Resources Development Bank is to assist Australian enterprises to participate more fully in the development of Australia's natural resources. It provides finance to enterprises engaged in major developmental projects by direct loans, investing in equity capital or by refinancing loans made by trading banks acting individually or as a group. The Australian Resources Development Bank obtains funds by accepting deposits and by borrowing on the Australian and overseas capital markets.

The Primary Industry Bank of Australia Limited

The Primary Industry Bank of Australia Limited commenced operations on 22 September 1978 under the authority of the *Primary Industry Bank Act* 1977. The Bank has also been brought within the scope of the *Banking Act* 1959 including those provisions relating to the protection of depositors, advances policy, control of interest rates, furnishing of statistics, and alterations in the structure and ownership of the Bank.

The main objective of the Bank is to facilitate the provision of loans to primary producers for longer terms than are otherwise generally available. The Bank's role is restricted to refinancing loans made by banks and other financial institutions with terms of eight years or more but not exceeding thirty years.

The equity capital of the Bank is \$5,625,000 consisting of eight shares. Seven shares are held by the Commonwealth Government and the six major trading banks while the eighth share is held equally by the four State banks.

REGISTERED BUILDING SOCIETIES

Permanent building societies

A permanent building society is defined as an organisation that: (i) is registered under relevant State or Territory legislation; (ii) has rules or regulations that do not specify that it is to terminate on a specific date or when a specific objective is achieved; and (iii) operates on a co-operative basis by borrowing predominantly from its members and providing finance to its members principally in the form of housing loans.

In 1976 a statistical collection was introduced covering the financial accounts of permanent building societies in all States and Territories of Australia. The statistics below summarise information collected from the 139 permanent building societies balancing in the 1979-80 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0).

Information relating to the housing finance operations of permanent building societies is provided on pages 546-7. Detailed statistics on the operations generally of permanent building societies are available in the monthly publication *Housing Finance for Owner Occupation, Permanent Building Societies, Australia* (5610.0).

Summary statistics on the financial operations, assets and selected liabilities of permanent building societies registered under the *Financial Corporations Act 1974*, and which have assets in Australia exceeding \$5 million, are given on pages 539-40.

**PERMANENT BUILDING SOCIETIES:
LIABILITIES AND ASSETS(a)**
(*\$ million*)

<i>Liabilities</i>	<i>1979-80</i>	<i>Assets</i>	<i>1979-80</i>
Share capital and reserves:		Amount owing on loans	8,286.0
Non-withdrawable shares	26.6	Cash on hand	16.0
Withdrawable shares	7,534.3	Deposits with—	
Reserves—		Banks	961.3
Statutory	90.2	Other	191.8
Other(b)	103.6	Bills, bonds and other securities	1,107.7
Deposits	2,793.8	Accounts receivable	31.9
Loans	241.5	Physical assets	258.8
Accounts payable	35.6	Other assets	7.9
Other liabilities	35.8	Total assets	10,861.4
Total liabilities	10,861.4		

(a) At the balance dates of societies within the financial year shown. (b) Includes accumulated surpluses and deficits.

**PERMANENT BUILDING SOCIETIES:
INCOME AND EXPENDITURE**
(*\$ million*)

<i>Expenditure</i>	<i>1979-80</i>	<i>Income</i>	<i>1979-80</i>
Interest on:		Interest from:	
Shares	584.1	Loans	867.5
Deposits	230.5	Deposits	97.7
Loans	16.2	Income from holdings of securities	98.8
Wages and salaries	63.2	Management fees	17.4
Management fees(a)	24.7	Other income	21.7
Administrative expenses(b)	65.3	Total income	1,103.1
Insurance premiums paid	1.8		
Other expenditure	49.9		
Total expenditure	1,035.7		

(a) Represents payments made by societies to separate management companies. (b) Includes Permanent Building Society Association costs, advertising, bank charges and other administrative expenses.

Terminating building societies

A terminating building society is defined as an organisation that: (i) is registered under relevant State or Territory legislation; (ii) has rules or regulations which specify that it is to terminate on a specific date or when a specific objective is achieved; and (iii) makes loans to members from funds obtained from lending institutions (usually government guaranteed), members' subscriptions, or from moneys provided under Commonwealth-State Housing Agreements.

In 1977 a statistical collection was introduced covering the financial accounts of terminating building societies in all States and Territories of Australia. The statistics below summarise information collected from the 6,612 terminating building societies balancing within the 1979-80 financial year. More detailed descriptions and dissections of these statistics may be found in the annual publication *Terminating Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0).

Information relating to the housing finance operations of terminating building societies is provided on pages 546-7.

**TERMINATING BUILDING SOCIETIES:
LIABILITIES AND ASSETS(a)
(\$ million)**

<i>Liabilities</i>	<i>1979-80</i>	<i>Assets</i>	<i>1979-80</i>
Share capital(b)	1.9	Amount owing on loans(b)	1,431.9
Accumulated funds(c)	27.4	Cash on hand and current accounts at banks	12.2
Loans from:		Deposits with:	
Banks	250.4	Banks	4.4
Commonwealth/State Home Builders' Fund(d)	875.7	Others	12.9
Others	300.5	Physical assets	0.2
Other liabilities	7.4	Other assets	1.8
Total liabilities	1,463.3	Total assets	1,463.3

(a) At the balance dates of societies within the financial year shown. (b) Borrowing members' subscriptions have been offset against 'Amount owing on loans'. (c) Includes accumulated surpluses and deficits. (d) Refers to loans made through the Commonwealth/State Housing Agreements.

**TERMINATING BUILDING SOCIETIES:
INCOME AND EXPENDITURE
(\$ million)**

<i>Expenditure</i>	<i>1979-80</i>	<i>Income</i>	<i>1979-80</i>
Interest paid on borrowing members' subscriptions	3.8	Interest on:	
Interest on loans from:		Loans to members	97.6
Banks	22.6	Other	1.1
Other	69.2	Management fees	11.0
Salaries and secretarial fees	9.7	Other income	2.4
Other expenditure	3.9	Total income	112.1
Total expenditure	109.1		

CREDIT UNIONS

A credit union (or co-operative credit society) is defined as an organisation that: (i) is registered under relevant State or Territory legislation; and (ii) operates on a co-operative basis by predominantly borrowing from and providing finance to its own members.

Credit union annual financial account statistics were first collected on a national basis from all registered credit unions for the year 1974-75 when there were 738 credit unions with a total of 909,547 members. The number of credit unions operating in 1979-80 was 648 with 1,475,586 members. Comprehensive financial account statistics are provided in the annual publication *Credit Unions: Assets, Liabilities, Income and Expenditure, Australia* (5618.0).

Statistics on the housing finance operations of credit unions are provided on pages 546-7, while on pages 539-40 are summary statistics on the financial operations, assets and selected liabilities of credit unions registered under the *Financial Corporations Act 1974* which have assets in Australia exceeding \$5 million.

**CREDIT UNIONS: LIABILITIES AND ASSETS(a)
(\$ million)**

<i>Liabilities</i>	<i>1979-80</i>	<i>Assets</i>	<i>1979-80</i>
Share capital and reserves:		Amount owing on loans(c)	1,801.5
Paid-up share capital	12.4	Cash on hand	7.3
Reserves—		Deposits with—	
Statutory	19.8	Banks	48.4
Other(b)	39.8	Credit Union Leagues or Associations	113.6
Deposits	2,013.2	Other	77.4
Loans	73.6	Bills, bonds and other securities	45.4
Accounts payable	11.7	Accounts receivable	10.6
Other liabilities	5.4	Physical assets	67.5
		Other assets	4.2
Total liabilities	2,175.9	Total assets	2,175.9

(a) At the balance dates of credit unions within the financial year shown. (b) Includes accumulated surpluses and deficits. (c) Net of unearned interest and allowance for doubtful debts.

CREDIT UNIONS: INCOME AND EXPENDITURE
(*\$ million*)

<i>Expenditure</i>	<i>1979-80</i>	<i>Income</i>	<i>1979-80</i>
Interest on:		Interest from:	
Deposits	151.1	Loans	229.6
Loans	4.4	Deposits	21.9
Wages and salaries	36.4	Income from holdings of securities	3.6
Administrative expenses	24.4	Management fees	2.1
Insurance premiums paid	6.2	Bad debts recovered	0.9
Allowance for doubtful debts	4.4	Other income	4.1
Other expenditure	16.6	Total income	262.1
Total expenditure	243.5		

SHORT-TERM MONEY MARKET

Authorised money market corporations

For some years prior to 1959 leading stockbrokers were actively engaged in operations which formed the basis of a short-term money market in Australia. The stockbrokers' operations involved the acceptance of short-term funds which were secured against government securities. These operations were severely limited by the lack of suitable short-term securities and by liquidity constraints. In February 1959 the Central Bank established the Official Short-Term Money Market by making available 'lender of last resort' facilities to selected dealers.

There are nine authorised money market dealers. They are required by the Reserve Bank to: (i) accept loans overnight, at call or for fixed periods, in minimum amounts of \$50,000 and invest these funds in Commonwealth Government and other approved securities; (ii) at all times be willing traders in the buying and selling of approved securities; (iii) have a minimum paid-up capital of \$400,000 and adhere to a maximum limit on the ratio of loans to shareholders' funds; and (iv) consult regularly with the Reserve Bank on all market matters and furnish detailed information about their portfolios, operations, interest rates, balance sheets and profit and loss accounts. Under the 'lender of last resort' arrangements dealers may borrow from the Reserve Bank for a minimum of seven days and at a rate designed to discourage excessive recourse to the facility.

The following table contains details of selected liabilities and assets, and interest rates. Additional information on authorised dealers collected under the *Financial Corporations Act 1974* is provided on pages 539-40.

SHORT-TERM MONEY MARKET: SELECTED LIABILITIES AND ASSETS AND INTEREST RATES OF AUTHORISED DEALERS

(Source: Reserve Bank of Australia)

Month	Liabilities to clients		Asset holdings (face value)				Interest rates on loans accepted during month				Weighted average interest rate on loans outstanding (c)	
			C'wealth Govt securities (a)	Com-mercial bills (b)	Banks' certifi-cates of deposit	At call		For fixed periods				
	All trading banks	Other clients				Mini-mum	Maxi-mum	Mini-mum	Maxi-mum			
	Average of weekly figures—(\$ million)											
	Per cent per annum											
June—												
1976	182.3	636.1	818.4	749.7	129.2	61.3	2.00	14.00	4.50	9.50	8.03	
1977	144.4	701.9	846.3	829.5	129.8	21.6	3.00	15.30	5.00	13.80	9.33	
1978	190.9	1,088.5	1,279.4	1,143.5	153.5	15.8	0.50	18.86	3.00	11.50	9.05	
1979	265.3	1,213.1	1,478.4	1,246.2	190.2	18.3	1.00	18.25	3.10	11.00	7.75	
1980	384.3	1,113.5	1,497.8	1,274.2	228.9	58.1	1.00	18.80	5.50	13.00	10.34	
1981	264.5	1,122.2	1,386.7	1,395.0	257.9	25.2	5.00	21.60	11.75	15.00	13.04	

(a) Within 5 years of maturity. (b) Accepted or endorsed by banks. (c) Weighted average of rates paid on all days of the four or five weeks ending on the last Wednesday of the month.

Money market corporations

There are also companies without Reserve Bank 'lender of last resort' facilities which operate in a similar manner to authorised dealers. These companies are recognised under the *Financial Corporations Act 1974* in the category of money market corporations which consists of registered corporations whose short-term borrowings are a substantial proportion of their total outstanding provision of finance, which is mainly in the form of loans to authorised dealers in the short-term money market and other liquidity placements, business loans and investments in Government, commercial and corporate paper.

The category of money market corporations also includes registered corporations providing short-term finance but which are themselves financed by related corporations with funds raised on a short-term basis, as well as corporations which borrow principally short-term and lend predominantly to related money market corporations.

Statistics on money market corporations registered under the *Financial Corporations Act 1974* are contained in the tables on pages 539-40.

FINANCE COMPANIES

Information presented on finance companies in Australia in the following tables has been compiled from returns collected under the *Census and Statistics Act 1905*. For the purpose of these statistics a finance company is defined as an incorporated company which is, or a consolidation of incorporated companies related under Section 6 of the uniform companies legislation each of which is, mainly engaged in providing to the general public (businesses as well as persons in their private capacity) credit facilities of the following types: instalment credit for retail sales, personal loans, wholesale finance, factoring, other consumer and commercial loans, financial leasing of business plant and equipment and bills of exchange. A company is mainly engaged in providing these credit facilities if 50 per cent or more of its assets consist of balances outstanding with respect to these types of financing, or if 50 per cent or more of its income is derived from such types of financing.

The statistics for the financial year relate to those finance companies which individually or as a group of related finance companies had balances outstanding in the prescribed types of credit facilities of \$5 million or more, on an Australia-wide basis, as at 30 June of the previous financial year. The 105 finance companies that met this criterion at the 1979-80 annual census of finance companies accounted for 98.2 per cent of the balances outstanding of all finance companies.

Comprehensive information on the transactions and financial structure of finance companies is available in the monthly publication *Finance Companies, Australia* (5614.0) and the annual publication *Finance Companies: Assets, Liabilities, Income and Expenditure, Australia* (5616.0) respectively. Information on foreign ownership and control of finance companies is given in Chapter 24, Overseas Transactions.

Although individual corporations in the *Financial Corporations Act 1974* categories of finance companies and general financiers may meet the above definition of a finance company, differences in definitions, scope and coverage generally mean that the statistics on pages 539-40 for those categories are not comparable with the statistics for finance companies shown on the next page.

FINANCE COMPANIES: ASSETS, LIABILITIES, INCOME AND EXPENDITURE(a)
(\$ million)

	1977-78	1978-79	1979-80
Assets—			
Balances outstanding on finance agreements(b)	12,018.0	13,422.9	15,238.8
Cash on hand and bank deposits	28.0	65.4	51.4
Loans to authorised money market dealers	37.1	37.5	12.6
Investments in shares and securities	200.6	210.2	242.7
Physical assets	182.3	174.7	181.5
Other assets	191.7	280.4	337.4
Total assets	12,657.7	14,191.1	16,064.4
Liabilities—			
Paid-up capital	803.2	939.6	1,051.6
Reserves	379.2	412.2	447.3
Unappropriated profits	249.0	278.0	328.4
Borrowed funds—			
Bank loans and overdrafts	222.6	332.2	303.4
Debentures	5,805.3	6,547.9	6,936.9
Secured and unsecured loans	4,126.6	4,484.9	5,540.6
Other liabilities	1,071.8	1,196.3	1,456.2
Total liabilities	12,657.7	14,191.1	16,064.4
Income for year—			
Interest from finance agreements	1,718.1	1,921.9	2,210.4
Other income	131.7	140.3	147.3
Total income	1,849.8	2,062.2	2,357.7
Expenditure for year—			
Interest on borrowed funds	1,089.2	1,225.7	1,376.4
Wages, salaries and allowances, directors fees and emoluments	175.5	209.8	234.6
Other expenditure	407.0	397.8	479.7
Total expenditure	1,671.7	1,833.3	2,090.7

(a) At the balance date of companies within the financial year shown. (b) Excludes unmatured income of \$2,801.5m in 1977-78, \$3,200.0m in 1978-79 and \$3,594.2m in 1979-80.

FINANCE COMPANIES: AMOUNT FINANCED AND BALANCES OUTSTANDING CLASSIFIED BY THE TYPE OF FINANCE AGREEMENT
(\$ million)

	1978-79	1979-80	1980-81
Amount financed during year—			
Instalment credit for retail sales and personal loans	2,317.2	2,279.0	2,542.8
Finance for housing	1,107.4	1,301.0	2,053.6
Wholesale finance	4,694.0	4,936.0	5,466.4
Factoring and other commercial loans	2,025.1	2,594.8	3,450.7
Leasing of business plant and equipment(a)	2,319.0	2,823.4	3,573.6
Bills of exchange(b)	980.3	795.3	888.8
Total amount financed on finance agreements(c)	13,443.0	14,729.5	17,975.9
Balances outstanding at 30 June(d)—			
Instalment credit for retail sales and personal loans	4,251.3	4,357.7	4,711.4
Finance for housing	2,632.6	2,884.4	3,986.5
Wholesale finance	1,251.4	1,299.7	1,279.8
Factoring and other commercial loans	3,274.1	3,727.3	4,440.8
Leasing of business plant and equipment(e)	5,101.2	6,552.4	8,334.8
Bills of exchange	116.3	108.6	104.7
Liquidity placements and loans to non-finance companies in group	484.5	362.8	584.4
Total balances outstanding on finance agreements	17,111.4	19,292.9	23,442.4

(a) Refers to the value of goods newly leased. (b) Refers to amounts paid for bills acquired. (c) Excludes amounts for liquidity placements and loans to non-finance companies in group. (d) Includes unmatured income. (e) Refers to the value of leasing agreements.

FINANCIAL CORPORATION STATISTICS

The statistics provided in the following tables have been compiled from monthly returns supplied to the Australian Bureau of Statistics by corporations registered under the *Financial Corporations Act 1974* and which have Australia-wide assets exceeding \$5 million. A summary of the objects and content of the Financial Corporations Act is given in Year Book No. 62, page 541. Information is also collected quarterly from registered corporations whose comparable asset figures exceed \$1 million but not \$5 million. Detailed statistics on all corporations registered under the Act are published in the monthly publication *Financial Corporations Statistics, Australia* (5617.0).

Descriptions of the categories *building societies, credit unions/co-operatives, authorised money market dealers* and *money market corporations* appear in the respective parts of this chapter. Descriptions of the other categories are as follows:

Pastoral finance companies—comprising corporations whose provision of finance is predominantly in the form of loans to rural producers largely associated with the provision of rural services.

Finance companies—comprising corporations not included in the categories *building societies, credit co-operatives, authorised money market dealers, money market corporations* or *pastoral finance companies* which rely substantially on borrowings in financial markets in Australia and/or from abroad and whose provision of finance is predominantly in the form of business and commercial lending, instalment credit to finance retail sales by others and/or other loans to individuals.

General financiers—comprising corporations which lend predominantly for business and commercial purposes, instalment credit to finance retail sales by others and/or other loans to individuals but which do not rely substantially on borrowings in financial markets in Australia and from abroad.

Intra group financiers—comprising corporations not elsewhere categorised which predominantly borrow within a corporation group and/or provide finance by lending within their corporation group or by investing in financial markets.

Other financial corporations—comprising registered corporations not included in any other specific category.

FINANCIAL CORPORATIONS WITH ASSETS IN AUSTRALIA EXCEEDING \$5 MILLION:
FINANCIAL OPERATIONS, SELECTED LIABILITIES AND ASSETS
(\$ million)

FINANCIAL OPERATIONS AND SELECTED LIABILITIES AS AT 30 JUNE 1981

Category	Financial operations							Selected liabilities		
	Number of corporations	Unused lending commitments(a)	Borrowing lines and standby facilities available and unused from—(b)		Paid-up capital	Borrowings from—		Non-residents		
			Residents	Non-residents		Residents	Non-residents			
Building societies	90	320.6	464.8	—	(c)27.6	(c)11,606.5	8.5			
Credit co-operatives	98	8.2	16.7	—	(c)	(c)1,752.8	—			
Authorised money market dealers	9	5.3	—	—	36.3	1,458.4	0.1			
Money market corporations	47	2,555.2	480.6	838.4	255.2	7,623.6	382.5			
Pastoral finance companies	14	—	74.0	13.0	160.6	540.3	2.1			
Finance companies	92	1,343.8	674.4	394.3	1,240.0	18,501.2	233.1			
General financiers	86	77.4	175.8	17.2	161.1	1,405.7	120.8			
Intra group financiers	13	—	1.1	—	167.7	(d)280.7	26.8			
Other financial corporations	8	6.6	20.3	—	1.8	152.0	—			
Total	457	4,317.0	1,907.6	1,262.9	2,050.3	(e)43,321.0	773.9			

For footnotes see end of table.

ASSETS IN AUSTRALIA AT 30 JUNE 1981

Category	Cash and bank deposits	Loans to authorised dealers in the STMM and other short-term placements(f)	Government and public authority securities	Bills of exchange and promissory notes discounted and held(g)	Other financial investments	Other assets arising from the provision of finance (h)	All other assets in Australia	Total assets in Australia	Assets overseas
Building societies . . .	925.8	149.9	444.1	498.4	11.4	9,727.0	414.3	12,170.7	-
Credit co-operatives . .	56.2	119.2	20.3	6.4	4.0	1,558.5	88.5	1,853.0	-
Authorised money market dealers	36.4	-	1,417.8	342.7	-	0.5	13.1	1,810.6	-
Money market corporations	268.4	1,504.7	203.3	2,195.9	238.3	4,022.9	147.5	8,581.1	67.0
Pastoral finance companies	17.5	12.9	2.7	-	271.3	462.4	469.1	1,235.6	2.4
Finance companies	12.5	224.4	10.3	112.5	628.2	20,500.6	227.3	21,715.7	0.7
General financiers	3.1	19.3	1.3	16.3	68.2	1,766.7	277.8	2,152.6	1.3
Intra group financiers	3.4	46.8	-	17.2	292.0	602.5	38.8	1,000.7	0.1
Other financial corporations	9.0	37.6	8.4	30.5	7.6	63.0	6.3	162.3	-
Total	1,332.3	2,114.8	2,108.0	3,219.9	1,520.8	38,703.9	1,682.6	50,682.4	71.3

(a) Includes all binding commitments to provide funds to residents of Australia other than those that are of a type which is usually completely disbursed within 30 days of approval; excludes commitments that do not have a quantifiable limit. (b) Includes all binding commitments (i.e. borrowing lines and standby facilities) to provide funds to reporting corporations; excludes standby facilities which do not have a quantifiable limit. (c) "Paid-up capital" includes only fixed share capital; withdrawable share capital is included in "Borrowings from residents". (d) Excludes borrowings from related corporations not registered under the Financial Corporations Act. (e) Excludes borrowings from related corporations not registered under the Financial Corporations Act for Intra group financiers. (f) Includes short-term placements that are repayable at call or within 90 days; excludes funds placed with banks and related corporations, and purchases of government securities and bills of exchange. (g) Excludes bills that have been drawn or accepted by reporting corporations. (h) Includes holdings of bills that have been drawn by reporting corporations and loans that have been re-financed by the sale of bills accepted by reporting corporations.

LIFE INSURANCE

Statistics in the following tables have been compiled from returns lodged under the *Life Insurance Act 1945* (see page 527) and relate to the life insurance business of companies with head offices in Australia and the Australian business of companies with head offices overseas. Also included are the life business operations voluntarily reported by three State Government Insurance Offices.

Forty eight life offices conducted life insurance business in Australia during 1979.

Information contained in the following two tables does not relate to uniform accounting periods but to the balance dates of organisations falling within the calendar year shown.

LIFE INSURANCE OFFICES: LIABILITIES AND ASSETS

(\$ million)

	1977	1978	1979
Liabilities—			
Shareholders' capital—			
Authorised	133.7	139.7	141.7
Less: unissued	73.4	79.3	80.5
Subscribed capital	60.3	60.4	61.2
Paid-up—			
In money	50.0	50.1	50.9
Otherwise than money	9.5	9.5	9.5
Total paid-up capital	59.5	59.6	60.4
Life insurance statutory funds—			
Ordinary and Industrial business	8,951.2	9,579.0	10,253.2
Superannuation business	3,744.1	4,500.1	5,322.1
Total statutory funds	12,695.3	14,079.1	15,575.3
Funds in respect of other classes of business	76.1	99.9	122.2
General reserves	205.0	236.1	267.0
Profit and loss account balance	42.2	61.0	67.3
<i>Total shareholders' capital, insurance funds and reserves</i>	<i>13,078.1</i>	<i>14,535.6</i>	<i>16,092.3</i>
Other liabilities—			
Deposits	107.0	143.1	137.4
Staff provident and superannuation funds(a)	28.3	31.8	32.1
Claims admitted or intimated but not paid	257.1	273.4	284.9
Premiums paid in advance and in suspense	8.5	7.5	6.4
Sundry creditors	94.1	98.4	112.2
Bank overdraft	118.4	135.1	132.1
Reserves and provisions for taxation	220.4	235.8	251.9
All other liabilities	123.7	96.9	81.1
Total liabilities	14,035.6	15,557.6	17,130.3
Assets held in Australia—			
Fixed assets—			
Freehold and leasehold property, office premises	2,564.2	2,867.1	3,156.3
Furniture, etc.	33.7	35.3	42.1
Loans—			
On mortgage	1,338.4	1,320.0	1,274.1
On policies	295.8	300.9	303.2
Other loans	124.9	152.1	161.5
Investments—			
Government securities—			
Australian	2,502.9	2,715.7	2,916.9
Overseas	36.8	43.4	43.9
Securities of local and semi-governmental bodies	1,008.0	1,132.0	1,231.4
Other investments	3,166.3	3,593.7	4,133.1
Cash on hand, deposit and current account	105.4	155.7	213.3
All other assets	454.1	495.0	540.1
<i>Total assets held in Australia</i>	<i>11,630.5</i>	<i>12,810.5</i>	<i>14,016.4</i>
<i>Total assets held overseas</i>	<i>2,405.0</i>	<i>2,747.1</i>	<i>3,113.9</i>
Total assets	14,035.6	15,557.6	17,130.3

(a) Includes provisions for retirement, long service leave, etc.

LIFE INSURANCE OFFICES: REVENUE AND EXPENDITURE

(\$ million)

	1977	1978	1979
<i>Balance of account at beginning of year—Australia and overseas</i>	11,536.7	12,695.4	14,125.1
Revenue—Australia			
Premium income—			
Ordinary and Industrial business	872.5	902.8	929.1
Superannuation business	754.3	861.7	937.4
Consideration for annuities	23.5	24.7	28.9
Net interest dividends and rents	668.6	773.4	872.2
Other revenue	222.4	396.8	635.6
<i>Total revenue—Australia</i>	2,541.3	2,959.5	3,403.2
Revenue—overseas			
Premium income	266.6	304.6	359.2
Net interest dividends and rents	161.2	191.7	233.3
Other revenue	181.7	179.4	98.8
<i>Total revenue—overseas</i>	609.5	675.8	691.3
Total revenue	3,150.8	3,635.3	4,094.5
Total	14,687.5	16,330.6	18,219.6
Expenditure—Australia			
Payments on policies—			
Claims	555.8	629.0	674.8
Surrenders	520.2	574.0	641.2
Annuities	3.3	3.3	3.7
Bonuses paid in cash	10.5	11.3	11.4
Expenses of management—			
Commission	148.9	157.5	166.1
Other	234.3	256.1	275.2
All other expenses	215.8	271.2	422.0
<i>Total expenditure—Australia</i>	1,688.8	1,902.5	2,194.2
Expenditure—overseas			
Payments on policies	187.7	214.9	235.9
Expenses of management	88.3	100.8	119.8
All other expenditure	27.9	33.1	46.8
<i>Total expenditure—overseas</i>	303.9	348.8	402.4
Total expenditure	1,992.7	2,251.3	2,596.6
<i>Balance of account at end of year—Australia and overseas</i>	12,694.8	14,079.4	15,623.0
Total	14,687.5	16,330.6	18,219.6

LIFE INSURANCE OFFICES: NEW LOANS PAID OVER^(a) BY CLASS OF SECURITY

(\$ million)

Class of security	1977	1978	1979
Mortgage of real estate	144.4	164.4	187.7
Companies policies	68.6	63.1	64.7
Other	34.7	57.0	47.2

(a) Excludes advances on premiums.

LIFE INSURANCE: SUMMARY

	Insurance and endowment policies			Annuity policies	
	Number of policies	Sum insured (\$ million)	Annual premiums (\$ million)	Number of policies	Annuities per annum (\$ million)
ORDINARY AND INDUSTRIAL BUSINESS					
New policies issued—					
1977	492,839	10,531.9	110.4	12	—
1978	508,014	12,192.9	119.3	22	—
1979	475,864	12,828.8	125.2	25	—
Policies discontinued or reduced(a)—					
1977	686,411	4,738.2	80.8	93	0.2
1978	693,711	5,401.8	91.4	121	—
1979	798,497	8,452.4	111.3	130	0.5
Policies existing at end of—					
1977	7,520,436	52,023.9	860.5	1,392	1.1
1978	7,334,739	58,815.2	888.4	1,293	1.5
1979	7,012,106	63,191.6	902.3	1,188	1.1
SUPERANNUATION BUSINESS					
New policies issued—					
1977	110,667	8,467.7	201.8	31	20.1
1978	98,836	9,422.2	206.8	17	16.9
1979	95,631	10,373.4	213.9	12	17.3
Policies discontinued or reduced(a)—					
1977	105,282	3,856.4	101.1	51	22.4
1978	81,437	4,599.6	118.5	12	18.5
1979	84,919	5,091.8	116.6	83	(-)4.4
Policies existing at end of—					
1977	684,892	29,980.8	747.6	684	73.7
1978	702,291	34,803.3	836.0	689	57.6
1979	713,003	40,084.9	933.3	618	79.3

(a) Includes policies matured, surrendered, forfeited, transferred to overseas registers, converted to other classes of business, etc.

GENERAL INSURANCE

The following statistics have been compiled from returns collected under the *Census and Statistics Act 1905* and relate to the operations of:

- (a) *Bodies corporate* authorised to carry on insurance business under the *Insurance Act 1973* (see page 527);
- (b) *Brokers* in respect of business placed with overseas insurers; and
- (c) *Government instrumentalities*, i.e. State Government Insurance Offices and Commonwealth Government and State Government instrumentalities in respect of their general insurance business.

These statistics are based on the following definitions:

Premiums comprise the full amount receivable in respect of direct insurance and facultative reinsurance business written or renewed within Australia (including business placed overseas by Australian brokers) during the year less (a) outward facultative reinsurance within Australia, (b) stamp duty and fire service charges paid, and (c) returns, rebates and bonuses paid or credited to policy holders. Premiums are not adjusted to provide for premiums unearned at the end of the year and consequently the amounts differ from 'earned premium income' appropriate to the year.

Claims comprise, for direct insurance and facultative reinsurance business, payments made during the year plus the estimated amount of outstanding claims at the end of the year less the estimated amount of outstanding claims at the beginning of the year. Salvage and other amounts recoverable have been deducted.

In many instances brokers have no knowledge of claims made by the insured on overseas insurers in respect of business placed through them. Because of this, no details of claims are collected from brokers.

Information contained in the following tables does not relate to uniform accounting periods but to the financial years of the organisations which ended during the years shown.

**GENERAL INSURANCE: PREMIUMS AND CLAIMS BY
PRINCIPAL CLASS OF BUSINESS**

(\$ million)

<i>Class of business</i>	1977-78	1978-79	1979-80
PREMIUMS(a)			
Fire(b)	330.8	289.8	287.3
House Owners' and House-holders'	254.5	279.4	316.2
Contractors' All Risks	25.0	24.1	22.4
Marine and Aviation	117.8	118.7	130.1
Motor Vehicle Comprehensive	780.6	845.5	863.8
Compulsory Third Party (Motor Vehicle)	556.3	611.7	674.5
Employers Liability(c)	903.2	787.4	774.4
Public Liability(d)	92.1	98.9	111.0
All other	274.0	291.5	340.0
Total	3,334.2	3,346.9	3,519.4
CLAIMS(e)			
Fire(b)	121.7	154.5	218.9
House Owners' and House-holders'	152.7	180.4	217.3
Contractors' All Risks	9.7	11.2	13.0
Marine and Aviation	51.6	64.5	75.2
Motor Vehicle Comprehensive	541.7	628.0	650.7
Compulsory Third Party (Motor Vehicle)	534.6	605.7	673.1
Employers Liability(c)	638.1	599.1	698.2
Public Liability(d)	47.4	41.9	54.7
All other	125.6	133.8	162.5
Total	2,223.0	2,419.1	2,763.5

(a) Includes premiums received by brokers 1977-78, \$113.8 million; 1978-79, \$95.9 million; 1979-80, \$86.5 million. (b) Includes sprinkler leakage, crop, hailstone and loss of profits insurance. (c) Excludes workers' compensation insurance in the coal mining industry for N.S.W. (d) Includes product liability and professional indemnity insurance. (e) Excludes brokers.

AUSTRALIAN INDUSTRY DEVELOPMENT CORPORATION

The Australian Industry Development Corporation (AIDC) was established by the *Australian Industry Development Corporation Act 1970* and commenced operations on 1 February 1971. Within the objectives and broad policy guidelines defined in the Act, the Corporation operates as an independent commercial enterprise governed by its own Board of Directors.

The Corporation has a capital of \$100 million, to be subscribed by the Commonwealth Government in instalments but the whole being available if required to meet obligations. The paid-up capital at 30 June 1980 was \$62.5 million.

The central objectives of the Corporation are to promote the development of industries in Australia and support local participation in the ownership and control of industries and resources. Consistent with these objectives and the principle that AIDC must operate on a commercial basis and assist only in ventures which can demonstrate sound prospects, the Corporation provides finance, obtained by borrowing both in Australia and overseas, for Australian firms (including local firms with foreign partners) engaged in industries concerned with the manufacture, processing, treatment, transportation or distribution of goods, or the development or use of natural resources (including the recovery of minerals), or technology and activities that are connected with or incidental to those industries.

The Corporation's financial participation in a venture is governed by the prevailing terms and conditions under which it can itself obtain loan finance. The capital of the Corporation is provided as a base for its borrowings and is not directly used for assistance to industry projects.

The AIDC provides development capital both for start-up situations and for going concerns. Although the greater part of its financing is by loans, it also makes equity investments in industry. Where a company's capital needs can best be met by loan finance, AIDC does not seek an equity position. It aims to avoid involvement in the management of companies to which it provides financing.

Financing commitments approved since operations commenced, totalled \$691 million at 30 June 1980, and operational loans and investments outstanding were \$368 million.

INSTALMENT CREDIT FOR RETAIL SALES

Information relating to instalment credit for retail sales in Australia is given in the following tables. More detailed information may be found in the monthly publication *Instalment Credit for Retail Sales, Australia* (5631.0).

These statistics cover the operations of instalment credit schemes which relate primarily to the financing of retail sales of consumer commodities. In general, the term instalment credit is defined as relating to schemes in which repayment is made by regular predetermined instalments (predetermined by amount or by percentage of amount financed or balance outstanding). Types of instalment credit schemes covered include hire purchase, time payment, budget accounts and personal loans where these schemes relate to the financing of retail sales of consumer commodities.

Figures for amounts financed exclude interest, hiring charges, insurance, etc. Figures for balances outstanding and collections include interest, hiring charges, insurance, etc.

INSTALMENT CREDIT FOR RETAIL SALES BY TYPE OF BUSINESS: AMOUNT FINANCED BY COMMODITY GROUP, COLLECTIONS AND BALANCES OUTSTANDING, AUSTRALIA

(\$ million)

	<i>Amount financed during year</i>					<i>Collections and other liquidations of balances during year</i>	<i>Balances outstanding at end of year</i>
	<i>Motor cars and station wagons</i>		<i>Other motor vehicles (a)</i>	<i>Household and personal goods</i>	<i>Total</i>		
	<i>New</i>	<i>Used</i>					
Finance companies—							
1978-79	389.5	684.2	164.7	307.2	1,545.5	2,146.1	2,898.3
1979-80	364.1	612.0	146.3	329.1	1,451.4	2,193.5	2,897.2
1980-81	420.0	629.5	162.6	373.9	1,585.9	2,232.6	3,022.7
Other businesses(b)—							
1978-79	—	0.1	0.4	209.9	210.4	241.3	142.4
1979-80	—	0.1	0.4	211.6	212.1	230.7	137.9
1980-81	—	0.1	0.4	228.2	228.7	240.0	147.2
Total all businesses—							
1978-79	389.5	684.2	165.1	517.1	1,755.9	2,387.5	3,040.7
1979-80	364.1	612.0	146.7	540.7	1,663.5	2,424.2	3,035.1
1980-81	420.0	629.6	163.0	602.1	1,814.6	2,472.7	3,169.9

(a) Includes new and used motor cycles, boats, caravans, trailers and motor parts and accessories but excludes panel vans, utilities, trucks, tractors and other vehicles normally used for commercial purposes. (b) Businesses operating retail establishments, unincorporated finance businesses and businesses other than wholesalers and manufacturers.

INSTALMENT CREDIT FOR RETAIL SALES BY TYPE OF CREDIT: AMOUNT FINANCED BY COMMODITY GROUP, AUSTRALIA

(\$ million)

	<i>Motor cars and station wagons</i>		<i>Other motor vehicles (a)</i>	<i>Household and personal goods</i>	<i>Total</i>
	<i>New</i>	<i>Used</i>			
Hire purchase—					
1978-79	303.3	534.0	124.8	132.9	1,095.0
1979-80	289.6	470.5	107.2	151.3	1,018.5
1980-81	328.5	476.6	121.0	184.1	1,110.2
Other instalment credit—					
1978-79	86.2	150.3	40.3	384.2	661.0
1979-80	74.5	141.5	39.6	389.5	645.0
1980-81	91.5	153.0	41.9	418.0	704.4
Total instalment credit—					
1978-79	389.5	684.2	165.1	517.1	1,755.9
1979-80	364.1	612.0	146.7	540.7	1,663.5
1980-81	420.0	629.6	163.0	602.1	1,814.6

(a) Includes new and used motor cycles, boats, caravans, trailers and motor parts and accessories but excludes panel vans, utilities, trucks, tractors and other vehicles normally used for commercial purposes.

HOUSING FINANCE FOR OWNER OCCUPATION

A monthly statistical series was introduced in October 1975 to provide information on finance (secured by mortgage or other security, including secured personal loans and loans secured by contracts of sale) approved by significant lenders to individuals for the construction or purchase of dwellings for owner occupation. A lender is significant if over a financial year it approves loans to individuals for housing finance for owner occupation in excess of \$250,000 or if at the end of a financial year it has balances outstanding on such loans exceeding \$2 million.

The types of lenders considered in these statistics are trading and savings banks, permanent and terminating building societies, finance companies, government housing authorities and other government departments, insurance companies and credit unions.

The following tables provide information classified by type of lender and the use for which approved housing loans are intended (e.g. construction or purchase).

Purchase of newly erected dwellings represents the purchase of dwellings which have been completed or will be completed within a period of twelve months preceding the date of purchase and where the purchaser is, or will be, the first occupant.

Purchase of established dwellings represents the purchase of dwellings which have been completed for a period of greater than twelve months preceding the date of purchase or, if completed within twelve months, where the purchaser is not the original occupant.

The term *dwelling* includes houses and other dwellings where the latter is defined as a self-contained dwelling unit other than a house. (Examples of *other dwellings* are flats, home units, semi-detached cottages, villa units, town houses, etc.).

The term *number of dwelling units* refers to the number of houses and other dwellings for which loans secured by contract of sale or first mortgage only have been approved.

Comprehensive statistics on housing finance for owner occupation are available in the monthly publication *Housing Finance for Owner Occupation, Australia* (5609.0).

The following table summarises the housing finance operations of the significant lenders.

HOUSING FINANCE FOR OWNER OCCUPATION

(\$million)

	Loans approved for—		Cancellations of loans previously approved	Loans advanced(a)	Loans approved but not advanced(a)
	Construction or purchase of dwellings	Alterations and additions			
1978-79	6,472.0	398.1	283.4	5,455.6	1,112.7
1979-80	7,017.6	433.9	321.6	5,962.9	1,257.8
1980-81	7,469.7	501.8	371.4	6,459.8	1,187.7

(a) Excludes Trading Banks; data not available.

HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER DWELLING UNITS AND VALUE OF LOANS APPROVED TO INDIVIDUALS BY TYPE OF LENDER

	Banks		Building societies			Govern- ment	Credit unions and insurance companies	Total
	Savings	Trading	Per- manent	Ter- minating	Finance companies			
CONSTRUCTION OF DWELLINGS								
(Number)								
1978-79	20,080	8,753	10,107	2,505	2,084	1,553	1,334	46,416
1979-80	21,679	9,033	10,794	1,756	1,868	1,770	1,486	48,386
1980-81	21,358	8,613	9,873	1,442	1,462	1,968	1,405	46,121
(\$million)								
1978-79	463.0	165.7	293.2	63.7	62.1	34.9	32.9	1,115.5
1979-80	535.1	175.7	338.8	47.1	65.7	42.6	36.5	1,241.5
1980-81	523.7	181.1	329.7	40.9	50.4	52.0	36.6	1,214.5

**HOUSING FINANCE FOR OWNER OCCUPATION: NUMBER DWELLING UNITS AND VALUE OF
LOANS APPROVED TO INDIVIDUALS BY TYPE OF LENDER—continued**

	Banks		Building societies			Government	Credit unions and insurance companies	Total
	Savings	Trading	Per- manent	Ter- minating	Finance companies			
PURCHASE OF NEWLY ERECTED DWELLINGS								
	(Number)							
1978-79	12,001	5,246	11,169	2,113	1,977	3,479	1,284	37,269
1979-80	11,146	4,114	10,773	1,495	1,656	4,049	1,310	34,543
1980-81	9,292	4,004	8,968	1,306	1,705	3,185	947	29,407
	(\$ million)							
1978-79	275.5	100.2	337.3	52.8	66.0	81.2	30.9	943.8
1979-80	265.0	79.0	343.5	39.2	66.3	96.1	31.7	920.7
1980-81	238.0	80.0	306.2	37.6	74.8	84.6	27.5	848.7
PURCHASE OF ESTABLISHED DWELLINGS								
	(Number)							
1978-79	79,330	29,953	54,507	3,122	7,660	6,212	6,127	186,911
1979-80	79,905	30,593	57,826	3,326	7,534	6,440	7,744	193,368
1980-81	79,197	32,642	55,113	2,897	10,991	7,736	7,592	196,168
	(\$ million)							
1978-79	1,794.1	549.7	1,465.9	78.1	239.5	139.9	145.6	4,412.8
1979-80	1,897.3	578.8	1,683.6	88.4	272.5	140.6	194.2	4,855.4
1980-81	1,959.3	691.8	1,779.1	82.3	466.7	199.8	227.5	5,406.6
TOTAL								
	(Number)							
1978-79	111,411	43,952	75,783	7,740	11,721	11,244	8,745	270,596
1979-80	112,730	43,740	79,393	6,577	11,058	12,259	10,540	276,297
1980-81	109,847	45,259	73,954	5,645	14,158	12,889	9,944	271,696
	(\$ million)							
1978-79	2,532.6	815.6	2,096.3	194.5	367.5	256.1	209.4	6,472.0
1979-80	2,697.3	833.4	2,366.0	174.8	404.5	279.4	262.3	7,017.6
1980-81	2,721.1	952.9	2,415.1	160.8	591.9	336.4	291.6	7,469.7

NEW CAPITAL RAISINGS BY COMPANIES LISTED ON AUSTRALIAN STOCK EXCHANGES

Information relating to capital raised by companies listed on Australian Stock Exchanges is given in the following tables.

These statistics cover capital raised through share and debenture subscriptions and by way of deposits, unsecured notes and loans secured over the entire assets of the company. The following funds are excluded from the collection: (i) all capital raised from Australian banks (other than direct equity investment), i.e. overdrafts, mortgage loans, term loans or debentures; (ii) temporary advances or short-term deposits from any source; and (iii) complete or partial issues by Australian companies on overseas markets taken up through overseas brokers.

Listed companies are companies incorporated in Australia whose shares, debentures or other securities are listed on one or more of the Australian Stock Exchanges. For such companies new capital includes: (a) all issues of ordinary shares if any ordinary shares are listed; (b) all issues of preference shares if any preference shares are listed; and (c) all issues of debentures, unsecured notes, secured and unsecured loans and deposits if any shares or other securities are listed.

The following notes relate to specific items in the tables:

New money

This is the net amount of cash transferred from the 'investing public' to the 'company sector'. For this purpose the *investing public* is defined to include all non-company subscribers, Australian life insurance companies, Commonwealth Government and private superannuation funds and banks. In practice, it is necessary to include in *new money* most subscriptions by companies holding less than 5 per cent of the ordinary shares of an issuing company as it is not practicable to separately identify all

such subscriptions. However, where large subscriptions by companies holding less than 5 per cent of the ordinary shares in the issuing company are identified they are not included in *new money*. Subscriptions by Australian life insurance companies and Commonwealth Government and private superannuation funds are included in *new money* irrespective of their holdings of ordinary shares in the issuing company.

Amount not involving new money

This amount includes cash subscriptions received by issuing companies from associated companies. Also included are amounts which, although subscribed by the 'investing public' (i.e. subscribers other than 'associated companies'), are not retained by the issuing company or its associates, but are used to redeem shares, debentures or unsecured notes, etc., or are used to purchase from individuals existing shares, debentures, etc., in other companies, including existing shares, etc. in associated and subsidiary companies, and therefore do not represent a net transfer of cash from the 'investing public' to the companies. In the tables which follow, the *amount not involving new money* is obtained by deducting from the total cash raised the amount of *new money*.

LISTED COMPANIES: NEW CAPITAL RAISED THROUGH ISSUES OF SHARES^(a) AND THROUGH DEBENTURES, REGISTERED NOTES, LOANS AND DEPOSITS

(\$ million)

	Share capital								
	Total amount of issues commenced			Cash raised during period			Debentures, registered notes, etc.		
	Total amount including premiums etc.	Type of consideration		Total(c)	Amount not involving new money		Total amount raised (d)	Amount not involving new money (d)	
		Other than cash(b)	Cash		Amount not involving new money	New money		Amount not involving new money (d)	New money
1975-76 . . .	513.3	129.8	383.5	387.7	55.3	332.3	5,046.7	3,952.2	1,094.4
1976-77 . . .	832.5	278.9	553.6	524.3	53.0	471.3	7,488.7	6,279.0	1,209.6
1977-78 . . .	793.3	295.1	498.0	539.3	189.7	349.6	6,734.8	5,615.7	1,119.3
1978-79 . . .	919.5	372.9	546.5	513.1	183.0	330.2	7,532.1	6,653.7	878.4
1979-80 . . .	2,211.9	824.6	1,387.3	1,336.7	255.1	1,081.6	9,378.0	7,924.6	1,453.4
1980-81 . . .	4,088.4	1,609.8	2,478.5	2,569.8	475.3	2,094.5	12,682.5	11,066.1	1,616.4

(a) Includes share subscriptions by overseas investors to issues in Australia. (b) Includes bonus issues, conversion issues, issues in exchange for existing shares, etc. (c) Includes calls on issues commenced in earlier years. (d) Includes conversions, renewals, etc.

LISTED COMPANIES: NEW MONEY RAISED IN SHARE CAPITAL AND DEBENTURES, REGISTERED NOTES, LOANS AND DEPOSITS—INDUSTRY GROUPS

(\$ million)

		1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Manufacturing ^(a)	Total	257.1	329.1	276.9	398.3	829.8	1,185.9
	Raised through Shares	115.0	181.7	142.3	95.8	419.9	848.5
	Debentures, etc.	142.1	147.4	134.6	302.5	409.9	898.9
Finance and property ^(b)	Total	921.8	1,151.9	1,008.2	680.2	1,007.5	1,265.1
	Raised through Shares	68.5	212.2	100.9	74.3	119.8	119.8
	Debentures, etc.	853.3	939.7	907.3	605.9	887.7	1,145.3
Commerce ^(c)	Total	78.3	40.8	92.4	18.1	141.5	187.4
	Raised through Shares	57.5	9.5	41.9	9.9	55.2	130.3
	Debentures, etc.	20.8	31.3	50.5	8.2	86.3	57.1
Other industries ^(d)	Total	169.5	159.1	91.1	111.8	556.3	1,072.4
	Raised through Shares	91.3	68.1	64.5	150.2	486.8	996.0
	Debentures, etc.	78.2	91.0	26.6	(e)-38.4	69.5	76.4
All industries	Total	1,426.7	1,680.9	1,468.9	1,208.6	2,535.0	3,710.9
	Raised through Shares	332.3	471.3	349.6	330.2	1,081.6	1,453.4
	Debentures, etc.	1,094.4	1,209.6	1,119.3	878.4	1,453.4	1,616.4

(a) Includes extracting, refining, founding, engineering, metalworking, electrical equipment, etc., vehicles, aircraft and ships, parts and accessories, assembly and repairs. (b) Includes share capital raised by banks and insurance companies. (c) Includes oil distribution and primary produce dealing. (d) Includes primary production, mining and quarrying. (e) Excess of repayments over receipts.

RELATED PUBLICATIONS

Current and more detailed information on the subjects dealt with in this chapter is contained in the following publications:

Monthly Summary of Statistics, Australia (1304.0) *Savings Banks, Australia* (5602.0) (monthly) *Major Trading Banks, Australia* (5603.0) (monthly) *Banking, Australia* (5605.0) (quarterly) *Housing Finance for Owner Occupation, Savings Banks and Trading Banks, Australia* (5608.0) (monthly) *Housing Finance for Owner Occupation, Australia* (5609.0) (monthly) *Housing Finance for Owner Occupation, Permanent Building Societies, Australia* (5610.0) (monthly) *Finance Companies, Australia* (5614.0) (monthly) *Finance Companies: Assets, Liabilities, Income and Expenditure, Australia* (5616.0) (annual) *Financial Corporations Statistics, Australia* (5617.0) (monthly) *Credit Unions: Assets, Liabilities, Income and Expenditure, Australia* (5618.0) (annual) *General Insurance, Australia* (5620.0) (annual) *Life Insurance, Australia* (5621.0) (monthly) *Life Insurance, Australia* (5622.0) (annual) *New Capital Raisings by Companies Listed on Australian Stock Exchanges* (5628.0) (quarterly) *Instalment Credit for Retail Sales, Australia* (5631.0) (monthly) *Permanent Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5632.0) (annual) *Terminating Building Societies: Assets, Liabilities, Income and Expenditure, Australia* (5633.0) (annual).

CHAPTER 22

PUBLIC FINANCE

This chapter deals with the financial activities of the organisations which make up the three levels of government in the Australian political system—Commonwealth, State and Local—and which collectively constitute the public sector. An account is given of the activities of each level of government, with particular emphasis being given to Commonwealth authorities. Tables are then presented which bring together the transactions of all public authorities to highlight the role in the Australian economy of the public sector as a whole. Then follows a section on government borrowing activities at all levels.

COMMONWEALTH GOVERNMENT FINANCE

Financial provisions of the Constitution

The main provisions of the Constitution relating to the initiation and development of the financial system of the Commonwealth of Australia are contained in Sections 81 to 105A of the Commonwealth Constitution (*see* pages 18–21 of Year Book No. 62).

Two other sections which have a most important bearing on questions of Commonwealth finance are Sections 69 and 51. Section 69 provides for the transfer from the States to the Commonwealth of certain specified departments, and Section 51, in outlining the powers of the Commonwealth Parliament, implies the transfer or creation of other departments.

Sections 87 and 96 of the Constitution deal with the financial relations between the Commonwealth and the States. The full text of the Financial Agreement of 1927 was given in Year Book No. 31, page 21; accounts of this Agreement as affected by subsequent Agreements were included in later issues of the Year Book up to No. 37 (*see* pages 685–90); details of the main provisions appeared in further issues of the Year Book up to No. 50 (*see* pages 952–3); and details of current provisions for financial assistance to the States are given on pages 563–567 of this Year Book.

The *Audit Act* 1901 lays down the procedure which must be followed in accounting for the receipt and disbursement of public funds. The general administration of Commonwealth Government finances is the responsibility of the Commonwealth Minister for Finance.

Commonwealth Government Budget

The Commonwealth Government Budget records the transactions of those authorities of the Commonwealth Government whose receipts and payments are summarised in the statements of Public Account balances. In 1980–81 the change in cash balances was represented by the following—

	\$'000
Cash receipts of the Consolidated Revenue Fund	35,051,594
<i>plus</i> cash receipts of Loan Fund	32,914,002
<i>plus</i> cash receipts of Trust Fund	12,294,780
<i>Total</i>	80,260,376
<i>less</i> cash payments from Consolidated Revenue Fund	35,051,594
<i>less</i> cash payments from Loan Fund	32,915,449
<i>less</i> cash payments from Trust Fund (including increase in investments of the Trust Fund)	12,051,082
<i>Total</i>	80,018,125
<i>equals</i> increase in cash balances	242,251

Revenues from taxation and other sources are paid into the Consolidated Revenue Fund, from which the main expenditures are for defence, social services, payments to the States and general administration. The Trust Fund covers special transactions outside the ordinary operations of departmental expenditures, such as pension funds and moneys held for expenditure by the Commonwealth Government at some future time. The Loan Fund receives its funds from the sale of Commonwealth Government securities, and the expenditures from the Fund are made in accordance with the purpose of issue

of each loan. The main disbursements from the Loan Fund are to the States by way of distribution of the proceeds of loans raised by the Commonwealth Government on their behalf and by capital assistance grants, the remaining disbursements being mainly for Commonwealth Government purposes.

The receipts and outlay of the Budget for 1981-82 are set out in the table which follows, together with figures for the years 1976-77 to 1980-81. The national accounting presentation of the Budget is shown in order to be consistent with other transactions figures given in this chapter.

It should be noted that some transactions undertaken by authorities covered by the Budget are not reflected in the change in cash balances, usually because they are not cash transactions or because a receipt and a payment are offset against each other so that only a net amount is included in published totals. The national accounting presentation of the Budget includes these additional transactions, further details of which may be found in Budget Paper No. 10, *National Accounting Estimates of Receipts and Outlays of Commonwealth Government Authorities*.

OUTLAYS AND RECEIPTS OF THE COMMONWEALTH BUDGET

(\$ million)

(Source: 1981-82 Budget Paper No. 10 *National Accounting Estimates of Receipts and Outlays of Commonwealth Government Authorities*)

	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82 Budget Estimates
Outlay—						
Net expenditure on goods and services—						
Current	4,635	5,177	5,628	6,132	7,251	8,375
Capital (a)	520	388	298	290	438	434
Total	5,155	5,565	5,927	6,422	7,690	8,808
Transfer payments—						
Personal benefit payments	7,388	8,277	9,104	9,905	11,225	12,966
Unfunded employee retirement benefits	121	139	162	181	207	242
Grants to States and local government authorities	7,661	8,738	9,349	10,302	11,514	12,574
Grants to the Northern Territory	—	53	290	361	468	535
Interest paid	1,412	1,649	1,971	2,223	2,561	2,808
Transfers overseas	388	417	477	520	576	667
Subsidies	220	322	365	589	746	917
Grants for private capital purposes	101	124	116	165	132	159
Purchase of existing assets	16	15	22	20	16	22
Total	17,307	19,735	21,856	24,264	27,446	30,889
Total expenditure	22,462	25,300	27,783	30,686	35,136	39,698
Net advances—						
States	1,278	1,261	1,129	817	853	788
Northern Territory	—	—	-2	79	83	81
Commonwealth authorities	303	101	66	110	180	250
Other sectors	79	76	37	-32	22	46
Total	1,660	1,438	1,230	974	1,138	1,164
Total outlay	24,123	26,738	29,012	31,660	36,274	40,862
Receipts—						
Taxation—						
Indirect taxes	5,523	5,834	7,178	8,584	9,958	11,455
Income tax on companies	2,921	3,213	3,151	3,548	4,856	5,345
Income tax on persons	11,054	12,129	12,804	15,040	17,543	20,860
Estate and gift duties	87	102	83	49	17	9
Other direct taxes, fees, fines, etc.	14	15	18	19	21	28
Unfunded employee retirement contributions	52	61	63	67	73	72
Less remissions	8	8	8	1	1	2
Total	19,642	21,346	23,288	27,305	32,467	37,768
Other receipts—						
Interest, rent and dividends	1,626	1,812	1,923	2,032	2,242	2,596
Gross income of public enterprises	85	225	299	265	243	301
Net sales of existing assets (b)	30	22	25	24	195	51
Total	1,741	2,059	2,246	2,321	2,680	2,948
Total receipts	21,383	23,404	25,534	29,627	35,146	40,716
Deficit	2,740	3,333	3,478	2,034	1,127	146

(a) Expenditure on new fixed assets plus increase in stocks less sales of previously rented houses.

(b) Excludes sales of previously rented houses.

Financing of the Commonwealth Government deficit

The deficit shown in the last line of the preceding table represents the net excess of Budget outlay over receipts. In other words, the estimated deficit shown for 1981-82 represents the Commonwealth Government budget sector's 'financing requirements'. Most such transactions involve the issue,

repurchase, redemption or acquisition of Commonwealth Government securities, but some involve or are represented by changes in other assets or liabilities of the Commonwealth Government.

Specifically the deficit is financed as follows:

Net sales of Commonwealth Government securities (new issues *less* redemptions *less* net purchases from Commonwealth Government balances in the Trust Fund);
less net purchases of other investments from Commonwealth Government balances in the Trust Fund
plus minor items of indebtedness (such as borrowing by Australian Capital Territory housing trust account)
less net additions to cash balances, and funds provided for the International Monetary Fund and the Australian Wheat Board.

A table summarising the financial transactions of the Commonwealth Government budget sector for recent years is given on page 300, Statement No. 6 in 1981-82 *Budget paper* No. 1.

COMMONWEALTH AUTHORITIES

In addition to the group of authorities of the Commonwealth Government whose transactions are covered by the Budget (i.e. itemised in the Consolidated Revenue Fund, the Loan Fund, or recorded in a Trust Fund), there are a number of organisations owned or controlled by the Commonwealth Government whose transactions do not, for the most part, pass through the Public Account. This category includes public enterprises such as the Australian Postal Commission, Australian Telecommunications Commission, Overseas Telecommunications Commission, Qantas, Trans-Australia Airlines, the Australian Shipping Commission, the Snowy Mountains Hydro-electric Authority, the Reserve Bank and the Commonwealth Banking Corporation. Public enterprises, it should be noted, are bodies which aim at covering the bulk of their expenses by revenue either from sales of goods and services (trading enterprises), or by charges for services and net interest receipts (financial enterprises). As well as these enterprises, there are other public authorities which record most of their transactions outside the Public Account but have only minor independent sources of revenue and are financed almost entirely from funds voted to them each year from the Consolidated Revenue Fund. In order that the national accounting presentation may indicate as completely as possible the direct effect of the budget on demand, appropriations to this last group of authorities are treated as final expenditure in the Budget. Authorities in this category include the Australian Broadcasting Commission, Australian National University, National Capital Development Commission, and the Australian Atomic Energy Commission.

The transactions of Commonwealth Government bodies not covered by the Budget may be brought together and consolidated with the transactions recorded in the Budget to yield figures of the transactions of all Commonwealth Federal authorities. The remaining tables in this section have been prepared on that basis.

Public financial enterprises have been omitted from the consolidated accounts presented here largely on the ground that combining the income and outlay and capital financing transactions of the Reserve Bank, the publicly owned trading and savings banks, government insurance offices and other public financial institutions with the equivalent transactions of public trading enterprises and general government seems to provide a less meaningful account of public sector activity. For example, omission of the borrowing and lending activities of the government banks and the Reserve Bank allows attention to be centred on the borrowing and lending activities of general government and public trading enterprises, which are quite different in nature and economic effect from the financing activities of the banking system.

Coverage—Northern Territory government authorities

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In public authority finance statistics Northern Territory government authorities are grouped with State and local authorities from 1978-79 onwards. This results in a discontinuity in time series for the financial transactions of Commonwealth Government authorities because:

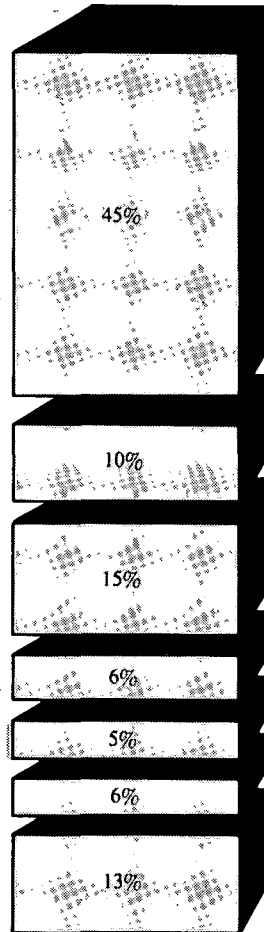
- In the period up to and including 1977-78 Commonwealth spending on State-type services in the Northern Territory is included under the various Commonwealth outlay categories such as final consumption expenditure and gross capital formation. Similarly, State-type taxation and income from N.T. public enterprises is included in the respective Commonwealth receipt categories.

- From 1978-79 onwards Commonwealth spending in respect of the Northern Territory consists to a large extent of grants and advances to Northern Territory government authorities while State-type taxation and income from N.T. public enterprises are no longer part of Commonwealth receipts.
- Not all State-type functions were fully transferred to the Northern Territory Government from 1 July 1978. Responsibility for health services was transferred on 1 January 1979 and responsibility for education services was transferred from 1 July 1979. The Commonwealth retains responsibility for certain State-type matters such as uranium mining and Aboriginal affairs (other than provision of services to Aboriginal communities).

COMMONWEALTH AUTHORITIES, 1979-80

RECEIPTS AND FINANCING ITEMS

INCOME TAX
 Individuals—\$15,040m
 Companies—\$3,360m
 Excise Duties—\$4,965m
 Sales Tax—\$1,865m
 Customs Duties—\$1,629m
 Net Borrowings—\$2,041m
 Other (Net)—\$4,301m
 TOTAL \$33,201 million



OUTLAY

CURRENT
 Final Consumption Expenditure—\$6,340m
 Transfer to Persons—\$10,079m
 Grants to States, N.T., and Local Authorities—\$9,092m
 Other Current—\$3,549m
 CAPITAL
 Gross Capital Formation—\$1,498m
 Grants and Advances to States, N.T., and Local Authorities—\$2,466m
 Other Capital—\$177m
 TOTAL \$33,201 million

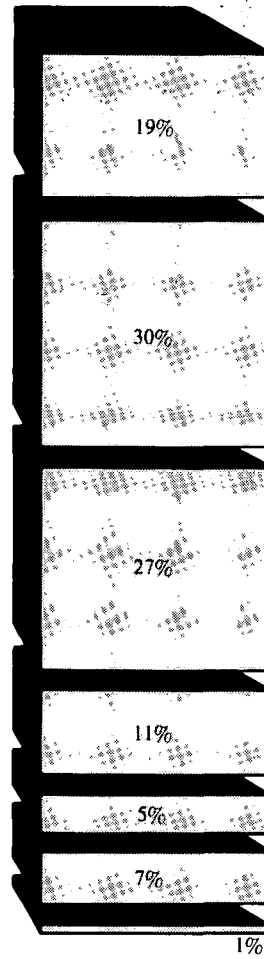


PLATE 44

Summary of outlay and receipts

The outlay and receipts, and outlay classified by purpose, of all Commonwealth authorities for the latest six-year period are given in the following tables.

COMMONWEALTH AUTHORITIES(a): OUTLAY AND RECEIPTS

(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
OUTLAY						
Current outlay—						
Final consumption expenditure	3,552	4,155	4,737	5,293	5,742	6,340
Interest, etc., paid	893	972	1,440	1,733	2,070	2,355
Transfers to persons—						
Personal benefit payments	4,322	6,091	7,390	8,281	9,105	9,899
Unfunded employee retirement benefits	88	106	121	139	162	181
Subsidies	284	271	287	380	513	674
Transfers overseas	349	370	388	417	475	520
Grants to States, Northern Territory and local government authorities	3,780	5,524	6,115	7,222	8,147	9,092
<i>Total current outlay</i>	<i>13,268</i>	<i>17,489</i>	<i>20,478</i>	<i>23,465</i>	<i>26,214</i>	<i>29,061</i>
Capital outlay—						
Expenditure on new fixed assets	1,353	1,578	1,667	1,772	1,498	1,603
Expenditure on existing assets	109	8	4	-14	-79	-38
Increase in stocks	312	-75	-50	-121	-206	-67
Grants for private capital purposes	122	179	110	130	132	171
Grants to States, Northern Territory and local government authorities	1,414	1,567	1,546	1,516	1,492	1,570
Advances to States, Northern Territory and local government authorities	1,225	1,372	1,278	1,261	1,127	896
Advances to other sectors	337	178	110	52	18	6
<i>Total capital outlay</i>	<i>4,872</i>	<i>4,808</i>	<i>4,665</i>	<i>4,596</i>	<i>3,982</i>	<i>4,141</i>
Total outlay	18,140	22,297	25,143	28,064	30,197	33,201
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	14,212	16,938	19,806	21,501	23,534	27,552
Income from public enterprises	243	434	657	819	1,011	993
Interest received from the States and the Northern Territory	784	855	1,032	1,174	1,278	1,376
Other interest, etc., received	88	119	156	202	179	232
<i>Total receipts</i>	<i>15,327</i>	<i>18,346</i>	<i>21,651</i>	<i>23,696</i>	<i>26,002</i>	<i>30,154</i>
Financing items—						
Depreciation allowances	279	406	442	494	550	596
Funds provided for (-), or received from (+), International Monetary Fund	-	-	-	-	28	61
Net sale of securities—						
Treasury bills and notes	1,689	-770	363	194	1,547	705
Commonwealth Government securities	554	3,166	2,098	2,979	2,470	893
Public corporations securities	22	18	446	331	193	442
Net receipts of private trust funds	83	217	60	152	155	175
Reduction in cash and bank balances	579	264	-297	214	-480	524
Reduction in securities holdings	-511	568	166	-232	-344	-589
Other funds available (including errors and omissions)—						
Other reserves and provisions	12	19	15	9	39	17
Capital transfers	96	146	151	167	41	59
Change in creditors/debtors	-25	-70	25	-4	-59	93
Other	35	-12	22	63	54	72
<i>Total financing items</i>	<i>2,814</i>	<i>3,951</i>	<i>3,492</i>	<i>4,368</i>	<i>4,194</i>	<i>3,047</i>
Total funds available	18,140	22,297	25,143	28,064	30,197	33,201

(a) Excludes financial enterprises.

COMMONWEALTH AUTHORITIES: OUTLAY, CLASSIFIED BY PURPOSE

(\$million)

Purpose	1977-78	1978-79	1979-80
General public services—			
General administration, n.e.c.	891.2	910.3	1,005.9
External affairs	565.1	600.2	664.1
Law, order and public safety	155.2	172.8	198.6
General research	199.2	224.1	272.3
<i>Total general public services</i>	<i>1,810.7</i>	<i>1,907.3</i>	<i>2,140.9</i>
Defence	2,376.7	2,605.9	3,007.8
Education—			
General administration, regulation and research	30.0	32.6	31.9
Transportation of students	3.1	3.4	2.1
Primary and secondary education	788.2	829.5	817.7
Vocational training	143.4	173.7	199.7
University education	781.0	810.2	875.0
Other higher education	526.3	562.3	583.2
Other education programs	116.3	111.0	98.6
<i>Total education</i>	<i>2,388.3</i>	<i>2,522.7</i>	<i>2,608.1</i>
Health—			
General administration, regulation and research	107.5	109.0	92.5
Hospital and clinical services	1,760.6	1,802.3	1,972.2
Other health services	825.1	986.0	1,097.8
<i>Total health</i>	<i>2,693.1</i>	<i>2,897.3</i>	<i>3,162.4</i>
Social security and welfare—			
General administration, regulation and research	132.4	157.4	184.1
Care of and assistance to—			
Aged persons	3,041.6	3,343.5	3,643.5
Incapacitated and handicapped persons	689.0	794.9	901.0
Unemployed and sick persons	942.0	1,061.0	1,104.7
Ex-servicemen	834.8	895.7	1,005.8
Widowed and deserted spouses	652.4	752.1	845.9
Families and children	1,077.1	1,038.0	1,055.5
Other social security and welfare services	49.3	49.8	54.2
<i>Total social security, etc.</i>	<i>7,418.6</i>	<i>8,092.4</i>	<i>8,794.7</i>
Housing and community amenities—			
Housing	489.9	315.0	253.6
Community and regional development	149.8	111.7	99.9
Protection of the environment	20.4	14.3	14.5
Community amenities, n.e.c.	0.4	0.5	1.2
<i>Total housing, etc.</i>	<i>660.5</i>	<i>441.6</i>	<i>369.2</i>
Recreation and culture—			
General administration, regulation and research	0.1	0.1	0.3
Cultural facilities	32.3	37.0	42.6
Support of the creative and performing arts	22.9	24.6	25.2
Broadcasting services and film production	176.6	186.2	206.2
Recreational facilities and services	23.8	23.6	33.0
Other programs	7.5	7.9	11.0
<i>Total recreation, etc.</i>	<i>263.3</i>	<i>279.2</i>	<i>318.3</i>
Economic services—			
General administration, regulation and research	382.4	453.9	449.6
Agriculture, forestry and fishing	374.5	308.1	385.8
Mining, manufacturing and construction	51.4	137.7	369.3
Electricity and water supply	55.3	17.2	34.7
Transport and communication	1,943.2	1,801.0	2,029.9
Other economic services	51.3	89.8	75.7
<i>Total economic services</i>	<i>2,858.1</i>	<i>2,807.7</i>	<i>3,344.9</i>
Other purposes—			
General purpose inter-authority transfers	5,808.5	6,549.5	7,089.6
Natural disaster relief	53.1	23.6	10.3
Interest	1,732.7	2,069.6	2,354.7
<i>Total other purposes</i>	<i>7,594.2</i>	<i>8,642.7</i>	<i>9,454.6</i>
Total outlay, all purposes	28,063.5	30,196.8	33,200.9
Of which—			
Current outlay	23,466.0	26,214.2	29,060.5
Capital outlay	4,597.5	3,982.6	4,140.5

Main components of outlay

The following tables give details of the main components of the outlay of Commonwealth authorities, i.e. final consumption expenditure, expenditure on new fixed assets, personal benefits payments, subsidies and payments to the States and the Northern Territory. More detailed information relating to outlay classified by economic type and purpose, and outlay under specific purpose headings such as education, social security and welfare, is given in *Commonwealth Government Finance* (5502.0). Additional details of public authorities' transactions engaged in particular fields of activity, e.g. health, may be found in the relevant chapters of this Year Book.

Final consumption expenditure and expenditure on new fixed assets

Final consumption expenditure consists of current expenditure on goods and services by public authorities other than those classified as enterprises, *less* any charges made for goods and services which they themselves provide. Expenditure on new fixed assets consists of purchases of new durable assets *less* sales of previously rented dwellings. Purchases of defence equipment are treated as current expenditure and expenditure on new construction and maintenance of roads is treated as capital. The following tables show dissections by purpose of final consumption expenditure and expenditure on new fixed assets for the six years ended 1979–80.

COMMONWEALTH AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE (\$ million)

Purpose	1974–75	1975–76	1976–77	1977–78	1978–79	1979–80
General public services—						
General administration	556	665	728	843	866	953
External affairs	84	92	98	106	116	136
Law, order and public safety	73	98	112	138	150	168
General research	112	131	152	170	183	210
<i>Total general public services</i>	<i>825</i>	<i>986</i>	<i>1,090</i>	<i>1,257</i>	<i>1,315</i>	<i>1,467</i>
Defence	1,444	1,680	1,999	2,184	2,401	2,786
Education	165	195	235	256	287	250
Health	303	416	466	504	504	534
Social security and welfare	149	194	212	249	283	321
Housing and community amenities	49	67	52	49	47	41
Recreation and culture	180	203	213	228	248	278
Economic services—						
General administration, regulation and r- esearch	166	167	206	284	353	338
Agriculture, forestry, fishing	101	114	125	135	144	157
Mining, manufacturing and construction	18	17	21	29	28	34
Transport and communication	90	93	95	96	109	103
Other	19	19	21	22	24	31
<i>Total economic services</i>	<i>393</i>	<i>410</i>	<i>469</i>	<i>566</i>	<i>657</i>	<i>662</i>
Other purposes	43	5	—	—	—	—
Grand total	3,552	4,155	4,737	5,293	5,742	6,340

COMMONWEALTH AUTHORITIES: EXPENDITURE ON NEW FIXED ASSETS, CLASSIFIED BY PURPOSE

I. GENERAL GOVERNMENT

(\$ million)

<i>Purpose</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
General public services—						
General administration	56.9	62.2	60.0	49.7	39.9	60.9
External affairs	15.9	20.3	25.5	24.4	12.0	9.1
Law, order and public safety	7.2	9.4	10.9	15.3	22.1	30.0
General research	20.6	32.1	23.6	18.0	29.6	49.3
<i>Total general public services</i>	<i>100.5</i>	<i>124.0</i>	<i>120.1</i>	<i>107.4</i>	<i>103.7</i>	<i>149.3</i>
Education	45.1	73.4	62.2	54.2	50.7	33.2
Health	40.3	57.7	58.3	53.5	36.5	31.4
Social security and welfare	8.7	12.9	8.5	6.7	5.6	2.9
Housing and community amenities	68.8	131.1	112.1	61.3	15.5	6.2
Recreation and culture	31.3	32.1	29.8	25.2	27.7	34.2
Economic services—						
General administration, regulation and research	3.9	6.4	8.8	6.1	7.6	11.6
Agriculture, forestry, fishing	12.6	10.6	8.1	16.0	6.1	7.4
Mining, manufacturing and construction	1.9	1.8	1.0	1.2	0.6	0.7
Transport and communication	56.7	57.5	46.0	73.6	49.0	50.0
Other economic services	-	-	-	0.5	0.1	0.1
<i>Total economic services</i>	<i>75.2</i>	<i>76.3</i>	<i>63.8</i>	<i>97.4</i>	<i>63.4</i>	<i>69.8</i>
Other purposes	6.5	5.1	-	-	-	-
<i>Total general government</i>	<i>376.4</i>	<i>512.6</i>	<i>454.7</i>	<i>405.8</i>	<i>303.1</i>	<i>327.0</i>

II. PUBLIC ENTERPRISES

(\$ million)

<i>Purpose</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
Public trading enterprises—						
General public services	1.5	1.5	0.9	0.5	0.3	-1.4
Housing and community amenities—Housing	8.5	18.7	23.5	17.9	2.3	2.6
Sewerage and drainage	15.6	24.8	28.8	14.8	5.0	3.6
Economic services—						
Technical services, n.e.c.	0.6	0.2	0.2	0.5	0.1	0.1
Mining activities	-	-	-	-	16.5	60.4
Manufacturing activities	4.9	11.6	5.8	5.5	3.8	4.6
Electricity, water supply	26.2	31.6	48.5	52.0	17.9	7.7
Transport and communication—						
Air transport	70.5	67.5	41.0	145.8	136.9	160.5
Rail transport	13.6	45.5	35.9	40.2	46.3	49.8
Sea transport	55.9	46.6	136.9	138.3	36.6	7.1
Urban transit systems	3.3	5.7	1.6	7.2	6.7	0.6
Pipelines	56.5	51.3	18.2	2.1	7.7	2.4
Communications services	717.7	756.3	855.1	913.4	904.8	976.6
<i>Total</i>	<i>917.5</i>	<i>973.0</i>	<i>1,088.9</i>	<i>1,247.0</i>	<i>1,139.1</i>	<i>1,197.1</i>
Other economic services	1.8	4.5	15.3	27.6	10.2	0.8
<i>Total public trading enterprises</i>	<i>976.6</i>	<i>1,065.8</i>	<i>1,212.0</i>	<i>1,365.7</i>	<i>1,195.3</i>	<i>1,275.6</i>

Personal benefit payments

Total personal benefit payments during the latest six years are shown in the next table. Further information relating to items in this table is given in the appropriate chapters of this Year Book.

COMMONWEALTH AUTHORITIES: PERSONAL BENEFIT PAYMENTS
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
General public services—						
General research—						
Queen Elizabeth fellowships	473	584	528	567	531	748
Assistance to inventors	—	20	32	33	34	76
Education	124,273	162,455	193,970	212,647	224,928	225,232
Health	817,015	1,369,405	1,140,399	1,010,432	1,198,068	1,341,965
Social security and welfare	3,354,893	4,506,592	6,031,946	7,031,002	7,652,463	8,307,069
Recreation—						
Overseas study fellowships	—	193	190	102	38	1
Economic services—						
General administration, regulation and research—						
Hostel tariffs of unemployed migrants	289	148	195	728	1,892	2,560
Maintenance of migrant families	6,029	6,498	6,035	5,510	6,766	7,629
Stevedoring industry—attendance money, etc.	2,126	2,692	2,305	988	—	—
Widows' training scheme	863	47	21	—	—	—
Tertiary education assistance to ex-servicemen	421	—	—	—	—	—
National employment training scheme	10,590	31,056	12,809	16,163	16,931	10,511
Apprenticeship training	—	8,662	1,738	2,966	3,116	3,246
Other	3	—	—	—	—	—
Total	20,321	49,103	23,103	26,355	28,705	23,946
Agriculture, forestry, fishing—						
War service land settlement—rent remissions, etc.	12	6	1	—	—	—
Allowances to agricultural trainees	49	—	—	—	—	—
Total	61	6	1	—	—	—
Mining, manufacturing and construction—						
Joint Coal Board—Welfare fund	5	4	4	3	7	14
Total economic services	20,387	49,113	23,108	26,358	28,712	23,960
Other purposes	5,217	2,882	201	2	—	—
Total	4,322,258	6,091,244	7,390,374	8,281,143	9,104,774	9,899,051

Subsidies

The following table shows details of Commonwealth Government outlay on subsidies and bounties. Other assistance to primary producers is included in, for example, tables relating to personal benefit payments and payments to the States, and additional information is given in Chapter 13, Agricultural Industries.

COMMONWEALTH AUTHORITIES: SUBSIDIES
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
General public services—						
Departmental cafeteria compensation	179	125	—	10	—	—
General Services	—	—	—	—	—	25
Health—						
Serum laboratories	1,542	1,242	250	1,200	2,100	2,938
Health insurance organisations subsidy	—	—	1,748	9,064	6,588	2,638
Total	1,542	1,242	1,998	10,264	8,688	5,576
Housing and community amenities—						
N.T. Housing Commission assistance	64	50	96	429	—	—
Recreation and related cultural services—						
Canberra Theatre Trust subsidy	120	143	167	199	191	376
Economic services—						
Assistance to employers—						
Stevedoring industry assistance	22,330	28,571	27,066	21,953	16,598	15,797
Apprenticeship training	16,551	26,215	37,750	24,312	28,774	40,784
Technical Services	—	—	—	—	—	—110
Total	38,881	54,786	64,816	46,265	45,372	56,471

COMMONWEALTH AUTHORITIES: SUBSIDIES—*continued*

(\$'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Assistance to agricultural and pastoral enterprises—						
Dairy products subsidy	9,000	1,275	—	5,250	12,387	17,664
Dairy industry stabilisation	—	—	—	52,399	80,723	91,230
Wheat prices stabilisation payments	—	—	41,103	6,971	67,402	4,390
Wheat Industry Stabilisation (Reimbursement of borrowing costs)	—	—	—	—	—	7,712
Reimbursement by Wheat Board	—	—	810	—	—	—
Phosphate fertilisers bounty	29,508	20,133	38,733	42,057	46,202	51,425
Nitrogenous fertilisers bounty	13,983	13,044	15,180	13,329	10,413	7,300
Processed milk products bounty	633	167	—	—	—	—
Poultry industry assistance	12,735	11,401	11,128	10,625	9,772	18,275
Dried vine fruits stabilisation payments	—	—	658	768	216	—
Wool marketing assistance	—	—	—	—	—	—
Apple and pear stabilisation payments	3,119	2,705	4,168	595	463	2,891
Apple, pear and canning fruit emergency assistance	14	—	—	—	—	—
Beef industry assistance	—	—	—	84,953	32,543	—
Meat exports to U.S.S.R.	—	1,240	—	—	—	—
Beef cattle freight subsidy	—	—	296	807	—	—
N.T. transport of stud stock	—	7	—	—	—	—
Other	1	1	—	—	—	21
<i>Total</i>	<i>68,993</i>	<i>49,973</i>	<i>112,076</i>	<i>217,754</i>	<i>260,121</i>	<i>200,908</i>
Assistance to mining enterprises—						
Oil search subsidy	5,858	186	—	—	—	—
Revaluation adjustment assistance, etc.	84	—	—	—	—	—
Mary Kathleen Uranium Ltd—Costs concerning borrowing of uranium	—	—	168	102	—	—
<i>Total</i>	<i>5,942</i>	<i>186</i>	<i>168</i>	<i>102</i>	—	—
Assistance to manufacturing enterprises—						
Agricultural tractor bounty	4,442	3,628	4,880	5,700	5,490	8,263
Cellulose acetate flake bounty	136	109	—	—	—	—
Book bounty	5,936	6,749	8,034	9,538	12,463	13,662
Printed sheeting subsidy	—	—	300	451	500	737
Industrial research and development grants	17,500	19,300	15,400	13,649	22,750	30,599
Ship construction subsidy	31,153	40,966	21,301	7,605	3,559	833
Shipbuilding bounty	—	1,553	7,674	7,800	8,326	13,530
Export incentive grants	93,151	62,825	973	1,303	20,012	170,000
Export market development grants	—	17,076	24,079	30,000	38,001	45,000
Metal-working machine tools bounty	1,711	1,585	2,350	3,977	7,048	12,700
Structural adjustment assistance	5,304	1,120	637	—	—	—
Refrigeration compressors bounty	3,877	1,367	—	—	—	—
Electronic components assistance	385	973	776	293	—	—
ADP equipment bounty	—	—	—	600	654	733
Commercial motor vehicles bounty	—	—	—	—	2,384	6,177
Injection moulding equipment bounty	—	—	—	—	—	2,010
Paper bounty	—	—	—	—	—	2,060
Other	368	26	—	149	730	606
<i>Total</i>	<i>163,963</i>	<i>157,277</i>	<i>86,404</i>	<i>81,065</i>	<i>121,917</i>	<i>306,910</i>
Assistance to air transport services—						
Air services subsidy	926	768	675	842	753	491
Assistance to sea transport services—						
Tasmania shipping service subsidy	1,000	5,488	4,109	2,000	2,000	2,000
Tasmanian freight equalisation scheme	—	—	16,409	20,927	24,700	27,561
Other	40	48	48	50	—	—
<i>Total</i>	<i>1,040</i>	<i>5,536</i>	<i>20,566</i>	<i>22,977</i>	<i>26,700</i>	<i>29,561</i>
Assistance to communications services—						
Newspaper postage subsidy	—	1,000	—	—	—	—
Other assistance to enterprises—						
Petroleum products prices scheme	—	—	—	—	42,929	63,429
Petrol prices equalisation	1,708	—	—	—	—	—
N.T. petrol prices equalisation	626	—	—	72	5,124	7,348
Export finance insurance subsidy	—	70	298	354	1,496	2,600
<i>Total</i>	<i>2,334</i>	<i>70</i>	<i>298</i>	<i>426</i>	<i>49,549</i>	<i>73,377</i>
Natural disaster relief—						
N.T. freight subsidies	48	—	15	—	—	—
<i>Total</i>	<i>284,032</i>	<i>271,156</i>	<i>287,279</i>	<i>380,333</i>	<i>513,291</i>	<i>673,695</i>

Grants and advances to the States and the Northern Territory

Commonwealth Government financial assistance to the States and the Northern Territory takes two main forms: (i) grants for general and specific purposes, and (ii) assistance for developmental and other specific purposes in the form of repayable advances. Some information about these forms of financial assistance is given below, but for more complete information reference should be made to the Commonwealth Government Budget Paper No. 7 *Payments to or for the States, the Northern Territory and Local Government Authorities*. Further information also appears in chapters of this Year Book dealing with the specific function which the payments are designed to serve.

Grants to the States and the Northern Territory

The following tables show details of grants to the States and the Northern Territory for general and specific purposes. More detailed figures appear in *Commonwealth Government Finance* (5502.0).

**COMMONWEALTH AUTHORITIES: GRANTS TO THE STATES AND THE NORTHERN TERRITORY,
1979-80
(\$'000)**

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
FOR CURRENT PURPOSES								
General public services	4,613	3,094	1,462	2,161	1,019	293	-	12,641
Defence	502	257	438	55	466	77	-	1,794
Education	606,430	530,761	247,641	167,181	162,904	48,592	7,695	1,771,202
Health	452,972	287,546	165,721	119,176	141,020	40,005	20,820	1,227,257
Social security and welfare	13,997	13,381	7,680	6,733	5,370	1,984	503	49,641
Housing and community amenities	1,848	1,429	439	1,097	987	314	-	6,114
Recreation and culture	45	42	34	32	30	149	84	416
Economic services	16,201	7,877	12,311	3,399	2,622	1,232	31,428	75,068
Other purposes—								
States' Personal Income Tax sharing entitlements	1,663,466	1,233,934	952,533	630,392	662,888	272,696	-	5,415,910
Global allocation	-	-	-	-	-	-	208,857	208,857
Special grants	-	-	12,400	-	-	-	-	12,400
Additional Assistance Grant	-	-	-	-	-	-	20,000	20,000
Interest on State debt	5,835	4,254	2,192	1,408	947	534	-	15,170
Sinking fund on State debt	12,580	9,649	5,029	4,771	3,576	2,544	-	38,148
Natural disaster relief	45	-	1,303	-	293	-	-	1,641
Debt charge assistance	-	-	-	-	-	-	1,573	1,573
Local government assistance	80,930	56,436	37,387	19,072	20,821	7,095	1,062	222,801
Establishment grants	-	-	-	-	-	-	7	7
<i>Total other purposes</i>	<i>1,762,856</i>	<i>1,304,273</i>	<i>1,010,844</i>	<i>655,643</i>	<i>688,525</i>	<i>282,869</i>	<i>231,499</i>	<i>5,936,507</i>
Total grants for current purposes	2,859,463	2,148,658	1,446,569	955,475	1,002,941	375,513	292,029	9,080,646
FOR CAPITAL PURPOSES								
Education	111,770	89,276	51,193	31,689	27,564	9,412	4,207	325,109
Health	2,367	1,898	1,070	576	1,372	5,437	14	12,735
Social security and welfare	13,696	8,392	4,830	3,509	2,605	2,005	-	35,036
Housing and community amenities	26,557	18,538	9,179	12,565	10,947	4,783	6,109	88,678
Recreation and culture	410	300	2,938	574	300	744	140	5,405
Economic services—								
General administration, regulation and research	-	-	-	-	-	-	-	-
Soil and water resources management	4,609	3,188	3,552	2,068	3,920	-	1,940	19,277
Assistance to agricultural and pastoral industries	706	594	372	513	418	40	75	2,720
Electricity, gas, water supply	-	-	250	2,555	-	-	-	2,805
Rail transport	-	-	-	-	-	-	-	-
Sea transport	-	-	-	-	-	-	-	-
Road systems and regulation	179,459	115,525	116,003	46,943	69,856	26,128	19,000	572,914
Urban transit systems	14,125	12,131	9,219	4,000	1,533	1,075	-	42,084
Other	-	-	-	-	-	-	948	948
<i>Total economic services</i>	<i>198,899</i>	<i>131,438</i>	<i>129,396</i>	<i>56,079</i>	<i>75,727</i>	<i>27,243</i>	<i>21,963</i>	<i>640,748</i>
Other purposes—								
Capital assistance	134,146	104,260	55,026	54,083	38,400	29,085	35,803	450,803
Natural disaster relief	-	-229	6,313	-270	1,057	-	-	6,870
Total grants for capital purposes	487,844	353,871	259,944	158,804	157,973	78,711	68,237	1,565,384
TOTAL GRANTS								
Total grants to the States	3,347,307	2,502,529	1,706,513	1,114,279	1,160,914	454,224	360,266	10,646,030

COMMONWEALTH AUTHORITIES: GRANTS TO THE STATES AND THE NORTHERN TERRITORY
(**\$'000**)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
FOR CURRENT PURPOSES						
General public services	8,955	7,910	13,140	11,450	11,905	12,641
Defence	325	897	1,199	1,362	1,744	1,794
Education	910,391	1,133,808	1,390,758	1,517,840	1,592,322	1,771,202
Health	47,281	942,673	720,325	1,038,323	1,114,339	1,227,257
Social security and welfare	61,208	64,137	24,844	36,500	46,177	49,647
Housing and community amenities	9,494	9,863	7,425	5,834	5,540	6,114
Recreation and culture	70	600	600	489	282	416
Economic services	22,713	28,008	40,539	45,548	51,609	75,068
Other purposes—						
States' Personal Income Tax sharing entitlements(a)	2,373,811	3,072,780	3,695,594	4,316,641	4,778,669	5,415,910
Global allocation	—	—	—	—	280,000	208,857
Special grants	64,684	38,800	27,000	24,800	21,700	12,400
Special revenue assistance	75,000	—	—	—	—	20,000
Interest on State debt	15,287	15,170	15,170	15,170	15,170	15,170
Sinking fund on State debt	30,805	30,200	31,635	33,747	35,959	38,148
Debt charges assistance	57,520	—	—	—	—	1,573
Natural disaster payments	1,090	807	1,925	2,311	2,679	1,641
Local government assistance	56,345	79,908	140,000	165,328	179,427	222,801
Establishment grants	—	—	—	—	330	7
Other	—	1,968	—	—	—	—
<i>Total other purposes</i>	<i>2,674,542</i>	<i>3,239,633</i>	<i>3,911,324</i>	<i>4,557,997</i>	<i>5,313,934</i>	<i>5,936,507</i>
Total grants for current purposes	3,734,979	5,427,526	6,110,154	7,215,343	8,137,852	9,080,646
FOR CAPITAL PURPOSES						
Education	415,473	319,246	327,763	343,108	363,718	325,109
Health	60,735	140,239	132,455	68,902	17,784	12,735
Social security and welfare	7,795	17,080	15,233	16,344	19,116	35,036
Housing and community amenities	70,182	79,402	37,171	12,310	13,128	88,678
Recreation and culture	12,623	11,036	8,976	5,540	5,767	5,405
Economic services—						
General administration, regulation and research	180	60	—	—	—	—
Soil and water resources management	15,193	14,343	11,636	10,508	11,946	19,277
Assistance to agricultural and pastoral industries	10,317	12,585	8,550	7,413	7,167	2,720
Electricity, gas, water supply	—	4,081	3,910	2,125	1,885	2,805
Rail transport	734	3,472	490	14	—	—
Sea transport	2,018	1,285	15	-305	-178	—
Road systems and regulation	373,860	458,439	456,215	493,224	513,728	572,914
Urban transit systems	45,258	34,096	58,403	51,000	41,869	42,084
Other	1,081	1,829	832	—	—	948
<i>Total economic services</i>	<i>448,641</i>	<i>530,190</i>	<i>540,051</i>	<i>564,047</i>	<i>576,417</i>	<i>640,748</i>
Other purposes—						
Natural disaster relief	48,446	29,150	23,697	20,820	9,844	6,870
Capital assistance	345,878	430,333	452,000	477,930	477,936	450,803
Total grants for capital purposes	1,409,773	1,556,676	1,537,346	1,508,923	1,483,710	1,565,384
TOTAL GRANTS						
Total grants to the States and the Northern Territory	5,144,752	6,984,202	7,647,500	8,724,266	9,621,562	10,646,030

(a) Prior to 1976-77 'Financial assistance grants'.

General purpose grants

Financial Assistance Grants. Details of the financial assistance grants arrangements existing in 1972-73 and previous years are given in earlier issues of the Year Book (see No. 60, page 578.)

Arrangements for the years 1973-74 to 1975-76 are embodied in the *States Grants Act 1973*. Under these arrangements the financial assistance grants increase each year in proportion to the increase in average wages in Australia as a whole in the year ending 31 March in the year of payment

and to the increase in each State's population in the year ending 31 December in the year of payment, and by a betterment factor of 1.8 per cent. Adjustments were made to these arrangements to reduce the grants when the Commonwealth assumed full responsibility for financing tertiary education from 1 January 1974 and on account of transfers of railways from South Australia and Tasmania to the Commonwealth. Financial assistance grants additional to the grants determined by the formula were paid to Western Australia in 1973-74 and 1974-75, and to Tasmania in 1974-75. In 1975-76, \$220 million was paid to the States in addition to the amounts otherwise payable in that year and in the same proportion.

These arrangements were replaced by the *Personal Income Tax Sharing Entitlements* between the Commonwealth and the State and local governments which came into operation in 1976-77. A comprehensive description of this scheme is given in the Commonwealth Budget Paper *Payments to or for the States, the Northern Territory and Local Government Authorities*

The following table shows the calculations underlying the States' tax sharing entitlements in 1979-80:

DISTRIBUTION OF STATES' PERSONAL INCOME TAX SHARING ENTITLEMENTS IN 1979-80

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
(1) Population at 31 December 1979(a)	5,111,561	3,874,450	2,213,020	1,297,171	1,257,039	420,098	14,173,339
(2) Per capita relativities(b)	1.02740	1.00000	1.39085	1.52676	1.66516	2.00188	
(3) Row (1) weighted by Row (2)	5,251,618	3,874,450	3,077,979	1,980,469	2,093,171	840,986	17,118,673
(4) Percentage distribution of Row (3) between States (per cent)	30.67772	22.63289	17.98024	11.56906	12.22741	4.91268	100.00000
(5) Share of 39.87 per cent of \$12,670.8 million(c)—Distributed according to Row (4) \$'000	1,549,794	1,143,381	908,336	584,452	617,711	248,181	5,051,855
(6) Amount guaranteed under Section 8 of the Act (Financial Assistance Grants formula) (d) \$'000	1,663,466	1,233,934	952,533	630,392	662,888	272,696	5,415,910
(7) States' entitlements under the Act (\$'000) (e)	1,663,466	1,233,934	952,533	630,392	662,888	272,696	5,415,910

(a) Determined in accordance with section 9 of the *States (Personal Income Tax Sharing) Act 1976*. (b) Relativities specified in section 4 (1) of the Act. (c) Net personal income tax collections (excluding receipts from the Health Insurance levy) in 1978-79 as determined by the Commissioner of Taxation in accordance with section 6 of the Act. (d) Determined in accordance with section 8 of the Act. Calculated by applying to the notional 1978-79 financial assistance grants the estimated increases in State populations in the year ended 31 December 1979 (New South Wales 1.35 per cent, Victoria 1.00 per cent, Queensland 1.53 per cent, South Australia 0.47 per cent, Western Australia 2.06 per cent and Tasmania 1.07 per cent), the estimated increase in average wages for Australia as a whole in the year ended 31 March 1980 of 8.81 per cent and the betterment factor of 3.0 per cent. (e) For all States amounts in Row (6).

Special Grants. These grants are paid to the financially weaker States as supplements to the financial assistance grants. They are paid on the recommendation of the Commonwealth Grants Commission. The recommendation by the Commission for payment of a special grant consists of two parts: one part is based on an estimate of the claimant State's financial need in the current financial year, and is treated as an advance payment subject to adjustment two years later when the Commission has compared in detail the audited budget results and standards of effort and of services provided in that year for both the claimant State and the States which the Commission takes as 'standard' (New South Wales and Victoria at present); and the other part represents the final adjustment to the advance payment made two years earlier and is known as the completion payment. Queensland has been the only applicant State in the period 1976-77 to 1980-81. (Tasmania, which had withdrawn from claimancy in 1974-75, applied on 30 June 1978 for a special grant in respect of 1977-78 but subsequently withdrew its application.) The following table shows special grants paid in recent years.

COMMONWEALTH GRANTS COMMISSION: SPECIAL GRANTS

(\$'000)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Queensland—						
Advance or interim payment	25,000	18,000	14,000	16,000	11,000	25,000
Completion payment (a)	10,800	5,700	1,400	6,700	33,500	..
Grand total	35,800	23,700	15,400	22,700	25,000	44,500

(a) Actually paid two years subsequent to year shown.

Capital assistance grants. Since 1970-71 the Commonwealth Government has provided a portion of the State's Loan Council programs in the form of interest-free capital grants. The grants replace State borrowings and thereby relieve them of debt charges they would otherwise have had to pay. These grants, which were authorised by the *States Grants (Capital Assistance) Acts*, totalled \$345.9 million in 1974-75, \$430.3 million in 1975-76, \$452.0 million in 1976-77, \$477.9 million in 1977-78 and 1978-79, \$415.0 million in 1979-80, and \$435.8 million in 1980-81.

Specific purpose grants

The Commonwealth Government has provided financial assistance for certain specific types of expenditure by the States for many years. Unlike the general purpose grants, these current and capital grants are 'tied', that is, they are subject to conditions as to the purposes for which they may be spent. Purposes for which such grants have been made include educational programs, hospital development programs, welfare services for the aged, road construction, natural disaster relief and, since 1974-75, assistance to local government authorities. Specific purpose grants amounted to \$3,442.2 million in 1975-76, \$3,472.9 million in 1976-77, \$3,904.9 million in 1977-78, \$4,053.4 million in 1978-79, \$4,536.1 million in 1979-80, and \$5,172.2 million in 1980-81. From 1979-80 onwards the figures include specific purpose grants made to the Northern Territory.

For details of the various specific purpose programs reference should be made to the Commonwealth Budget Paper *Payments to or for the States, the Northern Territory and Local Government Authorities*.

Advances to the States

The Commonwealth is also providing financial assistance for State projects by way of repayable advances. Borrowings of the Loan Council which are advanced to the States for their work programs and advances for State housing projects represent the largest proportion of the total funds advanced. Full descriptions of the various programs for which funds have been advanced in recent years are given in *Payments to or for the States, the Northern Territory and Local Government Authorities*.

The following table shows figures of advances to the States and repayments of advances. More detailed figures appear in *Commonwealth Government Finance* (5502.0).

COMMONWEALTH AUTHORITIES: NET ADVANCES TO THE STATES AND THE NORTHERN TERRITORY 1979-80 (\$'000)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>Total</i>
Defence	1,026	-215	-224	-19	-3	-3	-	562
Housing and community amenities	59,900	43,612	13,183	28,100	14,757	8,696	7,906	176,152
Economic services—								
Soil and water resources management	-2,367	-196	-716	-	14	-	-	-3,265
Forest resources management	1,732	383	912	309	872	891	-	5,099
Assistance to agricultural and pastoral industries	332	-1,548	20,936	954	487	-427	425	21,159
Mining	1,179	-	-	-	-	-2,374	-	-1,195
Electricity, gas and water supply	-	-	-1,169	-77	-508	-2,989	-1,109	-5,852
Rail transport	-96	3,134	-288	-2	-2,364	-	-	384
Sea transport	-	-	-96	-	-98	-132	-	-326
Other transport and communication	-	-	-570	-1,875	-	-	-	-2,445
<i>Total economic services</i>	<i>780</i>	<i>1,773</i>	<i>19,009</i>	<i>-691</i>	<i>-1,597</i>	<i>-5,031</i>	<i>-684</i>	<i>13,558</i>
Other purposes—								
State works programs	202,369	160,326	83,958	83,749	57,694	46,694	71,606	706,396
Special resource assistance	-2,500	-	-	-	-	-	-	-2,500
Natural disaster relief	-964	-343	-2,175	-1,481	7,092	-294	-	1,835
<i>Total other purposes</i>	<i>198,905</i>	<i>159,983</i>	<i>81,783</i>	<i>82,268</i>	<i>64,786</i>	<i>46,400</i>	<i>71,606</i>	<i>705,731</i>
Total net advances	260,612	205,151	113,748	109,657	77,944	50,061	78,828	896,001

Minus sign (-) denotes excess of repayments.

**COMMONWEALTH AUTHORITIES: ADVANCES TO THE STATES AND THE NORTHERN TERRITORY
(S'000)**

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
GROSS						
Defence	26,805	34,170	35,114	22,519	11,600	1,455
Housing and community amenities	565,506	558,810	474,741	441,646	355,424	211,497
Economic services—						
Assistance to agricultural and pastoral industries	28,478	50,328	31,981	37,489	39,812	40,739
Other	57,118	65,606	48,900	8,175	10,770	11,733
Other purposes—						
State works programs	741,541	860,667	904,000	955,867	955,867	901,606
Other	3,663	1,098	4,828	34,369	14,444	7,308
Total gross advances	1,423,111	1,570,679	1,499,564	1,500,065	1,387,917	1,174,339
REPAYMENTS						
Defence	631	681	734	789	840	894
Housing and community amenities	19,172	22,061	25,191	28,332	31,736	35,346
Economic services—						
Assistance to agricultural and pastoral industries	3,391	5,451	8,548	11,074	13,365	19,581
Other	9,372	11,997	13,116	13,351	14,364	19,333
Other purposes—						
State works programs	149,400	151,999	159,323	171,032	185,269	195,210
Other	16,245	6,096	14,589	14,343	13,398	7,974
Total repayments	198,211	198,286	221,501	238,921	258,972	278,338
NET						
Defence	26,174	33,490	34,380	21,730	10,760	561
Housing and community amenities	546,334	536,749	449,550	413,314	323,688	176,151
Economic services—						
Assistance to agricultural and pastoral industries	25,087	44,877	23,433	26,415	26,447	21,159
Other	47,746	53,609	35,784	-5,176	-3,596	-7,600
Other purposes—						
State works programs	592,141	708,668	744,677	784,835	770,598	706,396
Other	-12,582	-4,999	-9,761	20,026	1,048	-667
Total net advances	1,224,900	1,372,393	1,278,063	1,261,144	1,128,945	896,001

Minus sign (-) denotes excess of repayments.

Main components of receipts

The main components of the receipts of Commonwealth authorities are taxation, income of public enterprises and other factor income transfers, and borrowing and financing transactions. Taxation constitutes by far the major source of receipts. In recent years, however, borrowing has become an increasingly significant source of funds for Commonwealth authorities.

In what follows, an account is given of the system of Commonwealth Government taxation, and some details are given of the current operations of Commonwealth public enterprises. Borrowings and other financing activities of Commonwealth authorities are dealt with for convenience in a later section relating to the debt of all public authorities.

Commonwealth Government taxation—summary

The following tables show Commonwealth Government taxation receipts classified by type of tax for the past six years, and the proportion of each type to total collections.

COMMONWEALTH AUTHORITIES: TAXATION BY TYPE OF TAX(a)

(\$'000)

Type of tax	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Taxes—						
Income taxes—						
Individuals(b)	9,212,652	11,046,664	12,122,158	12,797,174	15,032,479	17,532,123
Superannuation Funds	—	—	—	—	7,618	11,129
Companies(c)	2,505,173	2,803,079	3,072,372	3,002,052	3,360,357	4,638,923
Dividend (withholding)	62,674	71,969	87,700	88,094	99,912	114,108
Interest (withholding)	32,344	24,408	30,153	25,975	41,018	46,596
Mining (withholding)	—	—	—	—	200	261
<i>Total income taxes</i>	<i>11,812,843</i>	<i>13,946,120</i>	<i>15,312,383</i>	<i>15,913,295</i>	<i>18,541,584</i>	<i>22,343,140</i>
Estate duty	76,391	76,189	95,823	82,061	48,398	17,123
Gift duty	10,454	11,486	6,574	1,445	529	-82
Rates on land	12,993	15,503	17,010	15,011	16,540	19,249
Customs duty on coal exports	111,640	121,329	100,165	93,524	90,716	84,947
Customs duties on imports	932,066	1,152,016	1,131,817	1,363,041	1,538,064	1,799,488
Excise duties—						
Crude oil and LPG	257,000	340,000	469,000	1,227,000	2,270,200	3,107,900
Other	2,074,325	2,145,420	2,264,490	2,617,686	2,695,138	2,726,125
Sales tax	1,408,286	1,650,256	1,757,702	1,769,840	1,864,813	2,102,254
Primary production taxes	115,594	189,006	179,368	283,092	278,270	352,753
Broadcast station licences	827	1,200	1,508	1,843	2,184	2,484
Television station licences	3,393	6,028	10,469	12,724	15,946	19,005
Stevedoring industry charge	37,150	46,884	28,955	19,004	20,137	19,483
Payroll tax	17,347	18,644	19,583	13,142	12,373	10,713
Departure tax	—	—	—	11,966	18,384	18,720
Other taxes	13,087	15,496	19,107	18,487	18,496	20,727
<i>Total taxes</i>	<i>16,883,396</i>	<i>19,735,577</i>	<i>21,413,954</i>	<i>23,443,161</i>	<i>27,431,772</i>	<i>32,644,029</i>
Fees from regulatory services	11,821	15,264	21,526	22,730	48,658	53,094
Fines	2,515	3,121	3,838	4,229	4,228	4,207
Unfunded employee retirement contribution	39,889	51,680	61,087	63,129	67,124	72,922
Other current transfers n.e.c.	209	678	554	403	569	663
Total taxation	16,937,830	19,806,320	21,500,959	23,533,652	27,552,351	32,774,915

(a) From 1978-79 excluded taxes collected by Northern Territory Government authorities. (b) Includes Medibank levy payable from 1 October 1976 to 31 October 1978. (c) Excludes income tax paid by public enterprises: 1975-76, \$17.7m; 1976-77, \$21.4m; 1977-78, \$23.1m; 1978-79, \$34.6m; 1979-80, \$46.5m; 1980-81, \$55.8m. (d) Abolished in September 1974.

Taxes on income

A description of the development of income taxes in Australia appeared in Year Book No. 35, page 926. Since July 1942 the Commonwealth Government, under the uniform tax arrangement, has been the only authority imposing taxes on income.

The laws dealing with the assessment and imposition of income tax at 31 October 1981 were—*Income Tax Assessment Act 1936* (later referred to as 'the Assessment Act'); Acts declaring rates of tax—*Income Tax (Rates) Act 1976*, *Income Tax (Individuals) Act 1981*, *Income Tax (Companies, Corporate Unit Trusts and Superannuation Funds) Act 1981*, *Income Tax (Non-resident Companies Act) 1978*, *Income Tax (Dividends and Interest Withholding Tax) Act 1974*, *Income Tax (Drought Bonds) Act 1969*, *Income Tax (Withholding Tax Recoupment) Act 1971*, *Income Tax (Bearer Debentures) Act 1971*, *Income Tax (Mining Withholding Tax) Act 1979*, *Income Tax (Film Royalties) Act 1977*, *Income Tax (Diverted Income) Act 1981*, *Income Tax Regulations* and *Income Tax (Indexation) Regulations*.

Both individuals and companies are liable for income tax. Private companies are subject to tax on certain undistributed income in addition to the primary income tax levied on all companies.

The operation of the *Assessment Act* is affected by other Acts, the more important of which are:

- (a) *Taxation Administration Act 1953*, which provides for the administration of certain Acts relating to taxation and the screening for taxation purposes of applications for exchange control approval.
- (b) *Income Tax (International Agreements) Act 1953*, which gives the force of law to agreements with other countries for the avoidance of double taxation. Australia has concluded comprehensive agreements for the avoidance of double taxation with the United Kingdom, the United States of America, Canada, New Zealand, Singapore, Japan, the Federal Republic of Germany, the Netherlands, France, Belgium, the Philippines, Switzerland, Malaysia,

Sweden and Denmark and limited agreements dealing with airline profits have been concluded with France, Italy and Greece.

- (c) *The States (Personal Income Tax Sharing) Act 1976*, which provides for the States to receive a specified proportion of net personal income tax collections to 30 June 1981.
- (d) *The States (Tax Sharing and Health Grants) Act 1981*, operative as from 1 July 1981, under which the States are to receive a proportion of total Commonwealth tax collections.
- (e) *Income Tax (Arrangements with the States) Act 1978*, which enables each State to increase or reduce personal income tax levied on residents of the State.
- (f) *International Organizations (Privileges and Immunities) Act 1963*, and Regulations made under that Act, which provide for the exemption from income tax of certain income of international organizations and their officials.
- (g) *Diplomatic Privileges and Immunities Act 1967*, which provides for the exemption from income tax of certain income of diplomatic representatives, their staff and families.
- (h) *The Loan (Income Equalization Deposits) Act 1976*, which provides for the making of interest bearing income equalization deposits by primary producers with the Commissioner of Taxation.
- (i) *Consular Privileges and Immunities Act 1972*, which provides for the exemption from income tax of certain income of consular representatives, their staff and families.
- (j) *Loan (Drought Bonds) Act 1969*, which authorizes the issue of drought bonds and empowers the Commissioner of Taxation to declare when drought bonds have become redeemable.
- (k) *Taxation Debts (Abolition of Crown Priority) Act 1980*, which abolishes priority accorded to certain Crown Debts.
- (l) *The Crimes (Taxation Offences) Act 1980*, which established a number of criminal offences relating to the fraudulent evasion of income tax (and sales tax) by stripping companies or trusts of their capacity to pay.

An individual is required to lodge a return of income when his total income (other than dividends or interest upon which withholding tax has been paid) from all sources in Australia is in excess of \$4,195 in 1981–82. However, in the case of a minor i.e., a person under the age of 18 years at the end of the year of income, a return is to be lodged where income exceeds \$1,040 (see page 575).

Non-profit companies with total incomes in excess of \$416 and all other companies, partnerships and trusts deriving income are required to lodge returns of income each year.

Where applicable, income tax payable is assessed and assessment notices showing the amounts payable are issued during the year following the year of income. For individuals the approximate amount payable, however, has already been collected during the income year (from employees by deductions from salary or wages and from non-employees by a provisional tax). The amount shown on the assessment notice is therefore adjusted against the amount already paid, and any difference is either collected or refunded.

Taxes on income—individuals

Pay-as-you-earn-system

Salary and wage earners are subject to tax instalment deductions by employers according to prescribed scales which show the amount to be deducted according to income. Under the group employer scheme, the amount deducted is required to be regularly remitted to the Australian Taxation Office.

Not later than 14 July each year, employers are required to supply each employee with a group certificate showing the amount earned and deductions made during the year ended 30 June.

Under the tax stamp scheme for employers other than group employers, a tax deduction sheet in two parts is used. Every four weeks the employer purchases tax stamps for the amount of deductions made each pay day and attaches the tax stamps to the tax stamps sheet in the space provided and the tax checks (attached to the stamps) in the space provided on the tax check sheet. At the end of the year the employer gives the employee the tax stamp sheet and sends the tax check sheet to the Taxation Office. The tax stamp sheet is then used in the same way as a group certificate.

Individuals with taxable income other than salary or wages of \$1,000 or more in 1981–82 may be required to pay provisional tax in respect of that income. Provisional tax is not generally charged, however, where tax instalment (PAYE) deductions made in the previous income year exceeded 95 per cent of the net tax payable for that year. The provisional amount is intended as an approximation to the tax which will be assessed after the return of income for the current year has been lodged. In order to account for an expected rise in provisional incomes in 1981–82, provisional tax is calculated using 1981–82 rates of tax applied to 1980–81 income increased by 10 per cent. The provisional amount is

intended as an approximation to the tax which will be assessed after the return of income for the current year has been lodged. The assessment notice shows the tax assessed on income from the previous year less any provisional tax already paid for that year and provisional tax payable for the current year. Taxpayers may apply to vary the amount of provisional tax imposed if his or her circumstances change during the year.

Assessable income—individuals

Assessable income (from which deductions are made to arrive at taxable income) basically includes all receipts within the ordinary meaning of the word 'income', but excludes items of income that are specified as exempt. Assessable income specifically includes certain receipts such as casual profits arising from the sale of property held less than one year and profits arising from the sale of property acquired for the purpose of profit-making by sale regardless of the period the property is held before sale. The value to employees of allowances and benefits given by employers for services rendered is also specifically included in the assessable income of the employees. Receipts such as gifts (other than gratuities received by an employee in the course of employment), legacies, lottery wins and other receipts of capital generally do not form part of the assessable income.

Exemption from tax is provided by the Assessment Act in respect of a number of specified classes of income—for example, certain war pensions; invalid pensions; family allowances; income received from a scholarship, bursary or other educational allowance; the income of charitable institutions and public hospitals, certain foreign income where it has been taxed overseas, and income of certain Australian residents derived from personal services performed overseas.

Deductions

The taxable income to which the rates of tax are applied is arrived at by deducting from the assessable income any allowable deductions.

Deductions from assessable income are authorised for losses and outgoings incurred in gaining or producing assessable income or necessarily incurred in carrying on a business for that purpose except to the extent that they are of a capital, private or domestic nature, are incurred in gaining or producing exempt income, or are of the kinds that are specifically declared to be not deductible by provisions of the Assessment Act. In addition, certain other deductions are specifically authorised by the Assessment Act.

Deductions allowable include trading losses incurred in previous years, bad debts, depreciation, gifts to various institutions and, in certain circumstances, rates and land taxes paid. Expenditure of a capital nature incurred in relation to mining operations is generally deductible by reference to the estimated life of the mine or field or 10 years, whichever is the lesser. (For expenditure contracted for after 30 April 1981 and on or before 18 August 1981 the deduction is determined by reference to a maximum life of the mine or field of 6 years. Expenditure contracted for prior to 1 May 1981 is deductible by reference to a maximum life of the mine or field of 5 years.) Expenditure on mining plant may also be written off on that basis or, if the taxpayer chooses, by depreciation allowances. Exploration or prospecting expenses incurred by general (non-petroleum) mining companies are allowable as deductions against net assessable income from mining activities in the year in which the expenditure is incurred. Expenditure on exploration or prospecting for petroleum is immediately deductible against income from any source. Deductions are also available for the cost of converting certain oil fired industrial equipment to use other energy sources. The deduction, which replaces annual depreciation allowances, is an amount equal to the cost of the conversion and is allowable for expenditure incurred on or after 22 August 1979 and before 1 July 1984. The deduction is allowable in equal instalments over 2 years, commencing with the year in which the expenditure is incurred. (For expenditure contracted on or before 30 April 1981 the deduction is wholly allowable in the year of expenditure.) A special allowance of 40 per cent of the cost of certain capital expenditure incurred on the purchase or construction of certain non-oil fired plant to replace oil fired plant is also available in respect of expenditure on such plant incurred on or after 22 August 1979. Normal depreciation allowances apply to the plant and the 40 per cent allowance takes the place of any investment allowance that otherwise might have applied. A special loading applies to increase the depreciation rates that would otherwise apply to most plant contracted for after 19 August 1980. For plant contracted for after that date and before 1 May 1981 the loading applies to increase the rate otherwise applicable by 20 per cent. For plant contracted for on or after 1 May 1981 the loading is set at 18 per cent.

Certain expenditure of a capital nature incurred by primary producers in carrying out improvements to their land is deductible over 10 years or, in respect of some of those expenditures incurred on soil conservation measures under contracts entered into after 30 September 1980, in the year of expenditure. Certain expenditure in connection with conserving or conveying water for use in a business of

primary production is deductible in the year of expenditure. Expenditure incurred by a primary producer before 1 July 1984 in constructing stockyard or subdivisional fences where their construction is certified as being desirable for the eradication or control of bovine brucellosis or tuberculosis is also deductible in the year of expenditure. Certain new items of plant and machinery acquired for use in a business of primary production under a contract entered into on or after 1 October 1980 are depreciable in equal instalments over 5 years, as are certain structural improvements for the storage of hay, grain or fodder contracted for after 21 August 1979. Deductions are allowable in respect of cash deposits made by primary producers (income equalisation deposits), which fall for inclusion in assessable income on withdrawal.

Deductions may also be allowed for a percentage of the capital cost of certain new plant first ordered on or after 1 January 1976 (investment allowance). For plant ordered during the period 1 January 1976 to 30 June 1978 and first used or installed ready for use as reserve plant on or before 30 June 1979, the percentage is 40 per cent of qualifying expenditure. For plant (not satisfying the 40 per cent time limits) ordered during the period 1 January 1976 to 30 June 1985 and first used or installed ready for use as reserve plant not later than 30 June 1986, the percentage is 20 per cent of qualifying expenditure for plant contracted for on or before 30 April 1981 or 18 per cent of qualifying expenditure for plant contracted for after that date. However, the 40 per cent rate applies to so much of the eligible expenditure incurred by 3 June 1979 as was attributable to plant installed as at that date even though the uncompleted plant was not first used or installed ready for use by 30 June 1979.

Capital expenditure incurred on or after 1 October 1980 in affecting or upgrading mains electricity connections to a property on which a business is carried on, the certain expenditure incurred in insulating a taxpayer's first home where the home was purchased on or after that date or where the taxpayer constructed the home, the construction of which commenced on or after that date, is deductible in the year of expenditure. A 100 per cent depreciation allowance is available for the cost of plant contracted for on or after 1 October 1980 that is used in Australia exclusively to store fuel held for use in a business as fuel or as trading stock for disposal. Special concessions involving a deduction loading and income exemption are available for capital investment in the production of certain new Australian films where that expenditure is under a contract entered into on or after that date. Capital expenditure contracted for after 18 August 1981 on plant and equipment used to produce basic iron and steel is deductible on a prime cost depreciation basis at 20 per cent per annum.

Living-away-from-home allowance. Where an allowance is paid to an employee under any award, industrial agreement, etc.—

- (a) if it is received in cash and does not exceed \$7 per week, a deduction is allowable of the amount of the allowance, up to \$5 per week;
- (b) if it is received otherwise than in cash and exceeds a value of \$2 per week but does not exceed a value of \$5 per week, a deduction is allowable of the excess of that value over \$2 per week.

In any other case the deduction allowable is the amount which the Commissioner deems reasonable but may not exceed the total amount received less \$2 per week.

Subscriptions. When they are paid in respect of membership of any trade, business or professional association or union.

Gifts. Those of \$2 and upwards made to specified funds, authorities and institutions including public benevolent institutions, approved research institutions for scientific research, building funds for schools conducted by non-profit organisations, certain approved voluntary overseas aid organisations, etc.

Superannuation contributions of eligible self-employed persons and employees not covered by funds to which any other person contributes for their benefit that are paid after 19 August 1980 to approved funds are deductible to a maximum \$1,200 in any one year of income. Any excess of contributions over \$1,200 falls for consideration under the superannuation provisions subject to concessional rebate (see page 572).

Rebates of Tax

From the gross amount of tax calculated by applying the relevant rate to the taxpayer's taxable income, a deduction is made for any rebates allowable to the taxpayer.

Dependant, housekeeper and sole parent rebates. A concessional rebate of the relevant amount specified below for each *dependant* is allowable to a resident taxpayer if, during the whole of the year of income, the taxpayer is the sole contributor to the dependant's maintenance and that dependant does not have a separate net income in excess of \$282.

<i>Dependant</i>	<i>Maximum rebate 1981-82</i>
Spouse, daughter-housekeeper	\$ 830
Parent or parent-in-law	749
Invalid relative	376

If a person in one or other of these dependant categories is a dependant during part only of the year of income (such a person residing with the taxpayer is ordinarily regarded as a dependant throughout the period of residence), the maximum rebate is proportionately reduced. Rebates for a parent, parent-in-law or invalid relative are allowable only in respect of residents of Australia.

Where a person has a separate net income in excess of \$282 while a dependant of a taxpayer, the rebate otherwise allowable is reduced by \$1 for every complete \$4 by which the separate net income exceeds \$282, irrespective of the period over which the person has derived the income. When two or more people contribute to the maintenance of a person who is a dependant of both of them, the rebate allowable is apportioned between the contributing taxpayers.

A concessional rebate of \$830 is allowable to a resident taxpayer in respect of a *housekeeper* who, during the whole of the year of income, is wholly engaged in keeping house in Australia for the taxpayer and has the care of (a) a child or step-child of the taxpayer, less than 16 years of age; (b) an invalid relative in respect of whom the taxpayer is entitled to a rebate or any child under 16 years classed as a dependant for this purpose; or (c) the taxpayer's spouse if in receipt of an invalid pension under the *Social Services Act*. A child under 16 years referred to in (b) will be classed as a dependant where the taxpayer contributes to that child's maintenance and the child's separate net income is less than \$1,786.

If these conditions apply for only part of the year, a proportionate rebate may be allowed. Where the taxpayer is married, a rebate may be allowable for a housekeeper if the housekeeper is engaged in caring for an invalid spouse (*see* (c) above) or the Commissioner is of the opinion that, because of special circumstances, it is just to allow a rebate. The rebate is not allowable in respect of any period during which the taxpayer is entitled to a deduction for a daughter-housekeeper.

A concessional rebate of \$580 is allowable to a *sole parent* i.e., a resident single, widowed or divorced person who has the sole care of a child under sixteen years of age or a student (up to 25 years of age, receiving full-time education at a school, college or university), whose separate net income is ordinarily less than \$1,786. The sole parent rebate is not allowable where the taxpayer is entitled to a rebate for a housekeeper or daughter-housekeeper or is living in a de-facto relationship.

Concessional rebates

Resident taxpayers may be allowed a concessional rebate in respect of certain expenses listed below amounting in total to more than \$1,590. The amount of the rebate for 1981-82 is 32 per cent of the excess of the total expenditure over \$1,590, but the rebate cannot exceed the tax otherwise payable.

Medical, dental, optical, etc. expenses. Rebates are allowable in respect of medical, dental, optical and therapeutic treatment expenses paid by the taxpayer, less any amounts in respect of those expenses which are received or receivable by the taxpayer or any other person from a Government or friendly society or medical benefit fund. Included are amounts paid in respect of artificial limbs and eyes, hearing aids and medical and surgical appliances and the remuneration of an attendant of a person who is blind or permanently confined to a bed or invalid chair. Domiciliary nursing care benefits are to be disregarded in calculating the rebatable amount in respect of medical expenses.

Rebates in respect of the above medical, etc. expenses are allowable only for expenditure in respect of a resident taxpayer, spouse, children under 21 years of age or any other 'dependant' resident in Australia, but not a 'housekeeper'.

Funeral, burial or cremation expenses. Rebates are allowable only in respect of the taxpayer's spouse, children under 21 years of age or any other 'dependant', but not a 'housekeeper', provided the dependant was a resident of Australia at the time of death. The amount of expenses allowable in respect of any one dependant is limited to \$100.

Adopted children. Legal expenses and court costs of the kind normally incurred by a taxpayer in adopting a child.

Payments of life, sickness and accident insurance premiums and payments to a Friendly Society, Superannuation, Sustainment or similar Fund. Amounts subject to rebate are limited to a total of \$1,200 in respect of such payments made on behalf of the taxpayer, his spouse or children. In the case of self-employed and "unsupported" employees contributions that are deductible, the excess over

\$1,200 not allowed as a deduction may be allowed as a rebate within the \$1,200 limit on such rebatable expenditure. Where policies are taken out on or after 1 January 1973 or where the first premium of a policy was paid on or after that date, rebates for premiums of such policies are *not* allowable if the benefits, other than death benefits, are payable within a period of 10 years of commencement of risk.

Education expenses. An amount not exceeding \$250 is allowed in respect of each child of the taxpayer or 'dependant' under 25 years of age receiving full-time education. Education expenses include expenditure for recognised school uniforms, on school fees, board and accommodation, text books, stationery, equipment and fares.

Self-education expenses. These are allowable where they are paid by the taxpayer for or in connection with a course of education undertaken by him for the purpose of gaining qualifications for use in carrying on a profession, business or trade or in the course of employment. The maximum amount subject to rebate is \$250.

Calls. One-third of the amount of calls paid by the taxpayer in the year of income on shares owned by him in a company carrying on as its principal business afforestation in Australia.

Rates and land taxes. These are allowable when they are paid by a taxpayer who is personally liable. The maximum amount rebatable is \$300 and must be in respect of a sole or principal place of residence.

Other rebates

Zone allowance rebate. A separate rebate is allowable to resident taxpayers who have resided in Zone A or B (prescribed isolated areas) for more than one half of the income year. The rebates are as follows.

- (a) Zone A: A rebate equal to the sum of \$216 and 50 per cent of certain amounts in respect of dependants, sole parent and housekeeper (prior to 1 November 1981 the rebate was \$216 and 25 per cent);
- (b) Zone B: A rebate equal to the sum of \$36 and 20 per cent of those amounts stipulated under Zone A. (Prior to 1 November 1981 the rebate was \$36 and 4 per cent).

The amount in respect of dependants, sole parent and housekeeper that may be the subject of a percentage increment to the basic zone allowance are:

	1981-82
	\$
Sole parent	580
Housekeeper	830
Spouse, daughter-housekeeper	830
Parent or parent-in-law	749
One child under 16 years, not being a student	376
Each other child under 16 years, not being a student	282 ^(a)
Student	376
Invalid relative	376

(a) Where one of these persons has a separate net income in excess of \$282 while a dependant of a taxpayer, the amount to be taken into account is reduced by \$1 for every complete \$4 by which that income exceeds \$282, irrespective of the period over which it was derived. Where two or more people contribute to the maintenance of a person who is a dependant of both of them, the amount to be taken into account is apportioned between the contributing taxpayers.

Amounts for a parent, parent-in-law or invalid relative are allowable only in respect of resident dependants.

'Child' or 'children' includes a legally adopted child, a step-child or ex-nuptial child of the taxpayer. 'Student' means a person less than 25 years of age who is receiving full-time education at a school, college or university.

Overseas service rebate. Separate rebates are also allowable to certain members of the Defence Force serving in prescribed overseas localities. Where the period of service is more than one-half of the year of income, the rebate is equal to the Zone A rebate. Where the period is less than one-half of the year of income, a proportionate part of the Zone A rebate is allowable.

Unused leave rebate. Where a taxpayer's taxable income exceeds \$17,894 and includes lump sum payments in consequence of termination of employment or retirement for unused annual leave or unused long service leave attributable to service after 15 August 1978 or both, a rebate is allowable to limit the marginal rate on such payments to the standard rate of 32 per cent.

Rebate for government and other loan interest. A rebate of tax may be allowed in respect of certain Government and other loan interest included in an individual's taxable income. Particulars are given on page 567.

Capital subscription rebate. Section 160ACA of the Income Tax Assessment Act provides for a rebate of tax to shareholders in respect of capital subscribed to certain petroleum exploration and mining companies. The rebate allowable is 27 cents for each \$1 of amounts paid on shares after 30 April 1981 by way of application and allotment moneys and calls which are applied by a company towards the paid-up value of its shares. (Prior to 1 May 1981 the allowable rebate was 30 cents for each \$1 subscribed after 24 August 1977). The allowance of the rebate is conditional upon the company lodging a declaration satisfying the Commissioner that the share moneys will be, or have been, spent on out-goings for exploration for petroleum and the development of petroleum fields. It is also conditional upon the company forgoing any right to a deduction under Division 10AA for the expenditure.

For primary producers, whose taxable income exceeds the average of the current and preceding four years taxable incomes, a rebate is allowable in respect of taxable income derived from primary production and in respect of other taxable income where it does not exceed \$5,000. Where non-primary production income exceeds \$5,000, the amount deemed to be derived from primary production is the amount, if any, that remains after deducting from \$5,000 the excess of that income over \$5,000. In determining the rebate, an averaging benefit is calculated by subtracting from the tax on the taxable income, the tax that would be payable if an average rate appropriate to the average on the taxable incomes of the current and four previous years had applied. The rebate is that proportion of the averaging benefit that the deemed primary production taxable income bears to the total taxable income.

Effective exemption from tax

For the income years 1972-73 to 1974-75 inclusive the income of a taxpayer without dependants was exempt from income tax if it did not exceed \$1,040. In 1975-76 and 1976-77 after the application of the general concessional rebate of \$540 and \$610 respectively to resident taxpayers, the corresponding figures were \$2,518 and \$2,845. In 1977-78, with the composite tax scale applying, the figure was \$3,402. For 1978-79 and 1979-80 no tax was payable unless taxable income exceeded \$3,893 and for 1980-81 no tax was payable unless taxable income exceed \$4,041 (except in the case of certain minors). In 1981-82 no tax is payable unless taxable income exceeds \$4,195 (except in the case of certain minors). Special rates of tax apply where the trustee of a trust estate is liable to be assessed and to pay tax in respect of income where a presently entitled beneficiary is under a legal disability and to certain other income of a trust estate. The effect of deductions or rebates for dependants was to exempt resident taxpayers up to the incomes shown in the samples hereunder.

RESIDENT TAXPAYERS: EFFECTIVE EXEMPTIONS FROM INCOME TAX

(\$)

Income years ended June—	Taxpayer with—		
	No dependants	Wife	Sole parent
1977	2,845	4,697	4,141
1978	3,402	5,335	4,761
1979	3,893	5,675	5,137
1980	3,893	5,698	5,153
1981	4,041	6,541	5,787
1982	4,195	6,788	6,007

Rates of income tax on individuals

The table below shows the rates of income tax for the income year 1981-82. Rates for income years 1954-55 to 1973-74 were published in Year Book No. 60, page 590, for income years 1974-75 and 1975-76 they were published in Year Book No. 61, page 586, for income years 1976-77 and 1977-78 they were published in Year Book No. 62, pages 593 and 594, for income year 1978-79 they were published in Year Book No. 63, page 529 and for income year 1979-80 they were published in Year Book No. 64, page 604. For the income year 1980-81 they were published in Year Book No. 65, page 567.

The taxable income, including abnormal receipts, of *actors, artists, inventors*, etc. is taxed at the rate appropriate to the normal taxable income plus one-third of the abnormal receipts.

Interest derived from bonds, etc.

Interest derived from bonds, etc., issued between 1 January 1940 and 31 October 1968 by the Commonwealth Government, or on certain State semi-government loans issued free of State income tax, is subject to a rebate of income tax of 10 cents for each \$1 of interest received. The rebate does not apply to interest received from bonds, etc., issued on or after 1 November 1968.

Rates of tax—individuals

The rates of tax on taxable incomes derived by individuals during the year ending 30 June 1982 (or substituted accounting period) are set out below.

GENERAL RATES OF TAX—INDIVIDUALS
1981-82 FINANCIAL YEAR, 1981-82 INCOME YEAR

<i>Total taxable income</i>		<i>Tax at general rates on total taxable income</i>	
<i>Not less than—</i>	<i>Not more than—</i>		
\$	\$	\$	\$
0	4,195	Nil	
4,195	17,894	Nil	+ 32c for each \$1 in excess of 4,195
17,894	35,788	4383.68	+ 46c for each \$1 in excess of 17,894
35,788	..	12614.92	+ 60c for each \$1 in excess of 35,788

Income of Certain Minors

Special provisions in Division 6AA of the Assessment Act may apply to income, whether derived directly or through a trust, of a minor—a person who is under the age of 18 years at the end of the year of income. Under the new system, which commenced in the 1979-80 income year, a minimum rate of tax equal to the middle rate of personal tax—46 per cent in 1981-82—is imposed on specified income in excess of \$1040, subject to shading-in arrangements.

Income tax payable on specified incomes at general rates

The following table shows, for the income years 1976-77 to 1981-82, the actual income tax payable by taxpayers with various incomes and numbers of dependants. For 1976-77, the general concessional rebate of \$610 has been applied and for 1977-78 the composite rate scale has been used, which incorporates the general concessional rebate.

COMMONWEALTH INCOME TAX PAYABLE ON SPECIFIED INDIVIDUAL INCOMES 1976-77 TO
1981-82 INCOME YEARS
(**\$**)

<i>Net Income(a)</i>	<i>1976-77(b)</i>	<i>1977-78(b)</i>	<i>1978-79(b)</i>	<i>1979-80(b)</i>	<i>1980-81(b)</i>	<i>1981-82(b)</i>
TAXPAYER WITH NO DEPENDANTS						
\$						
1,000	..	..	..	..	..	..
3,000	41.80	..	..	..	..	..
5,000	581.80	457.52	370.84	366.08	306.88	257.60
7,000	1,229.80	1,073.45	1,040.84	1,027.48	946.88	897.60
10,000	2,279.80	2,085.92	2,045.84	2,019.58	1,906.88	1,857.60
15,000	4,399.80	3,917.26	3,720.84	3,673.08	3,506.88	3,457.60
20,000	6,954.80	6,199.80	5,870.72	5,801.46	5,493.42	5,352.44
TAXPAYER WITH DEPENDANT WIFE						
1,000	..	..	..	..	..	..
3,000	..	..	..	..	..	..
5,000	81.80	..	..	..	..	..
7,000	729.80	518.45	443.84	430.48	146.88	67.60
10,000	1,779.80	1,530.92	1,448.84	1,422.58	1,106.88	1,027.60
15,000	3,899.80	3,362.26	3,123.84	3,076.08	2,706.88	2,627.60
20,000	6,454.80	5,644.80	5,273.72	5,204.46	4,693.42	4,522.44

(a) Income remaining after allowing all deductions other than concessional deductions. (b) In 1976-77 previously allowable rebates for children and students were replaced by family allowances (formerly child endowment).

Income tax assessments—Individuals

The following tables show for the 1979-80 income year the number of taxpayers, taxable income, and net income tax assessed for individuals.

COMMONWEALTH INCOME TAX ASSESSMENTS(a): TAXABLE INDIVIDUALS BY GRADE OF TAXABLE INCOME

(Income derived in the year 1979-80)

<i>Grade of taxable income</i>	<i>Number of Taxpayers</i>			<i>Net income(b)</i>	<i>Taxable income(c)</i>	<i>Net tax</i>
	<i>Males</i>	<i>Females</i>	<i>Total</i>			
\$ \$				\$'000	\$'000	\$'000
Under 5,000	205,028	291,106	496,134	2,216,554	2,180,304	87,152
5,000-5,999	172,719	223,707	396,426	2,218,138	2,179,058	197,847
	377,747	514,813	892,560	4,434,692	4,359,362	284,999
6,000-6,999	180,027	204,590	384,617	2,543,519	2,498,050	306,623
	557,774	719,403	1,277,177	6,978,211	6,857,412	591,622
7,000-7,999	185,819	207,356	393,175	3,006,105	2,950,795	439,759
	743,593	926,759	1,670,352	9,984,315	9,808,208	1,031,381
8,000-8,999	215,396	223,100	438,496	3,802,923	3,734,654	630,856
	958,989	1,149,859	2,108,848	13,787,238	13,542,862	1,662,238
9,000-9,999	272,242	234,148	506,390	4,898,335	4,812,657	884,834
	1,231,231	1,384,007	2,615,238	18,685,573	18,355,519	2,547,072
10,000-10,999	309,566	183,767	493,333	5,274,753	5,176,859	1,009,800
	1,540,797	1,567,774	3,108,571	23,960,326	23,532,378	3,556,872
11,000-11,999	316,937	130,033	446,970	5,241,528	5,136,040	1,049,760
	1,857,734	1,697,807	3,555,541	29,201,854	28,668,418	4,606,632
12,000-12,999	286,122	93,273	379,395	4,835,812	4,736,822	1,007,898
	2,143,856	1,791,080	3,934,936	34,037,666	33,405,240	5,614,529
13,000-13,999	249,176	67,224	316,400	4,356,008	4,266,738	937,609
	2,393,032	1,858,304	4,251,336	38,393,675	37,671,977	6,552,138
14,000-14,999	214,930	52,080	267,010	3,948,731	3,867,921	873,610
	2,607,962	1,910,384	4,518,346	42,342,406	41,539,898	7,425,748
15,000-15,999	183,848	41,894	225,742	3,566,475	3,494,584	808,160
	2,791,810	1,952,278	4,744,088	45,908,881	45,034,482	8,233,908
16,000-16,999	152,767	31,656	184,423	3,102,657	3,039,818	720,205
	2,944,577	1,983,934	4,928,511	49,011,538	48,074,300	8,954,114
17,000-17,999	121,076	21,506	142,582	2,544,595	2,491,833	614,358
	3,065,653	2,005,440	5,071,093	51,556,133	50,566,133	9,568,471
18,000-18,999	96,179	15,259	111,438	2,104,180	2,059,396	529,207
	3,161,832	2,020,699	5,182,531	53,660,313	52,625,529	10,097,678
19,000-19,999	77,256	11,419	88,675	1,764,767	1,727,025	460,577
	3,239,088	2,032,118	5,271,206	55,425,080	54,352,554	10,558,254
20,000-21,999	106,386	15,021	121,407	2,596,538	2,540,474	709,036
	3,345,474	2,047,139	5,392,613	58,021,618	56,893,028	11,267,291
22,000-23,999	66,542	9,687	76,229	1,788,155	1,747,750	513,690
	3,412,016	2,056,826	5,468,842	59,809,772	58,640,777	11,780,981
24,000-25,999	43,022	6,670	49,692	1,268,990	1,239,173	379,829
	3,455,038	2,063,496	5,518,534	61,078,763	59,879,950	12,160,810
26,000-27,999	28,085	4,889	32,974	909,737	888,000	281,427

For footnotes see end of table.

COMMONWEALTH INCOME TAX ASSESSMENTS(a): TAXABLE INDIVIDUALS BY GRADE OF
TAXABLE INCOME—continued
(Income derived in the year 1979–80)

Grade of taxable income	Number of Taxpayers			Net income(b)	Taxable income(c)	Net tax
	Males	Females	Total			
\$ \$				\$'000	\$'000	\$'000
28,000–29,999	3,483,123 19,488	2,068,385 3,745	5,551,508 23,233	61,988,500 688,300	60,767,950 672,361	12,442,238 219,650
30,000–34,999	3,502,611 32,097	2,072,130 7,852	5,574,741 39,949	62,676,800 1,318,073	61,440,311 1,289,312	12,661,888 440,725
35,000–39,999	3,534,708 14,632	2,079,982 3,128	5,614,690 17,760	63,994,873 676,858	62,729,623 660,897	13,102,613 243,932
40,000–49,999	3,549,340 12,981	2,083,110 2,534	5,632,450 15,515	64,671,731 701,934	63,390,519 685,203	13,346,545 275,849
50,000–99,999	3,562,321 11,030	2,085,644 2,057	5,647,965 13,087	65,373,664 854,927	64,075,723 839,957	13,622,394 387,968
100,000 and over	3,573,351 1,628	2,087,701 291	5,661,052 1,919	66,228,591 305,797	64,915,680 298,727	14,010,362 163,066
Total	3,574,979	2,087,992	5,662,971	66,534,388	65,214,407	14,173,429

(a) Assessments in respect of 1979–80 income year issued during the period 1 July 1980 to 30 June 1981. (b) Net income is total assessable income less total deductions for expenses incurred in gaining assessable income. (c) Taxable income is the income remaining after deducting from assessable income all allowable deductions.

The above table excludes 26,807 assessments (with taxable income of \$194,635,000 and net tax of \$82,563,000) issued to trustees. Details of a further 80,838 assessments were not available for inclusion in this table. However, the following table includes all 1979–80 income year assessments issued during the period 1 July 1980 to 30 June 1981.

COMMONWEALTH INCOME TAX ASSESSMENTS: TAXABLE INDIVIDUALS BY STATE OR
TERRITORY OF RESIDENCE
(Income derived in the year 1979–80)

State or Territory of Residence	Number of taxpayers	Taxable income(a)	Net tax
		\$'000	\$'000
New South Wales	2,028,770	23,743,256	5,261,742
Victoria	1,601,118	18,353,575	4,020,630
Queensland	808,843	9,021,782	1,900,309
South Australia	523,926	5,780,982	1,210,471
Western Australia	509,922	5,771,562	1,235,059
Tasmania	163,515	1,856,290	397,858
Northern Territory(b)	38,241	495,418	107,230
Australian Capital Territory	96,281	1,293,803	313,642
Australia	5,770,616	66,316,669	14,446,940

(a) Taxable income is the income remaining after deducting from assessable income all allowable deductions. (b) Assessments issued from South Australian Office.

Partnerships and trusts

Income tax returns are required to be lodged on behalf of partnerships and trusts which, as partnerships and trusts, are not required to pay tax except in certain specified circumstances when they may be assessed as individuals. In general, the net income remaining after allowing all deductions including expenditure incurred in gaining the income is distributed to the partners or beneficiaries concerned and is assessable for tax in the respective individual returns.

The following tables show for the 1978–79 and 1979–80 income years numbers, total business income and net income of partnerships and trusts. Greater detail is published in the statistical supplement to the annual report of the Commissioner of Taxation and in the report itself.

PARTNERSHIPS AND TRUSTS—INCOME YEAR 1978-79

Item		Partnerships	Trusts	Total
Number		488,196	178,014	666,210
Total business income	\$'000	16,479,619	3,270,297	19,749,916
Net income (a)	\$'000	5,393,213	1,327,265	6,720,478

(a) Total net income adjusted by subtraction of loss.

PARTNERSHIPS AND TRUSTS INCOME YEAR 1979-80

Item		Partnerships	Trusts	Total
Number		484,779	192,198	676,977
Total business income	\$'000	18,209,360	5,094,799	23,304,159
Net income (a)	\$'000	5,897,173	1,696,991	7,594,164

(a) Total net income adjusted by subtraction of loss.

Taxes on income—companies

For taxation purposes companies are divided into two main groups—public and private. A company is regarded as a public company if, broadly, its shares are on the official list of a stock exchange—in Australia or elsewhere and it is not capable of being controlled by relatively few individuals—or it is a co-operative, non-profit or mutual life insurance company or a Government established for public purposes. A subsidiary of a public company is itself classed as a public company, subject to its meeting certain tests specified in the Income Tax Assessment Act. A company that is not a 'public' company is classified as a 'private' company. Both public and private companies pay primary tax assessed on a taxable income ascertained on the same principles as for individuals.

Rates of tax. The rates of primary income tax for all companies and additional tax for private companies applicable to income years 1970-71 to 1980-81 are shown in the following table.

RATES OF INCOME TAX: COMPANIES, 1970-71 TO 1980-81 INCOME YEARS
(Cents per \$)

Income years ended 30 June	Resident private company			Resident public company (a)		Non resident company			
	On taxable income		Additional tax on undistributed income	On taxable income		On dividends income		On other income	
	Up to \$10,000	On remainder		Up to \$10,000	On remainder	Up to \$10,000	On remainder	Up to \$10,000	On remainder
1971 and 1972	37.5	42.5	50	47.5	47.5	42.5	47.5	47.5	47.5
1973	45.0	45.0	50	47.5	47.5	47.5	47.5	47.5	47.5
1974	45.0	45.0	50	45.0	45.0	45.0	45.0	45.0	45.0
1975 and 1976	42.5	42.5	50	42.5	42.5	42.5	42.5	42.5	42.5
1977-1981	46.0	46.0	50	46.0	46.0	46.0	46.0	46.0	46.0

(a) Excludes co-operative, non-profit and life insurance companies.

For the income year ended 30 June 1974 the rate for companies other than friendly society dispensaries was 45 per cent, except that for the first \$10,000 of taxable income of co-operative and non-profit companies (other than friendly society dispensaries) the rate was 42.5 per cent. The rate for friendly society dispensaries was 37.5 per cent.

For the income years ended 30 June 1975 and 1976 the rate for companies other than friendly society dispensaries was 42.5 per cent and for friendly society dispensaries it was 37.5 per cent.

For the income years ended 30 June 1977 to 1981 the rates were 46 per cent and 41 per cent respectively. Tax exemption levels for these years are set out below.

A non-profit company is not liable to income tax unless the taxable income exceeds \$416. Where the non-profit company is a friendly society dispensary and the taxable income does not exceed \$2,311 the maximum amount payable is 50 per cent of the excess over \$416 less any rebate or credit to which the company is entitled. Where the taxable income of a non-profit company other than a friendly society dispensary does not exceed \$2,542, the tax payable by the company is limited to 55 per cent of the amount by which the taxable income exceeds \$416 less any rebate or credit to which the company is entitled. Other companies are assessed for income tax if the taxable income is \$1 or more.

Non-resident companies are also liable to additional tax at the rate of 5 per cent of the company's reduced taxable income. Reduced taxable income means the amount remaining after deducting from

Refunds of revenue. Income tax collections, as previously shown are net amounts after refunds of revenue made in the course of the year. Refunds are of two types: those charged to special appropriations under authority of the Income Tax Assessment Act and those charged to special appropriations under authority of the Audit Act. Income tax instalment refunds, by far the greatest part of income tax refunds, are made when the instalments deducted during the year exceed the tax assessed on incomes for that year. Refunds made from special appropriations under section 37A of the Audit Act include refunds of moneys paid to the revenue in error, refunds of tax overpaid, refunds due to the amendment of assessments, etc. Refunds of income tax to individuals and superannuation funds during the collection years 1975-76 to 1980-81 were: 1975-76, \$1,535,935,000; 1976-77, \$1,501,555,000; 1977-78, \$1,218,225,000; 1978-79, \$1,407,257,000, 1979-80, \$1,478,387,000 and 1980-81, \$1,560,519,000

Estate duty

Prior to 1 July 1979 estate duty was levied under the *Estate Duty Assessment Act* 1914 and was assessed on the net value of the estate less a statutory exemption. In respect of estates of persons who died after 21 November 1977 no duty was payable on that part of the estate which passed to or for the benefit of the deceased persons' widow or widower, children, grandchildren, parents or grandparents. Duty is not payable on estates of any person dying on or after 1 July 1979. For estates of persons who died before 1 July 1979, where no part of the estate passed to the relatives mentioned above, duty was payable on the net value less statutory exemption as follows:

- for qualifying estates of deceased primary producers—\$24,000
- for other estates—\$20,000
decreasing by \$2 for every \$8 by which the value of the estate exceeds \$24,000 or \$20,000 as the case may be.

Additional information concerning a rural property rebate and higher exemption levels for primary producers, special exemptions for defence personnel and a quick succession rebate is given in Year Book No. 63, page 534.

The rates of duty remained unchanged from 1941 and increased as the value of the estate for duty increased, as follows: did not exceed \$20,000, 3 per cent; \$20,001 to \$40,000, 3 per cent to 6 per cent; \$40,001 to \$240,000, 6 per cent to 26 per cent; \$240,001 to \$1,000,000, 26 per cent to 27.9 per cent; \$1,000,000 or more, 27.9 per cent.

Particulars of the number and value of dutiable estates and duty assessed for recent assessment years are given in the following table.

COMMONWEALTH ESTATE DUTY ASSESSMENTS

		1976-77	1977-78	1978-79	1979-80	1980-81
Estates	No.	13,793	15,154	9,828	6,449	1,767
Gross value as assessed	\$'000	1,208,236	1,443,967	980,304	n.a.	n.a.
Deductions (a)	"	296,738	356,792	268,164	n.a.	n.a.
Statutory exemptions	"	335,596	344,482	175,141	n.a.	n.a.
Dutiable value	"	611,702	742,693	536,999	n.a.	n.a.
Net duty assessed	"	73,512	99,050	76,301	41,434	10,434
Average dutiable value	\$	44,349	49,010	54,640	n.a.	n.a.
Average duty assessed per estate	\$	5,330	6,536	7,764	6,425	5,905

(a) Debts, Exempt Estate and State Probate Succession Duties.

Gift duty

Prior to 1 July 1979 the *Gift Duty Act* 1941 and the *Gift Duty Assessment Act* 1941 imposed a gift duty on gifts which were defined as dispositions of property made otherwise than by will, without adequate consideration in money or money's worth. Both the donor and the donee were liable to furnish a return, and both were jointly and severally liable for payment of the duty. However, if a return was furnished by the donor, the donee is relieved of this obligation. Under the *Gift Duty Assessment Act* 1978, gifts to the donor's spouse, children, grandchildren, parents or grandparents made after 21 November 1977 were not subject to duty. Gift duty is not levied on any gifts made after 1 July 1979.

Certain exemptions from duty were provided, the more important being: payments to an employees' superannuation or like fund; retiring allowances or gratuities granted to employees; gifts to organisations not carried on for the profit of any individual; gifts to the Commonwealth Government or a State; and small gifts not exceeding \$100.

The rate of gift duty applicable to any particular gifts was fixed by reference to the total value of all gifts made by the same donor within the period of eighteen months before and eighteen months after

the time of making that gift. Where the total value of all gifts as defined did not exceed \$10,000 no duty was payable. The rates of duty that applied to 30 June 1979 were (a) \$10,001 to \$20,000, 3 per cent provided that the gift duty payable did not exceed one half of the amount by which the gift exceeded \$10,000 or a proportionate amount where more than one gift is involved; (b) \$20,001 to \$40,000, 3 per cent to 6 per cent; (c) \$40,001 to \$240,000, 6 per cent to 26 per cent; (d) \$240,001 to \$1,000,000 and over, 26 per cent to 27.9 per cent.

Particulars of the number of gift duty assessments, value of gifts as assessed and duty assessed for recent assessment years are given in the following table.

COMMONWEALTH GIFT DUTY ASSESSMENTS

		1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Assessments	No.	6,564	7,480	4,352	995	875	233
Value as assessed	\$'000	164,259	187,085	103,058	95,738	n.a.	n.a.
Duty assessed	„	10,344	11,711	5,934	22,032	4,985	311

Customs duties

A description of the Australian Customs Tariff System is given in Chapter 24, Overseas Transactions. Details of duties collected on the import of commodities classified in accordance with the 'Brussels Nomenclature' are given in the following table.

GROSS CUSTOMS DUTIES ON IMPORTS ACCORDING TO BRUSSELS TARIFF DIVISIONS
(S'000)

<i>Brussels Tariff Division</i>	<i>Source of receipts</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
1	Live animals; animal products	968	1,320	966
2	Vegetable products	1,252	2,305	2,937
3	Animal and vegetable fats and oils and their cleavage products; prepared edible fats; animal and vegetable waxes	2,130	3,042	1,799
4	Prepared foodstuffs; beverages, spirits and vinegar; tobacco	217,377	234,365	248,833
5	Mineral products	2,941	3,801	4,700
6	Products of the chemical industry and allied industries	24,678	51,785	53,084
7	Artificial resins and plastic materials, cellulose esters and ethers, and articles thereof; rubber, synthetic rubbers, factice and articles thereof	72,138	96,815	100,521
8	Raw hides and skins, leather, furskins and articles thereof; saddlery and harness; travel goods, handbags and similar containers; articles of gut (other than silkworm gut)	17,242	18,992	12,710
9	Wood and articles of wood; wood charcoal; cork and articles of cork; manufactures of straw, of esparto and of other plaiting materials; basketware and wickerwork	17,628	21,043	23,252
10	Paper-making material; paper and paperboard and articles thereof	28,589	33,861	36,155
11	Textiles and textile articles	189,841	199,637	214,798
12	Footwear, headgear, umbrellas, sunshades, whips, riding-crops and parts thereof; prepared feathers and articles made therewith; artificial flowers; articles of human hair; fans	39,710	46,060	48,277
13	Articles of stone, of plaster, of cement, of asbestos, of mica and of similar materials; ceramic products; glass and glassware	25,315	31,934	40,004
14	Pearls, precious and semi-precious stones, precious metals, rolled precious metals, and articles thereof; imitation jewellery; coin	10,872	12,173	10,264
15	Base metals and articles of base metal	68,903	87,166	100,983
16	Machinery and mechanical appliances; electrical equipment; parts therefor	257,928	316,471	401,730
17	Vehicles, aircraft, and parts therefor; vessels and certain associated transport equipment	330,322	327,634	423,874
18	Optical, photographic, cinematographic measuring, checking, precision, medical and surgical instruments and apparatus; clocks and watches, musical instruments; sound recorders and reproducers; television image and sound recorders and reproducers, magnetic; parts therefor	24,788	32,531	40,183
19	Arms and ammunition; parts therefor	472	1,163	996
20	Miscellaneous manufactured articles	45,319	53,560	59,374
21	Works of art, collectors' pieces and antiques	510	578	647
22	Primage	10,680	8,838	5,681
	Total customs duties and primage	1,389,603	1,585,071	1,831,768

The *net* receipts of custom duties into consolidated revenue fund for these years are 1978-79, \$1,363,041,000; 1979-80, \$1,538,064,000; and 1980-81, \$1,799,488,000.

Customs duties on imports as recorded in the Financial Statements prepared by the Minister for Finance for these years are: 1978-79, \$1,363,269,507; 1979-80, \$1,538,075,018; and 1980-81, \$1,799,507,666.

Excise duties

Details of duties collected in relation to the production of specific commodities are given in the following table:

COMMONWEALTH EXCISE REVENUE: CLASSIFICATION OF GROSS REVENUE
(**\$'000**)

<i>Source of revenue</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
Beer	947,627	1,004,256	994,994
Spirits, including liqueurs, etc.	100,058	100,185	111,768
Tobacco (manufactured), snuff	22,186	22,867	21,203
Cigars and cigarettes	631,995	681,861	687,084
Aviation gasoline—by-law	3,486	4,428	4,589
Aviation gasoline—other	337	—	1
Other gasoline	762,630	752,998	760,297
Mineral turpentine	—	—	—
Coal tar and coke oven distillates, etc.	—	—	—
Aviation turbine kerosene	45,659	46,232	48,138
Kerosene, n.e.i.	—	—	1
Diesel fuel—by-law	98,732	107,743	116,819
Gasoline—commercial motor spirit/ethanol blends	—	—	6
Playing cards	140	116	57
Cigarette tubes, paper and papers	803	790	590
Matches	1,762	1,689	1,342
Wine—other than table wine (excise item 16)	1	—	1
Petroleum and liquid petroleum gas (excise item 17)	1,226,574	2,116,928	3,059,822
Coal	10,422	10,767	11,663
Canned fruit	285	160	—
Other and undistributed excise revenue	5	4	—
Total Gross Excise Duties	3,852,702	4,851,025	5,818,374
Total Gross Customs, Primage and Excise Duties	5,242,305	6,436,095	7,650,142
Total Customs, Primage and Excise Refunds and Drawbacks	59,610	78,196	82,769

Statistics of the value of duty included in the price of petroleum products purchased by Commonwealth Government departments and subsequently credited to those departments by the Department of Finance are not available. The *net* receipts into consolidated revenue fund for these years is: 1978-79, \$3,844,686,000; 1979-80, \$4,965,338,000; and 1980-81, \$2,726,125,000. The quantities of commodities on which excise duty was paid are given in chapter 24, Overseas Transactions, page . . . Commonwealth excise received, as recorded in the Financial Statement prepared by the Minister for Finance during these years are: 1978-79, \$3,844,819,457; 1979-81, \$4,964,954,815; and 1980-81, \$5,833,168,483.

Sales tax

The general rate of tax levied on all goods other than those specified in the schedules to the *Sales Tax (Exemptions and Classifications) Act 1935* is 17.5 per cent and goods subject to special rates are taxed at either 2.5 per cent, 5 per cent or 30 per cent. Prior to 19 August 1981 these special rates were 2.5 per cent and 27.5 per cent.

Particulars of the sales of taxable goods in each rate class in each State for 1979-80 are given in the following table. The figures relate to sales during the period 1 July to 30 June.

COMMONWEALTH SALES TAX: SALE VALUE OF TAXABLE GOODS INCLUDED IN RETURNS IN EACH RATE CLASS, 1979-80

(\$'000)

State	Gross sales of goods taxable at various rates(a)				Total
	2½%	15%	27½%	Other	
New South Wales and A.C.T.	1,149,663	3,783,474	762,033	99,096	5,794,266
Victoria	964,242	3,060,376	341,225	69,311	4,435,154
Queensland	251,502	1,220,573	62,102	9,276	1,543,452
South Australia	236,397	684,168	46,790	14,802	982,157
Western Australia	148,446	627,667	42,316	8,918	827,347
Tasmania	33,954	162,398	8,597	3,189	208,138
Northern Territory	1,804	33,940	870	524	37,138
Australia—1979-80	2,786,008	9,572,596	1,263,933	205,116	13,827,653
1978-79	2,536,155	8,334,453	1,544,234	148,993	12,563,835
1977-78	2,358,989	6,081,979	2,820,401	105,818	11,367,172

(a) Estimated.

Sales of taxable goods included in returns lodged with the Australian Taxation Office and sales tax payable for Australia are shown in the following table for recent years.

COMMONWEALTH SALES TAX: SALE VALUE OF GOODS INCLUDED IN RETURNS AND COLLECTIONS

(\$ million)

Year of sale	Taxation Office		Bureau of Customs		Total net collections
	Gross taxable sales	Estimated net taxable sales(a)	Net collections	Net collections	
1974-75	7,739	7,345	1,103	51	1,154
1975-76	9,044	8,586	1,360	49	1,408
1976-77	10,752	10,220	1,589	61	1,650
1977-78	11,367(b)	10,709(b)	1,695	63	1,758
1978-79	12,564	11,739	1,699	71	1,770
1979-80	13,828(b)	13,187(b)	1,787	78	1,865
1980-81	15,713(b)	15,246	2,015	88	2,102

(a) Represents gross taxable sales less discounts, goods returned, bad debts and other adjustments. (b) Adjusted.

Sales tax is payable on goods transferred to stock for sale by retail and goods used in the business of the taxpayer. Exempt sales relate to goods exempted from sales tax under the *Sales Tax (Exemptions and Classifications) Act 1935*. The figures shown do not represent the total sales of all commodities, as vendors trading only in exempt goods are not required to be registered and, consequently, the volume of their sales is not included. In addition, non-taxable sales (i.e. goods sold by one registered taxpayer to another registered taxpayer) are excluded.

Primary production taxes and charges

The following section shows current rates of charges and levies on primary production. Further information is given in Chapter 13, Agricultural Industries.

Expenditure on research, funded from industry levies, is usually matched dollar-for-dollar by the Commonwealth Government.

Grain Export Inspection Charge. Under the *Grain (Export Inspection Charge) Act 1979* a levy is imposed on exports of wheat, oats, barley and sorghum to recoup about half the cost of export grain

inspection. The levy is 4.5 cents per tonne on bulk grain, 25 cents per tonne on bagged grain and 29 cents per tonne on grain in containers.

Wheat Export Charge, Wheat Levy and Wheat Tax. For details see Chapter 13, Agricultural Industries.

Wool Tax. The *Wool Tax Acts* 1964 (Nos 1 to 5) As Amended, impose a levy of 8 per cent on the gross value of wool sold of which 5 per cent is levied for the market support activities of the Australian Wool Corporation and 3 per cent to provide the growers' contribution towards wool research (0.5 per cent) and promotion (2.5 per cent).

Wool Inspection Fees. Under the *Wool Industry Act* 1972, fees are imposed on the inspection of wool to recoup about half the cost of operating the Australian Wool Measurement Standards Authority. A fee for registering a wool sampling site is set at \$100 and is payable once only. The fee for providing pre-sale test certificates in respect of samples drawn at registered sites is currently 53 cents per certificate.

Tobacco Charge. The rates of Tobacco Charge currently collected under the *Tobacco Charges Acts* (Nos 1 to 3) 1955 and used to fund research into tobacco growing problems are:

- (a) in respect of leaf grown in Australia and sold to a manufacturer:
 - (i) 1.1 cents per kilogram of leaf, payable by the grower on leaf sold and
 - (ii) 2.2 cents per kilogram of leaf, payable by manufacturers on leaf purchased.

Dairy Industry Stabilization Levy. The Dairy Industry Stabilization Levy Act imposes a levy on the production of butter, butteroil, ghee, various milk powders, casein, caseinates and certain varieties of cheese. The levy is collected on products sold on the domestic market or used in the manufacture of other products. Basically the rate of levy is fixed at the difference between the domestic market return and the assessed average export return.

The purpose of the levy is to protect the domestic market through the equalisation of returns to manufacturers.

Dairying Research and Promotion Levy. The Dairying Industry Research and Promotion Levy Act 1972 provides for the imposition of a levy on all milk produced and sold in Australia. The Act provides for the levy to be payable by dairy farmers either on a whole milk or butterfat basis. Moneys collected from the levy finance the administration and promotional activities of the Australian Dairy Corporation and the industry contribution to the research programme recommended by the Australian Dairying Research Committee. The Dairying Industry Research and Promotion Levy Regulations prescribe levies of either 13.8 cents per 100 litres of whole milk or 345 cents per 100 kilograms of butterfat.

Canned Fruits Levy. The *Canned Fruits Levy Act* 1979 imposes a levy on the production of canned fruits in Australia.

The operative rates are:

Containers not exceeding 150 grams—0.6875 cents/doz. containers.

Containers exceeding 150 grams but not exceeding 320 grams—1.375 cents/doz. containers.

Containers exceeding 320 grams but not exceeding 490 grams—2.75 cents/doz. containers.

Containers exceeding 490 grams but not exceeding 680 grams—4.125 cents/doz. containers.

Containers exceeding 680 grams—5.5 cents/doz. containers plus 3.3 cents/doz. containers for each 450 grams by which the gross weight of the container exceeds 900 grams.

The funds raised are to be used to finance the operation of the Australian Canned Fruits Corporation.

Canning Fruit Charge. The *Canning Fruit Charge Act* 1959 imposes a charge on the intake of canning apricots, peaches and pears by fruit canneries. The rate currently prescribed by regulation is 50 cents per tonne. The revenue collected by way of the charge funds the operations of the Australian Canned Fruit Sales Promotion Committee.

Honey Levy. The *Honey Levy Acts* (Nos 1 & 2) 1962 impose a levy of 2.05 cents per kilogram on honey sold for domestic consumption.

Honey Export Charge. The *Honey Export Charge Act* 1973 imposes a charge of 0.75 cents per kilogram on honey exports.

The funds are used to finance the operations of the Australian Honey Board and provide the industry's contribution to research.

Livestock Slaughter Levy. The *Livestock Slaughter Levy Act* 1964 imposes a levy which is payable on all cattle, calves, bobby calves, sheep, lambs, goats and buffaloes slaughtered for human consumption. The funds are used by the Australian Meat and Livestock Corporation (AMLC) for marketing and promotion, by the Australian Meat Research Committee (AMRC) for production and economic research and by the CSIRO for meat processing research. The Slaughter Levy also provides the funds for the eradication of brucellosis and tuberculosis in cattle and buffaloes.

The levies are:

	Cents/Head				Total
	AMLC	AMRC	CSIRO processing research	Disease eradication	
Cattle	75	25	2	300	402
Calves	27	9	1	100	137
Bobby calves	7.5	2.5	0.2	30	40.2
Sheep, lambs, goats	7.5	3.33	0.2	—	11.03
Buffaloes	75	25	2	300	402

Livestock Slaughter—Export Inspection Charge. Under the *Livestock Slaughter (Export Inspection Charge) Act 1979*, a charge is imposed on livestock slaughtered at export works to recoup about half of the cost of meat inspection incurred by the Commonwealth Government. The charges are:

Cattle (180 cents/head), calves (60 cents/head), bobby calves (18 cents/head), sheep, lambs and goats (18 cents/head), buffaloes (180 cents/head), horses, donkeys, mules (180 cents/head), pigs (60 cents/head).

Export Inspection Charge—Overtime Recoveries—Meat. Under the *Customs Act 1901* and the *Commerce (Trade Descriptions) Act 1905*, a levy at the rate prescribed in the Export Meat Regulations is levied on export meat-works to recover fully the cost of providing export meat inspection services outside normal hours.

Livestock Export Charge. The *Livestock Export Charge Act 1977* imposes charges which apply to all cattle, buffaloes, sheep, lambs and goats exported live from Australia. The funds are allocated to the Australian Meat and Livestock Corporation (AMLC), the Australian Meat Research Committee (AMRC) and for disease eradication.

The charges are:

	Cents/Head			Total
	AMLC	AMRC	Disease eradication	
Cattle	75	25	300	400
Sheep, lambs, goats	7.5	3.33	—	10.83
Buffaloes	75	25	300	400

Export Inspection Charges—Miscellaneous. By arrangement, Commonwealth inspectors are provided to (i) abattoirs that are not registered export establishments to inspect meat for domestic consumption, (ii) State Dried Fruit Boards to inspect dried fruit for domestic use and to (iii) Australian Wheat Board for the issue of quality certificates.

The inspection charge in those cases is arrived at by agreement between the parties concerned.

Export Inspection Charge—Overtime Recoveries—Products Other than Meat. Fees are levied to recover the cost of providing export inspection, outside normal hours, for a number of products including field and horticultural crops, fish and dairy products. The fees are prescribed by the *Export Regulations to the Commerce (Trade Descriptions) Act, 1905* and *Customs Act 1901*.

Pig Slaughter Levy. A slaughter levy under the *Pig Slaughter Levy Act 1971* is payable on all pigs slaughtered for human consumption. The funds are used by the Australian Pig Industry Research Committee for production and marketing research and by the Pigmear Promotion Advisory Committee for promotional activities within Australia. The present operative levy is 21 cents per pig. Of this amount 20 cents is for promotion and 10 cents for research.

Meat Chicken Levy. A levy is payable under the *Meat Chicken Levy Act 1969* on meat chickens hatched for human consumption. The funds are used by the Australian Chicken Meat Research Committee for research into problems associated with the chicken meat industry. The operative rate of levy is 0.1 cent per chicken.

Poultry Industry Levy. The *Poultry Industry Levy Act 1965* imposes a levy on domesticated fowls kept for commercial purposes. The operative rate of levy is 7.5 cents per bird per fortnight with a maximum of \$2.00 per hen per annum. The levy is designed to provide assistance to the poultry industry.

Wine Grapes Levy. The *Wine Grapes Levy Act 1979* imposes a levy on prescribed goods used at a winery in Australia in the manufacture of wine. The operative rate of levy is \$2.40 per tonne of fresh grapes with provision for conversion of dried grapes and grape juice to their fresh grape equivalents. Funds raised by the levy are used to finance the Australian Wine and Brandy Corporation.

Dried Fruits Export Charges. The *Dried Fruits Export Charges Act* 1924 imposes a levy of \$4.50 per tonne on the export of dried currants, sultanas and raisins. The funds are used to finance the Australian Dried Fruits Corporation.

Dried Vine Fruits Equalisation Levy. The *Dried Vine Fruits Equalisation Levy Act* 1978 imposes a levy on domestic sales of dried vine fruit which is equal to the difference between the assessed returns per tonne from the domestic market and the assessed average returns per tonne from export. The purpose of the levy is to facilitate the equalisation of returns to producers from all markets. Because of the buoyant nature of the export market for dried vine fruit, no levies applied in either the 1979, 1980 or 1981 seasons.

Dried Fruits Levy. The *Dried Fruits Levy Act* 1971 imposes a levy on dried fruits of a season received for packing in order to fund industry research programmes. The operative rates of levy are for dried vine fruits \$1.00 per tonne, dried tree fruits \$5.00 per tonne and dried plums \$2.50 per tonne.

Dried Fruit—Export Inspection Charge. Under the *Dried Fruit (Export Inspection Charge) Act* 1981, a charge is imposed on all dried fruit exported from Australia to recoup about half the cost of export inspection incurred by the Commonwealth Government. The operative charge is \$5.50 per tonne.

Apple and Pear Levy. The *Apple and Pear Levy Act* 1976 imposes a levy on the production and sale of apples and pears in Australia excluding fruit sent for export and pears delivered for the manufacture of canned fruit. The rates of the levy are: fresh market 5 cents per box; juicing 50 cents per tonne; processing \$1.00 per tonne.

The *Apple and Pear Export Charge Act* 1976 provides for the imposition of a charge on apples and pears exported from Australia. The rate of charge is 5 cents per box.

Monies collected from both the levy and the export charge are used to fund the operations of the Australian Apple and Pear Corporation.

Barley Research Levy. The *Barley Research Levy Act* 1980 imposes a levy on barley delivered for sale. The levy is disbursed for research by State barley research committees. The operative rate of levy is 15 cents per tonne.

Oilseeds Research Levy. The *Oilseeds Levy Act* 1977 imposes a levy on the production of sunflower seed, safflower seed, soybeans, linseed and rapeseed. The levy is used to fund research programmes. The operative rate of levy is \$1 per tonne.

Fishing Licences and Charges. Under the *Fisheries Act* 1952 and the *Continental Shelf (Living Natural Resources) Act* 1968, domestic and foreign boats and crews may be licensed to fish in the Australian Fishing Zone. Other charges such as access fees for foreign countries are also levied under the Fisheries Act. The rate of licence fees is set out in the Fisheries Regulations and Continental Shelf (Living Natural Resources) regulations.

Fish—Export Inspection Charge. Under the *Fish (Export Inspection Charge) Act* 1981, a charge is imposed on fish for which an export permit has been issued to recoup about half the cost of inspection incurred by the Commonwealth. The charges are:

- Rock lobster—3.9 cents per kilogram
- All other shellfish except oysters, squid, cuttlefish and octopus—2.5 cents per kilogram
- All other fish except oysters in the shell or half shell—0.34 cents per kilogram
- Oysters in the shell or half shell—1.0 cents per dozen.

COMMONWEALTH PRIMARY PRODUCTION TAXES
(S'000)

	1977-78	1978-79	1979-80	1980-81
Apple and pear export charge	162	212	197	216
Apple and pear export duty	—	129	11	444
Apple and pear levy	621	565	627	604
Barley research levy	—	—	—	314
Butterfat levy	—	—	—	—
Canned fruit export charge (replaced by canned fruit levy 1.1.80)	131	176	133	718
Canning fruit charge	67	123	99	58
Dairy industry stabilization levy	53,085	80,255	93,549	82,384
Dairying research and promotion levy	3,360	5,674	5,689	6,119
Dried fruits export charge	147	227	189	236
Dried fruits levy	86	89	90	119
Dried vine fruits levy	—	—	—	1,187
Honey export charge	13	24	56	51
Honey levy	158	186	200	233
Livestock slaughter levy—				
Cattle	5,928	5,734	7,305	6,916
Pigs	483	572	769	1,086
Sheep and lambs	1,377	1,311	3,165	3,261
Goats, buffalo, calves and bobby calves	—	—	281	296
Eradication of disease	10,498	9,710	20,453	21,072
Meat export charge—				
Cattle meat	98	31	46	118
Other meat	56	289	771	918
Oil seeds research levy	89	375	409	277
Meat chicken levy	183	189	234	235
Poultry industry levy	10,807	10,603	17,834	20,939
Tobacco charge	495	514	504	519
Wheat export charge	—	60,000	—	30,000
Wheat tax	1,286	3,466	3,085	2,012
Wheat levy	—	—	—	38,318
Wine grapes charges (replaced by wine grapes levy 1.7.79)	1,109	1,030	1,174	65
Wine grapes levy	—	—	—	1,224
Wool tax	89,129	101,608	121,400	132,864
Total	179,368	283,092	278,270	352,803

Pay-roll tax

Commonwealth pay-roll tax came into operation on 2 May 1941 and provided for the imposition of a tax on wages paid or payable in respect of any period of time occurring after 30 June 1941. The tax was payable by employers on all wages and salaries paid or payable in excess of a general exemption. The rate of tax, 2.5 per cent, was not changed after its inception, but the general exemption was increased over the years from \$173.33 to \$1,733.33 per month (\$2,080 per annum to \$20,800 per annum).

From 1 September 1971, in accordance with an agreement between the Commonwealth Government and the States following the June 1971 Premiers' Conference, the Commonwealth Government vacated the pay-roll tax field in favour of the States. It continued, however, to impose pay-roll tax in the Australian Capital Territory and the Northern Territory. The laws relating to pay-roll tax in the Territories are the *Pay-roll Tax (Territories) Assessment Act 1971* and the *Pay-roll Tax (Territories) Act 1971*.

From 1 December 1974 the rate of tax payable in the Territories has been 5 per cent with a statutory exemption of wages up to \$1,733.33 per month (\$20,800 per annum) or a proportion of that amount in the case of an employer who is an employer also in a State.

The *Pay-roll Tax (Territories) Assessment Act 1976* raised the level of the general exemption from pay-roll tax in the Territories from \$20,800 to \$48,000 per annum with effect from 1 January 1977. However the exemption was reduced by \$2 for every \$3 by which the annual pay-roll exceeded \$48,000. The maximum general exemption was increased to \$60,000 from 1 July 1978 under the *Pay-roll (Territories) Assessment Amendment Act 1978*. Commonwealth pay-roll tax in the Northern Territory was terminated from 1 July 1978 by the *Pay-roll Tax (Territories) Assessment Amendment Act (No. 2) 1978* giving the Territory the right to levy its own pay-roll tax.

The *Pay-roll Tax (Territories) Assessment Amendment Act 1979* increased the maximum exemption level in the Australian Capital Territory to \$66,000 with effect from 1 January 1979. The exemp-

tion level was further increased to \$72,000 with effect from 1 January 1980 under the *Pay-roll Tax (Territories) Assessment Amendment Act* 1980. Phasing out remains at \$2 for each \$3 by which the annual wages payable exceed the maximum exemption level.

Gross collections of pay-roll tax in 1978-79 and 1979-80 amounted to \$16,229,418 and \$15,706,287 respectively.

Gross operating surplus of public enterprises

The *gross operating surplus* of public *trading* enterprises is the excess over working expenses of total revenue from charges before providing for capital consumption and other costs of capital (i.e. interest, debt redemption). *Financial* enterprises do not charge directly, at least not in full, for the services they render; that expenditure is largely financed by net receipts of interest and other transfer income. By convention, the output of these enterprises is valued at cost, so that no operating surplus is recorded in their production accounts. The profits of these enterprises are attributable to their property income. *Income* (including depreciation) of public financial enterprises is therefore arrived at after deducting interest paid and working expenses (i.e. net current expenditure on goods and services) from total receipts of interest and non-dwelling rent.

In the following table the revenue, working expenses and gross operating surplus of public trading enterprises are shown; public financial enterprises are reflected simply on the basis of their income (including depreciation). Further information relating to the more important of these enterprises may be found in the chapters dealing with banking, housing, railways, electric power generation, etc.

COMMONWEALTH AUTHORITIES: PUBLIC TRADING ENTERPRISES(a): REVENUE, WORKING EXPENSES AND GROSS OPERATING SURPLUS, CLASSIFIED BY INDUSTRY

(\$ million)

<i>Industry</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
REVENUE						
Manufacturing	34.0	48.9	54.7	58.5	74.3	65.2
Electricity	76.0	84.1	96.2	105.1	100.6	105.6
Water supply, sewerage and drainage	5.0	7.6	9.6	12.5	12.9	14.2
Transport and communication—						
Air transport	592.5	704.7	808.7	929.7	1,074.3	1,336.4
Rail transport	41.4	108.2	122.9	121.7	131.4	157.6
Sea transport	145.5	204.3	282.6	319.4	372.7	422.9
Urban transit systems	9.3	14.0	16.8	15.8	10.2	11.0
Pipelines	—	—	2.8	11.7	18.1	23.4
Communication	1,444.0	2,008.7	2,314.7	2,521.3	2,811.9	3,121.1
<i>Total transport, etc.</i>	<i>2,232.7</i>	<i>3,039.9</i>	<i>3,548.4</i>	<i>3,919.5</i>	<i>4,418.7</i>	<i>5,072.4</i>
Commerce	43.4	207.9	149.6	249.8	360.4	199.1
Property and business services—						
Housing	21.9	23.0	22.6	27.6	25.6	27.9
Other	18.7	25.5	25.7	36.5	38.7	43.5
<i>Total property, etc.</i>	<i>40.6</i>	<i>48.4</i>	<i>48.3</i>	<i>64.1</i>	<i>64.3</i>	<i>71.4</i>
Community, social and personal services	16.9	22.8	22.7	28.1	42.7	52.6
Total revenue	2,448.5	3,459.6	3,929.5	4,437.6	5,073.9	5,580.5
WORKING EXPENSES(b)						
Manufacturing	35.0	46.9	52.4	55.6	68.6	60.1
Electricity	29.3	37.3	48.3	56.9	39.7	48.4
Water supply, sewerage and drainage	3.9	4.9	6.1	7.3	5.8	6.8
Transport and communication—						
Air transport	550.7	647.6	722.7	833.8	969.2	1,267.5
Rail transport	50.6	154.3	170.1	184.9	187.0	205.2
Sea transport	136.8	184.2	231.2	260.4	312.8	377.7
Urban transit systems	12.3	16.7	19.1	20.0	16.0	19.2
Pipelines	—	—	1.4	3.4	3.1	3.7
Communication	986.1	1,219.8	1,456.4	1,600.6	1,769.8	1,989.2
<i>Total transport, etc.</i>	<i>1,736.4</i>	<i>2,222.6</i>	<i>2,601.0</i>	<i>2,903.0</i>	<i>3,258.0</i>	<i>3,862.6</i>
Commerce	68.6	248.3	160.7	255.0	348.6	190.0
Property and business services—						
Housing	23.9	24.4	24.4	28.8	30.1	33.4
Other	18.2	24.3	23.8	35.0	37.0	42.2
<i>Total property, etc.</i>	<i>42.1</i>	<i>48.8</i>	<i>48.2</i>	<i>63.8</i>	<i>67.1</i>	<i>75.6</i>
Community, social and personal services	14.1	19.7	19.1	24.0	34.2	42.2
Total working expenses	1,929.3	2,628.4	2,935.8	3,365.6	3,822.1	4,285.7
GROSS OPERATING SURPLUS						
Manufacturing	-1.0	2.0	2.3	2.9	5.6	5.0
Electricity	46.7	46.8	47.9	48.2	60.9	57.3
Water supply, sewerage and drainage	1.1	2.6	3.5	5.2	7.0	7.4
Transport and communication—						
Air transport	41.8	57.1	86.0	95.9	105.1	68.9
Rail transport	-9.2	-46.1	-47.2	-63.2	-55.5	-47.6
Sea transport	8.7	20.1	51.4	59.0	60.0	45.2
Urban transit systems	-3.0	-2.7	-2.4	-4.1	-5.8	-8.5
Pipelines	—	—	1.4	8.3	15.0	19.7
Communication	458.0	788.9	858.2	920.7	1,042.1	1,131.9
<i>Total transport, etc.</i>	<i>496.3</i>	<i>817.3</i>	<i>947.5</i>	<i>1,016.5</i>	<i>1,160.7</i>	<i>1,209.8</i>
Commerce	-25.1	-40.4	-11.1	-5.3	11.8	9.1
Property and business services—						
Housing	-2.1	-1.5	-1.8	-1.2	-4.5	-5.5
Other	0.5	1.2	1.8	1.6	1.7	1.2
<i>Total property, etc.</i>	<i>-1.6</i>	<i>-0.3</i>	<i>—</i>	<i>0.4</i>	<i>-2.9</i>	<i>-4.3</i>
Community, social and personal services	2.9	3.2	3.6	4.0	8.5	10.4
Total gross operating surplus	519.2	831.2	993.8	1,072.0	1,251.8	1,294.7

(a) Excludes Northern Territory public trading enterprises from 1978-79.

(b) Excludes depreciation and interest charges.

STATE AUTHORITIES

The State-authorities dealt with in this section include the central government of each State, statutory bodies created by or under State legislation to carry out activities on behalf of the central government, and incorporated organisations in which individual State governments have a controlling interest.

The transactions of many of the State authorities are itemised in State Consolidated Revenue Funds or in Trust Funds, so that a satisfactory coverage of their transactions can be obtained from a detailed analysis and reclassification of the published accounts whose receipts and payments are summarised in the statement of Treasury balances for each State. The remaining statutory bodies and other publicly owned or controlled organisations maintain accounts entirely, or largely, separate from the public accounts, although there may be transactions between them and State governments (such as advances and capital contributions, interest and dividends, and votes for running expenses and capital works) which would affect the public accounts. The accounting reports of this group of organisations have to be collected and analysed in order to present a complete statement of the transactions of State authorities—or at least methods of analysis need to be adopted which adequately reflect their transactions so that they are, in principle, covered by the statistics.

In the figures which follow in this section, all expenditure by State central government authorities on certain institutions, whether direct (e.g. new building charged to Loan Fund) or indirect by way of current or capital grants to the bodies administering them, has been treated as final expenditure on goods and services by State authorities; fees and gifts from persons or private businesses to these institutions are not included, nor is the expenditure of the institutions from their own resources. Universities and hospitals are particular examples of organisations for which this practice has been adopted.

Many of these State authorities have been granted autonomy by State legislatures to the extent that they are largely financially independent. Some of these are funded from earmarked tax revenues and are vested with independent borrowing powers. A considerable number of others belong to the category of public enterprises, since they are able to charge for their services so as to cover their costs of operation. These bodies have usually been created to control a specific activity or provide a specific service within a State. It is often the case that in other States similar activities are carried out, or services are provided, by central government or local authorities. Details of the activities of autonomous or semi-autonomous State authorities engaged in such fields as construction and maintenance of roads and bridges, provision of water supply and sewerage services, harbour facilities, transport, electricity and gas, housing and banking may be found in chapters relevant to those subjects and in State Year Books.

Details of the transactions of State authorities are given in the tables which follow. Reference should be made to the introduction of *State and Local Government Finance, Australia* (5504.0) for definitions and descriptions of items appearing in these tables, and also for further details of the organisations covered by the figures. Additional information relating to the activities of the State authorities may also be found in the Year Books of the individual States.

Coverage—Northern Territory government authorities

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In the period up to and including 1977–78 receipts and outlays relating to the Northern Territory are included with Commonwealth receipts and outlays but from 1978–79 onwards they have been grouped with the receipts and outlays of State authorities.

Outlay and receipts

The outlay and receipts of State authorities for the six year period ended 1979-80 are given in the following table.

STATE AUTHORITIES(a): OUTLAY AND RECEIPTS
(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
OUTLAY						
Final consumption expenditure	5,247.9	6,825.6	8,147.1	9,253.2	10,237.1	11,645.3
Gross capital formation—						
Increase in stocks	55.2	30.8	29.7	63.5	36.5	65.4
Expenditure on new fixed assets	3,310.6	3,903.8	4,187.2	4,762.3	5,196.8	5,624.7
Expenditure on existing assets (net)	232.3	179.8	148.0	106.3	82.3	6.2
<i>Total gross capital formation</i>	<i>3,598.0</i>	<i>4,114.4</i>	<i>4,364.9</i>	<i>4,932.0</i>	<i>5,315.6</i>	<i>5,696.3</i>
Transfer payments—						
Interest	1,099.9	1,248.1	1,491.1	1,744.1	2,004.5	2,240.3
Personal benefit payments	185.4	220.2	247.2	280.2	285.1	308.6
Subsidies	40.2	46.1	58.4	89.4	101.2	112.4
Transfers overseas	0.1	0.1	0.1	0.1	0.1	0.1
Grants for private capital purposes	57.1	57.7	49.8	64.4	73.2	65.2
Grants to local authorities	282.5	347.3	414.1	479.0	512.4	587.2
<i>Total transfer payments</i>	<i>1,665.3</i>	<i>1,919.5</i>	<i>2,260.7</i>	<i>2,657.2</i>	<i>2,976.7</i>	<i>3,313.8</i>
Net advances—						
To the private sector	147.9	170.0	189.7	212.3	111.3	104.5
To public financial enterprises	96.6	88.1	87.3	113.2	91.0	53.8
To local authorities	17.9	18.6	16.0	9.3	12.8	8.9
<i>Total net advances</i>	<i>262.4</i>	<i>276.7</i>	<i>293.0</i>	<i>334.9</i>	<i>215.1</i>	<i>167.3</i>
Total outlay	10,773.6	13,136.2	15,065.7	17,177.2	18,744.5	20,822.7
of which—						
current outlay	6,678.7	8,480.7	10,146.1	11,613.7	12,897.6	14,625.7
capital outlay	4,094.9	4,655.6	4,919.7	5,563.5	5,846.9	6,197.0
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	2,791.7	3,469.0	3,972.9	4,299.8	4,666.8	5,263.7
Income from public enterprises	206.8	332.5	354.6	382.3	461.7	663.6
Property income	466.4	489.5	645.5	755.7	803.1	1,028.0
Grants from the Commonwealth						
Government—						
for current purposes	3,735.0	5,427.5	6,110.2	7,215.3	8,137.9	9,079.6
for capital purposes	1,409.8	1,556.6	1,537.3	1,508.9	1,483.8	1,565.8
Grants from local authorities	26.0	32.6	32.3	36.2	35.8	52.3
<i>Total receipts</i>	<i>8,635.6</i>	<i>11,307.7</i>	<i>12,652.7</i>	<i>14,198.3</i>	<i>15,589.1</i>	<i>17,653.0</i>
Financing items—						
Net borrowing—						
Public trading enterprises	421.3	561.2	662.8	887.7	1,182.8	1,427.1
General government	72.3	112.2	126.2	120.4	205.5	269.8
Advances from the Commonwealth Government (net)—						
For loan works purposes	592.2	708.7	744.7	784.8	770.6	704.5
Other	632.7	663.8	533.4	476.3	356.6	191.1
Net receipts of private trust funds	151.3	32.7	244.1	230.1	241.9	250.5
Reduction in cash and bank balances	-32.3	-741.3	-408.5	-31.4	-240.5	-144.6
Reduction in security holdings—						
Investment of private trust funds	-50.8	11.8	-61.5	-95.7	-113.8	-135.1
Investment of governmental trust funds and public corporations	-1.0	-4.7	-58.1	-120.5	-53.4	-77.3
Other funds available (including errors and omissions)—						
Depreciation allowances	265.8	308.8	354.3	410.5	467.0	496.2
Other	86.5	175.6	275.7	316.5	338.8	187.4
<i>Total financing items</i>	<i>2,138.0</i>	<i>1,828.5</i>	<i>2,413.0</i>	<i>2,978.9</i>	<i>3,155.3</i>	<i>3,169.7</i>
Total funds available	10,773.6	13,136.2	15,065.7	17,177.2	18,744.5	20,822.7

(a) Excludes financial enterprises. Includes Northern Territory authorities from 1978-79.

The following table provides details of the outlay and receipts of State authorities in each of the six States and the Northern Territory.

STATE AUTHORITIES(a): OUTLAY AND RECEIPTS BY STATE, 1979-80
(\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
OUTLAY								
Final consumption expenditure	3,935.9	3,033.8	1,619.5	1,140.0	1,199.2	439.1	278.0	11,645.3
Gross capital formation—								
Increase in stocks	12.9	19.2	2.2	4.5	20.0	2.3	4.3	65.4
Expenditure on new fixed assets	1,754.0	1,592.6	921.7	393.6	568.4	215.1	179.2	5,624.7
Expenditure on existing assets (net)	10.0	-1.9	-2.1	17.6	-0.9	-5.2	-11.3	6.2
Total gross capital formation	1,776.9	1,609.9	921.7	415.8	587.5	212.2	172.2	5,696.3
Transfer payments—								
Interest	696.4	675.2	355.1	225.7	170.9	102.9	14.3	2,240.3
Personal benefit payments	145.0	64.0	35.3	23.1	27.3	13.4	0.5	308.6
Subsidies	46.8	37.7	11.2	7.1	4.8	5.0	0.1	112.4
Transfers overseas	-	-	-	-	-	-	-	0.1
Grants for private capital purposes	26.2	18.2	9.6	6.8	3.1	0.5	0.7	65.2
Grants to local authorities	184.8	149.0	133.6	34.5	57.2	20.1	8.0	587.2
Total transfer payments	1,099.3	944.0	544.7	297.3	263.3	141.9	23.4	3,313.8
Net advances—								
To the private sector	-16.5	33.8	67.6	-11.9	0.8	5.7	25.1	104.5
To public financial enterprises	26.1	2.1	-	24.4	-1.2	2.5	-	53.8
To local authorities	1.6	2.2	3.9	-0.7	-0.5	2.4	-	8.9
Total net advances	11.2	38.1	71.6	11.7	-0.9	10.5	25.1	167.3
Total outlay	6,823.3	5,625.7	3,157.4	1,864.7	2,049.1	803.7	498.7	20,822.7
of which—								
current outlay	4,932.1	3,907.6	2,073.2	1,415.9	1,425.4	575.7	295.8	14,625.7
capital outlay	1,891.2	1,718.1	1,084.2	448.9	623.7	228.0	202.9	6,197.0
RECEIPTS AND FINANCING ITEMS								
Receipts—								
Taxes, fees, fines, etc.	2,084.9	1,591.1	607.9	411.4	420.0	122.5	26.0	5,263.7
Income from public enterprises	135.7	308.5	120.4	53.6	16.6	49.4	-20.5	663.6
Property income	313.0	222.6	224.6	81.9	146.1	27.2	12.5	1,028.0
Grants from the Commonwealth								
Government—								
for current purposes	2,859.5	2,148.7	1,446.6	955.5	1,002.9	375.5	291.0	9,079.6
for capital purposes	487.3	350.7	264.0	157.3	160.1	77.8	68.7	1,565.8
Grants from local authorities	14.9	10.3	6.0	6.4	2.6	12.1	-	52.3
Total receipts	5,895.3	4,631.7	2,669.5	1,666.0	1,748.3	664.6	377.6	17,653.0
Financing items—								
Net borrowing—								
Public trading enterprises	357.8	678.2	169.0	60.6	100.4	61.1	-	1,427.1
General government	85.9	7.0	114.4	18.5	15.5	2.7	25.9	269.8
Advances from the Commonwealth								
Government (net)—								
For loan works purposes	202.4	160.3	84.0	83.7	57.7	46.7	69.7	704.5
Other	58.2	44.8	29.8	25.9	20.2	3.4	8.7	191.1
Net receipts of private trust funds	4.8	58.7	137.1	9.5	29.6	10.8	-	250.5
Reduction in cash and bank balances	72.0	-50.1	-127.1	-71.2	34.1	-1.3	-0.9	-144.6
Reduction in security holdings—								
Investments of private trust funds	0.3	-72.0	-	-12.2	-41.1	-10.2	-	-135.1
Investments of governmental trust funds and public corporations	-42.1	-25.5	-12.1	1.4	-0.9	1.8	-	-77.3
Other funds available (including errors and omissions)—								
Depreciation allowances	185.4	122.9	67.4	49.1	53.8	11.4	6.1	496.2
Other	3.4	69.5	25.5	33.2	31.3	12.8	11.5	187.4
Total financing items	928.0	993.9	488.0	198.7	300.8	139.2	121.1	3,169.7
Total funds available	6,823.3	5,625.7	3,157.4	1,864.7	2,049.1	803.7	498.7	20,822.7

(a) Excludes financial enterprises.

STATE AUTHORITIES, 1979-80

RECEIPTS AND FINANCING ITEMS

OUTLAY

Commonwealth Government
Grants and Advances—\$11,541m

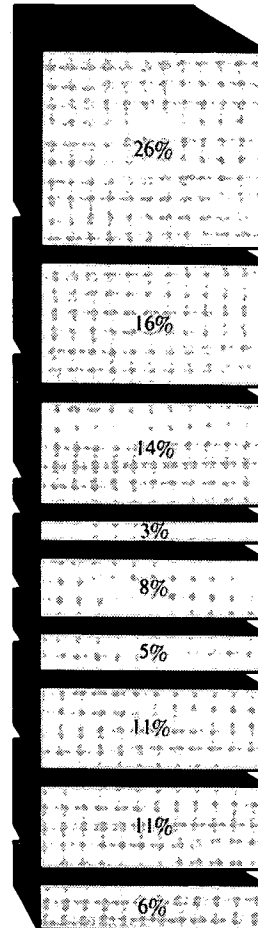
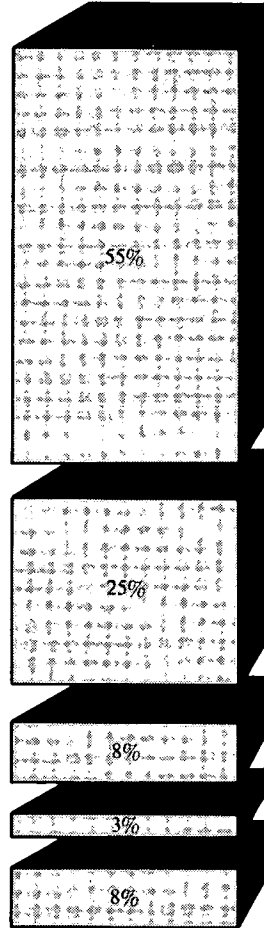
Taxation—\$5,264m

Net borrowing—\$1,697m

Income from Public Enterprises—\$664m

Other—\$1,658m

TOTAL FUNDS AVAILABLE—\$20,823 million



Education—\$5,415m

Health and Welfare—\$3,290m

Other Final Consumption
Expenditure—\$2,940m

Expenditure on New Fixed
Assets—Education—\$620m

Electricity, Gas and Water Supply—\$1,638m

Road System and Regulation—\$1,027m

Other Expenditure on New
Fixed Assets—\$2,340m

Interest—\$2,240m

Other Outlay—\$1,313m

TOTAL OUTLAY—\$20,823 million

PLATE 45

Main components of outlay

The main component of the outlay of State authorities is expenditure on goods and services. As in the case of authorities of the Commonwealth Government, this expenditure consists mainly of final consumption expenditure and expenditure on new fixed assets. The following tables show final consumption expenditure and expenditure on new fixed assets classified by purpose for State authorities.

STATE AUTHORITIES(a): FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE
(*\$ million*)

<i>Purpose</i>	<i>1974-75</i>	<i>1975-76</i>	<i>1976-77</i>	<i>1977-78</i>	<i>1978-79</i>	<i>1979-80</i>
General public services—						
Law, order and public safety . . .	541.0	658.9	771.8	881.7	995.8	1,176.7
General administration, n.e.c. . .	337.6	413.0	510.2	591.3	668.7	781.7
Education	2,596.2	3,222.6	3,871.9	4,388.1	4,764.6	5,415.4
Health	1,207.2	1,835.8	2,209.8	2,486.6	2,761.8	3,076.3
Social security and welfare	89.4	108.5	123.6	147.2	180.7	213.8
Housing and community amenities—						
Housing	3.1	4.4	5.4	3.9	4.5	4.0
Community and regional development	16.0	20.7	24.1	26.4	35.7	35.7
Protection of the environment, and community amenities	12.0	17.6	22.0	24.8	28.3	32.5
Recreation and culture	58.9	79.5	97.6	120.8	146.9	168.2
Economic services—						
Agriculture, forestry, fishing . . .	228.1	268.3	297.8	340.6	374.0	429.6
Mining, manufacturing and construction	37.1	45.4	48.4	54.3	62.1	73.2
Electricity, gas and water supply . . .	4.4	7.6	6.1	8.1	9.6	9.7
Rail transport (b)	1.2	1.4	1.0	1.2	0.7	1.0
Sea transport	3.9	4.1	4.6	5.3	2.5	1.9
Road systems and regulation	10.8	12.1	15.2	15.1	18.9	20.4
Other transport services, n.e.c. . . .	2.4	4.5	4.2	4.0	7.0	9.6
Other economic services(c)	97.5	120.3	132.0	151.7	173.6	193.8
Other purposes	1.3	0.9	1.3	2.1	2.0	2.1
Total	5,247.9	6,825.6	8,147.1	9,253.2	10,237.1	11,645.3

(a) Includes Northern Territory authorities from 1978-79.
 regulation and research.

(b) Includes suburban rail transport systems.

(c) Includes general administration, regulation and research.

STATE AUTHORITIES(a): FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE 1979-80
(*\$ million*)

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>Total</i>
General public services—								
Law, order and public safety	419.3	265.6	179.8	110.1	125.7	42.2	33.8	1,176.7
General administration, n.e.c.	279.5	164.8	118.1	58.5	70.8	39.6	50.4	781.7
Education	1,825.4	1,564.5	712.0	555.6	505.0	181.6	71.3	5,415.4
Health	1,098.0	751.6	407.1	291.0	362.2	107.1	59.5	3,076.3
Social security and welfare	51.1	60.9	42.9	20.9	19.4	5.9	12.7	213.8
Housing and community amenities—								
Housing	-0.7	1.6	-1.0	1.0	0.6	0.8	1.6	4.0
Community and regional development	11.7	14.8	—	4.1	1.9	0.7	2.5	35.7
Protection of the environment, and community amenities	6.8	12.4	2.1	6.2	2.4	1.0	1.6	32.5
Recreation and culture	40.7	34.5	21.3	25.5	24.8	12.1	9.4	168.2
Economic services—								
Agriculture, forestry, fishing	117.8	97.1	109.0	30.6	36.2	27.4	11.5	429.6
Mining, manufacturing and construction	24.0	9.3	9.3	8.2	13.4	4.3	4.6	73.2
Electricity, gas and water supply	2.0	-2.4	4.1	—	5.1	0.8	—	9.7
Rail transport (b)	—	0.3	—	—	0.7	—	—	1.0
Sea transport	2.7	-0.1	-2.2	1.4	—	0.1	—	1.9
Road systems and regulation	1.5	8.6	2.9	1.7	0.6	1.3	3.8	20.4
Other transport services, n.e.c.	1.7	2.0	—	0.3	0.6	0.2	4.7	9.6
Other economic services(c)	54.2	47.0	14.3	24.7	29.2	13.7	10.6	193.8
Other purposes	0.2	1.0	-0.1	0.1	0.7	0.2	—	2.1
Total	3,935.9	3,033.8	1,619.5	1,140.1	1,199.2	439.1	278.0	11,645.3

(a) Includes Northern Territory authorities from 1978-79.
 regulation and research.

(b) Includes suburban rail transport systems.

(c) Includes general administration, regulation and research.

STATE AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE
(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
General public services—						
Law, order and public safety	46.9	63.8	73.3	91.0	100.3	114.0
General administration, n.e.c.	60.5	82.1	87.6	112.0	115.9	107.9
Education	609.2	618.2	574.2	659.9	677.6	620.1
Health	204.0	326.9	334.0	322.8	332.2	285.9
Social security and welfare	8.3	8.8	12.1	10.7	11.8	12.4
Housing and community amenities—						
Housing	270.3	260.0	237.0	294.9	270.1	279.2
Community and regional development	14.0	35.0	42.5	38.2	33.9	62.0
Protection of the environment, and community amenities	298.6	330.8	343.8	352.5	344.6	339.0
Recreation and culture	18.6	25.2	33.5	51.4	69.9	74.3
Economic services—						
Agriculture, forestry, fishing	146.0	173.2	204.1	219.3	215.6	225.2
Mining, manufacturing and construction	59.7	61.9	61.8	68.0	55.9	95.5
Electricity and gas	435.8	538.1	650.1	834.5	1,099.9	1,370.9
Water supply	198.2	237.7	260.2	278.3	274.8	267.3
Rail transport(b)	217.7	277.1	312.4	386.0	439.8	456.0
Sea transport	76.2	84.9	94.8	116.6	146.0	155.8
Road systems and regulation	580.0	688.3	770.5	829.0	911.3	1,026.7
Other transport services, n.e.c.	18.0	31.2	29.9	38.7	42.4	54.3
Other economic services(c)	48.8	60.4	64.9	57.7	53.3	78.4
Other purposes	-0.3	0.1	0.5	0.8	1.3	-0.1
Total	3,310.6	3,903.8	4,187.2	4,762.3	5,196.8	5,624.7

(a) Excludes financial enterprises. Includes Northern Territory authorities from 1978-79. (b) Includes suburban rail transport systems. (c) Includes general administration, regulation and research.

STATE AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE
1979-80
(\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
General public services—								
Law, order and public safety	36.1	18.7	17.9	11.4	19.3	5.7	4.9	114.0
General administration, n.e.c.	32.0	9.1	32.2	3.4	11.3	8.0	12.1	107.9
Education	212.0	171.2	92.9	56.4	47.8	26.6	13.4	620.1
Health	61.3	59.8	54.4	25.7	56.8	17.9	9.9	285.9
Social security and welfare	4.6	1.4	3.6	1.2	1.2	0.4	-	12.4
Housing and community amenities—								
Housing	124.5	34.4	11.6	25.8	35.4	24.6	22.9	279.2
Community and regional development	33.6	21.0	-	1.2	1.3	-	4.8	62.0
Protection of the environment, and community amenities	160.1	118.5	0.2	22.4	34.7	-	2.9	339.0
Recreation and culture	9.8	26.8	15.5	10.7	5.5	1.6	4.5	74.3
Economic services—								
Agriculture, forestry, fishing	64.6	50.8	45.7	17.9	30.8	13.5	2.0	225.2
Mining, manufacturing and construction	21.5	55.3	11.3	2.2	4.1	0.6	0.5	95.5
Electricity and gas	287.0	525.6	260.3	76.6	129.4	61.7	30.4	1,370.9
Water supply	55.0	118.3	14.2	19.6	39.1	8.2	12.9	267.3
Rail transport(b)	190.6	114.3	123.3	-	27.7	0.1	-	456.0
Sea transport	67.2	20.0	47.7	5.2	6.7	4.8	4.2	155.8
Road systems and regulation	366.1	197.6	186.7	82.8	111.0	34.7	47.7	1,026.7
Other transport services, n.e.c.	2.6	15.5	-	28.6	4.1	1.9	1.6	54.3
Other economic services(c)	26.0	34.5	4.3	2.6	1.6	4.7	4.7	78.4
Other purposes	-0.8	-	-	-	0.7	-	-	-0.1
Total	1,754.0	1,592.6	921.7	393.6	568.4	215.1	179.2	5,624.7

(a) Excludes financial enterprises. Includes Northern Territory authorities from 1978-79. (b) Includes suburban rail transport systems. (c) Includes general administration, regulation and research.

Main components of receipts

The major source of funds available to State authorities is in the form of financial assistance by way of grants and advances from the Commonwealth Government. Taxation is also an important source of revenue, and central government borrowing by way of Commonwealth Government securities issued on behalf of the States, as well as borrowing by statutory bodies, accounted for a significant proportion of the total funds available.

Details of Commonwealth Government financial assistance to the States and the Northern Territory have already been given in the section dealing with Commonwealth Government authorities, and government borrowing activities are dealt with later in this chapter.

The following tables provide details of the taxes collected by State authorities classified by type of tax. Further information relating to State taxes may be found in *Taxation Revenue, Australia* (5506.0).

STATE AUTHORITIES(a): TAXATION BY TYPE OF TAX
(**\$ million**)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Estate, gift, probate and succession duties	198.1	226.9	251.5	241.1	205.4	171.4
Property taxes—						
Land tax	168.0	200.1	218.1	236.6	258.0	290.8
Metropolitan improvement rates	12.8	15.1	15.8	16.2	18.1	19.2
Other	2.3	1.7	1.6	1.4	1.2	1.0
<i>Total property</i>	<i>183.1</i>	<i>216.9</i>	<i>235.5</i>	<i>254.2</i>	<i>277.2</i>	<i>310.9</i>
Liquor taxes	75.6	95.8	120.9	140.6	155.2	174.7
Taxes on gambling—						
Lotteries	67.9	85.9	109.6	129.2	149.0	195.8
Poker machines	71.9	83.4	92.0	98.2	108.0	120.7
Racing	136.0	161.9	180.5	194.1	205.4	227.4
Other	3.3	9.0	12.0	12.5	17.3	21.8
<i>Total gambling</i>	<i>279.1</i>	<i>340.2</i>	<i>394.1</i>	<i>434.0</i>	<i>479.7</i>	<i>565.7</i>
Taxes on ownership and operation of motor vehicles—						
Vehicle registration fees and taxes	284.1	334.3	397.0	461.3	499.7	498.1
Drivers', etc., licences and fees	43.1	54.3	59.9	60.4	74.1	75.0
Stamp duty on vehicle registration	51.5	84.2	116.5	126.0	141.0	151.1
Road transport taxes	15.2	15.6	15.9	14.5	13.8	14.7
Road maintenance contributions	44.4	44.4	44.7	44.5	45.3	6.4
Motor car third party insurance surcharge and duties	9.8	12.5	12.9	13.4	13.7	18.7
<i>Total motor vehicles</i>	<i>448.0</i>	<i>545.2</i>	<i>646.9</i>	<i>720.1</i>	<i>787.7</i>	<i>764.0</i>
Pay-roll tax	997.6	1,160.9	1,305.7	1,418.4	1,526.4	1,694.8
Fire brigades contributions from insurance companies, etc.	66.2	85.3	99.0	113.0	120.8	137.9
Stamp duties, n.e.i.	389.3	550.8	666.8	702.6	800.2	993.4
Fees from regulatory services, n.e.i.	26.3	37.7	44.2	48.4	54.7	60.8
Other taxes, fees, fines, etc.	128.5	209.3	208.5	227.4	259.5	390.2
<i>Total taxation</i>	<i>2,791.7</i>	<i>3,469.0</i>	<i>3,972.9</i>	<i>4,299.8</i>	<i>4,666.8</i>	<i>5,263.7</i>

(a) Includes Northern Territory authorities from 1978-79.

STATE AUTHORITIES: TAXATION BY TYPE OF TAX, 1979-80
(**\$ million**)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
Estate, gift, probate and succession duties	80.3	52.5	3.1	18.5	13.0	3.9	-	171.4
Property taxes—								
Land tax	133.0	90.1	18.4	21.3	23.0	5.1	-	290.8
Metropolitan improvement rates	-	15.1	-	-	4.1	-	-	19.2
Other	0.3	-	-	0.5	0.2	-	-	1.0
<i>Total property</i>	<i>133.3</i>	<i>105.1</i>	<i>18.4</i>	<i>21.8</i>	<i>27.2</i>	<i>5.1</i>	<i>-</i>	<i>310.9</i>
Liquor taxes	67.7	42.8	29.7	12.4	16.3	4.7	1.1	174.7
Taxes on gambling—								
Lotteries	56.2	100.5	10.1	16.9	8.1	3.6	0.4	195.8
Poker machines	120.7	-	-	-	-	-	-	120.7
Racing	99.3	71.0	25.4	11.8	15.7	3.7	0.5	227.4
Other	9.1	3.5	5.2	-	-	3.2	0.7	21.8
<i>Total gambling</i>	<i>285.4</i>	<i>175.0</i>	<i>40.7</i>	<i>28.8</i>	<i>23.9</i>	<i>10.4</i>	<i>1.5</i>	<i>565.7</i>
Taxes on ownership and operation of motor vehicles—								
Vehicle registration fees and taxes	181.4	135.0	76.9	38.4	45.7	17.5	3.1	498.1
Drivers', etc., licences and fees	28.3	25.2	10.2	4.8	5.0	1.5	-	75.0
Stamp duty on vehicle registration	55.2	53.6	13.2	17.7	6.3	5.0	-	151.1
Road transport taxes	1.5	7.6	1.8	0.1	2.4	1.2	-	14.7
Road maintenance contributions	1.2	1.5	1.4	1.1	1.0	0.2	-	6.4
Motor car third party insurance surcharge and duties	-	12.5	-	2.0	3.7	0.5	-	18.7
<i>Total motor vehicles</i>	<i>267.7</i>	<i>235.4</i>	<i>103.6</i>	<i>64.1</i>	<i>64.1</i>	<i>26.0</i>	<i>3.1</i>	<i>764.0</i>
Pay-roll tax	686.4	473.7	205.0	134.2	137.0	43.4	15.2	1,694.8
Fire brigades contributions from insurance companies, etc.	39.9	43.1	23.8	11.1	15.7	4.2	-	137.9
Stamp duties, n.e.i.	395.6	290.4	144.8	69.4	71.1	19.0	3.1	993.4
Fees from regulatory services, n.e.i.	23.6	14.6	12.3	3.8	4.4	0.9	1.2	60.8
Other taxes, fees, fines, etc.	105.0	158.5	26.5	47.4	47.4	4.8	0.8	390.2
<i>Total taxation</i>	<i>2,084.9</i>	<i>1,591.1</i>	<i>607.9</i>	<i>411.4</i>	<i>420.0</i>	<i>122.5</i>	<i>26.0</i>	<i>5,263.7</i>

LOCAL AUTHORITIES

In each State of Australia and in the Northern Territory there exists a system of local government whose powers and responsibilities are generally similar and cover such matters as the construction and maintenance of roads, streets and bridges; water, sewerage and drainage systems; health and sanitary services; the supervision of building; and the administration of regulations relating to items such as weights and measures, slaughtering, the registration of dogs, etc. In addition to these obligatory functions, there are also many which may be performed by a local authority either with or without the consent of the ratepayers or the Governor-in-Council. These include transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, swimming pools, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State legislatures to the local authorities, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the Governor-in-Council. Otherwise, within the scope of the Acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers. While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc. vary considerably from State to State, and even within States.

The areas over which local government bodies, numbering almost 900, exercise general control, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South Australia as cities, corporate towns and district council areas; in Western Australia as cities, towns and shires; and in Tasmania and the Northern Territory as cities and municipalities. In New South Wales some local authorities in an area have combined to form County Councils which provide services such as electricity and water supply. Within shires there are also some municipal units known as urban areas. Apart from the Australian Capital Territory and the more sparsely populated parts of New South Wales, South Australia and the Northern Territory, practically the whole of Australia comes within local government jurisdiction. For further details *see* State Year Books.

Coverage—Northern Territory local authorities

On 1 July 1978, the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. In the period up to and including 1977-78 receipts and outlays relating to the Northern Territory are included with Commonwealth Government receipts and outlays but from 1978-79 onwards they have been grouped with the receipts and outlays of State and local authorities.

Area, population, dwellings, and rates and penalties for ordinary services

The area, population, dwellings, and the amount of rates and penalties collected for ordinary services in the incorporated areas of each State are shown in the following table. Particulars of dwellings are in accordance with the definition used in the Census, and are compiled from information collected on the Census Schedules. In the table, where the boundary of a capital city statistical division cuts across a local government area, the area of that capital city statistical division has been estimated. Particulars of population for capital city statistical divisions take account of those local government areas which overlap with capital city statistical division boundaries.

The item 'Rates and Penalties for Ordinary Services' relates to general and other special or local rates (excluding water and sewerage rates) levied or declared or, where the cash accounting system operates, the rates collected.

LOCAL GOVERNMENT AUTHORITIES: AREA, POPULATION, DWELLINGS, AND RATES AND PENALTIES FOR ORDINARY SERVICES—30 JUNE 1978

Location (a)	No. of local authorities	Area	Population	Dwellings (b)	Rates and penalties— ordinary services
		square kilometres	'000	'000	\$'000
New South Wales—					
Sydney Statistical Division	45	12,406	3,155	1,076	(c)278,611
Other	160	693,254	1,850	603	(c)168,177
<i>Total New South Wales</i>	<i>205</i>	<i>705,660</i>	<i>5,005</i>	<i>1,679</i>	<i>(c)446,788</i>
Victoria—					
Melbourne Statistical Division	56	6,110	2,718	913	(d)239,449
Other	155	220,990	1,100	369	(d)90,500
<i>Total Victoria</i>	<i>211</i>	<i>227,100</i>	<i>3,818</i>	<i>1,282</i>	<i>(d)329,949</i>
Queensland—					
Brisbane Statistical Division	9	3,080	1,005	328	67,797
Other	122	1,722,946	1,161	364	89,707
<i>Total Queensland</i>	<i>131</i>	<i>1,726,026</i>	<i>2,166</i>	<i>692</i>	<i>157,504</i>
South Australia—					
Adelaide Statistical Division	34	1,842	931	328	62,572
Other	98	149,681	343	128	22,896
<i>Total South Australia</i>	<i>132</i>	<i>151,523</i>	<i>1,274</i>	<i>456</i>	<i>85,468</i>
Western Australia—					
Perth Statistical Division	26	5,364	865	292	54,957
Other	112	2,522,675	357	110	24,866
<i>Total Western Australia</i>	<i>138</i>	<i>2,528,039</i>	<i>1,222</i>	<i>402</i>	<i>79,823</i>
Tasmania—					
Hobart Statistical Division	7	940	167	56	13,859
Other	42	67,394	247	86	18,840
<i>Total Tasmania</i>	<i>49</i>	<i>68,334</i>	<i>414</i>	<i>142</i>	<i>32,699</i>

(a) Unincorporated areas are excluded in all States. (b) Dwelling figures are intercensal estimates of stocks of dwellings. (c) Based on year ended 31 December 1977. (d) Based on year ended 30 September 1978.

Outlay and receipts

The following tables show details of the outlay and receipts of all local authorities for the years 1974-75 to 1979-80, and of local authorities in each of the six States and the Northern Territory in 1979-80. Figures shown for 1979-80 are based on limited data and may be subject to significant revision as more complete accounting information is collected.

LOCAL AUTHORITIES(a): OUTLAY AND RECEIPTS

(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
OUTLAY						
Final consumption expenditure—						
General public services	155.8	194.5	228.4	269.6	302.5	378.9
Education	4.6	7.4	8.5	8.5	9.5	10.1
Health	32.6	40.0	41.6	45.5	52.8	49.9
Social security and welfare	10.2	14.0	17.8	26.4	34.4	36.5
Housing and community amenities—						
Community and regional development	10.0	11.4	13.5	12.6	16.4	33.7
Protection of the environment	50.3	56.1	65.1	70.5	82.5	113.4
Other	7.2	10.1	10.6	12.9	15.3	17.8
Recreation and culture	115.0	159.4	167.4	192.0	215.7	237.1
Economic services	44.6	52.9	62.9	75.1	87.3	105.0
Other purposes	3.5	3.3	4.4	10.7	11.5	8.0
Total	433.7	549.1	620.0	724.0	827.9	990.3
Gross capital formation—						
Expenditure on new fixed assets—						
General public services	87.7	98.9	102.7	118.0	131.0	141.2
Education	1.9	3.2	4.2	2.8	2.8	2.3
Health	1.1	2.4	2.4	1.5	2.4	2.7
Social security and welfare	3.8	5.8	6.5	7.9	10.7	12.3
Housing and community amenities—						
Community and regional development	1.5	3.4	4.4	9.4	11.8	10.6
Protection of the environment	101.3	121.8	126.7	135.0	134.4	165.6
Other	4.7	8.6	9.1	10.4	7.9	13.6
Recreation and culture	55.0	85.9	75.5	103.6	139.6	147.6
Economic services—						
Mining, manufacturing and construction	4.7	10.8	8.6	9.1	9.6	5.2
Electricity and gas	94.5	112.7	131.4	121.7	122.0	144.7
Water supply	46.2	61.0	60.9	75.3	85.0	92.7
Road systems and regulation	493.3	599.6	607.0	650.7	708.3	683.5
Other transport services, n.e.c.	1.6	1.8	6.4	6.5	3.4	3.9
Other economic services(b)	3.4	5.4	6.5	7.1	7.9	16.7
Other purposes	1.2	1.6	2.3	7.9	2.7	11.4
Total	901.7	1,122.9	1,154.5	1,267.0	1,379.5	1,454.1
Expenditure on existing assets and stocks (net)	37.2	36.5	23.5	27.9	2.0	-3.3
Interest paid	147.3	179.1	217.7	255.6	293.8	314.7
Grants to State authorities	25.9	32.6	32.3	36.2	35.8	52.3
Net advances to the private sector	5.6	5.7	6.1	4.5	12.8	8.1
Total outlay	1,551.4	1,925.8	2,054.0	2,315.3	2,551.7	2,816.3
<i>of which—</i>						
current outlay	600.4	751.5	859.8	1,003.8	1,148.0	1,343.4
capital outlay	951.1	1,174.3	1,194.1	1,311.5	1,403.8	1,472.9
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.—						
Rates on land	703.4	879.7	1,023.9	1,120.9	1,214.8	1,339.2
Licences, etc.	27.5	35.7	48.5	43.3	49.0	60.9
Total	730.9	915.4	1,072.4	1,164.2	1,263.8	1,400.1
Income from public enterprises	100.7	138.3	181.6	188.9	186.0	200.4
Property income	44.4	43.6	58.2	84.9	97.9	109.9
Grants from State and Commonwealth authorities	331.8	453.7	427.6	493.2	530.0	604.5
Total receipts	1,207.7	1,551.1	1,739.6	1,931.1	2,077.7	2,314.9
Financing items—						
Net borrowing	214.5	287.3	332.0	309.4	333.3	334.7
Advances from State and Commonwealth authorities	17.9	18.6	16.0	9.3	12.8	8.9
Net receipts of private trust funds	-1.3	2.3	3.3	3.3	1.7	2.0
Reduction in cash and bank balances	44.3	-40.9	-148.8	-48.5	8.2	-4.4
Reduction in security holdings—						
Investments of governmental funds and trading enterprises	-0.2	-9.1	-12.6	-69.4	-57.9	-55.7
Other funds available (including errors and omissions)—						
Depreciation allowances	41.5	46.7	52.8	58.5	73.3	74.3
Other	27.1	69.7	71.5	121.7	102.7	141.6
Total financing items	343.7	374.6	314.3	384.2	474.0	501.4
Total funds available	1,551.4	1,925.8	2,054.0	2,315.3	2,551.7	2,816.3

(a) Includes Northern Territory authorities from 1978-79.

(b) Includes general administration, regulation and research.

LOCAL AUTHORITIES: OUTLAY AND RECEIPTS, 1979-80

(\$ million)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	Total
OUTLAY								
Final consumption expenditure—								
General public services	156.1	97.5	67.6	21.3	24.3	10.0	2.0	378.9
Education	0.5	9.5	—	—	0.1	—	—	10.1
Health	17.2	19.5	6.6	1.8	3.9	0.8	0.1	49.9
Social security and welfare	6.6	26.5	—	1.4	1.5	0.4	0.1	36.5
Housing and community amenities—								
Community and regional development	19.7	4.9	3.5	2.3	3.3	0.1	—	33.7
Protection of the environment	43.6	40.1	10.3	12.1	4.4	2.6	0.4	113.4
Other	5.9	3.3	4.9	1.2	2.0	0.4	0.2	17.8
Recreation and culture	80.6	71.3	34.3	17.1	26.0	5.7	1.9	237.1
Economic services	17.8	61.7	16.7	5.4	3.0	-0.8	1.0	105.0
Other purposes	—	—	—	3.2	4.5	0.2	0.2	8.0
Total	348.0	334.3	143.8	65.8	73.1	19.4	6.0	990.3
Gross capital formation—								
Expenditure on new fixed assets—								
General public services	43.5	61.6	22.0	5.3	6.7	1.3	0.8	141.2
Education	0.3	2.0	—	—	0.1	—	—	2.3
Health	1.4	0.3	0.3	0.2	0.6	—	—	2.7
Social security and welfare	4.7	4.3	0.2	0.5	2.0	0.4	0.2	12.3
Housing and community amenities—								
Community and regional development	0.4	0.2	1.5	0.2	8.2	0.1	—	10.6
Protection of the environment	60.8	10.2	72.2	8.7	7.7	5.8	0.1	165.6
Other	6.5	2.0	1.2	0.8	2.0	0.3	0.8	13.6
Recreation and culture	37.8	49.3	22.8	12.2	21.1	3.6	0.7	147.6
Economic services—								
Mining, manufacturing and construction	3.4	1.8	—	—	—	—	—	5.2
Electricity and gas	136.4	6.9	—	0.3	1.1	—	—	144.7
Water supply	49.7	—	39.7	—	—	3.3	—	92.7
Road systems and regulation	273.6	146.3	111.9	49.1	73.3	26.8	2.5	683.5
Other transport services, n.e.c.	1.0	1.2	1.0	0.3	0.4	—	—	3.9
Other economic services(a)	10.1	4.7	—	0.8	0.8	0.3	—	16.7
Other purposes	—	—	—	6.6	2.1	1.7	1.0	11.4
Total	629.8	290.8	272.8	85.1	125.8	43.8	6.0	1,454.1
Expenditure on existing assets and stocks (net)	1.1	11.9	-5.6	-0.3	-11.5	1.2	-0.1	-3.3
Interest paid	138.1	52.5	78.0	13.0	19.9	13.3	—	314.7
Grants to State authorities	14.9	10.3	6.0	6.4	2.6	12.1	—	52.3
Net advances to the private sector	8.1	0.1	—	—	—	-0.1	—	8.1
Total outlay	1,140.0	699.9	495.0	170.1	209.9	89.7	11.9	2,816.3
of which—								
current outlay	500.1	391.4	227.7	80.5	93.0	44.8	6.0	1,343.4
capital outlay	639.9	308.5	267.2	89.6	116.9	44.9	5.9	1,472.9
RECEIPTS AND FINANCING ITEMS								
Receipts—								
Taxes, fees, fines, etc.—								
Rates on land	511.6	389.4	191.4	105.2	99.1	36.9	5.6	1,339.2
Licences, etc.	18.7	20.2	10.8	5.3	3.6	2.1	0.2	60.9
Total	530.3	409.6	202.2	110.6	102.7	39.0	5.8	1,400.1
Income from public enterprises	90.0	22.6	67.4	5.0	0.6	14.8	—	200.4
Property income	65.2	13.7	15.1	4.5	8.2	3.4	-0.2	109.9
Grants from State and Commonwealth authorities	189.2	154.4	135.5	35.9	59.3	20.9	9.4	604.5
Total receipts	874.7	600.3	420.2	155.8	170.8	78.2	14.9	2,314.9
Financing items—								
Net borrowing	135.0	56.5	90.8	16.8	23.5	12.2	—	334.7
Advances from State and Commonwealth authorities	1.6	2.2	3.9	-0.7	-0.5	2.4	—	8.9
Net receipts of private trust funds	—	—	2.0	—	—	—	—	2.0
Reduction in cash and bank balances	18.8	17.4	-35.4	-6.1	0.9	2.5	-2.6	-4.4
Reduction in security holdings—								
Investments of governmental funds and trading enterprises	-37.3	-15.5	—	—	—	-2.9	—	-55.7
Other funds available (including errors and omissions)—								
Depreciation allowances	74.3	—	—	—	—	—	—	74.3
Other	72.8	39.1	13.4	4.3	15.1	-2.7	-0.5	141.6
Total financing items	265.2	99.6	74.7	14.3	39.1	11.5	-3.0	501.4
Total funds available	1,140.0	699.9	495.0	170.1	209.9	89.7	11.9	2,816.3

(a) Includes general administration, regulation and research.

ALL PUBLIC AUTHORITIES

In the following tables the transactions of the Commonwealth Government, State and local authorities have been brought together and consolidated to provide details of the outlay and receipts of the public authority sector as a whole.

Summary of outlay and receipts

The outlay and receipts of all public authorities for the six year period ended 1979-80 are set out in the following table.

ALL PUBLIC AUTHORITIES(a): OUTLAY AND RECEIPTS
(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
OUTLAY						
Final consumption expenditure	9,234.1	1,1529.7	1,3503.8	1,5270.3	1,6807.1	1,8975.7
Gross capital formation—						
Increase in stocks	380.0	-35.5	-18.9	-46.8	-162.0	9.1
Expenditure on new fixed assets	5,565.4	6,605.1	7,008.4	7,800.8	8,074.7	8,681.4
Expenditure on existing assets (net)	366.0	216.0	174.5	109.8	-1.8	-45.5
<i>Total gross capital formation</i>	<i>6,311.5</i>	<i>6,785.5</i>	<i>7,164.1</i>	<i>7,863.9</i>	<i>7,911.0</i>	<i>8,645.1</i>
Transfer payments—						
Interest	1,355.5	1,544.1	2,116.6	2,558.0	3,090.0	3,534.2
Transfers to persons	4,595.6	6,417.1	7,758.7	8,700.7	9,552.0	10,388.3
Subsidies	324.2	317.3	345.7	469.7	614.5	786.8
Transfers overseas	349.2	370.1	387.8	417.3	474.9	520.1
Grants for private capital purposes	178.6	236.3	159.9	194.5	205.0	235.8
<i>Total transfer payments</i>	<i>6,803.3</i>	<i>8,884.9</i>	<i>10,768.7</i>	<i>12,340.3</i>	<i>13,936.5</i>	<i>15,465.1</i>
Net advances—						
To the private sector	278.7	296.3	255.3	279.9	134.3	101.0
To public financial enterprises	273.2	67.0	94.7	102.7	80.8	-7.4
To overseas	35.3	79.0	42.7	0.3	18.4	79.1
<i>Total net advances</i>	<i>587.1</i>	<i>442.3</i>	<i>392.7</i>	<i>382.9</i>	<i>233.5</i>	<i>172.7</i>
Total outlay	22,935.8	27,642.3	31,829.3	35,857.6	38,888.1	43,258.4
of which—						
current outlay	15,858.6	20,178.2	24,112.6	27,416.1	30,538.7	34,205.1
capital outlay	7,077.2	7,464.2	7,716.7	8,441.4	8,349.4	9,053.4
RECEIPTS AND FINANCING ITEMS						
Receipts—						
Taxes, fees, fines, etc.	17,734.1	21,322.2	24,851.5	26,965.0	29,464.4	34,216.3
Income from public enterprises	550.7	904.6	1,192.7	1,390.4	1,659.0	1,856.9
Interest, etc., received	598.9	652.1	859.9	1,041.9	1,080.6	1,371.3
<i>Total receipts</i>	<i>18,883.8</i>	<i>22,879.0</i>	<i>26,904.0</i>	<i>29,397.4</i>	<i>32,204.0</i>	<i>37,444.3</i>
Financing items—						
Net borrowing—						
Treasury notes	1,689.1	-769.6	363.2	193.5	1,546.8	705.3
Commonwealth Government securities	554.1	3,165.5	2,097.5	2,979.2	2,469.6	893.4
Local authority and public corporation securities	657.9	866.7	1,441.2	1,528.6	1,709.3	2,204.0
Other general Government securities	72.3	112.2	126.2	120.4	205.5	269.8
<i>Total net borrowing</i>	<i>2,973.4</i>	<i>3,374.8</i>	<i>4,028.0</i>	<i>4,821.6</i>	<i>5,931.2</i>	<i>4,072.4</i>
Funds provided for, or received from I.M.F.	—	—	—	—	27.9	60.6
Net receipts of private trust funds	232.7	251.7	307.8	385.4	398.5	427.1
Reduction in cash and bank balances	591.0	-518.7	-854.7	133.8	-711.9	375.0
Reduction in security holdings	-562.6	566.3	34.2	-517.2	-569.4	-857.5
Other funds available (including errors and omissions)—						
Depreciation allowances	586.3	761.0	849.5	963.0	1,090.7	1,166.3
Other	231.3	328.4	560.4	673.6	516.7	570.3
<i>Total financing items</i>	<i>4,052.1</i>	<i>4,763.4</i>	<i>4,925.2</i>	<i>6,460.2</i>	<i>6,683.8</i>	<i>5,813.9</i>
Total funds available	22,935.8	27,642.3	31,829.3	35,857.6	38,888.1	43,258.4

(a) Excludes financial enterprises.

ALL PUBLIC AUTHORITIES, 1979-80

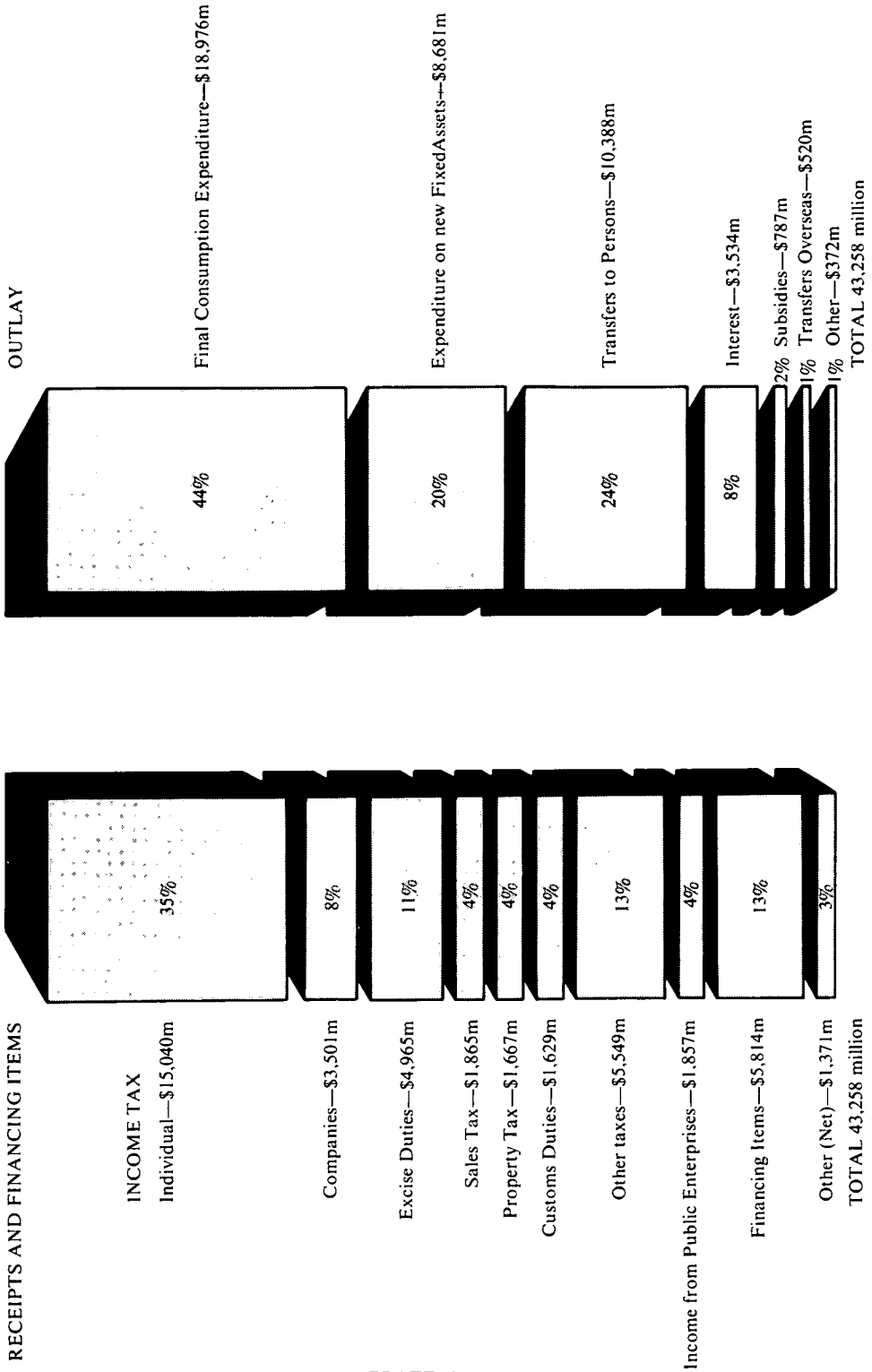


PLATE 46

Main components of outlay

The following tables show final consumption expenditure and expenditure on new fixed assets of all public authorities classified by purpose for the years 1974-75 to 1979-80.

ALL PUBLIC AUTHORITIES: FINAL CONSUMPTION EXPENDITURE CLASSIFIED BY PURPOSE
(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
General public services—						
General administration, n.e.c.	1,045.9	1,268.6	1,462.7	1,694.6	1,826.0	2,096.7
External affairs	83.8	91.7	98.2	105.8	116.4	135.6
Law, order and public safety	617.9	761.2	887.9	1,029.5	1,157.1	1,361.9
General research	111.8	130.5	152.0	170.1	182.6	209.6
Defence	1,444.2	1,679.9	1,998.6	2,184.5	2,401.3	2,786.4
Education	2,765.6	3,425.1	4,115.0	4,652.9	5,061.0	5,675.7
Health	1,542.7	2,291.9	2,717.5	3,035.8	3,318.8	3,660.5
Social security and welfare	248.9	316.0	353.3	422.2	497.9	571.9
Housing and community amenities—						
Housing	11.4	14.4	6.7	3.6	7.1	6.0
Community and regional development	61.2	82.9	85.8	86.5	93.1	100.4
Protection of the environment	67.7	80.7	90.9	98.2	115.5	153.3
Community amenities	7.0	9.2	10.1	11.7	13.4	18.4
Recreation and culture	354.4	441.6	477.6	541.0	610.7	683.2
Economic services—						
Agriculture, forestry, fishing	332.6	387.6	428.0	479.7	522.8	592.6
Mining, manufacturing and construction	61.4	69.7	78.6	93.7	101.2	119.5
Electricity, gas and water supply	4.4	7.6	6.1	8.4	9.7	10.2
Transport and communication	131.6	143.0	154.2	158.7	181.4	190.9
Other economic services(a)	293.3	318.8	374.4	480.6	577.7	593.4
Other purposes	48.2	9.5	6.1	12.8	13.5	9.5
Total	9,234.1	11,529.7	13,503.8	15,270.3	16,807.1	18,975.7

(a) Includes general administration, regulation and research.

ALL PUBLIC AUTHORITIES(a): EXPENDITURE ON NEW FIXED ASSETS CLASSIFIED BY PURPOSE
(\$ million)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
General public services—						
General administration	205.9	243.2	250.2	278.3	284.9	302.1
External affairs	15.9	20.3	25.5	24.4	12.1	9.1
Law, order and public safety	54.6	74.6	85.2	108.1	124.6	150.5
General research	20.6	32.1	23.6	18.0	29.6	49.3
Education	656.2	694.7	640.6	717.0	731.2	655.6
Health	245.4	387.0	394.7	377.8	371.1	320.0
Social security and welfare	20.8	27.4	27.2	25.3	28.1	27.6
Housing and community amenities—						
Housing	296.6	351.0	327.9	334.6	273.0	284.3
Community and regional development	65.3	95.8	95.1	91.8	61.8	82.8
Protection of the environment	420.3	483.9	501.5	503.9	487.6	510.0
Community amenities	1.3	3.6	3.4	4.2	3.3	5.3
Recreation and culture	104.9	143.4	138.8	180.3	237.2	256.3
Economic services—						
Agriculture, forestry and fishing	158.7	183.9	212.3	235.5	222.1	233.2
Mining, manufacturing and construction	71.2	86.1	77.2	83.7	86.4	166.3
Electricity and gas	552.6	671.9	803.7	985.1	1,230.7	1,521.7
Water supply	248.2	309.2	347.4	376.6	368.8	361.7
Rail transport(b)	231.3	322.6	348.3	426.5	486.7	506.3
Sea transport	133.1	133.0	233.0	255.9	185.0	166.3
Road systems and regulation	1,102.1	1,322.1	1,409.7	1,535.2	1,651.7	1,736.2
Air transport	96.2	87.5	52.9	162.1	150.9	180.7
Pipelines	58.4	57.4	22.2	8.6	11.9	8.2
Other transport services, n.e.c.	22.0	34.1	34.4	46.2	48.0	52.7
Communications	717.9	756.6	855.4	913.6	905.0	976.9
Other economic services(c)	58.4	76.8	95.4	99.2	78.7	107.0
Other purposes	7.4	6.8	2.8	8.7	4.0	11.3
Total	5,565.4	6,605.1	7,008.4	7,800.8	8,074.7	8,681.4

(a) Excludes financial enterprises.

(b) Includes suburban rail transport system.

(c) Includes general administration, regulation and research.

Main components of receipts

Taxes and net borrowing constitute the main sources of financing of the activities of the public authorities. Details of the debt of public authorities are given in the next section of this chapter. Taxation, by type of tax, for the years 1974-75 to 1979-80 was as follows.

ALL PUBLIC AUTHORITIES: TAXATION, BY TYPE OF TAX
(**\$ million**)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Income tax—						
Individuals	7,709	9,213	11,047	12,122	12,797	15,040
Companies ^(a)	2,432	2,600	2,899	3,190	3,116	3,501
Estate, gift, probate and succession duties	278	314	339	344	289	220
Customs duties	840	1,044	1,273	1,232	1,457	1,629
Excise duties	1,729	2,331	2,485	2,734	3,844	4,965
Sales tax	1,154	1,408	1,650	1,758	1,770	1,865
Primary production taxes	143	115	189	179	283	278
Payroll tax	1,012	1,179	1,324	1,438	1,540	1,707
Property taxes	898	1,110	1,275	1,392	1,507	1,667
Liquor taxes	77	98	123	143	158	177
Taxes on gambling	280	340	395	434	480	566
Taxes on ownership and operation of motor vehicles	452	550	653	728	796	772
Stamp duties, n.e.i.	393	555	672	708	806	1,000
Other taxes, fees, fines, etc.	338	465	527	562	623	829
Total	17,734	21,322	24,852	26,965	29,465	34,216

(a) Includes dividend and interest (withholding) taxes. Excludes income taxes paid by Commonwealth Government public enterprises.

Level of government

In the following tables details are given for 1979-80 of the outlay and receipts of all public authorities, broken down by level of government in order to show their relative contributions to various expenditure programs, and their roles in financing these programs through taxes and transfers.

ALL PUBLIC AUTHORITIES(a): OUTLAY AND RECEIPTS BY LEVEL OF GOVERNMENT, 1979-80
(\$ million)

	<i>Commonwealth authorities</i>	<i>State authorities</i>	<i>Local authorities</i>	<i>All public authorities</i>
OUTLAY				
Expenditure on goods and services—				
General public services—				
General administration, n.e.c.	1,012.7	889.6	520.1	2,422.4
External affairs	144.7	-	-	144.7
Law, order and public safety	198.1	1,290.7	-	1,488.8
General research	258.9	-	-	258.9
Defence	2,786.4	-	-	2,786.4
Education	283.4	6,035.5	12.4	6,331.3
Health	565.7	3,362.2	52.6	3,980.5
Social security and welfare	324.6	226.2	48.8	599.6
Housing and community amenities—				
Housing	-3.5	283.2	10.6	290.3
Community and regional development	41.1	97.7	44.3	183.1
Protection of the environment	14.6	369.8	279.0	663.4
Community amenities	1.2	1.7	20.8	23.7
Recreation and culture	312.3	242.5	384.7	939.5
Economic services—				
Agriculture, forestry and fishing	164.9	654.8	5.5	825.2
Mining, manufacturing and construction	99.2	168.7	17.9	285.8
Electricity, gas and water supply	7.7	1,647.9	237.4	1,893.0
Transport and communication	1,349.7	1,725.7	742.9	3,818.3
Other economic services	381.5	272.2	48.0	701.7
Other purposes	-0.6	2.0	19.4	20.8
Total expenditure on goods and services	7,942.6	17,270.0	2,444.4	27,657.0
<i>of which—</i>				
Final consumption expenditure	6,340.0	11,645.3	990.3	18,975.7
Expenditure on new fixed assets	1,602.6	5,624.7	1,454.1	8,681.4
Increase in stocks	-66.6	65.4	10.3	9.1
Expenditure on existing assets (net)	-38.0	6.2	-13.7	-45.5
Transfer payments—				
Interest	2,354.7	2,240.3	314.7	3,534.2
Transfers to persons	10,079.7	308.6	-	10,388.3
Subsidies	673.7	112.4	-	786.8
Transfers overseas	520.0	0.1	-	520.1
Grants for private capital purposes	170.6	65.2	-	235.8
Grants to the States—for current purposes	8,788.6	-	38.3	(b)
—for capital purposes	1,497.1	-	14.0	(b)
Grants to the Northern Territory				
—for current purposes	292.0	-	-	(b)
—for capital purposes	68.3	-	-	(b)
Grants to local authorities	15.7	587.2	-	(b)
Total transfer payments	24,460.8	3,313.8	367.0	15,465.1
Net advances to—				
The private sector	-11.6	104.5	8.1	101.0
Public financial enterprises	-61.1	53.8	-	-7.4
The States	817.1	-	-	(b)
The Northern Territory	78.8	-	-	(b)
Local authorities	-	8.9	-	(b)
Overseas	79.1	-	-	79.1
Total net advances	902.1	167.3	8.1	172.7
Total outlay	33,200.9	20,822.7	2,816.3	43,258.4
<i>of which—</i>				
current outlay	29,059.8	14,625.7	1,343.4	34,205.1
capital outlay	4,141.1	6,197.0	1,472.9	9,053.4

(a) Excludes financial enterprises. (b) In consolidated figures for all public authorities, inter-authority grants and advances are not shown.

ALL PUBLIC AUTHORITIES(a): OUTLAY AND RECEIPTS
BY LEVEL OF GOVERNMENT, 1979-80—continued

(\$ million)

	Commonwealth authorities	State authorities	Local authorities	All public authorities
RECEIPTS AND FINANCING ITEMS				
Receipts—				
Taxes, fees, fines, etc.—				
Income tax—				
Individuals	15,040.1	—	—	15,040.1
Companies (b)	3,501.5	—	—	3,501.5
Estate, gift, probate and succession duties	48.9	171.4	—	220.3
Customs duties	1,628.8	—	—	1,628.8
Excise duties	4,965.3	—	—	4,965.3
Sales tax	1,864.8	—	—	1,864.8
Payroll tax	12.4	1,694.8	—	1,707.2
Primary production taxes and charges	278.3	—	—	278.3
Property taxes	16.5	310.9	1,339.2	1,666.6
Liquor taxes	2.1	174.7	—	176.8
Taxes on gambling	—	565.7	—	565.7
Taxes on ownership and operation of motor vehicles	7.8	764.0	0.2	772.0
Stamp duties, n.e.i.	6.9	993.4	—	1,000.3
Departure Tax	18.4	—	—	18.4
Fees from regulatory services	48.7	60.8	43.7	153.2
Other taxes, fees, fines, etc.	111.9	528.1	17.0	657.0
<i>Total taxes, etc.</i>	<i>27,552.4</i>	<i>5,263.7</i>	<i>1,400.1</i>	<i>34,216.2</i>
Income from public enterprises	992.9	663.6	200.4	1,856.9
Property Income—				
Interest received—				
From the States and the Northern Territory	1,375.6	—	—	(c)
Other	184.7	593.5	109.9	888.1
Land rent, royalties, dividends	48.7	435.4	—	483.2
Grants from the Commonwealth Government—				
For current purposes	—	9,079.6	—	(c)
For capital purposes	—	1,565.8	—	(c)
Direct grants from Commonwealth Government to local authorities				
Grants from State authorities	—	—	17.3	(c)
Grants from local authorities	—	—	587.2	(c)
Grants from local authorities	—	52.3	—	(c)
Total receipts	30,154.2	17,653.0	2,314.9	37,444.4
Financing items—				
Net borrowing—				
Treasury bills and notes	705.3	—	—	705.3
Commonwealth Government securities	893.4	—	—	893.4
Local authorities and public corporation securities	442.0	1,427.1	334.7	2,203.8
Other general government securities	—	269.8	—	269.8
<i>Total net borrowing</i>	<i>2,040.6</i>	<i>1,696.9</i>	<i>334.7</i>	<i>4,072.3</i>
Advances from the Commonwealth Government—				
For loan works purposes	—	704.5	—	(c)
Other	—	191.1	—	(c)
Advances from State authorities				
Funds provided for or received from I.M.F.	60.6	—	8.9	(c)
Net receipts of private trust funds	174.6	250.5	2.0	427.1
Reduction in cash and bank balances	523.9	-144.6	-4.4	374.9
Reduction in security holdings	-589.4	-212.4	-55.7	-857.5
Other funds available (including errors and omissions)—				
Depreciation allowances	595.8	496.2	74.3	1,166.3
Other	240.5	187.4	141.6	569.5
Total financing items	3,046.7	3,169.7	501.4	5,813.2
Total funds available	33,200.9	20,822.7	2,816.3	43,257.6

(a) Excludes financial enterprises. (b) Includes dividend, interest and mining (withholding) taxes. Excludes income taxes paid by Commonwealth Government public enterprises. (c) In consolidated figures for all public authorities, inter-authority grants and advances are not shown.

PUBLIC SECTOR BORROWING

Figures given in this section do not purport to show either 'public debt' or 'net public debt', but are designed to provide details of securities issued on behalf of the Commonwealth Government and the States, together with some details of the amounts borrowed by State and local authorities with independent borrowing powers.

For a number of reasons, this information cannot be aggregated, without adjustment, to provide a measure of the 'debt' of public authorities. There are forms of debt not evidenced by the issue of securities, such as Commonwealth Government advances to the States for specific capital purposes. Governments themselves maintain significant holdings of their own securities; for example, the Commonwealth Government, in the National Debt Sinking Fund, the Loan Consolidation and Investment Reserve, and in other Trust Funds, holds large investments in securities issued either directly by itself or on behalf of the States. Some of the securities issued on behalf of the States and held by the Commonwealth Government represent the proceeds of overseas loans, securities for which were issued directly by the Commonwealth Government, the Australian currency counterpart proceeds of the loans being invested in special loans to finance State works programs. A number of State public corporations and local authorities also maintain significant investments in government securities (including their own securities). Aggregation of the figures for securities on issue which follow would clearly involve a substantial degree of duplication; the sum of securities on issue therefore cannot be regarded as representing 'net public debt'.

Commonwealth Government and States: Government securities on issue

Under the 1927 Financial Agreement between the Commonwealth Government and the States, the Commonwealth Government accepted responsibility for the securities of State governments then on issue and was empowered to arrange for all future borrowings on behalf of the Commonwealth and the States and to issue Commonwealth Government securities for all moneys borrowed.

A National Debt Sinking Fund, which is administered by the National Debt Commission, was established by the *National Debt Sinking Fund Act 1923* for the redemption of securities issued on behalf of the Commonwealth Government. Under the terms of the Financial Agreement, the sinking funds existing in respect of the States' debts were also placed under the control of the Commission. The Commonwealth Government is reimbursed by the States for interest, exchange, etc. paid on their behalf, and the securities are redeemed from the Fund to which both the Commonwealth and the State governments make pre-determined contributions. The amounts to be contributed were varied when the *National Debt Sinking Fund Act 1966* repealed all previous legislation on sinking funds relating to securities on issue on behalf of the Commonwealth Government, and again in 1976 when the Act was amended to reflect the amendments to the Financial Agreement. In 1976 the Commonwealth assumed the responsibility for over \$1,000 million of States' debt existing as at 30 June 1975. As a consequence, the separate States' Sinking Funds were absorbed into the National Debt Sinking Fund, with separate accounts being maintained for the Commonwealth and each State.

For further information relating to the recent operations of the National Debt Sinking Fund reference should be made to the fifty-seventh annual report of the National Debt Commission. Particulars of the creation and operation of sinking funds by the *National Debt Sinking Fund Act 1923* are included in issues of the Year Book prior to No. 23, and a general description of the provisions applying between 1966 and 1976 is given in issue No. 61.

In the tables which follow, details are given of transactions in Commonwealth Government securities issued on account of the Commonwealth Government and the States. Amounts relating to overseas loans are shown in Australian currency equivalent calculated on the basis of the rates of exchange ruling at 30 June in each year shown. All amounts shown are at face value.

For figures which permit accurate analysis of the structure and movement of securities issued on behalf of the Commonwealth and States, refer to the Commonwealth Budget Paper No. 6, *Government Securities on Issue*.

Net movement in securities on issue

Summary details of the net movement in securities issued for Commonwealth Government purposes and on account of the States during the period 1975-76 to 1980-81, are given in the following group of tables.

NET MOVEMENT IN GOVERNMENT SECURITIES ON ISSUE

(\$ million)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
NEW SECURITIES ISSUED						
Securities repayable in Australian currency—						
Treasury bonds	2,176.6	1,581.0	965.7	1,018.5	1,485.7	2,774.7
Australian savings bonds	1,202.3	736.3	719.6	531.2	806.1	2,024.0
Special bonds	160.1	—	—	—	—	—
Income equalization deposits	—	—	—	33.1	73.5	72.0
Drought bonds	0.2	0.2	—	—	—	—
Advance loan subscriptions	22.6	(a)-21.7	(a)0.4	(a)-4.6	—	—
Overdue securities	—	—	—	—	—	—
Tax-free stock	—	—	—	—	—	—
Debentures	—	—	—	—	—	—
Stock issued to Government savings banks under special agreements(b)	5.9	35.4	57.9	35.8	36.5	54.6
Treasury notes	2,667.1	4,105.7	1,766.7	4,245.1	7,870.4	12,058.1
Treasury bills—						
Internal	(a)157.0	(a)323.8	(a)365.2	(a)-187.7	141.8	2,234.2
Public	(a)850.0	(a)450.0	(a)200.0	(a)500.0	500.0	14,706.0
Total	7,241.9	7,210.8	4,075.5	6,171.3	10,913.9	33,923.6
Securities repayable in overseas currencies(c)	268.1	424.2	1,738.3	1,453.8	482.1	178.2
Total new securities issued	7,510.0	7,634.9	5,813.9	7,625.1	11,396.0	34,101.8

REDEMPTIONS, REPURCHASES, CANCELLATIONS(d)

Securities repayable in Australian currency—						
Treasury bonds	286.7	243.0	114.6	222.6	1,035.6	2,587.1
Australian savings bonds	13.1	176.7	174.8	164.4	586.2	2,093.4
Special bonds	216.9	180.3	133.3	72.7	44.6	251.4
Income equalization deposits	—	—	—	20.4	16.4	45.1
Drought bonds	0.9	2.8	0.6	0.2	0.2	0.1
Advance loan subscriptions	—	—	—	—	—	—
Overdue securities	0.6	-2.2	0.8	1.8	0.6	-1.5
Tax-free stock	0.2	—	0.1	0.3	—	—
Debentures	3.4	3.5	3.7	3.8	4.0	4.2
Stock issued to Government savings banks under special agreements(b)	8.1	7.2	6.6	9.6	6.3	6.4
Treasury notes	4,286.7	4,192.5	1,773.3	3,198.3	7,665.2	10,145.9
Treasury bills—						
Internal	—	—	—	—	—	2,888.3
Public	—	—	—	—	—	15,306.0
Total	4,816.6	4,803.8	2,207.8	3,694.2	9,359.1	33,326.4
Securities repayable in overseas currencies(c)	125.6	-121.1	-26.3	-165.7	340.4	922.5
Total redemptions, etc.	4,942.2	4,682.8	2,181.4	3,528.5	9,699.5	34,248.9

NET MOVEMENT

Securities repayable in Australian currency—						
Treasury bonds	1,889.9	1,338.1	851.1	795.9	450.1	187.6
Australian savings bonds	1,189.2	559.6	544.8	366.8	219.9	-69.4
Special bonds	-56.7	-180.3	-133.3	-72.7	-44.6	-251.4
Income equalization deposit	—	—	—	12.7	57.1	26.9
Drought bonds	-0.7	-2.6	-0.6	-0.2	-0.2	-0.1
Advance loan subscriptions	22.6	-21.7	0.4	-4.6	—	—
Overdue securities	-0.6	2.2	-0.8	-1.8	-0.6	1.5
Tax-free stock	-0.2	—	-0.1	-0.3	—	—
Debentures	-3.4	-3.5	-3.7	-3.8	-4.0	-4.2
Stock issued to Government savings banks under special agreements(b)	-2.2	28.2	51.3	26.2	30.2	48.2
Treasury notes	-1,619.6	-86.8	-6.5	1,046.8	205.2	1,912.2
Treasury bills—						
Internal	157.0	323.8	365.2	-187.7	141.8	-654.1
Public	850.0	450.0	200.0	500.0	500.0	-600.0
Total	2,425.4	2,406.9	1,867.8	2,477.2	1,554.8	597.2
Securities repayable in overseas currencies(c)	142.6	545.2	1,764.7	1,619.5	141.7	-744.3
Net movement in securities on issue	2,568.0	2,952.1	3,632.4	4,096.7	1,696.5	-147.1

(a) Net issue. (b) Recorded in Commonwealth Government Loan Fund as State domestic raisings. (c) Australian currency equivalent at rates of exchange ruling at 30 June in each of the years shown. (d) Includes conversions from one type of security to another, which affect the net movements of individual loan categories, but do not affect the overall net movement.

NOTE: For securities repayable in overseas currencies the amounts shown also include an element due to exchange rate variations in Securities on Issue.

Government securities on issue.

The following table provides details of government securities on issue on account of the Commonwealth Government and the States, repayable in Australian and in overseas currencies.

GOVERNMENT SECURITIES ON ISSUE: COMMONWEALTH GOVERNMENT AND STATES

(\$ million)

	30 June—					
	1976	1977	1978	1979	1980	1981
For Commonwealth Government purposes—						
Repayable in Australian currency—						
Treasury bonds	3,947.5	4,494.7	4,949.3	5,269.8	5,523.6	5,037.4
Australian savings bonds	1,178.4	1,637.3	1,669.3	1,700.5	1,496.0	1,215.7
Special bonds	196.1	145.5	110.3	93.8	75.9	30.4
Income equalization deposit	—	—	—	79.4	136.4	163.3
Drought bonds	3.9	1.3	0.8	0.5	0.4	0.3
Advance loan subscriptions	25.9	4.2	4.6	—	—	—
Overdue securities	3.7	4.6	5.3	3.5	3.0	4.4
Treasury notes	456.5	369.6	363.1	1,409.9	1,615.2	3,527.4
Treasury bills—						
Internal	1,167.2	1,491.0	1,856.2	1,668.5	1,810.3	1,156.2
Public	850.0	1,300.0	1,500.0	2,000.0	2,500.0	1,900.0
<i>Total</i>	<i>7,829.2</i>	<i>9,448.4</i>	<i>10,458.9</i>	<i>12,225.9</i>	<i>13,160.8</i>	<i>13,035.1</i>
Repayable in overseas currencies (a)	1,181.1	1,743.4	3,533.1	5,178.9	5,326.4	4,618.7
<i>Total Commonwealth Government</i>	<i>9,010.3</i>	<i>11,191.8</i>	<i>13,991.9</i>	<i>17,404.8</i>	<i>18,487.2</i>	<i>17,653.8</i>
On account of States—						
Repayable in Australian currency—						
Treasury bonds	9,997.9	10,788.7	11,185.3	11,660.6	11,856.8	12,530.7
Australian savings bonds	10.8	111.5	624.3	959.8	1,384.2	1,595.2
Special bonds	712.7	583.0	484.9	428.7	402.0	196.0
Tax-free stock	15.1	15.1	15.0	14.8	14.7	14.7
Stock issued to Government savings banks under special agreements	419.8	448.0	499.3	525.5	555.7	603.9
Debentures	27.0	23.4	19.8	15.9	11.9	7.7
Overdue securities	0.3	1.6	0.1	0.1	—	—
<i>Total</i>	<i>11,183.6</i>	<i>11,971.4</i>	<i>12,828.6</i>	<i>13,605.4</i>	<i>14,225.4</i>	<i>14,948.2</i>
Repayable in overseas currencies (a)	143.9	127.2	102.2	75.9	70.0	33.3
<i>Total States</i>	<i>11,327.6</i>	<i>12,098.5</i>	<i>12,930.8</i>	<i>13,681.3</i>	<i>14,295.3</i>	<i>14,981.5</i>
<i>of which—</i>						
New South Wales	3,721.0	3,959.1	4,222.6	4,466.3	4,666.8	4,885.4
Victoria	2,834.0	3,031.8	3,244.3	3,427.6	3,584.9	3,758.1
Queensland	1,538.7	1,644.0	1,753.9	1,856.0	1,931.8	2,022.4
South Australia	1,389.5	1,491.9	1,602.7	1,701.5	1,781.1	1,871.1
Western Australia	1,090.5	1,160.8	1,237.3	1,307.3	1,360.7	1,423.8
Tasmania	753.8	811.0	870.0	922.6	969.9	1,020.8
<i>Total Commonwealth Government and States</i>	<i>20,337.9</i>	<i>23,290.3</i>	<i>26,922.7</i>	<i>31,086.0</i>	<i>32,782.6</i>	<i>32,635.4</i>

(a) Australian currency equivalent.

State and local authorities' borrowings

The borrowings of Commonwealth, State and local authorities come within the purview of the Loan Council under a 'gentlemen's agreement' originating in 1936. The Loan Council determines maximum interest rates and other terms and conditions of loans raised by authorities and approves the aggregate annual borrowing program for authorities borrowing more than \$1.2 million in the financial year. The total program approved is distributed by the Council between the States, and each State determines the distribution between individual authorities of its share of the overall borrowing program approved for such authorities. Authorities which individually borrow less than \$1.2 million in the financial year are also subject to the terms and conditions applying under the 'gentlemen's agreement', and it is the responsibility of the States to ensure that these authorities conform with these terms and conditions. No aggregate annual limit on their borrowings is imposed by the Loan Council.

The following table shows the aggregate borrowings by the State and local authorities in each of the years 1974–75 to 1979–80. It will be seen that the amounts borrowed by local authorities vary between the States, reflecting a number of factors including, importantly, variations between the States in the range of services provided by local government authorities. For example, the high figures for Queensland reflect, in part, borrowings by the Brisbane City Council which carries out a number of functions (e.g. metropolitan bus services and sewerage services) which in other States are undertaken by State authorities.

For further information relating to the figures given in the table, reference should be made to the Commonwealth Budget Paper No. 7, *Payments to or for the States, the Northern Territory and Local Government Authorities*.

NEW MONEY BORROWINGS BY STATE AND LOCAL AUTHORITIES
(**\$'000**)

	New South Wales	Victoria	Queens- land	South Australia	Western Australia	Tasmania	Total
STATE AUTHORITIES(a)							
1974-75	164,885	207,532	75,545	29,968	41,969	13,646	533,545
1975-76	205,312	256,930	102,411	39,490	44,309	17,720	666,172
1976-77	253,883	326,717	127,517	50,100	54,019	21,432	833,668
1977-78	332,215	388,620	198,721	73,220	78,689	30,771	1,102,236
1978-79	371,800	412,756	194,726	83,953	111,081	34,139	1,208,455
1979-80	472,761	382,657	235,264	56,830	108,692	34,445	1,290,649
LOCAL AUTHORITIES(b)							
1974-75	132,803	50,188	102,804	13,617	21,839	10,710	331,962
1975-76	163,847	63,043	102,097	16,831	27,845	14,503	388,166
1976-77	191,932	65,893	116,118	21,674	32,380	17,053	445,050
1977-78	202,230	84,493	117,993	19,424	36,481	17,405	478,026
1978-79	215,641	81,795	126,709	24,621	39,286	17,841	505,893
1979-80	235,407	123,618	147,948	26,604	40,336	15,426	589,339

(a) New money borrowings by State-type authorities in the Northern Territory in 1979-80 were \$31,788,000. (b) New money borrowings by local authorities in the Northern Territory are not included in the table. These borrowings are as follows: 1974-75, \$516,000; 1975-76, \$597,000; 1976-77, \$1,194,000; 1977-78, \$1,697,000; 1978-79, \$631,000; 1979-80, \$1,240,000.

Further references

For further detailed information on the subjects covered by this chapter see the annual bulletins published by the ABS: *Australian National Accounts—National Income and Expenditure* (5204.0); *Commonwealth Government Finance* (5502.0); *State and Local Government Finance, Australia* (5504.0); *Taxation Revenue, Australia* (5506.0) and *Government Financial Estimates, Australia* (5501.0). Current information in summarised form is given in *Quarterly Estimates of National Income and Expenditure, Australia* (5206.0), and is also contained in the *Monthly Summary of Statistics, Australia* (1304.0), and the monthly *Digest of Current Economic Statistics, Australia* (1305.0).

Additional details of the transactions of public authorities engaged in particular fields of activity, such as defence, transport and communication, health and welfare, education, etc., may be found in other chapters of this Year Book.

CHAPTER 23

NATIONAL ACCOUNTS

National accounting aims at providing a systematic summary of the transactions taking place in the economy, especially those that relate to the production and use of goods and services, and to transfers of income or capital between sectors of the economy.

Estimates of national income and expenditure have been compiled by the ABS since 1944–45 and have been published annually as papers entitled *National Income and Expenditure* accompanying the Commonwealth Budgets. (Other national accounting publications are also produced regularly. A list of these can be found at the end of this chapter under the heading 'Further references').

NATIONAL INCOME AND EXPENDITURE

Description of National Income and Expenditure Accounts

A brief description of the conceptual basis of national accounts is given in this section, but for a more detailed treatment of the concepts and structure of the Australian national accounts reference should be made to *Australian National Accounts, Concepts, Sources and Methods* (5216.0).

Definition and relationship of the concepts of product, income and expenditure

The main concepts of product, income and expenditure in the Australian National Accounts are defined and expressed in equivalents as follows:

Gross domestic product is the total market value of goods and services produced in Australia within a given period after deduction of the cost of goods and services used up in the process of production but before deducting allowances for the consumption of fixed capital. Thus, gross domestic product, as here defined, is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services. *Gross farm product* is that part of gross domestic product which derives from production in agriculture and services to agriculture. *Gross non-farm product* arises from production in all other industries.

Gross domestic product at factor cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less net indirect taxes.

Domestic factor incomes is that part of the value added within a given period by factors of production (labour, land, capital and enterprise) which accrues as income to their suppliers after allowing for the depreciation of fixed capital. It is equivalent to gross domestic product at factor cost less depreciation allowances.

National income is the net income accruing within a given period to Australian residents from their services in supplying factors of production (labour, land, capital and enterprise) in Australia or overseas plus indirect taxes less subsidies. It is equivalent to domestic factor incomes plus indirect taxes less subsidies and net income paid overseas.

National disposable income is the net income accruing within a given period to Australian residents from their services in supplying factors of production, from net indirect taxes and from net transfers from overseas. It is equivalent to national income less net transfers overseas plus net withholding taxes received from overseas.

Gross national expenditure is the total expenditure within a given period on final goods and services (i.e. excluding goods and services used up during the period in the process of production) bought by Australian residents. It is equivalent to the gross domestic product plus imports of goods and services less exports of goods and services.

Household income is the total income, whether in cash or kind, received by persons normally resident in Australia in return for productive activity (such as wages, salaries and supplements, incomes of unincorporated enterprises, etc.) and transfer incomes (such as cash social service benefits, interest, etc.). It includes the imputed interest of life offices and superannuation funds, which is the benefit accruing to policy holders and members from investment income of the funds. It also includes third party motor vehicle and public risk insurance claims paid to persons in respect of policies taken out by

enterprises. However, it excludes any income which might be said to accrue to persons in the form of undistributed company income. It also includes any property income received by non-profit organisations such as private schools, churches, charitable organisations, etc.

Framework of accounts and sectors

In the Australian national accounts, four internal sectors are distinguished: corporate trading enterprises (including public trading enterprises), financial enterprises (including the nominal industry), households (including their unincorporated enterprises) and general government. All of these internal sectors engage in productive activity, receive and disburse income and accumulate assets. In this publication no accounts are shown for individual internal sectors. The transactions of the internal sectors are summarised in three accounts: a domestic production account (Table 1, page 616), a national income and outlay account (Table 3, page 617) and a national capital account (Table 4, page 618). In addition, there is an overseas sector having an account (Table 6, page 619) which shows a summary of the transactions into which overseas governments, persons and businesses enter with Australian residents.

The framework of sectors and accounts underlying the Australian national accounts is set out in the following diagram. The heavy rectangles depict the minimum system of four accounts which represent the consolidated accounts of the nation. The light rectangles represent the accounts for institutional sectors. The subdivision of the domestic production account represents production accounts for establishments classified according to industry. Selected transactions from such production accounts are shown in *Australian National Accounts, National Income and Expenditure* (5204.0). Such production accounts can be developed in detail to produce input-output tables.

ARTICULATION OF AUSTRALIAN NATIONAL ACCOUNTS

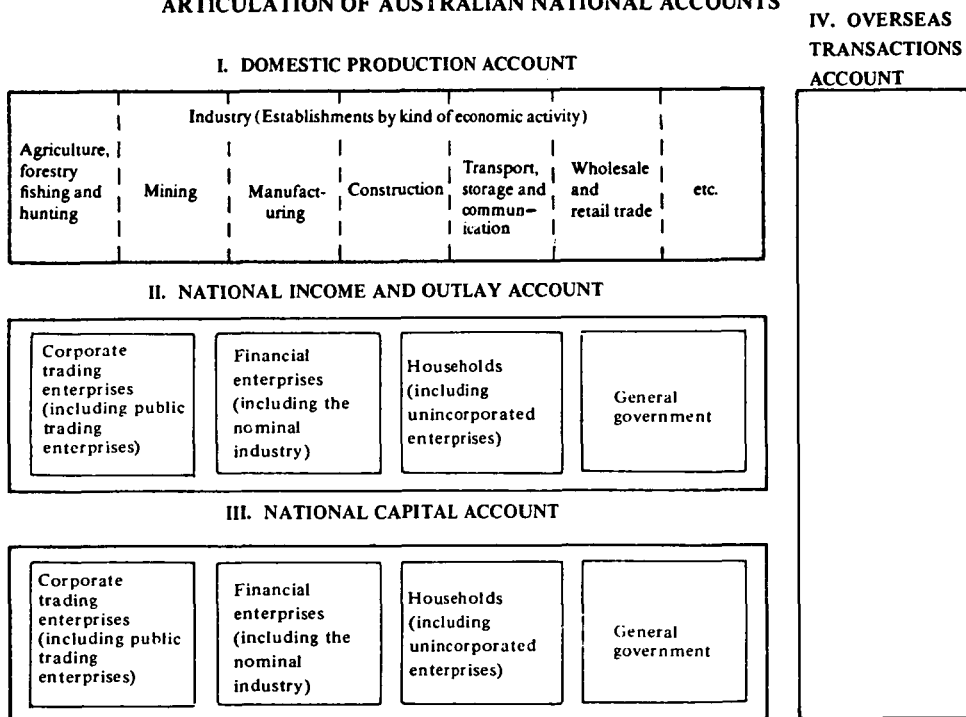


PLATE 47

Description of the accounts

The *domestic production account* is a consolidation of the production accounts of all producers regardless of sector. The production account is shown as receiving revenue from the sale of goods and services to final buyers; all intermediate goods and services are cancelled out, since they represent a cost to one producer to offset the revenue of the other. On the payments side are shown the payments of indirect taxes less subsidies, and, since the account is presented from the point of view of the producing unit, the wages and salaries paid to employees. The balance is the gross operating surplus which may be divided into depreciation allowances and net operating surplus. Depreciation allowances is carried to the national capital account (or the sector capital accounts) and net operating surplus, together with wages and salaries and indirect taxes less subsidies, is carried to the national income and outlay account (or sector income and outlay accounts). In input-output tables, the domestic production account is broken up into accounts for separate industries, and transactions associated with intermediate usage of goods and services are shown in the production accounts for the separate industries.

The *national income and outlay account* is shown as receiving wages, salaries and supplements, net operating surplus and indirect taxes less subsidies from the domestic production account. From this income are deducted net payments of income and miscellaneous transfers to overseas; the remainder is the national disposable income. The outlay side of the account shows that this disposable income is largely used for final consumption expenditure and the balance is the nation's saving. The national income and outlay account is a consolidation of the sector income and outlay accounts.

The *national capital account* is a consolidation of the sector capital accounts. It shows on the receipts side depreciation allowances transferred from the domestic production account and saving transferred from the national income and outlay account (or from the sector income and outlay accounts). On the payments side are shown purchases by all sectors of new buildings and capital equipment, the increase in stocks of all sectors and a balance described as net lending to overseas. This concept of net lending to overseas includes increases (and, negatively, decreases) in Australia's overseas monetary reserves. The net lending to overseas is also the balance on current transactions in the overseas transactions account.

The *overseas transactions account* records all transactions of a current nature between Australian and overseas residents. Although this is an account for the overseas sector, the items are named from the Australian viewpoint. The account shows that Australia's current receipts from overseas consist of the value of Australia's exports of goods and services, property income received from overseas, transfers from overseas and withholding taxes from overseas. These receipts are used for Australia's imports of goods and services and payments of property income and transfers to overseas; the balance of current receipts represents net lending to overseas. Positive net lending to overseas corresponds to a surplus on current transactions with overseas, and negative net lending corresponds to a deficit. The transactions in property income shown in this account differ from estimates shown in balance of payments statistics because, in the national accounts, undistributed company income is not imputed to the beneficial owners. For this reason, net lending to overseas differs from the balance on current account shown in balance of payments statistics.

Estimates at constant prices

For certain kinds of intertemporal comparison, it is desirable to derive measures which attempt to remove the direct effect of price changes during the periods under review. Such estimates, conventionally described as 'at constant prices', are presented in Tables 2 and 5 (pages 617 and 618 respectively) for gross domestic product, exports and imports of goods and services, and gross national expenditure and its principal components.

Chapter 4 of *Australian National Accounts, Concept, Sources and Methods* (5216.0) contains a discussion of the conceptual problems involved in making these estimates. Chapter 12 of that publication contains a brief account of the sources and methods used in preparing the estimates.

It should be noted that estimates at constant prices involve approximations and assumptions, and care must be taken in the interpretation and use of results.

Reliability and revisions

Estimates of national income and expenditure are necessarily prepared from a very wide range of statistical information, some of which is available quickly and some of which is available only after a delay of several years. Some of it is closely related to the desired national income concepts, but some of it is not completely satisfactory in various respects, including coverage, concepts and timing. Estimates, in particular for the most recent years, are therefore subject to revision. This applies particularly to estimates based on income tax statistics—income of companies, non-farm unincorporated enterprises,

depreciation, and part of private gross fixed capital expenditure—which are subject to substantial revisions for the last one or two years because tabulations of income tax statistics become available progressively one to two years after the end of each financial year.

It is not possible to put precise limits on the degree of revision likely to any particular series, nor to state degrees of reliability in a statistical sense. These depend in large part on the range and quality of the basic statistical data.

National income and expenditure tables

NOTE. Items in all current price tables are numbered from 1 to 25, with or without the addition of a letter, and this system is used to identify the corresponding credit and debit entries in the accounts. In some cases the items correspond exactly, while in other cases an entry in one table is the sum of two or more entries in other tables; here the total is given a number, and the components have a number and a letter. In the remaining type of case all entries are given the same number and a distinguishing letter, because in this group one item is not the sum of one or more entries. The relationship between these items can still be traced through because the sum of all credit entries must equal the sum of all debit entries. A description of the numbered items can be found in *Australian National Accounts, Concepts, Sources and Methods* (5216.0).

The figures shown in Tables 1-6 are as published in *Budget Paper No. 9, National Income and Expenditure, 1980-81* (5213.0). The figures shown in Table 7 are consistent with those published in *Quarterly Estimates of National Income and Expenditure, Australia, June Quarter 1981* (5206.0).

TABLE 1
DOMESTIC PRODUCTION ACCOUNT
(\$ million)

	1978-79	1979-80	1980-81
Final consumption expenditure—			
1 Private	62,122	69,823	78,428
2 Government	16,815	18,762	22,055
Gross fixed capital expenditure—			
3 Private	14,917	16,290	21,265
4 Public enterprises	4,364	4,825	5,482
5 General government	3,817	3,980	4,304
6 Increase in stocks	1,057	674	394
7 Statistical discrepancy	-52	-719	614
<i>Gross national expenditure</i>	<i>103,040</i>	<i>113,635</i>	<i>132,542</i>
8 Exports of goods and services	16,513	21,626	22,303
9 Less Imports of goods and services	17,892	20,914	24,816
Expenditure on gross domestic product	101,661	114,347	130,029
10 Wages, salaries and supplements	55,443	61,766	71,332
Gross operating surplus—			
Trading enterprises—			
11a Companies	11,418	13,437	15,880
11b Unincorporated enterprises	13,124	14,255	14,519
11c Dwellings owned by persons	7,132	8,043	8,905
11d Public enterprises	2,355	2,649	2,940
11e Financial enterprises	2,459	2,867	3,625
11f Less Imputed bank service charge	2,358	2,771	3,389
<i>Gross domestic product at factor cost</i>	<i>89,573</i>	<i>100,246</i>	<i>113,812</i>
12 Indirect taxes less subsidies	12,088	14,101	16,217
Gross domestic product	101,661	114,347	130,029
Gross farm product	6,472	7,462	6,969
Gross non-farm product	95,189	106,885	123,060

TABLE 2
EXPENDITURE ON GROSS DOMESTIC PRODUCT AT AVERAGE 1974-75 PRICES
(\$ million)

	1978-79	1979-80	1980-81
Final consumption expenditure—			
Private	40,345	41,318	42,623
Government	11,480	11,685	12,172
Gross fixed capital expenditure—			
Private	9,640	9,585	11,284
Public	5,447	5,223	5,177
Increase in stocks	1,216	250	106
Statistical discrepancy	-8	-399	358
<i>Gross national expenditure</i>	<i>68,120</i>	<i>67,662</i>	<i>71,720</i>
Exports of goods and services	11,472	13,143	12,135
Less Imports of goods and services	11,169	11,107	12,107
Expenditure on gross domestic product	68,423	69,698	71,748
Gross farm product	4,982	4,578	4,016
Gross non-farm product	63,441	65,120	67,732

TABLE 3
NATIONAL INCOME AND OUTLAY ACCOUNT
(\$ million)

	1978-79	1979-80	1980-81
10 Wages, salaries and supplements	55,443	61,766	71,332
11g Net operating surplus	27,222	30,895	33,987
<i>Domestic factor incomes</i>	<i>82,665</i>	<i>92,661</i>	<i>105,319</i>
13 Less Net income paid overseas	1,402	1,821	1,565
12a Indirect taxes	12,672	14,908	17,270
12b Less Subsidies	584	807	1,053
<i>National income</i>	<i>93,351</i>	<i>104,941</i>	<i>119,971</i>
14 Less Net transfers to overseas	501	324	383
15g Withholding taxes from overseas	114	141	161
National disposable income	92,964	104,758	119,749
Final consumption expenditure—			
1 Private	62,122	69,823	78,428
2 Government	16,815	18,762	22,055
15 Saving	14,027	16,173	19,266
19 Disposal of income	92,964	104,758	119,749

TABLE 4
NATIONAL CAPITAL ACCOUNT
(\$ million)

	1978-79	1979-80	1980-81
11h Depreciation allowances	6,908	7,585	8,493
Saving—			
15 Increase in income tax provisions	494	1,491	892
16 Undistributed (company) income	1,675	1,475	2,961
17 Retained income of public financial enterprises	369	379	654
18 Household saving	9,835	9,344	10,492
19 General government surplus on current transactions	1,654	3,484	4,267
Finance of gross accumulation	20,935	23,758	27,759
Gross fixed capital expenditure—			
Private—			
3a Dwellings	4,065	4,818	(a)
3b Non-dwelling construction	2,532	2,752	4,019
3c Equipment	8,320	8,720	11,262
4 Public enterprises	4,364	4,825	5,482
5 General government	3,817	3,980	4,304
<i>Total gross fixed capital expenditure</i>	<i>23,098</i>	<i>25,095</i>	<i>31,051</i>
Increase in stocks—			
6a Private non-farm	95	1,058	701
6b Public authority	-162	18	168
6c Farm	1,124	-402	-475
7 Statistical discrepancy	-52	-719	614
21 Net lending to overseas	-3,168	-1,292	-4,300
Gross accumulation	20,935	23,758	27,759

(a) Not shown separately, but included in 'total gross fixed capital expenditure'.

TABLE 5
GROSS FIXED CAPITAL EXPENDITURE AND INCREASE IN STOCKS AT AVERAGE 1974-75 PRICES
(\$ million)

	1978-79	1979-80	1980-81
Gross fixed capital expenditure—			
Private—			
Dwellings	2,855	3,144	(a)
Non-dwelling construction	1,669	1,623	2,108
Equipment	5,116	4,818	5,698
<i>Total private</i>	<i>9,640</i>	<i>9,585</i>	<i>11,284</i>
Public	5,447	5,223	5,177
Total	15,087	14,808	16,461
Increase in stocks—			
Private non-farm	67	571	332
Public authority	-99	11	89
Farm	1,248	-332	-315
Total	1,216	250	106

(a) Not shown separately, but included in 'total private'.

TABLE 6
OVERSEAS TRANSACTIONS ACCOUNT
(\$ million)

	1978-79	1979-80	1980-81
9a Imports f.o.b.	13,493	15,829	19,147
9b Transportation	2,498	3,021	3,341
9c Travel	1,299	1,479	1,573
9d Government transactions	219	264	289
9e Other goods and services	383	321	466
9 Imports of goods and services	17,892	20,914	24,816
13a Property income to overseas	1,689	2,123	1,967
14a Personal transfers overseas	398	347	440
14b General government transfers overseas	515	565	633
21 Net lending to overseas	-3,168	-1,292	-4,300
Use of current receipts	17,326	22,657	23,556
8a Exports f.o.b.	14,074	18,581	18,890
8b Transportation	1,559	1,902	2,021
8c Travel	537	801	995
8d Government transactions	98	120	118
8e Other goods and services	244	221	279
8 Exports of goods and services	16,513	21,626	22,303
13b Property income from overseas	287	302	402
14c Personal transfers from overseas	412	588	690
15g Withholding taxes	114	141	161
Current receipts from overseas	17,326	22,657	23,556

TABLE 7
 MAIN AGGREGATES AT CURRENT PRICES, 1959-60 TO 1980-81
 (\$ million)

Year	1 <i>Final consumption expenditure</i>		3 <i>Private gross fixed capital expenditure</i>	4 <i>Public gross fixed capital expenditure</i>	5 <i>Increase in stocks</i>	6 <i>Statistical discrepancy</i>	7 <i>Gross national expenditure (1 to 6)</i>
	<i>Private</i>	<i>Government</i>					
1959-60	9,040	1,301	2,191	1,214	168	-26	13,888
1960-61	9,586	1,408	2,415	1,256	478	-89	15,054
1961-62	9,876	1,527	2,328	1,376	-219	-177	14,711
1962-63	10,591	1,605	2,580	1,430	253	-151	16,308
1963-64	11,427	1,771	2,913	1,585	120	-136	17,680
1964-65	12,358	2,056	3,398	1,852	561	-17	20,208
1965-66	13,140	2,372	3,657	2,064	109	-79	21,263
1966-67	14,192	2,708	3,825	2,182	360	-175	23,092
1967-68	15,484	3,174	4,164	2,367	113	-310	24,992
1968-69	16,771	3,299	4,730	2,525	682	-58	27,949
1969-70	18,472	3,659	5,162	2,758	438	85	30,574
1970-71	20,408	4,201	5,839	2,943	460	-43	33,808
1971-72	22,686	4,783	6,331	3,301	20	213	37,334
1972-73	25,449	5,444	6,685	3,485	-293	537	41,307
1973-74	30,092	6,838	7,772	3,982	1,209	1,549	51,442
1974-75	36,569	9,205	8,534	5,650	1,094	1,075	62,127
1975-76	43,605	11,455	10,322	6,700	50	430	72,562
1976-77	49,830	13,408	11,859	7,103	1,152	416	83,768
1977-78	55,390	15,171	12,707	7,904	-416	550	91,306
1978-79	62,122	16,815	14,917	8,181	1,057	-52	103,040
1979-80	69,823	18,762	16,290	8,805	674	-719	113,635
1980-81	78,428	22,055	21,265	9,786	394	614	132,542

Year	8	9	10 (7+8-9)	11	12	13	14
	<i>Exports of goods and services</i>	<i>Imports of goods and services</i>	<i>Gross domestic product</i>	<i>Gross domestic product at factor cost</i>	<i>National income</i>	<i>Household income</i>	<i>Wages, salaries and supplements</i>
1959-60	2,142	2,285	13,745	12,270	12,483	10,850	6,961
1960-61	2,166	2,603	14,617	13,045	13,227	11,659	7,500
1961-62	2,459	2,204	14,966	13,432	13,494	12,109	7,748
1962-63	2,481	2,610	16,179	14,537	14,589	12,898	8,202
1963-64	3,150	2,860	17,970	16,197	16,231	14,318	8,948
1964-65	3,033	3,474	19,767	17,807	17,856	15,663	10,035
1965-66	3,121	3,617	20,767	18,623	18,669	16,465	10,845
1966-67	3,468	3,695	22,865	20,592	20,545	18,244	11,850
1967-68	3,549	4,134	24,407	21,926	21,861	19,184	12,911
1968-69	3,878	4,269	27,558	24,817	24,762	21,583	14,303
1969-70	4,737	4,758	30,553	27,529	27,429	23,820	16,079
1970-71	5,032	5,092	33,748	30,459	30,445	26,672	18,447
1971-72	5,578	5,218	37,694	33,993	34,111	30,183	20,575
1972-73	6,918	5,353	42,872	38,628	39,013	34,619	22,966
1973-74	7,784	7,782	51,444	46,139	47,371	42,571	28,127
1974-75	9,889	10,247	61,769	55,154	57,053	52,909	36,115
1975-76	10,982	10,837	72,707	64,186	67,038	61,826	41,580
1976-77	13,191	13,783	83,176	73,428	76,580	70,716	46,926
1977-78	13,990	15,021	90,275	79,935	82,972	78,068	51,500
1978-79	16,513	17,892	101,661	89,573	93,351	86,922	55,443
1979-80	21,626	20,914	114,347	100,246	104,941	96,416	61,766
1980-81	22,303	24,816	130,029	113,812	119,971	108,990	71,332

Further references

Detailed annual estimates of national income and expenditure are published in *Australian National Accounts, National Income and Expenditure* (5204.0). Less detailed annual estimates are first published in a Budget Paper *National Income and Expenditure* usually in August. Quarterly estimates are published in *Quarterly Estimates of National Income and Expenditure, Australia* (5206.0).

Australian National Accounts, Gross Product by Industry at Current and Constant Prices, 1979-80 was published in December 1981. The Bureau also compiles input-output tables for the Australian economy. Tables for the year 1968-1969 were published in *Australian National Accounts, Input-Output Tables 1968-69* (5209.0) in November 1977. Final tables for 1974-75 were published in *Australian National Accounts, Input-Output Tables 1974-75* (5209.0) in September 1981.

Other national accounts publications which may be of interest are:

Australian National Accounts (Preliminary Statement No. 1)—Gross Domestic Product at Current and Constant Prices (5201.0).

Australian National Accounts (Preliminary Statement No. 2)—Household Income by States (5202.0).

Australian National Accounts (Preliminary Statement No. 3)—Gross Domestic Product at Factor Cost by Industry (5203.0).

Quarterly Estimates of National Income and Expenditure, Australia (Preliminary) (5205.0) (June quarter only).

Historical Series of Quarterly Estimates of National Income and Expenditure, Australia (5207.0).

CHAPTER 24

OVERSEAS TRANSACTIONS

This chapter includes statistics of overseas trade, balance of payments, and overseas investment by private investors; however, because of limitations of space, the statistics are mainly restricted to summarised form.

OVERSEAS TRADE

Constitutional provisions and legislation

Constitutional provisions

By the Commonwealth of Australia Constitution Act, section 51 (1), the power to make laws with respect to trade and commerce with other countries was conferred on the Australian Parliament. Under section 86 of the Constitution, the collection and control of duties of customs and excise passed to the Executive Government of the Commonwealth on 1 January 1901. Other references to trade and commerce are contained in sections 87 to 95 of the Constitution.

Commonwealth Government Legislation

Commonwealth Government legislation affecting overseas trade includes the *Customs Act* 1901, the *Customs Tariff Act* 1966 and the *Customs Tariff (Anti-Dumping) Act* 1975. The *Customs Tariff Act* 1966 provides the statutory authority for imposing the actual rates of duty operative from time to time, while the *Customs Tariff (Anti-Dumping) Act* 1975 provides protection for Australian industry against various forms of unfair trading.

The Customs Tariff

The first *Australian Customs Tariff* was introduced by Resolution on 8 October 1901, from which date uniform duties came into effect throughout Australia. The *Australian Customs Tariff* has been developed in conformity with the policy of protecting economic and efficient Australian industries and of granting preferential treatment to certain imports from countries of the Commonwealth and certain developing countries. Customs collections are a major source of revenue, but in its protective character the tariff has an important influence on the Australian economy.

The customs value of imported goods is established in accordance with the provisions of the *Customs Act* 1901. Valuation must follow precise rules and practices to ensure consistency and equity in the treatment of goods subject to ad valorem rates of duty. Customs values are also the basis for import trade statistics.

For some years Australian valuation legislation was modelled on the Brussels Definition of Value, an international system adopted by a number of countries. The customs value was defined as the price the goods would have fetched on a sale on the open market between a buyer and a seller independent of each other.

During 1981 Australia moved towards acceptance of another international valuation system which is expressed in the Agreement on Implementation of Article VII of the General Agreement on Tariffs and Trade (GATT).

This GATT Agreement provides that the customs value shall be based, as far as is possible, on the actual price of the goods. The price may be subject to a limited range of adjustments for such matters as packing costs and other consideration, passing from the buyer to the seller. The price cannot be used as a basis for valuation if the buyer and seller are related and the price has been influenced by that relationship.

Where there is no price or the price cannot be used the Agreement provides other valuation methods.

Preferential rates. Preferential rates apply to certain goods, the produce or manufacture of Canada, New Zealand, Papua New Guinea and of certain specified developing and declared preference countries provided that such goods comply with the laws in force at the time affecting the grant of preference.

Details of the rules covering the application of preferential rates may be found by reference to Sections 151 and 151A of the *Customs Act* 1901.

A full list of developing and declared preference countries and goods excluded from the special rates of duty normally applicable, in the case of developing countries, is given in the *Australian Customs Tariff*.

General rates. General rates apply to goods from all countries which do not qualify for preferential rates of duty under a particular tariff classification.

By-law provisions. Customs By-laws and Ministerial Determinations are legal instruments, made in accordance with the provisions of the *Customs Act 1901*, to authorise admission of imported goods at rates of duty lower than those normally applicable. The rates of duty that apply where concessional entry has been granted are contained in the *Customs Tariff Act 1966* and are normally identified by the words 'as prescribed by by-law'. The most frequently used by-law provision is Item 19 in Schedule 2 to the *Customs Tariff Act 1966* which allows admission of goods at concessional rates, 'being goods a suitable equivalent of which that is the produce or manufacture of Australia is not reasonably available'. Normally, by-laws identify goods by general description, have neither quantity nor time limitations and may be used by any importer. Ministerial Determinations may be either in that form or, if it is necessary to limit the availability of concessions to ensure that the tariff protection accorded to local industry is maintained, be restricted in some way, e.g. quantity or time limitations. By-laws and notices of the making of Ministerial Determinations are published in the Commonwealth of Australia Gazette.

Anti-Dumping duties. The *Customs Tariff (Anti-Dumping) Act 1975* provides protection for Australian industry against various forms of unfair trading. Under this Act dumping duty may be imposed on goods that are sold to Australian importers at a price which is less than the normal value of the goods, where this causes or threatens material injury to an Australian industry.

For details on the calculation of dumping duty see the *Customs Tariff (Anti-Dumping) Act 1975* and the publication "Facts about the Australian Dumping Law" which is available from the Department of Business and Consumer Affairs, Canberra, A.C.T. 2600.

Import controls

Import controls, by global tariff quotas or import licensing, are introduced to assist local industry following inquiry and report by the Industries Assistance Commission and the Temporary Assistance Authority. At present, the textile, apparel, footwear and motor vehicle industries are assisted by import control. Import licensing firmly limits import quantities, provides for penal and seizure action and may be selectively applied to particular goods or countries. As such, it differs from global tariff quotas which allow imports up to a predetermined level, above which additional duties may be imposed. At present, some 58 commodities or groups of commodities are subject to import controls. Further information on import controls may be obtained from the Bureau of Customs, Department of Business and Consumer Affairs, Edmund Barton Building, Barton, A.C.T. 2600.

Export controls

Export restrictions. Section 112 of the *Customs Act 1901* provides that the Governor-General may, by regulation, prohibit the exportation of goods from Australia and that this power may be exercised by: (a) prohibiting the exportation of goods absolutely; (b) prohibiting the exportation of goods to a specified place; and (c) prohibiting the exportation of goods unless prescribed conditions or restrictions are complied with. Goods subject to this export control are listed in the Customs (Prohibited Exports) Regulations.

Exchange control—Banking Act 1959. As an integral part of the framework of exchange control, a control over goods exported from Australia is maintained under the provisions of Part III of the Banking (Foreign Exchange) Regulations to ensure that the full proceeds of such goods are received into the Australian banking system and that these proceeds are received in the currency and in the manner prescribed by the Reserve Bank of Australia. This action is complementary to that taken under other parts of the Banking (Foreign Exchange) Regulations to control the movement out of Australia of capital in the form of securities and currency.

Trade descriptions

The Commerce (Trade Descriptions) Act 1905. This Act, administered by the Bureau of Customs of the Department of Business and Consumer Affairs, gives power to require the application of a proper trade description to certain prescribed goods imported into or exported from Australia. Goods which must bear a prescribed trade description upon importation into Australia are specified in the Commerce (Imports) Regulations. As regards exports from Australia, marking requirements are prescribed in regulations issued under the Act and in relation to specified export commodities.

Trade promotion and incentives

Each year the Commonwealth Government through the Department of Trade and Resources undertakes an extensive overseas trade promotion and publicity program.

Trade Displays, Fairs and Exhibitions

For many years Australia has organised or participated in numerous major trade fairs, exhibitions and displays throughout the world.

Initially, the emphasis was on participation in General trade fairs directed at the public and the general commercial community; however, with the development of specialised export promotion techniques and the greater diversity of goods available for export, greater emphasis is now being placed on individual Australian trade displays and participation in specialised trade shows directed almost entirely at the business community. In addition, display rooms in Trade Commissioner offices are currently in use in Singapore, Kuala Lumpur, Hong Kong, Jakarta, Port Moresby, Suva, Bangkok and Wellington.

Trade Missions

At present the following types of trade missions are in use:

Survey missions. These are organised to obtain precise knowledge about the export trade potential for specific products in one or more overseas markets. Such methods are used to explore export prospects in new or developing areas where commercial intelligence is not readily available or where a complex industry is involved and the industry requires special export knowledge.

Specialised and general trade missions. Arrangements are made for specific industries or groups of firms representing a number of industries to participate in a planned selling campaign in overseas markets with known sales potential. The mission visits the market, publicises its products and negotiates sales.

Publications and Advertising

The Department of Trade and Resources produces a range of multi-lingual publications for distribution overseas through its Trade Commissioner posts. Special publications are produced for major Australian promotional activities overseas. The promotional activities are also supported by appropriate advertising in foreign media publications.

Export Education

The Commonwealth Government recently completed a three-year 'Export Now' Campaign. This has been replaced by an Export Education program involving seminars, workshops and training activities to help Australian exporters to penetrate overseas markets.

Export Awards

The Department of Trade and Resources in conjunction with the Confederation of Australian Industry runs an annual program of Export Awards for Outstanding Export Achievement. In addition various other awards are also given from time to time.

Export Incentives

The Commonwealth Government provides financial incentives to encourage exports. The Export Market Development Grants Act which was introduced in 1974 will operate until 30 June 1983. The scheme administered by the Export Development Grants Board, which is responsible to the Minister for Trade and Resources, is designed to encourage exporters and potential exporters to seek out and develop overseas markets. The scheme covers exporters of primary products, industrial goods, certain services including tourism, knowhow and industrial property rights, whether the exporter is an individual, partnership, company or marketing organisation.

The scheme operates by way of taxable grants, to a maximum of \$100,000 (and in certain circumstances to \$125,000), against eligible expenditure incurred on overseas market research and promotional publicity activities and development.

The Board also administers the Export Expansion Grants Act, a scheme designed to reward improved export performance. Grants, which are taxable, are calculated on a formula applied to the increase in exports in a year, over the average annual exports in the three immediately preceding years. The scheme covers a wide range of goods and services. However, some products are excluded including minerals, wool, wheat, sugar, livestock, most meats, woodchips, hides and skins of cattle and sheep, unwrought aluminium, unrefined lead, unrefined copper, gold and silver. The scheme took effect from 1 July 1977 and will run until mid 1983.

Government authorities

Export Finance and Insurance Corporation

The Export Finance and Insurance Corporation (EFIC) was established by the Commonwealth Government in 1975 to provide Australian exporters with a specialised range of insurance guarantee and finance facilities not normally available from commercial sources. The EFIC took over the functions of the Export Payments Insurance Corporation which had been operating since 1956.

Australian Overseas Projects Corporation

The Australian Overseas Projects Corporation was established in November 1978 as a statutory authority of the Commonwealth Government to encourage the export of Australian goods and services. Its prime objective is to assist Australian consultancy and construction firms to compete for contracts for overseas development projects, particularly those which are beyond the resources of individual firms and require a turnkey or multi-disciplined approach, or require a government-to-government involvement. The Corporation's major functions are, on request, to act as prime contractor, consortium member or agent on behalf of Australian firms.

Trade relations

Multilateral—General Agreement on Tariffs and Trade

The General Agreement on Tariffs and Trade (GATT) is a multilateral treaty which provides the main framework of rules for the conduct of world trade. It also provides a forum in which countries can discuss and seek to overcome their trade problems as well as negotiate to enlarge world trading opportunities. The aim of the GATT is to liberalise world trade and place it on a secure basis, thereby contributing to economic growth and development.

The GATT entered into force in January 1948 with Australia being an original signatory. Since that date GATT membership has expanded to 85 countries, with a further 32 countries applying its rules on a de facto basis.

Seven rounds of multilateral negotiations to liberalise world trade have been held under the GATT, the most recent of which was the Tokyo Round (1975-1979). Concessions negotiated by member countries are incorporated in their "Schedules of Concessions" which form an integral part of each country's obligations under the GATT. These concessions generally involve commitments not to increase tariffs on specific products above specified levels. The Tokyo Round negotiations also resulted in a number of agreements on non-tariff measures which clarified and expanded the existing rules of the GATT. These agreements included codes of conduct on subsidies and countervailing duties, government procurement, customs valuation, standards, import licensing, anti-dumping, trade in civil aircraft and a group of texts under the heading "Framework for the Conduct of International Trade". The latter includes texts which deal with reciprocity, more favourable treatment and fuller participation for developing countries, trade measures for balance of payments purposes, safeguard action for development purposes, consultation, dispute settlement and surveillance. There are also arrangements relating to bovine meat and dairy products.

All major developed countries have acceded or intend to accede to most of these agreements and Australia has already acceded or intends to accede to those on customs valuation, anti-dumping, import licensing, the Framework texts and the arrangements on bovine meat and dairy products. Decisions have been deferred on standards and subsidies and countervailing duties.

An important aspect of the GATT's work is to oversee the application of the trade rules established under its auspices. The main features of the General Agreement are:

- trade without discrimination; the guarantee of most-favoured-nation tariff treatment to all Contracting Parties
- agreement on commercial policy rules for international trade, including restrictions on the use of subsidies and quantitative restrictions
- provision of mechanism for consultations and dispute settlement
- safeguard, or emergency protection, provisions, enabling countries to apply temporary measures to industries seriously threatened by imports
- special recognition of the needs and capabilities of developing countries.

The highest body of GATT is the Session of Contracting Parties which usually meets annually. GATT decisions are generally arrived at by consensus, rather than vote, though two-thirds majority votes are required for the granting of "waivers", (authorisations for members to depart from specific GATT obligations). Between Sessions of the contracting parties the Council of Representatives is authorised to act on both routine and urgent matters. The Council meets about six times a year.

In 1975 a Consultative Group of 18 comprising high level officials from key member countries was established to operate essentially as an executive steering group to assist GATT members carry out some of their major responsibilities more effectively.

The Committee on Trade and Development (CTD) reflects the GATT's increased focus on the problem of developing countries and has the duty of following all activities of GATT to ensure that problems of concern to developing countries are given priority attention. The CTD was formed after the introduction, in 1965, of Part IV of GATT which embodies commitments to individual and joint action by Contracting Parties, aimed at ensuring that the developing countries can increasingly find the means to raise living standards and promote rapid economic development through increased participation in international trade. This commitment has been elaborated by the Framework agreement enabling differential and more favourable treatment for developing countries, as a permanent legal feature of the world trading system.

A number of other committees have also been established to supervise implementation of the Tokyo Round agreements, examine the situation of countries using trade restrictions for balance of payments purposes, the agreement on textiles, anti-dumping practices and financial/administrative questions. Working parties are set up to deal with current questions, such as requests for accession, verification that agreements concluded by members are in conformity with GATT and to investigate disputes.

The developed country contracting parties to the GATT have introduced tariff preferences for developing country products under the Generalised System of Preferences (GSP).

The Australian System of Tariff Preferences for Developing Countries, in common with those of other donors, is a unilateral, non-reciprocal and non-contractual provision of specified preferential tariff advantages. Accordingly, Australia reserves the right at any time to modify, withdraw, suspend or limit the preferential treatment for any item or with respect to any beneficiary.

Australia's system of tariff preferences was introduced in 1966 (the first in the world) and has since been substantially revised and expanded through reviews in 1974, 1976 and 1979. On 1 January 1981 the system was further extended to include most textile, clothing and footwear products. Most dutiable manufactured and substantially processed primary products are now covered by the system. Margins of preference offered under the system are generally 10 to 15 per cent below the General Tariff rate.

In 1979-80 import clearances from developing countries totalled \$4,211 million of which \$3,206 million (76.1%) was eligible for duty free entry, either at General Tariff rates or under the DC Preference system. A further \$488 million (11.6%) was dutiable at DC preferential rates and only \$516 million (12.3%) was excluded from preferences and dutiable at General Tariff rates.

The system is designed to assist developing countries to overcome their disadvantages in competing with other countries in the Australian market, providing always that such imports do not cause or threaten injury to Australian industry. A range of products where developing countries generally are already competitive on the Australian market are excluded from the system and preferences on a number of additional products have been withdrawn because of disruption to local industry. In some cases specific beneficiaries have been excluded from a preference.

Proposals for the addition or withdrawal of products from the system are referred to the Industries Assistance Commission for inquiry and report within 45 days. This procedure gives all interested parties the opportunity to submit their views in evidence to a public inquiry.

Market advisory services

The Australian Government has established a Market Advisory and Preferences Section in the Department of Trade and Resources to advise and assist developing countries and countries with centrally planned economies in the marketing of their products in Australia. The Section, which is located in Canberra, is supported by two experienced Australian Trade Commissioners—one located in Sydney and the other in Melbourne—to maintain contact with the commercial sector and provide direct practical assistance.

To further assist developing countries the Government has established the International Trade Development Centre in Sydney. The Centre houses the Sydney office of the Market Advisory Services and provides a venue for small national trade displays or product orientated international displays by developing countries.

The Centre is operated by the Department of Trade and Resources and is funded under Australia's development assistance programme.

Bilateral arrangements

West Europe—Australia has not concluded a trade agreement with the European Economic Community. The EEC comprises the world's largest trading bloc (accounting for 40 per cent of world trade) and is Australia's second largest trading partner and its largest source of imports.

Although the EEC has formal trading arrangements with a large number of countries providing either free trade or preferential treatment, no such arrangement has been concluded with Australia. However, in the context of the Multilateral Trade Negotiations Australia was able to gain improved access into Community markets for a number of agricultural products. In addition, Australian exports of a range of agricultural and industrial products are benefitting from progressive tariff reductions which have been implemented by the Community from 1 January 1980.

In recent years, Australia has suffered a large and growing trade deficit with the EEC which has reflected an imbalance of trading opportunities. Since 1977 Ministerial and high level officials' discussions between Australia and the EEC have been directed towards correcting this situation. In May 1979 a bilateral settlement with the EEC was concluded within the Multilateral Trade Negotiations which provides certain Australian agricultural exports, particularly beef and cheese, with valuable new openings and guaranteed levels of access in EEC markets. While the bilateral settlement does not eliminate all of the problems which affect Australia's trading relationship with the EEC, it represents an important beginning. In areas such as EEC export subsidies, where serious problems still exist, Australia will continue to seek a limitation on the level of those subsidies particularly when they operate to the disadvantage of Australian exports in our traditional markets. Greater co-operation has also been sought from the EEC in international commodity stabilisation especially in respect of sugar.

While agriculture remains the dominating feature of the bilateral relationship, there is significant potential for developing Australia's role as a supplier of a wide range of minerals and energy resources and in attracting increased European investment to resource based development projects in Australia.

Trade agreements

Asia

People's Republic of China—signed 1973. The Agreement provides, inter alia, for reciprocal most favoured nation treatment for imports, while recognising the preferential arrangements extended by both countries. The Agreement includes schedules of goods which each country is interested in exporting to the other. It also provides that exchanges of goods and technical services under contracts and agreements will be at reasonable international market prices; that payments in relation to trade will be in freely convertible currency; and that each country will promote the inter-change of trade representatives, groups, and delegations, and encourage the commercial exchange of industrial and technical expertise. The Agreement also established a Joint Trade Committee to further the aims of the Agreement. A protocol on Economic Co-operation to the Trade Agreement was signed in September 1981. The Protocol has the objective of notifying to enterprises and organisations of the two countries that their Governments have agreed on a range of industry and industry sectors regarded as holding prospects for co-operation between the two countries, and the form in which co-operation projects may be implemented.

Japan—signed 1957. The current Agreement on Commerce between Australia and Japan was initially signed in 1957, amended in 1963 and formally ratified on 27 May 1964. It provides for reciprocal most favoured nation treatment of imports while recognising the preferential arrangements of both countries; for certain commitments by Japan in regard to some important Australian export commodities including wool, soft wheat, sugar, canned meat, leather, butter and cheese; and for equal opportunity for Japanese products in relation to Commonwealth Government purchases from suppliers overseas. It also provides for close consultation between the two countries on matters relating to trade.

Republic of Korea—signed 1975. The current Agreement replaced an earlier Agreement entered into by Australia and the Republic of Korea in 1965. The new Agreement states that the two governments are to take all appropriate measures to facilitate, strengthen, and diversify bilateral trade in accordance with the General Agreement on Tariffs and Trade; recognises the need to improve the conditions of world commodity trade; declares support in principle for international commodity agreements, and expresses support in principle for the conclusion of long-term commercial contracts between organisations and enterprises of the two countries. The Agreement also established a Joint Trade Committee to further the aims of the Agreement.

Philippines—signed 1965. Provides, inter alia, for reciprocal most favoured nation treatment of imports from either country; recognises preferential agreements of both countries; established a Joint Commission and encourages Australian investment and joint ventures in the Philippines. The Agreement came into force in May 1979.

Thailand—signed 1979. Provides, inter alia, for strengthening and diversification of bilateral trade; supports trading arrangements among ASEAN countries; supports international commodity agreements; encourages economic, commercial and industrial co-operation, including investment in Joint Ventures. Provides for a Joint Trade Committee to meet annually or as required.

Socialist Republic of Vietnam—signed in 1974. Provides, inter alia, for reciprocal most favoured nation treatment for imports and expresses support for the principle of long-term commercial contracts.

Indonesia—signed 1972. The current Agreement replaced an earlier Agreement signed in 1959. It provides, inter alia, for reciprocal most favoured nation treatment of imports; expresses support for trade initiatives and arrangements among member countries of the Association of South East Asian Nations (ASEAN); declares support in principle for international commodity agreements and encouragement for Australian commercial investment in Indonesia.

Malaysia—signed 1958. The Agreement provides for each country to accord preferences to the other on certain specified goods. The exchange of these preferences was placed on a more flexible basis by an Exchange of Letters on 21 February 1975. The Agreement further provides for protection of Malaysia's tin and rubber exports to Australia and of Australia's wheat exports to Malaysia against dumped or subsidised competition. There are also certain guarantees of market access for Australian wheat in the Malaysian market and for natural rubber in the Australian market provided that the Papua New Guinea natural rubber crop is absorbed. The agreement also assures Malaysia that Australian tariff or import licensing treatment of natural rubber will be the same as for synthetic rubber.

Pacific

New Zealand—The New Zealand–Australia Free Trade Agreement (NAFTA) signed in 1965 came into force on 1 January 1966 and formally established a free trade area between Australia and New Zealand. However, complete free trade was not thereby achieved. The Agreement provides only for free trade in certain scheduled goods. Provision is made for additions to the free trade schedule. It also provides in respect of non-scheduled goods, for the two governments to agree on special measures (including the remission or reduction of duties) beneficial to the trade and development of each country.

The 1933 Agreement continues in effect as part of the Free Trade Agreement except as superseded or modified by it. Following the termination in early 1973 of the trade agreements which they had with Britain, Australia and New Zealand entered into an interim arrangement on tariffs and tariff preferences on 7 May 1973. This has been replaced by a new Agreement which came into effect on 1 December 1977 and allows for the continuation of the contractual right of both countries to margins of preferences in each others' markets.

Papua New Guinea—The Papua New Guinea Australia Trade and Commercial Relations Agreement (PATCRA) which came into force in 1977 provides, inter alia, that subject to certain exceptions, trade between Australia and Papua New Guinea shall be free of duties and other restrictions.

Americas

Canada—signed 1960. Provides for each country to give the other tariff preferences on specific goods and for the exchange of preferences in each country's tariff derived from the preferential agreements each had with Britain. The termination of these agreements with Britain created a need for Canada and Australia to review their own preferential trading arrangements. An Exchange of Letters governing the future operation of the 1960 Agreement was signed on 25 October 1973. The Exchange provides for a continuation of the tariff preferences, but on a more flexible basis, with some other modifications of provisions of the 1960 Agreement, particularly those relating to indirect shipment of goods and to anti-dumping procedures.

Brazil—signed 1978. The Agreement represented a significant development in strengthening trade and economic links between Australia and Brazil. It basically confirms GATT rights and obligations and emphasises industrial co-operation including investment. A significant feature is the ten year initial life of the Agreement to cover long term commodity contracts. It also establishes a Joint Consultative Committee.

Europe

East Europe—The development of Australia's trade relations with the countries of East Europe began as part of a policy of market diversification away from West Europe in the mid 1960s.

Formal trade agreements Australia has signed with the German Democratic Republic, Hungary, Bulgaria (all in 1974), Romania (in 1975) and Poland (in 1978—supplementary to the earlier 1966 Agreement) are broadly similar in their provisions. They either confirm reciprocal most favoured nation treatment of imports while recognising preferential arrangements or, as in the Trade Agreements with Hungary, Poland, and Romania, acknowledge that trade between Australia and these countries is to be in accordance with the rights and obligations of both countries under the General Agreement on Tariff and Trade. They provide for the encouragement and facilitation of the further development of mutually beneficial trade and economic relations and express support in principle for the conclusion of relevant international commodity agreements aimed at improving the conditions of international trade in primary products.

There are provisions to encourage and facilitate the development of economic co-operation and the negotiation of long-term commercial contracts between respective enterprises and organisations and the interchange of commercial trade and technical representations, groups and delegations.

In addition, the Agreements with the German Democratic Republic and Bulgaria provide for the exchange of indicative lists of goods each country is interested in exporting to the other.

The Agreement with the U.S.S.R. (signed 1965) provides for reciprocal most favoured nation treatment of imports and recognised the preferential agreements of both countries. A supplementary Agreement on the Development of Trade and Economic Relations was signed in 1973 and provides, *inter alia*, for encouragement and facilitation of trade between the two countries; encouragement of industrial and technical co-operation; support for international commodity agreements; and established a Mixed Commission to provide a forum for regular consultations on measures to develop bilateral trade and on bilateral trade problems, and to further the aims of the Agreement.

Mixed Commissions are also established by these Agreements to provide a forum for regular bilateral discussions on trade development and trade related issues and problems. Other Bilateral Trade Agreements are in force with Yugoslavia, signed 1970, Czechoslovakia, signed 1972. A protocol (to the Trade Agreement with the German Democratic Republic) on Industrial and Technical Co-operation was signed in Berlin in 1977.

Switzerland—signed 1938. Provides, *inter alia*, for most favoured nation treatment in the Customs Tariff of each country; for reduction in import duties on certain goods by each country and minimum annual quotas for several Australian primary products exported to Switzerland.

Middle East

Bahrain—The Agreement on Trade, Economic and Technical Co-operation was signed in May 1979. The Agreement expresses the intention of the two Governments to develop and expand trade and economic relations by the establishment of a Joint Committee, the facilitation of joint ventures in the two countries, and encouraging the exchange of technology and technical expertise between commercial enterprises.

Iraq—The Agreement on Trade, Economic and Technical Co-operation was signed in March 1980. The Agreement provides, *inter alia*, for the exchange of most favoured nation treatment between Australia and Iraq, encouragement to the negotiation of commercial contracts between relevant organisations and commercial enterprises and the establishment of a Joint Governmental Commission.

Saudi Arabia—The Agreement on Economic and Technical Co-operation was signed in March 1980 and provides for the facilitation of joint ventures in each country, encouraging the exchange of scientific and technological research, and the establishment of a Joint Commission.

Iran—signed 1974. The Agreement states that the two governments are to take all appropriate measures to facilitate, strengthen, and diversify trade and encourage industrial and technical co-operation; declares the support of both governments for the principle of long-term contracts between organisations and enterprises of the two countries; incorporates schedules of goods each country is interested in exporting to the other; and provides that payments in relation to trade will be in convertible currency. The Agreement also established a committee of representatives to further the aims of the Agreement.

Others

India—signed 1976. The Agreement confirms that trade between the two countries shall be conducted in accordance with the provisions of GATT. It provides for encouragement and co-operation between India and Australia and establishes a Joint Trade Committee to meet annually and review the operation of the Agreement and advance its objectives.

South Africa—signed 1935. Provides for most favoured nation treatment in the Customs Tariff of each country.

Trade services

Trade Commissioner Service

The stimulation of interest abroad in Australia's exports is an important government activity in which the Australian Trade Commissioner Service plays a prominent part. A brief account of the establishment and growth of the Trade Commissioner Service before the 1939-45 War is available in Year Book No. 51, page 496. Since the War the Service has increased steadily; by late 1981 there was an establishment of 180 Trade Commissioners and Assistant Trade Commissioners in Australia and at 53 posts in 44 countries.

Trade Commissioners are responsible for providing commercial intelligence in their territories in the fields of manufactured goods, rural commodities, resources, energy and technical and allied services. Particular facilities provided for Australian exporters and export organisations include; surveying market prospects; advising on selling and advertising methods; arranging introductions with buyers and agents; providing reports on the standing of overseas firms; advising and assisting business visitors; helping to organise and carry through trade missions, trade displays, newspaper supplements, and other promotion and publicity media; providing information on import duties, import licensing, economic conditions, quarantine and sanitary requirements, and other factors affecting the entry and sale of goods and services and helping to attract desirable investment.

In some countries Trade Commissioners also participate in inter-governmental negotiations in the resources and commercial fields. In certain countries where there is no diplomatic or consular mission, Trade Commissioners are called upon to act as the Australian government representative.

Trade Commissioners, Assistant Trade Commissioners and Trainee Trade Commissioners are drawn from both private enterprise and the public service. Applications for entry are invited periodically by public advertisement. Recruitment is generally at the Trainee Trade Commissioner and Assistant Trade Commissioner level and officers are promoted to higher grades or to Trade Commissioner as experience and performance warrant. In the majority of posts the Trade Commissioner is supported by an Assistant Trade Commissioner and, in many cases, also by another Trade Commissioner.

The Trade Commissioner Service is administered by the Department of Trade and Resources (as distinct from the diplomatic and consular services administered by the Department of Foreign Affairs), but in countries where there is an Australian diplomatic or consular mission it is the practice for Trade Commissioners to be attached to that mission and to hold an appropriate diplomatic or consular rank—Minister (Commercial), Counsellor (Commercial) or First or Second Secretary (Commercial).

The countries where Australian Trade Commissioner posts are located are shown in the following list. Except where indicated the missions are located in capital cities only. Algeria; Argentina; Austria; Bahrain; Belgium; Brazil (Rio de Janeiro); Britain; Canada (Vancouver, Toronto, Ottawa); China, People's Republic; Egypt, Arab Republic of; Fiji; France; Germany, Federal Republic of; Greece; Hong Kong; India; Indonesia; Iran; Iraq; Israel; Italy (Rome, Milan); Japan (Tokyo, Osaka); Kenya; Korea, Republic of; Kuwait; Malaysia; Mexico; Netherlands; New Zealand (Wellington, Auckland); Papua New Guinea; Philippines; Poland; Saudi Arabia (Jeddah); Singapore; South Africa (Johannesburg); Spain; Sweden; Switzerland (Geneva); Thailand; United Arab Emirates (Abu Dhabi); United States of America (Washington DC, Chicago, Los Angeles, San Francisco, New York); U.S.S.R.; Venezuela; Yugoslavia, Socialist Federal Republic of.

Full details of the Australian Trade Commissioner posts are available from the Department of Trade and Resources, Canberra, A.C.T. 2600.

Australian Trade Correspondents and Marketing Officers

Detached Australian Trade Correspondents and Marketing Officers supplement the work of the Trade Commissioner in whose territory they are located. Correspondents are situated in various locations throughout the world.

Trade representation in Australia

Details of Trade Representatives in Australia are available from the Department of Foreign Affairs, Canberra, A.C.T. 2600.

Collection and presentation of statistics

Source of data

Overseas trade statistics are compiled by the Australian Bureau of Statistics from documentation submitted by exporters and importers or their agents to the Bureau of Customs as required by the Customs Act.

Scope of the statistics

The statistics presented below are, with one exception, recorded on a *general trade* basis, i.e. total exports include both Australian produce and re-exports, and total imports comprise goods entered directly for domestic consumption together with goods imported into Customs warehouses. The statistics of import clearances, however, are recorded on a *special trade* basis, i.e., clearances comprise goods entered directly for domestic consumption together with goods cleared into the domestic market from Customs warehouses.

Exports of Australian produce are goods, materials or articles which have been produced, manufactured or partly manufactured in Australia, except goods which were originally imported and have undergone only repair or minor operations which leave them essentially unchanged.

Re-exports are goods, materials or articles originally imported which are exported either in the same condition in which they were imported or after undergoing repair or minor operations which leave them essentially unchanged. Minor operations include blending, packaging, bottling, cleaning, sorting, husking or shelling.

Total exports are the aggregate of exports of Australian produce and re-exports.

The following are excluded from overseas trade statistics:

- (a) direct transit trade, i.e., goods being trans-shipped or moved through Australia for purposes of transport only;
- (b) bunkers and stores supplied to vessels and to aircraft prior to departure overseas or arrival in Australia;
- (c) migrants' and passengers' effects exported or imported; and parcels post exports and imports of small value, for which Customs entries are not required;
- (d) certain materials under inter-governmental agreements for defence and similar projects for which Customs entries are not required;
- (e) vessels and aircraft engaged in the transport of passengers or goods between Australia and other countries;
- (f) the sale or purchase of any vessel and/or aircraft intended for use on overseas routes;
- (g) fish and other sea products landed in Australia or abroad directly from the high seas by Australian vessels;
- (h) entries lodged on informal clearance documents (ICD) for values not exceeding \$250;
- (i) export consignments where the value of the goods in each transaction is less than \$250.

Statistical period

Exports. Exports are recorded statistically in the month in which the entries are both finalised by the Bureau of Customs and passed to the ABS for further processing. Regular exporters or their agents may provide details of their export shipments on a periodic rather than an individual shipment basis by submitting weekly or monthly returns. These 'periodic returns' must be submitted to the Bureau of Customs within seven days of the end of the period in question covering all shipments during that period. All other exporters are required to report each individual shipment prior to the ship's departure. Approximately 90% of monthly export values are recorded on periodic returns. The statistical month for Customs outports (generally ports other than those at which the main Customs Office in each State is located) closes on the twenty-first of each month, whereas for mainports the statistical month is the calendar month. Because of these factors export statistics for a particular month do not necessarily represent all of the commodities actually exported during that month. Analysis of past data has shown that in aggregate approximately 39% of export trade by value for a particular month reflects actual shipments during that month, 56% by value was actually exported during the previous month with the remaining 5% by value exported in earlier months. For individual commodities the percentage by value representing actual exports in a month may vary considerably.

Imports. Imports are recorded statistically in the calendar month in which the import entries were both finalised by the Bureau of Customs and passed to the ABS for further processing. Import entries may be lodged early using the check-to-arrive system or the documents may be delayed because of various validation checks carried out by Customs prior to the entries being passed to the ABS. Import statistics for a particular month do not necessarily represent entries lodged or commodities actually imported during the month in question. Analysis of past data has shown that in aggregate approximately 70% of import trade by value recorded for a particular month was actually imported during that month, 25% was actually imported during the previous month with the remaining 5% being imported in earlier months. For individual commodities the percentage by value representing actual imports in a month may vary considerably.

State

From 1 July 1978, *State* statistics for exports comprise State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Previously *State* was the State in which the export document was lodged with the Bureau of Customs. Because of this change, figures from 1 July 1978 are not directly comparable with those for previous periods.

For imports the *State* is that in which the import entry was lodged with the Bureau of Customs. The port of lodgement of the import entry is not necessarily the port of discharge of the goods or of final consumption. Goods forwarded interstate after import, whether in containers or not, are recorded as being imported at the port of lodgement of the import entry.

Valuation

Exports. Goods sold to overseas buyers before export are valued at the free-on-board (f.o.b.) Australian port of shipment equivalent of the actual price paid to the exporter. Goods shipped on consignment are valued at the f.o.b. Australian port of shipment equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which they are dispatched for sale. The recorded value of exports includes the value of the outside package, other than international containers used for containerised cargo.

Imports. The recorded value is the value for duty for Customs purposes (VFD). On 1 July 1976, Australia adopted the internationally recognised Brussels Definition of Value (BDV) on a free-on-board (f.o.b.) basis (i.e. charges and expenses involved in delivering the goods from the place of exportation to the place of introduction in Australia, are excluded). The value for duty is based on the normal price i.e., the price the goods would fetch at the time when duty becomes payable on a sale in the open market between a buyer and a seller independent of each other. In practice, the basis for valuation is generally taken to be the invoice price subject to certain safeguards and adjustments where necessary. The recorded value of imports includes the value of the outside package, other than international containers used for containerised cargo. Because of the change in the basis of valuation the recorded imports figures for 1976-77 are not comparable with previous years. For details of the method of valuation used prior to 1 July 1976, see Year Book No. 61, page 330.

Merchandise exports and imports

In accordance with standards recommended by the United Nations: Merchandise exports are defined as all goods which subtract from the stock of material resources in Australia as a result of their movement out of the country. Merchandise exports, therefore, exclude goods exported with the reasonable expectation of re-import within a limited time. A complete list of commodities not included in merchandise trade is shown under section 9 (b) of the *Australian Export Commodity Classification* (AECC). These include, for example, coin being legal tender and goods for temporary exhibition outside Australia;

Merchandise imports are defined as all goods which add to the stock of material resources in Australia as a result of their movement into the country. Merchandise imports, therefore, exclude goods imported with the reasonable expectation of re-export within a limited time. A complete list of commodities not included in merchandise trade is shown under Section 9 (b) of the *Australian Import Commodity Classification* (AICC). These include, for example, coin being legal tender and goods for temporary exhibition in Australia.

Goods excluded from merchandise trade are for convenience termed non-merchandise and such trade is shown separately in some tables. Total trade is the addition of merchandise and non-merchandise.

Commodity classification

Exports and imports are classified according to the items of the AECC and AICC respectively, which, from 1 July 1978, have been based on the *Standard International Trade Classification*, Revision 2. Copies of, or extracts from these classifications may be obtained from offices of the ABS in Canberra and in each capital city.

Australian Standard Commodity Classification

The Australian Standard Commodity Classification (ASCC) has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In a large number of cases, however, due to the differences between production, import and export items, comparability is only achieved at fairly broad aggregate levels. In the ASCC, commodities are grouped under industries (as defined in the Australia Standard Industrial Classification (ASIC)) in which they are typically produced.

The first edition of the ASCC was restricted to commodities originating in the manufacturing industries. The second edition, which relates to the year 1977-1978 was published in 1980 and has been amended to also include commodities originating in the agriculture, forestry, fishing, hunting and mining industries.

The classification will continue to be developed over the coming years to improve the alignment between production, imports and exports.

The ABS also publishes a statistical publication, *Comparable Commodity Statistics of Production, Imports and Exports* (1310.0) containing commodity statistics of Australian production, imports and exports based on the standard (ASCC) items contained in the ASCC manual. The second edition of this publication, was published in 1980, relates to the year 1977-78 and contains Australian production, import and export commodity statistics of manufactured goods classified in accordance with the standard (ASCC) items in the second edition of the ASCC manual.

Country

A country is defined as a geographical entity which trades, or has the potential to trade, with Australia in accordance with Australian Customs provisions. External territories under Australian administration are treated separately whilst self-governing territories and dependent territories under the administration of other countries may be treated as individual countries in Australian overseas trade statistics. *Exports*: for exports, *country* refers to the country to which the goods were consigned at the time of export. Where the country of consignment is not determined at the time of export, goods are recorded as exported *For orders* and in those cases where it was found to be impossible to determine the destination, as *Destination unknown*. *Imports*: for imports, *country* refers to the country of origin of the goods which is defined as the country of production for Customs purposes.

Quantity data

Where quantities are shown they are generally expressed in terms of the normal unit of quantity used in the appropriate industry and as specified in the *Australian Export and Import Commodity Classifications* (1203.0, 1204.0) published by the ABS. Quantities are not tabulated in respect of statistical items for which there is no appropriate unit of quantity (e.g. a statistical item which covers a number of commodities that cannot be recorded under a uniform unit of quantity).

Excess of exports or imports

The excess of the value of exports or imports does not represent the balance of trade. The balance of trade is the excess of exports or imports on a *balance of payments* basis. Details of the adjustments (relating to coverage, timing and valuation) made to total recorded exports and imports for balance of payments purposes, are set out in the annual publication *Balance of Payments, Australia* (5303.0). Some information may be found in the section relating to the balance of payments, page 687.

Overseas trade statistics

Total overseas trade

The following table shows the total trade of Australia with overseas countries from 1975-76 to 1980-81. For details relating to years prior to 1973-74, see Year Book No. 61, page 333.

OVERSEAS TRADE (\$m)

Year	Exports	Imports	Excess of exports (+) or imports (-)
1975-76	9,640	8,241	+ 1,399
1976-77	11,652	10,410	+ 1,241
1977-78	12,245	11,167	+ 1,078
1978-79	14,241	13,752	+ 489
1979-80	19,189	18,965	+ 224
1980-81	18,870	16,218	+ 2,653

Plate 47 below shows the overseas trade of Australia from 1962-63 to 1980-81.

OVERSEAS TRADE 1961-62 TO 1980-81

\$ million

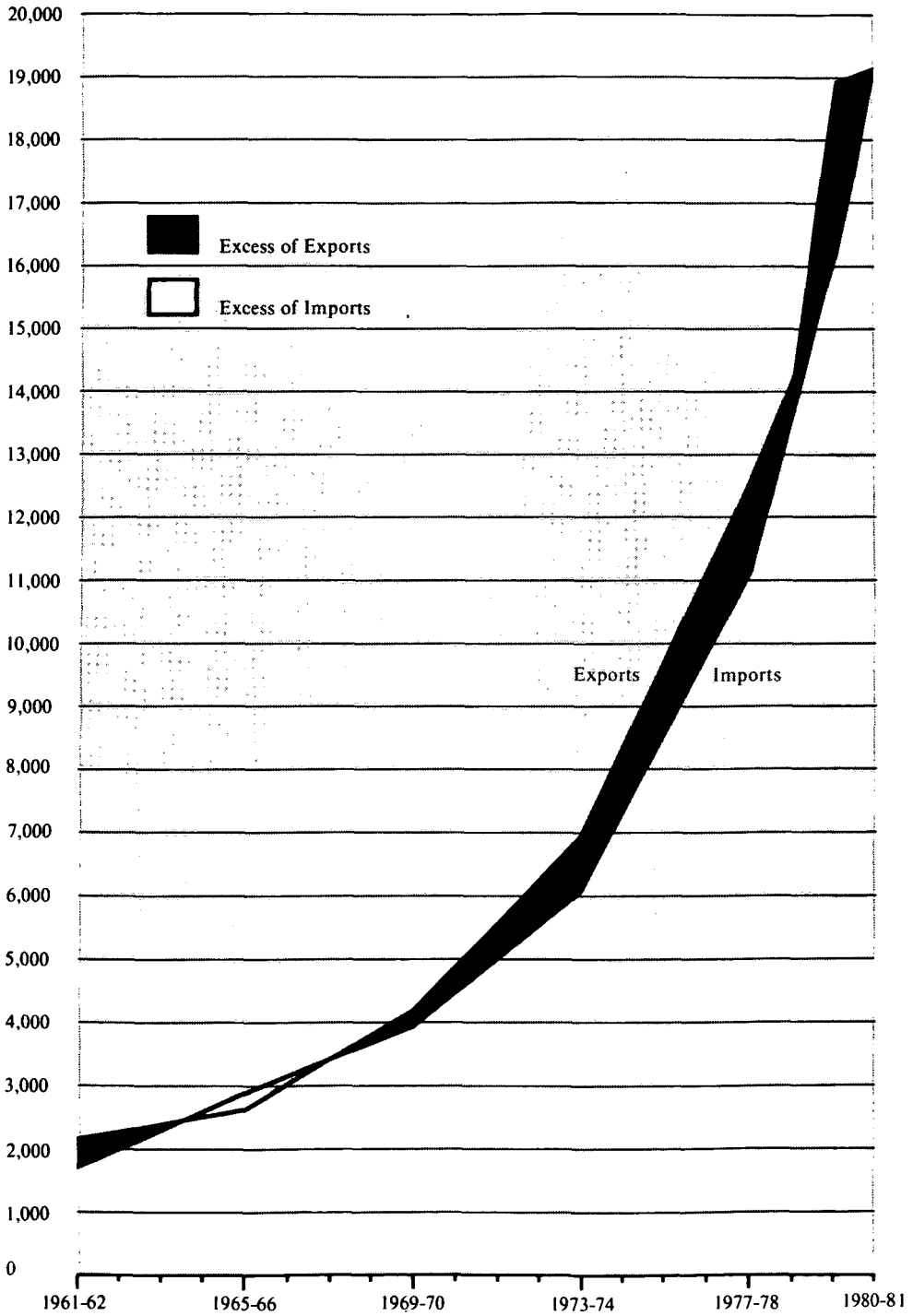


PLATE 48

The following table shows particulars of merchandise and non-merchandise trade for recent years.

MERCHANDISE AND NON-MERCHANDISE TRADE

(\$'000)

EXPORTS

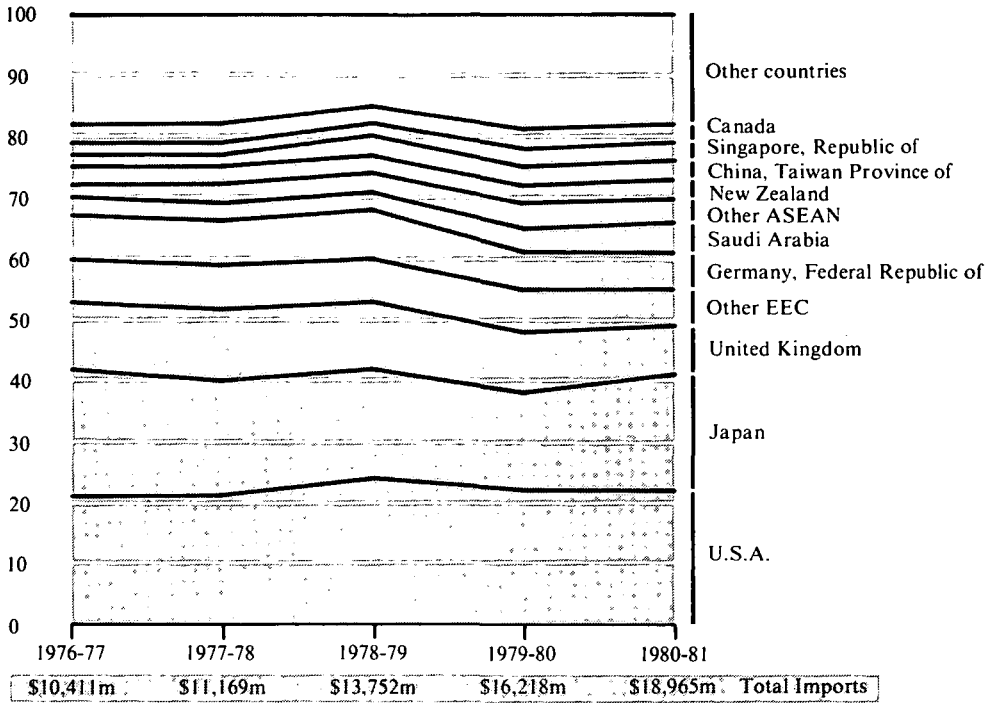
Year	Merchandise			Non-merchandise			Total
	Australian produce	Re-exports	Total	Australian produce	Re-exports	Total	
1975-76	9,235,698	163,768	9,399,466	103,910	136,207	240,117	9,639,583
1976-77	11,291,763	197,284	11,489,046	89,765	72,780	162,545	11,651,591
1977-78	11,770,562	254,724	12,025,286	127,498	92,498	219,996	12,269,681
1978-79	13,696,288	374,894	14,071,183	86,318	83,364	169,683	14,240,865
1979-80	18,087,597	517,374	18,604,971	114,929	150,179	265,108	18,870,079
1980-81	18,294,660	670,873	18,965,533	77,014	146,329	223,343	19,188,876

IMPORTS

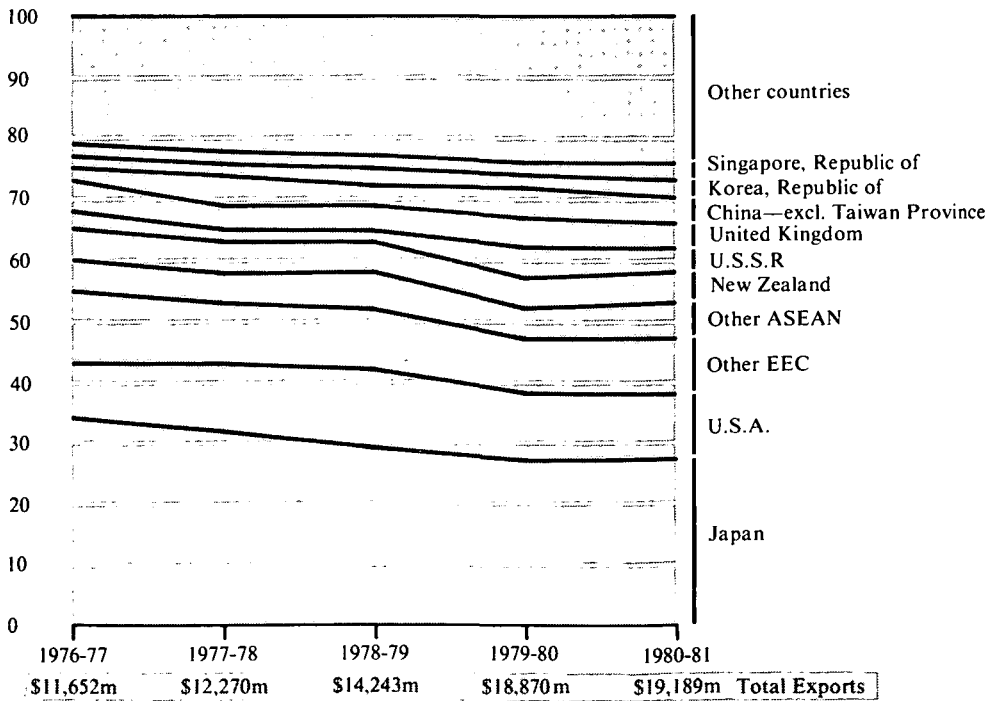
Year	Merchandise	Non-merchandise	Total
1975-76	8,153,421	87,172	8,240,593
1976-77	10,330,210	80,435	10,410,645
1977-78	11,079,677	87,075	11,166,752
1978-79	13,651,201	100,645	13,751,845
1979-80	18,790,867	174,155	18,965,023
1980-81	16,044,778	172,727	16,217,505

VALUE OF EXPORTS AND IMPORTS, PROPORTIONS BY COUNTRY, 1976-77 TO 1980-81

IMPORTS



EXPORTS



Classified summary of Australian overseas trade

The following table shows exports and imports according to divisions of the *Australian Export and Import Commodity Classifications* (based on the *Standard International Trade Classification Revision 2*).

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS

(\$'000)

Division No.	Description	Exports			Imports		
		1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
00	Live animals chiefly for food	120,074	209,716	231,460	17,560	25,496	23,427
01	Meat and meat preparations	1,712,572	1,729,469	1,587,113	4,086	9,076	9,838
02	Dairy products and birds' eggs	219,115	264,013	270,291	25,329	32,976	39,248
03	Fish and fish preparations	194,129	242,148	232,032	125,994	154,294	190,319
04	Cereals and cereal preparations	1,174,210	2,891,403	2,327,041	14,878	16,515	19,591
05	Fruit and vegetables	157,510	210,843	236,304	91,398	114,503	116,361
06	Sugar, preparations, honey	463,749	700,423	1,169,039	13,581	9,631	11,101
07	Coffee, tea, cocoa and spices	21,350	22,444	29,329	205,885	243,034	194,472
08	Feeding stuff for animals	50,352	25,742	37,335	14,141	26,491	27,101
09	Miscellaneous food preparations	10,996	14,177	14,547	20,031	23,196	23,601
11	Beverages	21,856	28,070	36,282	71,357	74,173	91,202
12	Tobacco and tobacco manufactures	7,768	13,299	11,320	59,736	67,628	77,938
21	Hides, skins and furskins, raw	374,238	377,436	210,217	2,251	2,602	2,504
22	Oil seeds, oil nuts and oil kernels	23,686	35,584	7,705	2,686	7,264	16,905
23	Crude rubber (including synthetic and reclaimed)	4,258	2,904	1,656	58,843	77,560	70,330
24	Wood, timber and cork	108,348	170,582	208,560	155,897	194,972	189,432
25	Pulp and waste paper	622	1,417	2,120	71,277	92,409	108,549
26	Textile fibres and their waste	1,468,226	1,606,534	1,873,360	73,953	89,790	84,675
27	Crude fertilisers and minerals (except coal, petroleum and precious stones)	103,183	82,320	89,726	148,378	161,778	213,493
28	Metaliferous ores and metal scrap	2,476,822	3,244,713	3,300,292	18,137	32,411	37,064
29	Crude animal and vegetable materials n.e.s.	36,653	47,261	63,780	30,922	40,819	40,747
32	Coal, coke and briquettes	1,532,463	1,687,789	1,982,497	3,466	4,060	6,496
33	Petroleum and petroleum products	315,636	426,602	500,508	1,136,500	2,093,834	2,719,422
34	Petroleum gases and other gaseous hydrocarbons	(a)	(a)	(a)	228	274	262
41	Animal oils and fats	123,601	91,342	80,263	733	553	714
42	Fixed vegetable oils and fats	2,356	1,483	4,228	55,850	62,933	43,565
43	Animal and vegetable oils, fats and waxes, processed	7,928	6,890	7,128	9,290	17,725	19,143
50	Combined confidential items from 513 and 582	-	-	(c)	-	-	5,771
51	Chemical elements and compounds	37,944	46,124	50,960	325,917	486,793	437,314
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	48,745	74,093	55,835	138,772	152,306	204,984
53	Dyeing, tanning and colouring materials	19,677	21,649	17,265	68,951	83,768	77,058
54	Medicinal and pharmaceutical products	65,173	70,195	81,802	130,704	152,371	141,284
55	Essential oils and perfume materials; toilet and cleansing preparations	24,744	28,788	31,644	68,404	83,489	86,070
56	Fertilisers, manufactured	1,987	5,486	5,230	24,615	32,711	48,388
57	Explosives and pyrotechnic products	4,839	5,865	6,206	7,564	10,619	9,202
58	Plastic materials, regenerated cellulose and artificial resins	50,767	59,195	72,079	280,706	371,900	357,347
59	Chemical materials, n.e.s.	54,448	68,284	77,187	155,166	204,827	220,314
60	Combined confidential items from 661,694 and 695	-	-	(c)	-	-	5,425
61	Leather, leather manufactures, n.e.s. and dressed furskins	45,755	42,827	31,532	36,208	42,547	38,291
62	Rubber manufactures, n.e.s.	6,532	11,812	12,177	155,557	200,062	241,700
63	Wood and cork manufactures (excluding furniture)	5,190	7,424	8,559	64,193	78,565	92,713
64	Paper, paperboard and manufactures	29,958	50,566	56,616	345,618	420,028	458,052
65	Textile yarn, fabrics, made-up articles	88,645	109,471	122,996	831,295	953,295	981,496
66	Non-metallic mineral manufactures n.e.s.	116,666	124,395	137,368	274,160	336,644	395,767
67	Iron and steel	592,521	605,537	533,716	274,220	337,410	458,113
68	Non-ferrous metals	792,622	1,249,486	986,293	67,461	95,587	109,514
69	Manufactures of metal, n.e.s.	120,294	159,362	166,476	358,789	436,064	488,155
71	Machinery, other than electric	30,173	39,037	41,853	440,465	504,033	558,704
72	Electrical machinery and apparatus	126,906	156,346	195,817	826,326	889,806	1,216,001
73	Transport equipment	16,625	20,445	26,987	138,897	128,622	219,197
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	105,120	126,609	154,634	710,749	784,668	988,009
75	Office machines and automatic data processing equipment	41,010	46,355	50,730	489,228	499,748	641,089
76	Telecommunications and sound recording and reproducing apparatus and equipment	21,184	27,168	38,743	383,780	416,971	552,910

For footnotes see end of table.

EXPORTS AND IMPORTS: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS—*continued*
(\$'000)

Division No.	Description	Exports			Imports		
		1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	63,350	84,880	98,940	655,729	708,440	819,158
78	Road vehicles (including air cushion vehicles)	136,000	159,841	183,661	1,411,912	1,409,138	1,703,132
79	Other transport equipment	132,674	196,011	294,063	674,038	314,306	334,156
81	Sanitary, plumbing, heating and lighting fixtures and fittings	3,188	4,849	5,359	30,256	37,753	37,857
82	Furniture	5,202	7,759	9,616	70,734	78,311	92,991
83	Travel goods, handbags, etc.	1,117	1,090	714	42,091	50,639	62,747
84	Clothing and accessories; articles of knitted or crocheted fabric	13,787	22,532	17,585	280,877	290,405	306,235
85	Footwear	2,877	3,867	4,545	93,997	106,050	115,391
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	58,458	75,789	84,519	250,252	290,292	374,789
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	63,821	83,070	95,416	270,235	311,716	346,937
89	Miscellaneous manufactured articles	79,882	109,127	125,628	703,394	839,762	926,824
9A	Commodities and transactions not classified according to kind (b)	331,604	565,034	568,654	137,552	229,138	260,281
	<i>Total merchandise</i>	<i>14,071,183</i>	<i>18,604,971</i>	<i>18,965,533</i>	<i>13,651,201</i>	<i>16,044,778</i>	<i>18,790,867</i>
9B	Non-merchandise	169,683	265,108	223,343	100,645	172,727	174,155
	Total	14,240,865	18,870,079	19,188,876	13,751,845	16,217,505	18,965,023

(a) Included in Division 9A.

(b) Includes Division 34 (Exports only).

(c) Imports only.

EXPORTS OF MAJOR COMMODITIES

Commodity	Unit of quantity	Quantity			Value (\$'000)		
		1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Aluminium and alloys, unworked	tonnes	81,111	57,201	41,968	82,323	70,832	55,566
Aluminium oxide and hydroxide	"	6,408,284	7,235,994	6,393,484	719,787	970,865	983,684
Barley	"	1,744,453	2,962,437	1,592,931	149,547	353,535	244,760
Butter	"	34,490	23,125	14,988	49,446	38,602	29,564
Cars, passenger motor, assembled and unassembled		-	-	-	54,022	71,714	67,127
Cheese	tonnes	51,503	61,134	54,140	68,974	94,390	103,908
Coal (anthracite, bituminous and sub-bituminous) (except briquettes)	"	39,040,151	42,566,432	47,187,312	1,523,769	1,675,044	1,964,740
Copper, ore and concentrates	"	131,697	157,481	133,046	43,899	88,560	75,927
Copper, refined, unworked	"	53,677	47,953	72,790	76,817	93,821	116,013
Crustaceans and molluscs (except canned or bottled)		-	-	-	180,824	216,319	200,732
Flour (wheaten) plain white	tonnes	68,364	49,827	53,048	13,553	11,613	13,173
Fruit, fresh and nuts, fresh or dried	"	155,164	176,688	171,456	93,180	117,513	135,622
Fruit, preserved and fruit preparations		-	-	-	50,006	70,496	74,042
Hides, bovine and equine (except calf and kip skins)	tonnes	183,357	131,547	113,119	224,023	181,202	89,229
Iron and steel ingots and other primary forms	"	1,248,270	653,916	554,535	194,461	138,163	120,925
Iron ore and concentrates (except roasted iron pyrites)	"	79,584,850	78,967,089	74,872,045	967,697	1,076,395	1,116,965
Iron, pig and cast	"	785,315	618,818	349,542	70,546	76,202	41,905
Lead and lead alloys (including silver-lead) unworked	"	322,278	355,686	281,635	260,084	548,337	308,293
Meat, fresh, chilled or frozen, beef—boneless	"	748,606	555,492	497,047	1,264,089	1,261,279	1,070,705
Meat, fresh, chilled or frozen—bovine animals, other	"	84,850	24,963	18,101	104,079	55,246	39,199
Meat, fresh, chilled or frozen—edible offals	"	66,944	51,568	51,522	77,714	77,465	64,345
Meat, fresh, chilled or frozen—sheep, lambs and goats	"	152,213	189,986	243,535	191,044	239,430	315,115
Milk and cream	"	100,046	122,386	89,995	83,675	118,008	119,113
Nickel and nickel alloys, unworked	n.p.	-	n.p.	n.p.	92,934	125,362	115,895
Nickel matte and speiss	n.p.	-	n.p.	n.p.	128,430	291,666	303,798
Petroleum products		-	-	-	305,882	426,602	500,508
Rice	tonnes	241,236	457,295	281,602	66,153	129,928	99,933
Skins, sheep and lamb, with wool on	"	73,244	77,164	71,322	110,077	149,280	89,881
Sorghum, unmilled	"	516,329	580,411	462,667	45,507	59,769	57,475
Sugar—from cane (except icing sugar)	"	1,839,822	2,201,007	2,557,531	448,198	666,786	1,145,871
Titanium and zirconium ore and concentrates (except beneficiated ilmenite)	"	1,708,774	1,974,551	1,635,711	110,905	145,215	124,889
Wheat (including spelt) and maslin, unmilled	"	6,823,720	14,876,378	10,529,889	794,248	2,176,790	1,728,692
Wood chips	"	3,349,170	4,359,624	4,295,771	93,592	129,435	181,910
Wool, carbonised—shorn and skin	"	12,016	12,000	14,405	43,236	48,021	67,148
Wool, carded or combed (tops and other)	"	11,299	12,495	13,204	49,464	63,935	72,586
Wool, greasy	"	565,806	504,078	529,213	1,226,641	1,282,600	1,454,550
Wool, washed and scoured—shorn, skin and boiled	"	46,261	49,470	55,283	153,013	189,052	239,314
Zinc, ore and concentrates	"	452,520	459,994	444,246	56,703	77,856	81,332
Zinc and zinc alloys, unworked	"	194,424	198,903	194,980	111,387	135,073	132,122
<i>Total major commodities</i>		-	-	-	10,379,929	13,742,401	13,746,556
Total Exports		-	-	-	14,240,865	18,870,079	19,188,876

ASIC industry of origin

Export and import statistics classified by Subdivisions of the *Australian Standard Industrial Classification* (ASIC) have been introduced from July 1980. These statistics are compiled by allocating statistical items of the AECC and AICC to the ASIC industry of origin with whose main economic activities the commodities are primarily associated. A full description of ASIC Classes is contained in the publication *Australian Standard Industrial Classification, Vol. 1—The Classification* (1201.0). For exports, these statistics replace those for Industrial Groups, published previously in this publication. Exports by Industrial Groups ceased to be compiled from 1 July 1980.

EXPORTS BY AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION
(**\$'000**)

<i>ASIC Divisions/Subdivisions</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
Agriculture, forestry, fishing and hunting—			
Agriculture	2,514,140	3,046,482	2,491,790
Forestry and logging	768	1,785	2,630
Fishing and hunting	25,208	25,588	21,930
<i>Total</i>	<i>2,540,116</i>	<i>3,073,855</i>	<i>2,516,349</i>
Mining (a)—			
Metallic	1,561,371	1,863,498	1,917,250
Coal	1,524,284	1,680,256	1,976,493
Construction materials	255	277	227
Other non-metallic minerals	121,209	99,927	101,267
<i>Total</i>	<i>3,207,117</i>	<i>3,643,957</i>	<i>3,995,238</i>
Manufacturing—			
Food, beverages and tobacco	3,418,240	3,851,725	4,064,856
Textiles	326,318	1,711,071	1,989,348
Clothing and footwear	17,256	27,578	20,564
Wood, wood products and furniture	120,120	187,062	228,837
Paper, paperboard, printing and publishing	56,605	83,794	100,779
Chemical, petroleum and petroleum products	587,855	769,770	855,074
Non-metallic mineral products	27,551	39,871	41,507
Basic metal products	2,315,578	3,240,384	2,864,668
Fabricated metal products	111,713	151,419	143,449
Transport equipment	264,468	357,291	478,237
Other machinery and equipment	544,099	677,960	821,313
Miscellaneous manufacturing	182,325	201,211	200,115
<i>Total</i>	<i>7,972,129</i>	<i>11,299,135</i>	<i>11,808,748</i>
Other industries (b)—			
Wholesale and retail trade, business services	24,113	31,508	32,280
Waste and scrap n.e.s., secondhand goods	327,707	556,515	612,917
<i>Total</i>	<i>351,820</i>	<i>588,023</i>	<i>645,198</i>
<i>Total merchandise</i>	<i>14,071,183</i>	<i>18,604,971</i>	<i>18,965,533</i>
Non-merchandise	169,683	265,108	223,343
Total	14,240,865	18,870,079	19,188,876

(a) Excludes oil and gas. (b) Includes oil and gas.

IMPORTS BY AUSTRALIAN STANDARD INDUSTRIAL CLASSIFICATION

(\$'000)

<i>ASIC Divisions/Subdivisions</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>
Agriculture, forestry, fishing and hunting—			
Agriculture	256,902	330,457	304,171
Forestry and logging	3,574	2,477	1,962
Fishing and hunting	3,781	4,405	4,213
<i>Total</i>	<i>264,257</i>	<i>337,339</i>	<i>310,346</i>
Mining—			
Metallic	7,833	9,020	24,839
Coal	1,086	1,530	548
Oil and gas	399,788	1,182,298	1,490,878
Construction materials	2,574	5,354	6,764
Other non-metallic minerals	121,195	152,453	202,529
<i>Total</i>	<i>532,477</i>	<i>1,350,656</i>	<i>1,725,557</i>
Manufacturing—			
Confidential items falling within SITC Section 5	3,679	5,518	5,771
Food, beverages and tobacco	503,397	603,181	646,924
Textiles	829,494	927,478	965,374
Clothing and footwear	414,016	441,881	470,748
Wood, wood products and furniture	295,074	359,655	378,126
Paper, paperboard, printing and publishing	638,792	788,208	850,489
Chemical, petroleum and petroleum products	1,830,141	2,334,161	2,649,090
Non-metallic mineral products	236,552	283,592	346,983
Basic metal products	371,965	492,937	639,410
Confidential items falling within SITC Sections 6 and 7	6,357	6,801	6,419
Fabricated metal products	367,821	463,529	513,468
Transport equipment	2,275,133	1,943,532	2,219,443
Other machinery and equipment	4,031,586	4,363,546	5,596,659
Miscellaneous manufacturing	827,788	1,013,115	1,096,056
<i>Total</i>	<i>12,631,794</i>	<i>14,027,132</i>	<i>16,384,959</i>
Other industries—			
Wholesale and retail trade, business services	82,532	111,010	128,107
Waste and scrap n.e.s., secondhand goods	140,140	218,641	241,898
<i>Total</i>	<i>222,672</i>	<i>329,652</i>	<i>370,005</i>
<i>Total merchandise</i>	<i>13,651,201</i>	<i>16,044,778</i>	<i>18,790,867</i>
Non-merchandise	100,645	172,727	174,155
Total	13,751,845	16,217,505	18,965,023

Exports and imports by broad economic categories, 1979-80 and 1980-81

The following table shows exports and imports of merchandise classified according to the nineteen categories of the United Nations' Classification, Broad Economic Categories (BEC). The BEC attempts to classify external trade statistics for the purposes of general economic analysis according to the main end use of the commodities traded.

Broad Economic Category	Exports		Imports		Exports		Imports	
	1979-80		1980-81		1979-80		1980-81	
	\$million	Proportion to total	\$million	Proportion to total	\$million	Proportion to total	\$million	Proportion to total
FOOD AND BEVERAGES	6,311.6	33.4	6,119.5	31.9	774.2	4.8	779.6	4.1
Primary	3,226.8	17.1	2,654.6	13.8	288.6	1.8	274.2	1.4
Mainly for industry	2,856.6	15.1	2,279.2	11.9	179.7	1.1	151.7	0.8
Mainly for household consumption	370.1	2.0	375.4	2.0	108.9	0.7	122.6	0.6
Processed	3,084.9	16.3	3,465.0	18.1	485.7	3.0	505.3	2.7
Mainly for industry	801.3	4.2	1,306.6	6.8	100.7	0.6	80.7	0.4
Mainly for household consumption	2,283.6	12.1	2,158.4	11.2	385.0	2.4	424.6	2.2
INDUSTRIAL SUPPLIES								
n.e.s.	8,496.1	45.0	8,333.6	43.4	4,795.8	29.6	5,207.2	27.5
Primary	4,305.1	22.8	4,504.0	23.5	375.4	2.3	446.2	2.4
Processed	4,191.1	22.2	3,829.6	20.0	4,420.3	27.3	4,761.0	25.1
FUELS AND LUBRICANTS	2,103.5	11.1	2,479.3	12.9	2,067.7	12.7	2,685.0	14.2
Primary	1,675.7	8.9	1,972.8	10.3	1,183.6	7.3	1,500.9	7.9
Processed	427.8	2.3	506.5	2.6	884.1	5.5	1,184.2	6.2
Motor spirit	73.2	0.4	82.0	0.4	105.4	0.7	115.1	0.6
Other	354.5	1.9	424.5	2.2	778.6	4.8	1,069.1	5.6
CAPITAL GOODS (except transport equipment), and parts and accessories thereof	549.5	2.9	659.2	3.4	3,609.6	22.3	4,683.6	24.7
Capital goods (except transport equipment)	336.9	1.8	388.0	2.0	2,461.8	15.2	3,308.2	17.4
Parts and accessories	212.6	1.1	271.2	1.4	1,147.8	7.1	1,375.4	7.3
TRANSPORT EQUIPMENT and parts and accessories thereof	388.0	2.1	516.1	2.7	2,117.7	13.1	2,481.7	13.1
Passenger motor cars (a)	19.4	0.1	20.3	0.1	387.2	2.4	390.5	2.1
Other	148.2	0.8	248.1	1.3	594.0	3.7	773.3	4.1
Industrial (a)	130.1	0.7	223.6	1.2	488.2	3.0	600.9	3.2
Non-industrial	18.1	0.1	24.5	0.1	105.8	0.7	172.4	0.9
Parts and accessories	220.3	1.2	247.8	1.3	1,136.6	7.0	1,317.8	6.9
CONSUMER GOODS n.e.s.	304.1	1.6	344.7	1.8	2472.9	15.2	2,716.0	14.3
Durable	85.5	0.5	92.8	0.5	834.8	5.1	936.9	4.9
Semi-durable	62.9	0.3	72.7	0.4	949.4	5.9	1,067.3	5.6
Non-durable	155.7	0.8	179.2	0.9	688.7	4.2	711.8	3.8
GOODS n.e.s.(b)	452.2	2.4	513.1	2.7	206.9	1.3	237.9	1.3
Total merchandise	18,605.0	98.6	18,965.5	98.8	16,044.8	98.9	18,790.9	99.1
Non-merchandise	265.1	1.4	223.3	1.2	172.7	1.1	174.2	0.9
Total	18,870.1	100.0	19,188.9	100.0	16,217.5	100.0	18,965.0	100.0

(a) Unassembled road motor vehicles are included with parts and accessories of transport equipment. (b) For exports, includes petroleum gases.

Direction of Overseas Trade*Exports and imports, by country of consignment or of origin*

The following table shows the value and percentage of Australian exports and imports according to principal country of consignment or origin. The proportions of Australian exports and imports by country of origin or consignment are shown graphically on Plate 49 on page 637.

**AUSTRALIAN EXPORTS AND IMPORTS, VALUE BY COUNTRY OR COUNTRY GROUP OF
CONSIGNMENT OR ORIGIN**

(\$'000)

Country	Exports			Imports		
	1978-79	1979-80	1980-81	1978-79	1979-80	1980-81
Argentina	45,649	91,399	55,334	3,781	6,853	6,145
Association of South-East Asian Nations—						
Indonesia	217,582	293,151	358,959	99,239	241,779	416,758
Malaysia	330,736	427,843	443,373	152,549	185,820	186,765
Philippines	165,767	160,813	170,140	76,948	82,565	91,864
Singapore, Republic of	264,060	393,685	513,207	277,683	442,631	507,447
Thailand	112,805	141,221	129,008	35,438	53,453	64,824
<i>Total ASEAN</i>	<i>1,090,951</i>	<i>1,416,714</i>	<i>1,614,687</i>	<i>641,857</i>	<i>1,006,247</i>	<i>1,267,658</i>
Austria	5,712	3,996	1,980	41,582	43,694	42,579
Bahrain	40,897	59,606	56,177	96,404	135,481	109,848
Bangladesh	40,908	109,421	61,553	11,705	25,102	19,126
Brazil	20,617	24,963	38,624	67,926	82,175	107,239
Canada	274,362	338,673	433,517	383,486	446,079	500,105
China—excl. Taiwan Province	437,570	845,456	671,156	141,638	199,653	270,037
—Taiwan Province only	298,713	323,251	395,305	337,543	440,559	508,613
Egypt, Arab Republic of	193,971	326,913	393,026	92	79	172
European Economic Community—						
Belgium-Luxembourg	147,223	200,532	171,647	100,454	120,975	119,300
Denmark	17,210	19,779	16,267	64,870	58,944	61,270
France	297,284	351,481	361,299	249,669	306,332	304,971
Germany, Federal Republic of	434,103	495,327	473,170	1,031,278	1,021,207	1,079,206
Ireland	3,755	6,237	9,604	38,330	44,101	49,673
Italy	358,933	427,008	399,765	372,739	420,498	427,636
Netherlands	181,666	234,596	206,154	174,915	190,449	199,034
United Kingdom	571,527	951,578	717,078	1,492,376	1,647,850	1,586,009
<i>Total EEC</i>	<i>2,011,701</i>	<i>2,686,539</i>	<i>2,354,983</i>	<i>3,524,631</i>	<i>3,810,356</i>	<i>3,827,099</i>
Fiji	99,514	147,835	169,625	10,839	18,433	16,240
Finland	5,391	6,900	6,497	75,104	109,191	113,286
Hong Kong	318,227	281,069	309,180	331,554	380,386	394,971
India	112,581	173,444	178,779	104,019	119,220	108,682
Iran	115,904	251,815	197,668	38,932	83,688	33,418
Iraq	93,335	226,042	59,361	94,895	150,612	95,738
Japan	4,107,381	5,070,548	5,223,729	2,426,240	2,526,973	3,627,617
Korea, Republic of	448,314	406,038	537,642	135,693	138,484	203,593
Kuwait	75,848	97,165	188,062	159,569	311,065	350,768
New Zealand	747,377	864,480	916,424	424,850	546,589	636,390
Norway	35,081	51,341	26,858	35,481	41,153	36,415
Pakistan, Islamic Republic of	66,358	69,697	36,556	10,797	17,019	14,334
Papua New Guinea	293,691	369,034	433,475	69,608	86,412	74,441
Poland	93,589	108,637	82,454	10,822	16,239	14,404
Romania	38,822	29,600	39,396	5,110	6,559	28,339
Saudi Arabia	125,956	218,476	278,959	359,497	625,607	1,032,219
South Africa, Republic of	67,547	93,395	132,182	84,877	105,835	110,643
Spain	54,290	56,717	66,222	53,964	54,034	63,666
Sri Lanka	26,474	34,889	53,047	13,561	15,930	11,153
Sweden	58,584	71,994	56,779	232,944	307,899	294,526
Switzerland	11,927	14,035	17,125	178,649	160,648	177,480
United Arab Emirates	39,751	85,272	103,680	64,428	117,212	195,245
United States of America	1,789,653	2,044,105	2,148,871	3,225,597	3,577,306	4,168,812
U.S.S.R.	264,902	978,283	832,331	7,597	66,406	8,974
Yugoslavia	76,341	63,620	57,137	8,473	11,028	10,571
Other countries	573,099	752,969	875,238	332,976	422,508	476,356
'For Orders' and Country of origin or destination unknown	39,883	75,748	85,258	5,118	4,792	8,120
Total	14,240,865	18,870,079	19,188,876	13,751,845	16,217,505	18,965,023

Exports and Imports, by country of consignment and origin, and by description

The following table shows details of exports to and imports from principal countries, classified according to divisions of the Australian Export and Import Commodity Classifications.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81
(\$'000)

Division No.	Description	ASEAN		Belgium- Luxembourg		Canada	
		Exports	Imports	Exports	Imports	Exports	Imports
00	Live animals chiefly for food	33,431	-	55	-	-	1,526
01	Meat and meat preparations	44,623	63	7,395	-	57,488	862
02	Dairy products and birds' eggs	57,863	-	-	45	203	2
03	Fish and fish preparations	4,551	28,683	846	6	446	13,541
04	Cereal grains and cereal preparations	215,171	681	1,067	104	138	602
05	Fruit and vegetables	31,030	9,794	2,784	307	28,972	7,313
06	Sugar and sugar preparations and honey	130,522	151	49	25	168,410	118
07	Coffee, tea, cocoa, spices and manufactures thereof	13,360	24,845	-	87	33	37
08	Feeding-stuff for animals (except unmilled cereals)	5,749	12,567	-	386	-	-
09	Miscellaneous preparations chiefly for food	3,265	1,992	-	77	36	873
11	Beverages	2,302	54	95	30	1,971	219
12	Tobacco and tobacco manufactures	112	1,733	-	4	-	742
21	Hides, skins and furskins, raw	4,871	-	545	-	27	110
22	Oil-seeds, oil nuts and oil kernels	249	481	341	-	23	849
23	Crude rubber (including synthetic and reclaimed)	276	44,476	-	868	-	277
24	Wood, timber and cork	150	58,821	4,362	3	24	49,055
25	Pulp and waste paper	92	-	-	-	-	27,014
26	Textile fibres and their waste	22,183	1,134	53,013	242	1,922	7,321
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	12,613	1,188	242	221	113	59,527
28	Metalliferous ores and metal scrap	94,592	3,513	26,690	87	48,483	4,498
29	Crude animal and vegetable materials, n.e.s.	3,061	4,051	754	13	2,686	344
32	Coal, coke and briquettes	695	-	18,813	-	-	75
33	Petroleum and petroleum products	173,922	737,686	-	1,242	219	4,498
34	Petroleum gases and other gaseous hydrocarbons	(a)	-	(a)	-	(a)	-
41	Animal oils and fats	5,201	177	46	11	23	-
42	Fixed vegetable oils and fats	143	14,208	7	-	-	2,775
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	2,237	10,501	-	7	14	-
51	Chemical elements and compounds	9,562	882	41	7,158	90	4,353
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	12,422	1,553	7,200	1,436	3,952	5,355
53	Dyeing, tanning and colouring materials	7,961	84	-	936	142	1,027
54	Medicinal and pharmaceutical products	10,827	1,038	52	2,107	1,662	994
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	8,136	362	13	451	41	363
56	Fertilisers, manufactured	96	-	-	635	-	17,928
57	Explosives and pyrotechnic products	5	19	-	-	-	201
58	Plastic materials, regenerated cellulose and artificial resins	9,183	7,933	20	2,897	70	16,469
59	Chemical materials and products, n.e.s.	8,140	771	443	1,435	161	2,185
61	Leather, leather manufactures, n.e.s., and dressed furskins	2,487	582	83	267	465	138
62	Rubber manufactures, n.e.s.	1,623	5,897	30	1,084	7	2,413
63	Wood and cork manufactures (except furniture)	1,330	18,215	29	130	111	1,313
64	Paper, paperboard and manufactures thereof	16,959	1,637	-	2,795	25	47,568
65	Textile yarn, fabrics, made-up articles and related products	4,625	34,896	65	6,366	451	27,136
66	Non-metallic mineral manufactures, n.e.s.	28,705	15,462	2,293	15,483	6,653	2,340
67	Iron and steel	115,013	7,459	1,075	1,178	1,121	4,303
68	Non-ferrous metals	114,928	1,193	33,157	490	233	19,712
69	Manufactures of metals, n.e.s.	37,551	9,123	2,454	4,546	2,616	15,280
71	Machinery (except electric)	5,147	1,954	191	712	2,710	6,498
72	Electric machinery, apparatus and appliances	40,041	4,365	2,098	14,274	2,097	30,952
73	Transport equipment	12,034	1,266	8	1,199	239	1,241
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	36,688	19,212	404	18,134	1,971	15,585
75	Office machines and automatic data processing equipment	2,470	2,667	102	1,241	324	14,531
76	Telecommunications and sound recording and reproducing apparatus and equipment	2,925	16,532	33	4,702	143	4,875
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	17,632	12,706	1,007	7,678	444	11,056
78	Road vehicles (including air cushion vehicles)	20,751	7,087	75	867	1,937	20,418
79	Other transport equipment	53,495	5,704	2	20	4,250	5,209
81	Sanitary, plumbing, heating and lighting fixtures and fittings	849	757	-	44	1	973
82	Furniture	1,481	14,985	-	58	329	2,484
83	Travel goods, handbags and similar articles	43	4,340	-	6	8	138
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	1,621	32,859	10	126	166	1,036

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81—*continued*

(\$'000)

Division No.	Description	ASEAN		Belgium- Luxembourg		Canada	
		Exports	Imports	Exports	Imports	Exports	Imports
85	Footwear	385	9,358	-	-	2	306
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	9,701	2,657	308	908	1,682	4,390
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	26,633	3,667	215	9,717	496	4,134
89	Miscellaneous manufactured articles	16,961	32,001	681	3,647	1,515	11,366
9A	Commodities and transactions of merchandise trade, not elsewhere classified(b)	89,574	29,966	1,964	1,252	85,654	12,666
	<i>Total merchandise</i>	<i>1,590,246</i>	<i>1,265,983</i>	<i>171,159</i>	<i>117,742</i>	<i>432,998</i>	<i>499,120</i>
9B	Commodities and transactions not included in merchandise trade	24,393	1,675	487	1,558	522	984
	Grand total	1,614,639	1,267,658	171,647	119,300	433,519	500,105

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Div. No.	China-excl. Taiwan Province		China-Taiwan Province only		EEC		France		Germany, Federal Republic of	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
00	-	-	123	-	420	5,462	-	-	-	32
01	33	40	31,744	-	87,273	934	11,857	53	14,343	43
02	4	-	27,331	14	8,604	17,304	-	1,545	210	2,295
03	3	11,791	474	2,548	15,809	12,355	7,808	107	1,201	1,361
04	243,413	744	36,010	160	9,428	7,822	368	112	701	1,195
05	-	4,695	933	11,844	88,450	10,741	6,980	402	28,355	838
06	117,932	60	1,386	275	6,070	4,433	-	85	578	629
07	-	102	114	26	137	12,416	-	331	-	1,378
08	-	-	2,239	203	4,365	3,505	-	275	195	1,044
09	-	693	32	875	210	4,944	-	640	21	605
11	20	56	-	4	2,474	72,514	22	15,892	865	5,890
12	-	-	-	-	1,317	20,784	-	159	5	91
21	3,489	447	4,746	-	106,755	498	58,101	76	15,745	22
22	9	229	5	19	2,100	147	-	-	66	20
23	-	16	-	24	7	5,403	-	1,545	5	853
24	-	3	22	129	10,965	1,063	1,011	114	767	59
25	-	-	2	1	-	6	-	-	-	-
26	113,088	109	57,859	2,299	539,896	8,790	101,051	243	107,415	1,347
27	-	1,933	5,507	34	5,095	10,431	211	104	174	454
28	45,821	862	31,858	7	299,470	1,235	63,045	99	84,926	444
29	1,486	2,348	1,996	796	22,679	8,144	422	1,635	7,278	748
32	-	-	69,093	-	270,436	946	64,408	-	19,972	899
33	2	9,751	124	4	1	18,336	-	335	-	1,973
34	(a)	-	(a)	-	(a)	37	(a)	35	(a)	1
41	11,995	-	3,301	-	4,664	54	855	1	520	-
42	1	748	2	2	1,908	4,142	-	84	-	2,499
43	-	20	623	-	651	6,165	169	7	147	1,038
51	-	4,311	3,423	2,096	3,721	144,527	255	8,679	152	40,345
52	2,657	4,699	1,970	1,182	7,436	37,491	-	2,494	77	14,471
53	28	155	228	59	563	39,038	3	2,398	474	15,001
54	113	3,106	789	1,425	17,123	72,613	136	2,671	3,257	21,433
55	-	641	205	347	618	36,137	167	15,959	108	5,287
56	52	-	1	-	5	2,856	-	60	5	957
57	-	1,446	-	197	4	4,368	4	276	-	75
58	-	1,631	569	11,480	430	127,289	47	9,541	186	36,151
59	-	7,132	350	146	1,206	80,699	78	4,135	542	11,655
61	2,334	111	969	2,946	8,501	9,477	15	734	174	1,476
62	9	152	62	9,517	2,713	62,828	7	10,504	1,546	10,221
63	1	874	6	26,582	192	5,754	-	610	53	1,069
64	8,502	973	148	1,136	358	70,008	32	4,555	22	17,148
65	73	67,824	851	43,071	1,226	134,246	80	10,515	412	26,161
66	335	4,795	532	10,581	11,146	138,590	378	6,197	4,382	20,618
67	81,878	141	24,192	2,154	20,179	50,084	83	5,311	1,629	13,484
68	10,907	386	21,861	646	367,031	23,787	14,670	813	38,551	4,618
69	217	3,099	1,259	35,819	10,928	130,266	552	6,215	663	38,067
71	7	841	102	8,847	2,301	180,049	189	17,354	106	46,374
72	502	31	633	5,564	12,255	359,293	1,098	24,194	1,741	139,386
73	1	1,292	231	14,078	1,926	98,018	20	4,290	874	63,182
74	34	537	718	11,393	10,428	319,011	602	14,294	1,129	108,932
75	8	46	41	862	3,760	106,828	159	2,725	751	24,662
76	3	199	15	28,595	8,634	56,993	257	16,184	282	18,503

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81—*continued*

(\$'000)

Div. No.	China-excl. Taiwan Province		China-Taiwan Province only		EEC		France		Germany, Federal Republic of	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
77	100	1,219	521	14,005	10,091	242,098	454	19,531	1,399	82,898
78	5	90	68	25,793	6,176	254,371	633	16,770	721	117,194
79	8	6	1,541	8,008	7,986	59,626	559	10,486	65	4,311
81	-	87	1	5,093	94	14,729	-	566	23	3,969
82	5	4,535	27	12,059	393	22,625	2	325	46	2,954
83	-	713	15	20,239	119	5,398	3	250	2	270
84	88	42,178	14	59,238	907	25,278	120	4,066	241	2,416
85	-	11,344	39	41,599	152	16,661	1	2,454	1	892
87	438	156	590	2,652	19,191	122,367	7,146	5,556	2,173	51,937
88	18	479	1,087	4,009	5,633	75,880	673	8,431	833	22,964
89	68	10,968	522	62,068	16,449	291,704	1,016	29,853	1,972	33,382
9A(b)	25,144	8,891	55,024	14,918	287,657	157,932	14,189	10,466	122,072	41,559
Total	670,833	219,734	394,126	507,669	2,336,723	3,817,526	359,934	303,341	470,154	1,069,780
9B	322	50,303	1,184	944	30,065	26,982	1,382	1,630	1,954	9,426
Total	671,156	270,037	395,310	508,613	2,366,787	3,844,508	361,316	304,971	472,108	1,079,206

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Division No.	Description	Hong Kong		Indonesia		Iran	
		Exports	Imports	Exports	Imports	Exports	Imports
00	Live animals chiefly for food	1,019	-	10,815	-	36,060	-
01	Meat and meat preparations	15,157	15	2,347	-	35,454	-
02	Dairy products and birds' eggs	19,458	-	10,611	-	42	-
03	Fish and fish preparations	16,229	2,424	431	375	-	1
04	Cereal grains and cereal preparations	21,779	821	83,819	10	108,899	-
05	Fruit and vegetables	4,653	1,314	2,317	937	-	369
06	Sugar and sugar preparations and honey	306	445	575	-	376	-
07	Coffee, tea, cocoa, spices and manufactures thereof	2,239	39	266	20,440	-	-
08	Feeding-stuff for animals (except unmilled cereals)	1,504	35	573	-	717	-
09	Miscellaneous preparations chiefly for food	1,708	2,200	927	20	-	-
11	Beverages	1,808	66	790	-	-	-
12	Tobacco and tobacco manufactures	259	-	112	87	-	-
21	Hides, skins and furskins, raw	7,673	-	-	-	-	-
22	Oil-seeds, oil nuts and oil kernels	18	147	232	84	-	-
23	Crude rubber (including synthetic and reclaimed)	86	-	2	15,612	-	-
24	Wood, timber and cork	584	483	130	2,596	-	-
25	Pulp and waste paper	3	-	-	-	-	-
26	Textile fibres and their waste	7,922	91	4,796	-	1,146	-
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	828	17	3,740	46	-	-
28	Metalliferous ores and metal scrap	144	822	504	2	-	-
29	Crude animal and vegetable materials, n.e.s.	1,290	545	73	188	-	19
32	Coal, coke and briquettes	-	-	9	-	-	-
33	Petroleum and petroleum products	8,153	161	73,234	346,269	-	22,814
34	Petroleum gases and other gaseous hydrocarbons	(a)	-	(a)	-	(a)	-
41	Animal oils and fats	346	-	224	-	8,134	-
42	Fixed vegetable oils and fats	30	358	49	-	-	-
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	453	-	985	-	-	-
51	Chemical elements and compounds	477	406	964	490	-	-
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	959	14	8,362	11	-	-
53	Dyeing, tanning and colouring materials	866	107	1,372	-	-	12
54	Medicinal and pharmaceutical products	5,728	416	1,031	441	147	-
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	3,458	836	1,011	138	12	-
56	Fertilisers, manufactured	11	-	12	-	-	-
57	Explosives and pyrotechnic products	-	436	5	-	-	-
58	Plastic materials, regenerated cellulose and artificial resins	3,006	393	2,704	1	-	-
59	Chemical materials and products, n.e.s.	1,246	612	2,248	-	-	-
61	Leather, leather manufactures, n.e.s., and dressed furskins	1,886	481	17	-	-	-
62	Rubber manufactures, n.e.s.	134	286	821	119	-	-
63	Wood and cork manufactures (except furniture)	514	543	31	506	-	-

For footnotes see end of table

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81—*continued*

(\$'000)

Division No.	Description	Hong Kong		Indonesia		Iran	
		Exports	Imports	Exports	Imports	Exports	Imports
64	Paper, paperboard and manufactures thereof	5,348	1,519	1,586	-	-	-
65	Textile yarn, fabrics, made-up articles and related products	2,070	79,291	813	1,067	27	10,126
66	Non-metallic mineral manufactures, n.e.s.	12,909	3,886	3,047	209	-	-
67	Iron and steel	26,038	216	29,298	-	-	-
68	Non-ferrous metals	20,305	1,445	43,130	-	2,176	-
69	Manufactures of metal, n.e.s.	9,532	19,526	4,965	7	-	15
71	Machinery (except electric)	882	746	656	-	-	-
72	Electric machinery, apparatus and appliances	2,910	965	6,251	-	373	-
73	Transport equipment	515	167	3,049	-	-	-
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	4,132	4,586	6,482	12	6	-
75	Office machines and automatic data processing equipment	3,206	5,880	37	-	-	-
76	Telecommunications and sound recording and reproducing apparatus and equipment	3,614	23,298	249	-	-	-
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	5,298	28,783	1,778	65	33	-
78	Road vehicles (including air cushion vehicles)	1,606	1,326	9,005	-	-	-
79	Other transport equipment	456	876	2,484	8	-	-
81	Sanitary, plumbing, heating and lighting fixtures and fittings	394	4,131	11	1	-	-
82	Furniture	563	3,270	203	439	2	-
83	Travel goods, handbags and similar articles	86	19,010	10	73	-	-
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	832	69,252	258	12,143	-	1
85	Footwear, gaiters, and similar articles and parts therefor	127	3,787	90	1,591	-	-
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	1,031	1,475	1,506	-	19	-
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s. watches and clocks	23,193	24,110	476	-	1	-
89	Miscellaneous manufactured articles, n.e.s.	7,327	77,248	517	668	-	59
9A	Commodities and transactions of merchandise trade, not elsewhere classified (b)	42,286	4,820	24,496	12,019	4,039	-
	<i>Total merchandise</i>	<i>306,593</i>	<i>394,125</i>	<i>356,533</i>	<i>416,675</i>	<i>197,662</i>	<i>33,418</i>
9B	Commodities and transactions not included in merchandise trade	2,545	846	2,431	83	5	-
	Grand total	309,139	394,971	358,964	416,758	197,668	33,418

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Division No.	Italy		Japan		Korea, Republic of		Kuwait		Malaysia	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
00	3	-	6,209	-	640	-	50,977	-	14,636	-
01	2,462	148	350,334	66	9,340	-	15,980	-	12,707	1
02	94	2,990	40,640	-	1,874	-	4,227	-	18,083	-
03	4,404	706	113,795	19,280	235	5,190	86	-	531	13,630
04	3,785	1,166	307,738	931	11,729	6	105,574	-	52,505	44
05	478	3,720	13,236	1,048	17	445	2,247	-	8,102	505
06	172	214	308,897	173	127,386	79	227	-	101,618	3
07	-	770	7,822	911	41	1	59	-	8,380	1,097
08	-	109	14,459	148	-	-	2,353	-	1,367	475
09	-	333	523	1,673	-	47	79	-	787	260
11	4	4,580	512	376	23	3	72	-	609	2
12	-	33	5	39	-	2,412	-	1	-	-
21	20,523	6	30,172	9	4,039	-	-	-	437	-
22	27	-	967	21	-	-	-	-	-	12
23	-	8	28	2,508	-	26	-	-	23	25,250
24	128	7	231	103	-	-	-	-	8	38,807
25	-	-	487	521	-	-	-	-	-	-
26	202,559	18	468,254	10,334	94,286	65	-	-	16,868	224
27	436	1,333	42,285	11,005	7,706	60	2	-	1,248	-
28	23,571	-	1,019,121	1,302	72,626	-	-	-	83,930	79
29	2,433	550	7,938	1,714	753	230	87	-	1,529	295
32	61,420	-	1,404,286	4,016	134,206	-	-	-	78	-
33	-	7,840	244	1,874	-	328	-	350,596	5,326	17,988
34	(a)	-	(a)	1	(a)	-	(a)	-	(a)	-
41	150	2	2,948	-	1,233	-	5	-	510	177

For footnotes see end of table

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81—continued
(\$'000)

Division No.	Italy		Japan		Korea, Republic of		Kuwait		Malaysia	
	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
42	-	704	858	119	-	-	-	-	4	10,053
43	57	-	613	47	44	215	74	-	210	10,468
51	2	7,446	14,913	77,661	2,749	6,205	1	91	709	229
52	11	1,492	819	23,717	1,981	537	-	-	765	3
53	3	1,247	290	4,258	36	303	-	-	409	7
54	244	4,246	4,191	6,219	590	306	76	-	2,522	273
55	19	1,167	1,778	1,635	319	104	94	-	1,655	61
56	-	3	-	357	-	-	-	-	2	-
57	-	10	-	75	-	-	-	-	-	19
58	32	4,808	294	53,641	40	2,208	83	-	600	972
59	6	699	7,774	13,114	213	32	43	-	1,491	220
61	6,580	1,070	638	1,384	407	577	6	-	401	-
62	12	8,196	85	85,038	15	16,824	-	-	145	3,589
63	10	1,377	53	987	43	438	52	-	118	8,244
64	6	14,795	1,300	44,886	17	2,078	18	-	8,062	36
65	84	25,215	1,325	160,280	1,215	50,402	9	-	1,170	12,366
66	207	46,224	10,688	77,065	212	3,890	103	-	2,320	364
67	6,359	3,428	6,281	277,751	20,996	28,349	1,179	-	12,680	249
68	12,107	661	71,386	19,222	3,018	791	175	-	21,236	906
69	734	11,009	5,780	87,213	490	7,592	853	-	8,485	2,876
71	317	7,019	160	126,561	4	830	48	-	997	32
72	895	63,100	1,857	151,079	534	23	27	-	8,443	663
73	2	8,457	357	46,657	16	597	204	-	2,552	29
74	415	31,261	1,839	188,812	312	1,275	452	-	5,387	11,893
75	129	18,249	1,504	146,949	133	153	-	-	879	39
76	79	1,033	473	322,769	-	9,330	11	-	1,148	3,114
77	385	17,423	1,196	213,702	107	1,979	746	-	3,902	1,907
78	1,556	30,104	820	1,070,912	2,547	963	300	-	4,670	222
79	261	1,704	2,655	5,697	1,048	139	26	-	4,892	149
81	-	4,150	6	2,795	-	45	1	-	217	151
82	4	14,094	123	3,496	20	948	156	-	188	1,509
83	35	3,405	4	1,234	-	4,364	-	-	6	84
84	273	9,330	1,414	7,223	-	16,444	44	-	254	4,044
85	8	11,446	22	840	-	7,685	11	4	23	2,820
87	1,243	4,127	2,794	40,982	511	721	7	-	1,464	436
88	206	4,424	1,997	107,064	90	1,473	13	-	298	168
89	1,975	27,885	2,294	112,909	306	19,474	44	1	2,684	1,194
9A (b)	32,138	10,735	925,540	79,349	34,484	7,353	231	-	7,956	8,336
Total	389,042	426,278	5,215,255	3,621,748	538,629	203,538	187,060	350,693	438,227	186,577
9B	10,723	1,358	8,547	5,869	52	55	89	75	5,092	187
Total	399,765	427,636	5,223,802	3,627,617	538,681	203,593	187,149	350,768	443,320	186,765

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Division No.	Description	Netherlands		New Zealand		Papua New Guinea	
		Exports	Imports	Exports	Imports	Exports	Imports
00	Live animals chiefly for food	-	-	5,953	16,439	251	-
01	Meat and meat preparations	8,647	3	1,420	6,106	41,052	-
02	Dairy products and birds' eggs	990	2,810	536	14,839	5,915	-
03	Fish and fish preparations	670	1,135	2,729	29,349	470	717
04	Cereal grains and cereal preparations	680	1,142	12,552	2,947	44,358	-
05	Fruit and vegetables	4,573	546	16,379	13,569	4,480	3
06	Sugar and sugar preparations and honey	1,982	776	50,060	3,123	13,869	-
07	Coffee, tea, cocoa, spices and manufactures thereof	5	7,697	832	941	1,644	31,033
08	Feeding-stuff for animals (except unmilled cereals)	4,036	8	506	543	1,957	-
09	Miscellaneous preparations chiefly for food	55	661	932	2,601	3,671	-
11	Beverages	547	388	2,606	3,407	3,048	2
12	Tobacco and tobacco manufactures	1,114	12,337	188	96	5,707	1,428
21	Hides, skins and furskins, raw	1,491	-	1,925	107	-	-
22	Oil-seeds, oil nuts and oil kernels	187	10	1,698	146	144	-
23	Crude rubber (including synthetic and reclaimed)	-	601	1,125	8	45	4,880
24	Wood, timber and cork	1,610	5	3,166	36,850	14	3,752
25	Pulp and waste paper	-	6	1,005	52,315	25	-
26	Textile fibres and their waste	31,120	866	2,201	24,571	1,890	-
27	Crude fertilisers and crude minerals (except coal, petroleum and precious stones)	1,072	114	3,048	755	860	-
28	Metalliferous ores and metal scrap	36,446	74	462	3,990	3	653

For footnotes see end of table.

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81—*continued*

(\$'000)

Division No.	Description	Netherlands		New Zealand		Papua New Guinea	
		Exports	Imports	Exports	Imports	Exports	Imports
29	Crude animal and vegetable materials, n.e.s.	2,285	403	4,098	5,890	243	11
32	Coal, coke and briquettes	29,196	11	190	549	5	-
33	Petroleum and petroleum products	-	900	137,891	6,497	46,323	948
34	Petroleum gases and other gaseous hydrocarbons	(a)	-	(a)	-	(a)	-
41	Animal oils and fats	2,929	13	36	90	2,925	-
42	Fixed vegetable oils and fats	1,895	2	232	71	767	292
43	Animal and vegetable oils and fats, processed and waxes of animal or vegetable origin	175	3,708	330	103	930	-
51	Chemical elements and compounds	1,558	12,976	10,143	505	1,381	-
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	37	782	14,721	98	1,192	-
53	Dyeing, tanning and colouring materials	-	1,272	3,525	2,505	1,566	-
54	Medicinal and pharmaceutical products	365	1,988	30,173	3,228	2,413	-
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	15	1,000	3,777	6,579	7,956	-
56	Fertilisers, manufactured	-	968	3,778	7	612	-
57	Explosives and pyrotechnic products	-	1	35	-	30	-
58	Plastic materials, regenerated cellulose and artificial resins	4	11,735	14,468	8,889	3,661	1
59	Chemical materials and products, n.e.s.	-	13,895	6,230	2,188	3,589	4
61	Leather, leather manufactures, n.e.s., and dressed furskins	135	374	1,503	7,474	125	-
62	Rubber manufactures, n.e.s.	-	527	1,572	8,379	1,623	9
63	Wood and cork manufactures (except furniture)	-	259	2,707	17,052	387	4,634
64	Paper, paperboard and manufactures thereof	46	3,466	8,632	70,105	11,021	9
65	Textile yarn, fabrics, made-up articles and related products	58	5,969	27,416	59,541	3,207	2
66	Non-metallic mineral manufactures, n.e.s.	243	1,756	15,086	8,402	6,648	1
67	Iron and steel	25	1,517	64,539	4,540	13,002	-
68	Non-ferrous metals	16,148	542	45,799	9,326	1,979	202
69	Manufactures of metal, n.e.s.	1,327	3,750	29,360	28,859	19,943	24
71	Machinery (except electric)	155	1,730	8,613	756	5,714	2
72	Electric machinery, apparatus and appliances	544	8,396	18,510	14,923	22,220	4
73	Transport equipment	42	1,009	3,393	1,322	1,279	4
74	General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.	447	8,020	30,245	17,913	17,310	11
75	Office machines and automatic data processing equipment	357	14,228	13,489	568	6,537	14
76	Telecommunications and sound recording and reproducing apparatus and equipment	804	2,457	2,738	3,157	5,268	7
77	Electrical machinery, apparatus and appliances, n.e.s. and electrical parts thereof	945	18,795	21,711	22,320	14,481	2
78	Road vehicles (including air cushion vehicles)	69	404	78,978	14,893	13,497	7
79	Other transport equipment	825	17,721	11,274	2,273	16,906	3,549
81	Sanitary, plumbing, heating and lighting fixtures and fittings	21	339	874	1,297	1,909	-
82	Furniture	12	204	1,697	13,606	2,291	3
83	Travel goods, handbags and similar articles	1	17	106	1,951	160	-
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	95	44	2,181	22,846	3,323	-
85	Footwear, garters, and similar articles and parts therefor	-	8	1,519	3,005	1,793	-
87	Professional, scientific and controlling instruments and apparatus, n.e.s.	836	2,301	13,295	3,870	4,578	28
88	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks	194	5,264	17,048	917	3,420	11
89	Miscellaneous manufactured articles, n.e.s.	689	5,926	36,595	28,715	8,967	93
9A	Commodities and transactions of merchandise trade, not elsewhere classified (b)	46,340	14,709	96,998	16,425	38,982	21,781
	<i>Total merchandise</i>	<i>204,043</i>	<i>198,562</i>	<i>894,828</i>	<i>634,336</i>	<i>429,564</i>	<i>74,122</i>
9B	Commodities and transactions not included in merchandise trade	279	472	21,574	2,055	3,915	320
	Grand total	204,321	199,034	916,401	636,390	433,479	74,441

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

EXPORTS AND IMPORTS BY COUNTRY OR COUNTRY GROUP: DIVISIONS OF THE AUSTRALIAN
EXPORT AND IMPORT COMMODITY CLASSIFICATIONS, 1980-81—*continued*
(\$'000)

Div. No.	Saudi Arabia		Singapore Republic of		United Kingdom		United States of America		U.S.S.R.	
	Exports	Imports	Exports	Imports	Export	Imports	Exports	Imports	Exports	Imports
00	46,604	-	3,853	-	361	5,431	1,234	-	756	-
01	46,323	-	22,329	20	34,627	499	616,167	29	104,530	-
02	36,849	-	11,131	-	7,288	663	7,249	858	-	-
03	418	-	3,524	3,672	414	7,519	61,251	25,977	-	1,405
04	108,775	-	50,273	336	2,664	3,019	129	2,475	486,230	-
05	4,426	-	20,085	257	39,515	2,187	7,987	22,070	-	-
06	155	-	28,041	10	3,193	1,757	233,429	1,426	-	-
07	83	-	4,671	2,738	133	2,033	116	869	-	-
08	223	-	2,522	67	126	153	34	5,841	-	-
09	385	-	940	1,210	134	1,668	1,640	5,586	-	-
11	39	-	677	20	829	39,762	2,688	5,094	12	6
12	-	-	-	-	88	4,692	15	40,264	-	-
21	-	-	106	-	6,544	213	1,271	945	-	32
22	-	-	6	277	1,465	12	2,083	12,532	-	-
23	-	-	24	3,287	2	1,529	70	12,427	-	-
24	4	-	11	4,342	2,830	351	527	34,802	-	-
25	-	-	-	-	-	-	-	16,507	-	-
26	20	-	75	10	41,669	6,073	53,007	19,743	221,743	-
27	1	-	2,826	75	704	2,552	1,403	30,360	-	-
28	-	-	1,213	2,412	64,480	530	113,819	1,538	5,037	-
29	119	-	662	1,969	8,381	2,653	3,915	10,702	-	6
32	43	-	3	-	70,530	27	1,453	648	-	-
33	176	1,022,536	92,724	366,600	1	6,042	14,996	48,663	-	-
34	(a)	67	(a)	-	(a)	1	(a)	138	(a)	-
41	-	-	2,067	-	153	26	737	84	-	-
42	14	-	6	131	-	13	12	8,688	-	-
43	-	-	90	17	103	335	22	1,646	-	-
51	1	-	1,133	21	1,698	50,557	2,670	134,965	-	11
52	97	-	1,719	187	110	16,482	275	30,941	-	1,207
53	3	-	5,160	77	83	18,052	503	17,488	-	-
54	152	-	1,889	256	12,449	32,398	1,004	31,038	-	33
55	273	-	3,527	160	295	12,122	1,283	32,495	-	2
56	-	-	1	-	-	232	3	27,111	-	-
57	-	-	-	-	-	4,006	81	1,922	-	-
58	69	-	5,008	5,843	96	60,349	268	115,534	-	-
59	100	-	2,520	263	138	47,842	22,393	105,770	-	-
61	7	-	985	12	1,406	5,354	2,310	3,351	-	3
62	9	-	283	1,054	1,070	30,782	1,917	37,495	-	6
63	93	-	1,154	3,469	53	1,865	377	3,139	-	25
64	1	-	6,131	1,507	240	26,797	573	97,930	-	-
65	2	-	1,569	10,287	362	56,086	1,753	138,449	-	407
66	1,511	-	9,120	2,774	3,196	46,503	8,750	40,845	-	13
67	2,170	-	29,467	2,380	11,007	25,034	29,573	30,271	-	-
68	15,300	-	17,175	265	252,387	16,631	54,596	26,349	-	43
69	2,667	-	16,248	2,329	4,966	63,317	15,260	105,320	-	35
71	9	-	2,922	1,910	1,250	105,838	7,801	199,701	-	92
72	725	-	9,760	3,264	5,197	105,112	15,996	560,513	166	645
73	763	-	3,341	1,135	961	19,514	723	31,669	-	1,526
74	1,772	-	13,265	6,662	7,203	125,437	15,027	342,108	-	646
75	26	-	962	2,587	2,246	39,028	14,041	309,574	-	-
76	544	-	1,150	13,351	7,006	12,539	2,772	61,374	-	20
77	740	-	10,783	9,306	5,811	92,648	6,174	181,447	-	25
78	424	-	5,118	1,367	2,979	88,773	11,562	241,619	1	133
79	5,272	-	43,718	5,356	3,251	25,334	54,035	223,613	-	1,089
81	26	-	613	395	31	5,275	51	3,895	-	-
82	423	-	943	7,980	311	4,556	553	8,451	-	63
83	-	-	25	556	75	1,279	41	1,923	1	-
84	248	-	1,000	2,820	152	9,125	3,365	7,483	-	-
85	4	-	228	1,251	142	1,582	106	1,744	-	-
87	287	-	3,737	2,205	6,832	52,088	17,069	173,103	50	109
88	107	-	14,585	1,897	3,136	23,267	5,638	96,167	2	519
89	328	1	11,002	18,936	9,890	180,526	11,637	238,578	32	557
9A(b)	97	-	24,090	7,231	69,896	77,655	686,343	173,624	13,284	195
Total	278,910	1,022,604	498,189	506,540	702,158	1,573,721	2,121,778	4,146,912	831,845	8,849
9B	55	-	15,017	907	14,889	12,288	40,831	21,900	193	124
Total	278,965	1,022,604	513,207	507,447	717,047	1,586,009	2,162,609	4,168,812	832,038	8,974

(a) Included in Division 9A. (b) Includes Division 34 (Exports only).

Overseas trade by State

The following table shows the value of exports and imports for each State and Territory.

EXPORTS AND IMPORTS BY STATE, 1980-81
(S'000)

<i>State(a)</i>	<i>Exports</i>	<i>Imports</i>
New South Wales	4,462,890	7,952,051
Victoria	3,992,045	5,929,270
Queensland	4,504,320	1,882,941
South Australia	1,417,593	1,072,449
Western Australia	3,786,277	1,663,190
Tasmania	661,947	172,456
Northern Territory	360,427	282,628
Australian Capital Territory	3,377	10,038
Grand Total	19,188,876	18,965,023

(a) For imports: State in which entry was lodged. The State of lodgement is not necessarily the State in which the goods were discharged or consumed. For exports: State is State of origin of Australian produce and State of final shipment of re-exported goods. State of origin is defined as the State in which the final stage of production or manufacture occurs. Because of this change in the basis on which statistics by State are derived, figures from 1 July 1978 are not directly comparable with those for previous periods, see page 632.

Total import clearances, dutiable clearances, and customs duties collected

The following table shows the value of total import clearances, total dutiable clearances, and the customs duties collected, together with the ratio of total dutiable clearances to total clearances.

TOTAL IMPORT CLEARANCES, DUTIABLE CLEARANCES, AND CUSTOMS DUTIES

		1975-76	1976-77(a)	1977-78	1978-79	1979-80	1980-81
Total import clearances	S'000	8,174,645	10,304,756	11,122,041	13,662,602	16,066,215	18,790,400
Total dutiable clearances	"	3,224,861	4,022,198	3,978,180	4,488,894	9,843,055	11,604,282
Total customs duties collected	"	950,150	1,172,424	1,145,181	1,378,923	1,576,233	1,826,087
Ratio of dutiable clearances to total clearance	per cent	39.4	39.0	35.8	32.5	61.3	61.8
Ratio of duties collected to dutiable clearances	"	29.5	29.1	28.8	31.1	16.0	15.7

(a) Clearance figures from 1976-77 are not comparable with previous years because of the change in the basis of valuation (see page 633).

Excise

Although excise goods have no immediate bearing on overseas trade, the rate of excise duty is in some cases related to the import duty on similar goods. Moreover, as the Excise Acts are administered by the Bureau of Customs, it is convenient to publish here the quantities of Australian produce on which excise duty has been paid. Particulars of customs and excise revenue are shown in Chapter 22, Public Finance. The following table shows the quantities of spirits, beer, tobacco, etc. on which excise duty was paid in Australia.

QUANTITIES OF PRINCIPAL EXCISABLE GOODS ON WHICH EXCISE DUTY WAS PAID: AUSTRALIA

Article	1978-79	1979-80	1980-81	Article	1978-79	1979-80	1980-81
	'000 litre	'000 litre	'000 litre		'000 litre	'000 litre	'000 litre
Beer	1,887,313	1,931,262	1,913,961	Petrol			
	'000 l al	'000 l al	'000 l al	Aviation gasoline (by-law) (a)	76,529	97,215	100,747
				Aviation gasoline—Other (a)	6,538	—	11
Spirits—				Gasoline—commercial motor spirit/ethanol blends	—	—	107
Brandy	2,384	2,194	2,449	Gasoline	14,793,982	14,607,133	14,748,722
Gin	558	470	519	Total petrol	14,877,050	14,704,348	14,849,587
Whisky	441	311	343	Aviation turbine kerosene (a)	1,089,716	1,103,390	1,148,884
Rum	1,635	1,541	1,900	Other kerosene	—	—	24
Liqueurs	268	200	189	Diesel fuel (as defined by by-law)	1,915,269	2,090,071	2,266,122
Vodka	656	594	656		doz. packs	doz. packs	doz. packs
Flavoured spirituous liquors	211	217	258	Playing cards	'000	'000	'000
Other	9	10	6		140	116	57
Total spirits (potable)	6,163	5,537	6,321	Cigarette papers and tubes	'000	'000	'000
	'000 kg	'000 kg	'000 kg		3,323,630	3,269,055	2,441,711
Tobacco	1,841	1,824	1,691	Matches	matches	matches	matches
Cigars	80	73	72		'000	'000	'000
Cigarettes—machine-made	26,670	27,487	27,695		23,495,320	22,519,837	17,890,865
					'000	'000	'000
				Crude petroleum oil, liquid pet- roleum and liquefied petroleum gas	litre	litre	litre
					27,385,310	24,738,467	25,741,412
				Coal	'000 tonnes	'000 tonnes	'000 tonnes
					69,508	71,780	77,751
					'000 doz	'000 doz	'000 doz
				Canned fruit	containers	containers	containers
					6,824	3,857	—

(a) Includes supplies to Commonwealth Government on which excise was paid.

FOREIGN INVESTMENT

Surveys of foreign investment have been conducted since 1947-48 to obtain particulars of certain types of capital flows to and from Australia. The surveys, when supplemented by other information, provide statistics of foreign investment in enterprises in Australia and in Australian public authority securities, as well as statistics of Australian investment in enterprises abroad and in foreign government securities. Particulars of investment income from most of those classes of investment are also obtained from the surveys.

Certain types of foreign investment are not included in the statistics which follow. Investment in real estate (except when made through companies or, in other identified cases, when relevant information is available) and loans between Australian individuals and non-resident individuals are not covered. Non-resident deposits in, and foreign borrowings by, Australian trading banks are excluded from foreign investment statistics and are included instead in the non-official monetary item in the balance of payments capital account. Short-term trade credit owing to unrelated enterprises abroad is also excluded, but is included in the trade credit item of the balance of payments capital account.

In the tables which classify investment in Australia according to country of origin, the investment is shown as an inflow from the country of domicile of the foreign investor to whom the enterprises in Australia have the immediate liability. Income payable on foreign investment is classified on the same basis. Country classifications used in relation to Australian investment abroad, and income receivable thereon, attempt to reflect the country in which the investment was made.

Generally, the statistical unit used in foreign investment statistics is the group of enterprises related in terms of Section 6 of the Companies Act. This unit is classified by industry on the basis of the major activity of the group as a whole. It should be noted that, because of the broad range of activities of

many of the groups covered by these statistics, the classification of foreign investment by industry should be interpreted with some caution. In particular, the classification does not necessarily reflect the industry in which the funds are ultimately employed.

The following are explanatory notes relating to some of the terms used in the tables:

Branches. Offices in Australia of enterprises incorporated abroad *or* offices in separate foreign countries of enterprises incorporated in Australia. For the purposes of the survey, branches are included if the value of net liabilities to head office exceeds \$A20,000 or if the annual net profit or loss exceeds \$A20,000. Australian branches of foreign enterprises *include* other Australian offices of foreign enterprises where a branch register is maintained in Australia, but *exclude* enterprises in Australia which are incorporated abroad but which have no business operations in Australia other than an account with a bank in Australia. Foreign branches of enterprises in Australia *exclude* foreign enterprises which are incorporated in Australia but which have no business operations abroad other than an account with a foreign bank. However, the short-term assets represented by the bank accounts abroad are included as Australian portfolio investment abroad for those companies included in the surveys of foreign investment.

Enterprises. Incorporated and unincorporated businesses and other organisations including public enterprises, but *excluding* enterprises which have no business operations in a country other than an account with a bank in that country.

Direct investment. All investment in branches and subsidiaries by direct investors i.e. head offices of branches, direct shareholders in subsidiaries and other related enterprises.

Foreign residents. Any individual, enterprise or other organisation domiciled in a country other than Australia. Includes Norfolk Island and other external territories of Australia. Foreign branches and subsidiaries of enterprises in Australia are also regarded as being foreign residents.

Portfolio investment and institutional loans. Investment in enterprises other than direct investment, i.e. investment other than investment by related enterprises in branches and subsidiaries. Includes both corporate equities and borrowings.

Subsidiaries. An *Australian subsidiary* of a foreign enterprise is an enterprise in Australia, other than a branch, in which:

- (a) a single foreign resident (individual or enterprise) or a group of related enterprises in one foreign country holds 25 per cent or more of the equity, or, if this condition does not apply,
- (b) residents of one foreign country combined hold 50 per cent or more of the equity, together with other enterprises in Australia in which the Australian subsidiary holds, directly or indirectly, more than 50 per cent of the equity.

A *foreign subsidiary* of an enterprise in Australia is a foreign enterprise other than a branch, in which an enterprise in Australia holds 25 per cent or more of the equity. In principle, foreign enterprises in which the combined Australian shareholding is 50 per cent or more would also be included, but it is not practicable to ascertain the total investment by Australian shareholders in individual foreign enterprises.

Undistributed profits of subsidiaries. Equity of direct investors in the net earnings of an enterprise during the year, less tax payable on those earnings and less dividends declared during the year whether relating to earnings of the same year or not. Net earnings are, in general, based on income for taxation purposes. However, certain deductions allowable for taxation purposes (e.g. mining and petroleum exploration expenditure, Export Market Development Allowance, Investment Allowance for Manufacturing Plant, previous year's losses, etc.) are not deducted in calculating net earnings. Undistributed profits of Australian subsidiaries also include undistributed income accruing to the subsidiary from related enterprises in Australia.

Unremitted profits of branches. Net earnings (after tax) during the year, less remittances of earnings to the head office during the year, irrespective of the year to which the earnings relate. Net earnings of branches are, in general, calculated in a similar way to those for subsidiaries. Also included is undistributed income accruing to the branch from other enterprises related to the branch.

More details on foreign investment in Australia and Australian investment abroad are contained in the annual publication *Foreign Investment, Australia* (5305.0).

Foreign investment in enterprises in Australia and income payable on foreign investment in enterprises in Australia

The inflow of foreign investment in enterprises in Australia in recent years is shown in the next three tables.

INFLOW OF FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA BY TYPE OF INVESTMENT (\$ million)

Year	<i>Direct investment</i>					
	<i>Undistributed income</i>		<i>Other direct investment</i>		<i>Portfolio investment and institutional loans</i>	<i>Total</i>
	<i>Branches</i>	<i>Subsidiaries</i>	<i>Branch liabilities to head office</i>	<i>Other (a)</i>		
1974-75	23	223	16	395	657	1,003
1975-76	186	428	7	-45	575	858
1976-77	52	603	54	-	1,066	1,549
1977-78	143	519	67	319	1,048	1,330
1978-79	14	799	207	414	1,435	2,051
1979-80	-6	1,074	144	442	1,653	2,961

(a) Includes for subsidiaries: corporate equities, intercompany indebtedness and borrowings; and for branches: borrowings from related foreign enterprises other than the head office.

Minus sign (-) denotes withdrawal.

INFLOW OF FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY COUNTRY (\$ million)

Year	<i>EEC</i>						<i>Total</i>
	<i>United Kingdom</i>	<i>Other(a)</i>	<i>U.S.A.</i>	<i>Canada</i>	<i>Japan</i>	<i>Other countries</i>	
1974-75	146	176	375	14	67	226	1,003
1975-76	326	19	377	14	98	24	858
1976-77	387	269	614	68	138	73	1,549
1977-78	406	65	627	-13	197	48	1,330
1978-79	832	91	819	-10	275	44	2,051
1979-80	921	441	825	44	373	358	2,961

(a) Includes Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands.

Minus sign (-) denotes withdrawal.

INFLOW OF DIRECT FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY INDUSTRY GROUP (\$ million)

Year	<i>Primary production(a)</i>	<i>Manufacturing</i>	<i>Other industries</i>	<i>Total</i>
1974-75	70	284	303	657
1975-76	26	233	316	575
1976-77	-41	473	634	1,066
1977-78	71	362	615	1,048
1978-79	66	555	814	1,435
1979-80	137	508	1,008	1,653

(a) Includes agriculture, forestry, fishing, mining, quarrying and oil exploration and production.

Minus sign (-) denotes withdrawal.

The next three tables show investment income payable abroad by enterprises in Australia.

INCOME PAYABLE ON FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY TYPE OF INCOME

(\$ million)

<i>Income payable abroad on direct investment</i>							
<i>Year</i>	<i>Undistributed income</i>	<i>Distributed income</i>			<i>Total</i>	<i>Income payable abroad on portfolio investment and institutional loans</i>	<i>Total</i>
		<i>Remitted profits of branches</i>	<i>Dividends payable</i>	<i>Interest payable</i>			
1974-75	246	152	204	133	734	228	963
1975-76	613	157	248	129	1,148	253	1,401
1976-77	654	290	249	123	1,317	269	1,586
1977-78	661	315	295	114	1,385	317	1,702
1978-79	813	309	288	131	1,541	400	1,941
1979-80	1,067	397	386	179	2,029	482	2,511

INCOME PAYABLE ON FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA BY COUNTRY

(\$ million)

<i>Year</i>	<i>EEC</i>						<i>Total</i>
	<i>United Kingdom</i>	<i>Other(a)</i>	<i>U.S.A.</i>	<i>Canada</i>	<i>Japan</i>	<i>Other countries</i>	
1974-75	300	16	530	15	22	78	963
1975-76	490	55	652	47	43	114	1,401
1976-77	547	56	753	36	77	117	1,586
1977-78	635	59	824	-4	34	155	1,702
1978-79	782	83	866	10	60	140	1,941
1979-80	865	93	1,260	-23	124	192	2,511

(a) Includes Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. Minus sign (-) denotes withdrawal.

INCOME PAYABLE ON DIRECT FOREIGN INVESTMENT IN ENTERPRISES IN AUSTRALIA, BY INDUSTRY GROUP

(\$ million)

<i>Year</i>	<i>Primary production(a)</i>	<i>Manufacturing</i>	<i>Other industries</i>	<i>Total</i>
1974-75	307	269	158	734
1975-76	312	413	423	1,148
1976-77	349	531	436	1,317
1977-78	385	474	526	1,385
1978-79	364	622	556	1,541
1979-80	562	651	816	2,029

(a) Includes agriculture, forestry, fishing, mining, quarrying and oil exploration and production.

Australian investment in and investment income receivable from foreign enterprises

The outflow of Australian investment in enterprises in recent years and a classification by country in which the capital was invested are shown in the following two tables.

OUTFLOW OF AUSTRALIAN INVESTMENT IN FOREIGN ENTERPRISES, BY TYPE OF INVESTMENT
(\$ million)

Year	<i>Direct investment</i>						
	<i>Undistributed income</i>		<i>Other direct investment</i>			<i>Portfolio investment and institutional loans(a)</i>	<i>Total</i>
	<i>Branches</i>	<i>Subsidiaries</i>	<i>Branch liabilities to head office</i>	<i>Other</i>	<i>Total</i>		
1974-75	-12	40	4	63	94	5	100
1975-76	2	62	11	92	167	18	185
1976-77	-1	100	46	110	256	3	258
1977-78	-18	110	17	84	192	8	200
1978-79	5	163	11	58	237	28	264
1979-80	-7	174	9	169	345	71	416

(a) From January 1976, includes portfolio investment in Papua New Guinea. Prior to April 1975 excludes such investment; between April and December 1975, includes transactions with Papua New Guinea only where amounts involved were denominated in Kina. Minus sign (-) denotes repatriation of investment.

OUTFLOW OF AUSTRALIAN INVESTMENT IN FOREIGN ENTERPRISES, BY COUNTRY
(\$ million)

Year	<i>EEC</i>		<i>New Zealand</i>	<i>U.S.A. and Canada</i>	<i>Papua New Guinea(b)</i>	<i>ASEAN(c)</i>	<i>Other countries</i>	<i>Total</i>
	<i>U.K.</i>	<i>Other(a)</i>						
1974-75	2	-1	36	11	-6	39	19	100
1975-76	28	8	11	44	50	9	36	185
1976-77	31	9	73	60	26	17	43	258
1977-78	69	-1	48	4	26	23	31	200
1978-79	30	-5	22	74	18	43	82	264
1979-80	95	60	30	94	46	38	54	416

(a) Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. (b) See footnote (a) in preceding table. (c) Indonesia, Malaysia, Philippines, Singapore and Thailand. Minus sign (-) denotes repatriation of investment.

The next two tables show income receivable by Australian enterprises from direct investment in foreign enterprises, and the countries from which it is receivable.

INCOME RECEIVABLE ON AUSTRALIAN DIRECT INVESTMENT IN FOREIGN ENTERPRISES, BY TYPE OF INCOME (a)
(\$ million)

Year	<i>Distributed income</i>					
	<i>Undistributed income</i>		<i>Remitted profits of branches</i>	<i>Dividends of subsidiaries</i>	<i>Interest</i>	<i>Total</i>
	<i>Branches</i>	<i>Subsidiaries</i>				
1974-75	-12	40	23	60	3	113
1975-76	2	62	22	46	5	137
1976-77	-1	100	25	59	7	191
1977-78	-18	110	36	114	3	246
1978-79	5	163	42	82	7	299
1979-80	-7	174	36	74	8	285

(a) Details are not available of income receivable in Australia on either portfolio investment and institutional loans or on Australian holdings of foreign government securities. Minus sign (-) denotes withdrawal.

INCOME RECEIVABLE ON AUSTRALIAN DIRECT INVESTMENT IN FOREIGN ENTERPRISES, BY COUNTRIES (a)
(\$ million)

Year	EEC		New Zealand	U.S.A. and Canada	Papua New Guinea	ASEAN	Other countries	Total
	U.K.	Other (b)						
1974-75	17	-7	29	4	(c)	9	(d) 61	113
1975-76	24	2	35	7	(c)	9	(d) 61	137
1976-77	34	-3	55	8	39	17	42	191
1977-78	30	-3	61	4	62	21	71	246
1978-79	38	(c)	67	8	62	37	(e) 86	299
1979-80	44	5	66	10	61	43	57	285

(a) Details are not available of income receivable in Australia on either portfolio investment and institutional loans or on Australian holdings of foreign government securities. (b) Belgium, Denmark, France, Federal Republic of Germany, Ireland, Italy, Luxembourg and Netherlands. (c) Not available for publication—included in *Other countries*. (d) Includes Papua New Guinea. (e) Includes 'Other EEC'.

Minus sign (-) denotes withdrawal.

BALANCE OF PAYMENTS

Broadly speaking, the Australian balance of payments is a statistical statement designed to provide a systematic record of Australia's economic transactions with the rest of the world. It may be described as a system of consolidated accounts in which the accounting entity is the Australian economy and the entries refer to all economic transactions between residents of Australia and residents of the rest of the world (non-residents). Such a record is essential to the examination of influences which external factors have on the domestic economy. Balance of payments estimates have always assumed a particular importance in Australia due to the importance of these influences on the Australian economy.

Official estimates of Australia's balance of payments for the period 1928-29 were included in Year Book No. 24, page 755. Except for the war years 1939 to 1945, estimates have since been published at least annually.

Detailed estimates and descriptions of concepts, structure and the various items included are provided in the annual publication *Balance of Payments, Australia* (5303.0). More timely though less detailed estimates are provided in a quarterly publication *Balance of Payments, Australia* (5302.0) approximately five and a half weeks after the end of each quarter. A monthly publication *Balance of Payments, Australia* (5301.0), showing the major aggregates, is published about seven to nine working days after the end of each month. A comprehensive description of concepts, structure, data sources and methods used to compile published statistics are contained in the publication *Balance of Payments, Australia: Concepts, Sources and Methods* (5331.0).

Balance of payments statements cover a wide range of economic transactions which may be broadly divided into three categories. The first category comprises transactions in goods, services and income between residents of Australia and non-residents. The second category relates to financial transactions involving claims on and liabilities to the rest of the world. Because the statement is constructed on a double entry recording basis, a third category described as unrequited transfers is required to provide offsetting entries for one sided balance of payments transactions, such as gifts in cash and kind which have no 'quid pro quo'. Two changes not arising from transactions—specifically changes in Australia's official reserve assets arising from the allocation (or cancellation) of Special Drawing Rights (SDRs) by the International Monetary Fund (IMF) and the monetisation (or demonetisation) of gold—are included by convention, to make the accounts more analytically useful. The first and third of the above categories are combined in what is described as the current account and the second category together with the two changes not arising from transactions are shown separately in what is described as the capital account.

Under the internationally accepted conventions of the double entry system, credit entries are used to record exports of goods and services, income receivable and financial transactions involving either a reduction in the country's foreign financial assets or an increase in its foreign liabilities. Conversely, debit entries are used to record imports of goods and services, income payable and financial transactions involving either an increase in foreign financial assets or a decrease in foreign liabilities. Transactions in a double entry accounting system are reflected in pairs of equal credit and debit entries. Any entries that are not automatically paired are matched by special offsetting entries. Such offsetting entries are required for the category of unrequited transfers and the other changes not arising from transactions referred to in the previous paragraph.

It follows that, in principle, the net sum of all credit and debit entries is zero. In practice, some transactions are not measured accurately (errors), while others are not measured at all (omissions). Equality between the sum of the credit and debit entries is brought about by the inclusion of a balancing item which reflects net errors and omissions.

In the Australian balance of payments, transactions are valued at "transactions values" i.e. the prices at which the transactions occur. Generally the transactions value is assumed to be either the price at which transaction are recorded in the records of transactors or the price at which they appear in administrative records. The transactions basis of valuation is used because it facilitates the consistent valuation of the credit and debit aspects of transactions in practice.

Transactions and other changes recorded in the balance of payments should, in principle, be recorded at the time of change of ownership (either actual or imputed). For the current account this is conceived as the time when ownership of goods changes, services are rendered, when undistributed income of direct investment enterprises is earned, and when interest and dividends become due for payment. In the case of unrequited transfers, those which are imposed by one party on another, such as taxes and fines, should ideally be recorded at the time they become due for payment without penalty; whereas others should be recorded when the goods, services etc. to which they are offsets change ownership. For capital account transactions the time of change of ownership is, by convention, normally taken to be the time at which transactions are entered in the books of the transactors. Entries for loan drawings should be based on actual disbursements and not on commitments or authorisations. Entries for loan repayments should be recorded at the time they become due rather than on the actual payment date.

In practice, the nature of the available data sources is such that the time of recording of transactions will often diverge from the principle of time of change of ownership. This is particularly true in the case of transactions in goods which are, in the main, recorded at the time that administrative records relating to the movement of the goods across the customs frontier are processed. Where practical timing adjustments are made for transactions in certain goods to ensure that they are recorded in the time period in which change of ownership occurs.

In the first table that follows, the global balance of payments is presented in the conventional two column credit and debit accounting format. In the regional table, however, minus signs are used to denote current account debits and capital account debits (i.e. increases in assets or decreases in liabilities) while the absences of sign are used to denote current account credits and capital account credits (i.e. decreases in assets or increases in liabilities).

For current account transactions, entries for exports of goods and entries for imports of goods are recorded as credits and debits respectively. Likewise entries for transportation credits are recorded separately from entries for transportation debits and for most other invisible transactions the credit entries are similarly recorded separately from the debit entries. Current account transactions, in this context, are described as being recorded gross. This treatment is in contrast to the recording of transactions and other changes in the capital account which is on a net basis. This means that, for each capital account item shown in the following table, credit entries are combined with debit entries to arrive at a single net result (either a credit or a debit) for the item concerned.

The items included in visible trade cover all movable goods, with a few exceptions, which undergo a change of ownership from residents to non-residents (exports) and from non-residents to residents (imports). Items 3 to 10 which are grouped together under the heading 'invisibles' include services, income and unrequited transfers. Invisible credits comprise the value of services rendered by residents to non-residents, the income earned by Australian residents from the ownership of foreign financial assets and from the use of copyrights, licences, etc. by non residents (e.g. dividends, interest and royalties); and the offset entries to the value of cash and kind transferred by non-residents to residents without a quid pro quo (unrequited transfers). Invisible debits are composed of similar transactions, but with the roles of resident and non-resident interchanged.

For capital account transactions, entries for government capital (items 11 to 13) broadly refer to the capital account transactions of the general government sector (i.e. Commonwealth, State and local government authorities and statutory bodies except for government-owned or controlled (public) trading and financial enterprises). However, it includes the trade credit transactions and some other minor transactions of certain public enterprises which are included in this grouping under other government transactions (item 13). Items 14 to 17, which comprise private capital, broadly refer to the capital account transactions of resident individuals, privately owned trading and non-bank financial enterprises and government owned or controlled (public) trading and non-bank financial enterprises.

The transactions of non-official monetary institutions (item 18) broadly cover the capital account transactions of trading banks mainly in the form of borrowings (from and by non-residents) and balances (foreign currency held overseas and Australian currency held by non-residents), while item 19,

official monetary institutions, covers all transactions with the IMF; all capital transactions of the Reserve Bank, with foreign central monetary authorities including the Bank for International Settlements; and transactions and all changes (other than those resulting from revaluations) in the holdings of monetary gold and foreign currency assets owned and controlled by the resident central authorities which are available for meeting balance of payments needs.

BALANCE OF PAYMENTS

(\$ million)

	1977-78		1978-79		1979-80	
	Credit	Debit	Credit	Debit	Credit	Debit
CURRENT ACCOUNT						
Goods—						
1 Exports f.o.b. (a)	12,027	—	14,075	—	18,581	—
2 Imports f.o.b. (a)	—	11,165	—	13,493	—	15,829
<i>Balance of trade</i>	862	—	582	—	2,751	—
Invisibles—						
4 Transportation—						
4.1 Freight on imports	—	1,076	—	1,245	—	1,521
4.2 Expenditure of non-resident operators	814	—	895	—	1,103	—
4.3 Other transportation	512	1,053	664	1,253	800	1,500
5 Travel	390	1,105	537	1,299	801	1,479
6 Government—						
6.1 Australian government—						
6.11 Defence expenditure	—	67	—	72	—	102
6.12 Other expenditure	—	156	—	147	—	162
6.13 Services to non-residents	23	—	21	—	33	—
6.2 Foreign governments' expenditure	70	—	77	—	87	—
7 Miscellaneous—						
7.1 Business expenses	59	187	82	146	116	169
7.2 Other	96	212	162	237	105	152
8 Property income—						
8.1 Direct investment—						
8.11 Undistributed	92	661	168	813	168	1,067
8.12 Distributed	154	724	131	728	117	962
8.2 Interest on government loans	—	162	—	307	—	386
8.3 Royalties and copyrights	10	81	15	93	11	93
8.4 Other	112	341	141	447	174	541
9 Government transfers—						
9.1 Papua New Guinea	—	237	—	247	—	250
9.2 Other foreign aid	—	179	—	230	—	270
9.3 Social security cash benefits	—	36	—	40	—	45
10 Private transfers—						
10.1 Migrants' funds	132	97	140	85	160	64
10.2 Social security cash benefits	28	—	11	—	17	—
10.3 Other	242	270	261	313	410	283
Balance on current account	—	3,049	—	3,817	—	2,193

For footnotes see end of table.

BALANCE OF PAYMENTS—*continued*
(\$ million)

	1977-78		1978-79		1979-80	
	Credit	Debit	Credit	Debit	Credit	Debit
CAPITAL ACCOUNT (NET)						
Non-monetary—						
Government—						
11 Government securities—						
11.1 Domiciled overseas	1,612	—	1,349	—	187	—
11.2 Domiciled in Australia	33	—	6	—	—	5
12 International development financing institutions	—	38	—	27	—	31
13 Other government transactions	—	44	25	—	—	216
Private—						
14 Foreign investment in enterprises in Australia—						
14.1 Direct investment—						
14.11 Undistributed income	661	—	813	—	1,067	—
14.12 Other	386	—	621	—	586	—
14.2 Portfolio investment and institutional loans—						
14.21 Public enterprise borrowings	286	—	246	—	472	—
14.22 Other	—	2	371	—	836	—
15 Australian investment abroad—						
15.1 Direct investment—						
15.11 Undistributed income	—	92	—	168	—	168
15.12 Other	—	101	—	69	—	178
15.2 Portfolio investment and institutional loans	—	9	—	28	—	74
16 Net remittances abroad by life insurance enterprises	1	—	1	—	2	—
17 Trade credit n.e.i.—	—	—	—	—	—	—
17.1 Marketing authorities	—	208	34	—	—	379
17.2 Other	—	76	—	13	—	401
Monetary—						
18 Non-official monetary institutions—						
18.1 Changes in liabilities—						
18.11 Borrowing overseas	75	—	—	24	—	14
18.12 Other liabilities	—	37	108	—	164	—
18.2 Changes in assets—						
18.21 Advances to non-residents	—	3	—	23	—	33
18.22 Foreign currency balances	—	19	—	2	26	—
19 Official monetary institutions—						
19.1 Changes in liabilities—						
19.11 Use of IMF credit	—	90	—	—	—	144
19.12 Other liabilities	158	—	—	136	5	—
19.2 Changes in official reserve assets	474	—	167	—	348	—
19.3 Allocation of SDRs	—	—	94	—	98	—
19.4 Other transactions	—	—	—	—	—	6
Balancing item	80	—	472	—	51	—
Balance on capital account	3,049	—	3,817	—	2,193	—

(a) The amounts shown represent the recorded trade figures adjusted for balance of payments purposes. Adjustments affect timing, coverage and valuation.

BALANCE OF PAYMENTS BY REGIONS

(\$ million)

	1977-78	1978-79	1979-80
CURRENT ACCOUNT(a)			
Exports f.o.b.(b)—			
United States of America	1,241	1,774	1,985
Canada	276	272	338
United Kingdom	469	552	936
Germany, Federal Republic	391	433	499
Other European Economic Community(c)	850	1,015	1,255
Japan	3,877	4,137	5,016
New Zealand	565	728	834
Other OECD(d)	210	232	270
Total OECD	7,879	9,144	11,134
ASEAN	833	1,039	1,383
Papua New Guinea	227	286	346
Centrally Planned Economies(e)	983	905	2,046
Other countries	2,105	2,701	3,672
Total exports	12,027	14,075	18,581
Imports f.o.b.(b)—			
United States of America	-2,422	-3,233	-3,612
Canada	-272	-377	-439
United Kingdom	-1,267	-1,464	-1,616
Germany, Federal Republic	-724	-991	-991
Other European Economic Community(c)	-773	-963	-1,117
Japan	-2,103	-2,405	-2,420
New Zealand	-353	-435	-538
Other OECD(d)	-544	-631	-733
Total OECD	-8,458	-10,500	-11,466
ASEAN	-546	-611	-991
Papua New Guinea	-73	-68	-85
Centrally Planned Economies(e)	-168	-201	-267
Other countries	-1,921	-2,114	-3,021
Total imports	-11,165	-13,493	-15,829
Invisibles (net)—			
United States of America	-1,136	-1,282	-1,673
Canada	-9	-30	9
United Kingdom	-1,134	-1,293	-1,244
Germany, Federal Republic	-131	-158	-180
Other European Economic Community(c)	-197	-216	-252
Japan	-70	-127	-172
New Zealand	-128	-55	20
Other OECD(d)	-271	-297	-329
Total OECD	-3,077	-3,460	-3,820
ASEAN	-264	-281	-376
Papua New Guinea	-125	-121	-92
Centrally Planned Economies(e)	-11	-6	-9
Other countries	-434	-529	-646
Total invisibles (net)	-3,911	-4,399	-4,945
Balance on current account—			
United States of America	-2,317	-2,741	-3,300
Canada	-6	-135	-91
United Kingdom	-1,933	-2,206	-1,924
Germany, Federal Republic	-464	-715	-671
Other European Economic Community(c)	-120	-163	-114
Japan	1,705	1,604	2,424
New Zealand	85	238	316
Other OECD (d)	-605	-697	-792
Total OECD	-3,656	-4,816	-4,153
ASEAN	23	147	16
Papua New Guinea	29	96	170
Centrally Planned Economies(e)	805	698	1,769
Other countries	-249	58	5
Balance on current account	-3,049	-3,817	-2,193

For footnotes see end of table.

BALANCE OF PAYMENTS BY REGIONS—*continued*

(\$ million)

	1977-78	1978-79	1979-80
CAPITAL ACCOUNT (NET)(a)			
Non-monetary sector—			
Government capital movements—			
United States of America	269	-25	-255
Canada	-	-2	-
United Kingdom	-24	-51	-25
Germany, Federal Republic	1,002	89	151
Other European Economic Community (c)	110	256	-32
Japan	172	612	264
New Zealand	-	-	-
Other OECD (d)	49	506	-118
Total OECD	1,577	1,385	-15
ASEAN	-	-	-6
Papua New Guinea	3	3	3
Centrally Planned Economies (e)	-	-	-
Other countries	-16	-35	-47
<i>Total government capital movements</i>	<i>1,563</i>	<i>1,353</i>	<i>-65</i>
Foreign investment in enterprises in Australia—			
United States of America	627	819	825
Canada	-13	-10	44
United Kingdom	406	832	921
Germany, Federal Republic	44	108	173
Other European Economic Community (c)	21	-17	269
Japan	197	275	373
New Zealand	27	-10	19
Other OECD (d)	47	77	146
Total OECD	1,356	2,075	2,768
ASEAN	32	52	131
Papua New Guinea	-	-4	-1
Centrally Planned Economies (e)	8	6	2
Other countries	-67	-77	61
<i>Total foreign investment in enterprises in Australia</i>	<i>1,331</i>	<i>2,052</i>	<i>2,961</i>
Other private capital movements—			
United States of America	18	-45	-164
Canada	-7	-2	-27
United Kingdom	-117	2	-153
Germany, Federal Republic	4	8	-68
Other European Economic Community (c)	-9	9	-53
Japan	-24	-12	-64
New Zealand	-79	-17	-14
Other OECD (d)	-	8	-38
Total OECD	-213	-48	-581
ASEAN	-42	-74	-38
Papua New Guinea	-35	-28	-68
Centrally Planned Economies (e)	-144	70	-269
Other countries	-51	-163	-239
<i>Total other private capital movements</i>	<i>-484</i>	<i>-243</i>	<i>-1,197</i>
Total non-monetary sector transactions—			
United States of America	915	749	406
Canada	-19	-14	17
United Kingdom	265	784	744
Germany, Federal Republic	1,050	205	255
Other European Economic Community (c)	122	249	183
Japan	346	876	572
New Zealand	-52	-27	4
Other OECD (d)	96	591	-10
Total OECD	2,720	3,411	2,171
ASEAN	-10	-22	86
Papua New Guinea	-32	-29	-66
Centrally Planned Economies (e)	-135	76	-268
Other countries	-133	-275	-225
<i>Total non-monetary sector transactions</i>	<i>2,411</i>	<i>3,162</i>	<i>1,699</i>

For footnotes see end of table.

BALANCE OF PAYMENTS BY REGIONS—*continued*

(\$ million)

	1977-78	1978-79	1979-80
Monetary sector transactions—			
Net official monetary movements(<i>f</i>)	542	124	301
Non-official monetary sector transactions(<i>f</i>)	16	59	143
Balancing item(<i>f</i>)	80	472	51
Balance on capital account(<i>f</i>)	3,049	3,817	2,193

(a) For current account entries minus sign(-) denotes a debit, for capital account items minus sign(-) denotes an increase in foreign financial assets or a decrease in foreign liabilities. (b) The amounts shown represent recorded trade figures adjusted for balance of payments purposes. Adjustments affect timing, coverage and valuation. (c) Belgium, Luxembourg, Denmark, France, Ireland, Italy, Netherlands. (d) Greece, Spain, Turkey, Austria, Finland, Iceland, Norway, Portugal, Sweden, Switzerland. (e) Albania, Bulgaria, Czechoslovakia, Democratic Kampuchea, German Democratic Republic, Hungary, Lao Peoples Democratic Republic, Mongolia, North Korea, Peoples Republic of China, Poland, Romania, Socialist Republic of Vietnam, U.S.S.R. (f) No regional split is available for these items.

International reserves

The following table shows Australia's official reserve assets as at 30 June for recent years.

OFFICIAL RESERVE ASSETS(a)

(Source: Reserve Bank of Australia)

(\$ million)

	30 June		
	1979	1980	1981
Official reserve assets—			
Foreign exchange—			
United States dollars	612	644	1,636
Others	952	711	587
Special Drawing Rights	195	30	46
Reserve position in IMF	186	179	256
Gold	1,939	4,117	3,184
Total	3,885	5,681	5,709

(a) SDRs, and Australia's reserve position in the IMF are based on the IMF basket valuation for the SDR, which is published in terms of US dollars crossed with the representative rate for the Australian dollar in terms of the US dollar. Gold is valued at the average London gold price for the month, converted to Australian dollars at the market rate of exchange applying on the last day of the month. The foreign currency value of all other overseas assets has been based, where applicable, on market quotations. Accrued interest is normally taken into account. Conversion to Australian dollar equivalent is based on market rates of exchange.

FOREIGN CONTROL

A program of studies of foreign control of key industries and economic activities in Australia has been undertaken. Studies have been completed for manufacturing, mining, mineral exploration other than for petroleum, petroleum exploration, registered financial corporations other than retailers, finance companies, general insurance, life insurance, tourist accommodation, accredited advertising agencies and research and experimental development (R and D). This program of foreign control studies was terminated in 1978, as part of the measures necessary to bring ABS activities within the resources available to it.

Brief explanatory notes and a summary of the main results of these studies are given in Year Book Australia No. 65, 1981.

VALUES OF EXPORTS AND IMPORTS OF MERCHANDISE AT CONSTANT PRICES

The following tables show annual values of Australian exports and imports of merchandise at constant (average 1974-75) prices. These estimates are compiled on the basis of recorded statistics of merchandise trade within the framework of the Australian Export Commodity Classification (AECC) and the Australian Import Commodity Classification (AICC). Quarterly figures in original and seasonally adjusted terms are published regularly in the publication *Exports and Imports of Merchandise at Constant Prices, Australia* (5421.0).

Nature of measures

In concept, constant price estimates may be thought of as being derived by expressing the value of each component transaction as the product of a quantity and a price, and then substituting, for each current period price, the average price of the corresponding item in the base year. There are, however, many transactions recorded in statistics of overseas trade for which it is not possible to apply such an approach. Some common examples of such transactions are those where quantity data are not recorded or where there is some doubt as to whether the commodity involved corresponds sufficiently to that for which a base year price has been calculated. In these cases it is necessary to make assumptions and approximations (e.g. revaluing by means of the price index which is considered to be most closely related to the commodity involved). The published estimates at constant prices should be viewed in the light of these approximations and should not be interpreted as precise quantitative measures.

The system of recording import values was changed from 1 July 1976. It has been estimated that, if the previous basis of valuation had been continued, the total value of imports would have been about 2 per cent higher at current prices than the recorded values on the new basis. The constant (average 1974-75) price estimates would be affected to a much lesser degree (refer page 624).

From 1978-79, exports and imports have been classified according to the new AECC and the new AICC respectively. These are based on the Standard International Trade Classification, Revision 2. The changes in the commodity classification have caused only two significant discontinuities in the published aggregates between 1977-78 and 1978-79, both being due to the reclassification of exports of alumina from Division 51 of the superseded AECC to Division 28 of the current AECC. The other published aggregates have not been significantly affected by the adoption of the new commodity classification.

IMPORTS OF MERCHANDISE AT AVERAGE 1974-75 PRICES
(*\$ million*)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81 <i>p</i>
Food, beverages and tobacco	330	379	372	369	402	429
Fuels	679	763	797	759	812	764
Basic materials	409	441	426	450	464	458
Chemicals (incl. plastics)	666	799	832	962	1,057	1,013
Textiles, fabrics, etc.	521	546	516	593	549	573
Metals, metal manufactures, machinery and transport equipment	3,156	3,529	3,108	3,657	3,362	3,972
Other imports	1,570	1,752	1,682	1,825	1,914	2,094
Total imports of merchandise	7,331	8,211	7,732	8,615	8,560	9 303

EXPORTS OF MERCHANDISE AT AVERAGE 1974-75 PRICES
(*\$ million*)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81 <i>p</i>
Principal exports of rural origin—						
Meat and meat preparations	602	727	799	834	653	632
Cereal grains and cereal preparations	1,460	1,535	1,794	1,277	2,547	1,767
Sugar, sugar preparations and honey	664	841	813	613	745	840
Wool and sheep skins	1,024	1,191	900	1,035	959	1,016
Other (dairy produce, fruit, etc.)	471	526	460	498	550	524
<i>Total</i>	<i>4,222</i>	<i>4,820</i>	<i>4,768</i>	<i>4,256</i>	<i>5,454</i>	<i>4,779</i>
Other exports—						
Metalliferous ores and metal scrap	1,177	1,218	1,207	1,633	1,749	1,628
Coal, coke and briquettes	674	767	827	822	905	979
Metals, metal manufactures, machinery and transport equipment	1,433	1,504	1,486	1,749	1,861	1,745
Other exports	1,333	1,414	1,545	1,370	1,373	1,336
<i>Total</i>	<i>4,617</i>	<i>4,904</i>	<i>5,066</i>	<i>5,573</i>	<i>5,888</i>	<i>5,688</i>
Total exports of merchandise	8,840	9,724	9,835	9,829	11,342	10,467

Further information

For detailed information see the Annual Bulletin of *Foreign Investment, Australia* (5305.0) also the other annual publications *Overseas Trade, Australia* (issued in two parts) (5409.0 and 5410.0), *Australian Exports, Country by Commodity* (5411.0), *Australian Imports, Country by Commodity* (5414.0), *Imports Cleared for Home Consumption, Australia* (Microfiche only) (5412.0), *Exports, Australia: Annual Summary Tables* (5424.0), *Exports of Major Commodities and Their Principal Markets, Australia* (5423.0), *Imports, Australia: Annual Summary Tables* (5426.0), *Customs and Excise Revenue, Australia* (5427.0) and *Balance of Payments, Australia* (5303.0). Preliminary information is available in summary form in the statements *Balance of Payments, Australia* (quarterly) (5302.0), *Foreign Investment, Australia (Preliminary)* (annual) (5304.0), *Exports and Imports, Australia (Preliminary)* (monthly) (5401.0), *Exports by Commodity Divisions, Australia (Preliminary)* (monthly) (5402.0), and *Imports by Commodity Divisions, Australia (Preliminary)* (monthly) (5405.0). Current information is included in the *Monthly Summary of Statistics, Australia* (1304.0), the *Digest of Current Economic Statistics, Australia* (1305.0), and in more detail in *Exports, Australia* (monthly) (5404.0), *Imports, Australia* (monthly) (5406.0) and *Customs and Excise Revenue, Australia* (monthly) (5425.0). There are also the following additional publications: *Exports of Major Commodities and Their Principal Markets, Australia* (monthly) (5403.0), *Imports of Assembled New Passenger Motor Cars, Australia (Preliminary)* (monthly) (5416.0) and *Exports by Mode of Transport, Australia* (quarterly) (5415.0) and *Exports and Imports, Australia: Trade with Selected Countries and Major Country Groups* (quarterly) (5422.0). Additional unpublished details of exports and imports can be supplied on request.

A subscription service is available from this Bureau to provide for the detailed requirements of individual users of overseas trade statistics. These special periodical statements are obtainable monthly or quarterly and show trade according to items of the Australian Export and Import Commodity Classifications or statistical key code dissections of Australian Customs Tariff items. An appropriate charge is made which varies depending on the amount of detail required.

More detailed statistics and explanatory notes on individual foreign participation studies are contained in the following publications:

Foreign Ownership and Control in Manufacturing Industry, 1972-73 (5322.0), *Foreign Control in Manufacturing Industry, Study of Large Enterprise Groups, 1975-76* (5315.0), *Foreign Control in the Mining Industry, 1976-77* (5329.0), *Foreign Control in Mineral Exploration, 1975-76* (5323.0), *Foreign Control of Registered Financial Corporations, 1976* (5328.0), *Foreign Control of Finance Companies, 1976* (5324.0), *Foreign Control of General Insurance Business, 1975-76* (5326.0), *Foreign Control of Life Insurance Business, 1976* (5325.0), *Foreign Ownership and Control of Tourist Accommodation Establishments, 1973-74* (5319.0), *Foreign Ownership and Control of Accredited Advertising Agencies 1974-75* (5318.0) and *Foreign Control in Research and Experimental Development—Private Enterprises, 1976-77* (5330.0).

CHAPTER 25

SCIENCE AND TECHNOLOGY

Overview

Much of the early history of Australian science was based largely on the individual achievements of a few outstanding scientists.

During and after World War I, governments in various parts of the world took initiatives aimed at encouraging scientific research and applying it to economic growth and national development; Australia was no exception. In 1926 the Council for Scientific and Industrial Research (CSIR) was established by the Commonwealth Government. Initially, it concentrated its efforts on the primary industries, typifying the trend of research in Australia at that time, when most major research initiatives were taken by Government and aimed at the primary industries. The level of research in the universities and industries remained much as before.

With the approach of World War II, however, moves were made to extend scientific support for secondary industry. In the CSIR, Divisions created in the period 1937-40 were to play an important part in the rapid development of Australian industry that occurred under the stimulus of war-time needs.

Expansion of scientific research in general, and industrial research in particular, continued after the war. This expansion extended beyond government into the universities and industry.

Though, even today agricultural research absorbs a significant proportion of Australia's research effort, industrial, medical and defence research are now of major importance also. The volume of research in the social sciences remains small, although in Australia, as elsewhere in recent years, there has been increasing support for the view that adequate weight must be given in governmental policy-making to the social aspects of national proposals.

In 1976-77, the most recent year for which complete data are available, total expenditure on research and development (R & D) in both the natural and social sciences was estimated at \$802 million, approximately equivalent to 1.0 per cent of the Gross Domestic Product in that year.

In 1976-77, governments in Australia provided approximately 80 per cent of the funds devoted to R & D and undertook in their own agencies approximately 56 per cent (in terms of expenditure) of the overall national R & D effort.

Whilst these data serve to illustrate the dominant position occupied by governments in Australian scientific and technological R & D activities, they do not provide a complete picture since comprehensive information is not available on resources devoted to other scientific and technological activities in Australia.

Advice and co-ordination

Australia does not have a single central body with overall policy and funding responsibilities for science and technology. In order to achieve at the national level integration of advice, relative assessment of priorities and the development of criteria and broad strategies for future directions, several national advisory bodies, in addition to government departments such as the Department of Science and Technology and the Department of National Development and Energy have been established:

- The Australian Science and Technology Council (ASTEC), which is responsible to the Prime Minister and advises on science and technology matters including research, development and the application of new and existing knowledge.
- The National Energy Advisory Committee (NEAC), which advises the Minister for National Development and Energy on matters relating to national energy policy.
- The National Energy Research, Development and Demonstration Council (NERDDC) which advises the Minister for National Development and Energy on the co-ordination of the national energy research, development and demonstration effort. The Council also advises the Minister on the disbursement of funds for energy research.
- The Australian Manufacturing Council (AMC), which advises the Minister for Industry and Commerce on matters of industry policy.
- The Commonwealth Council for Rural Research and Extension (CCRRE), which advises the Minister for Primary Industry across the whole spectrum of rural research and extension.

Australian Science and Technology Council (ASTEC)

ASTEC was established as a statutory authority in February 1979 under the *Australian Science and Technology Council Act 1978*. The Council reports to the Prime Minister and is the Government's principal source of independent advice on science and technology matters. As part of this role, it maintains a broad overview of the science and technology activities of Commonwealth Government departments and agencies, universities and private enterprise.

The functions of the Council are to investigate, and to furnish information and advice to the Commonwealth Government in respect of matters relating to science and technology including the following:

- the advancement of scientific knowledge;
- the development and application of science and technology in relation to the furtherance of the national well-being;
- the adequacy, effectiveness and overall balance of scientific and technological activities in Australia;
- the identification and support of new ideas in science and technology likely to be of national importance;
- the practical development and application of scientific discoveries;
- the fostering of scientific and technological innovation in industry; and
- the means of improving efficiency in the use of resources by the application of science and technology.

To discharge these functions, the Council is provided with appropriate powers under its Act. The Council is able to form committees, engage consultants, conduct inquiries and collect information on any matter within its functions arising either from its own initiative or at the direction of the Prime Minister.

The Council's reports to the Government are made public unless there are overwhelming reasons in the national interest for not doing so. ASTEC's Act contains detailed provisions requiring the prompt tabling in Parliament of ASTEC reports except in closely defined circumstances.

In addition to its overview report *Science and Technology in Australia 1977-78*, ASTEC has provided reports to Government on industrial research and development, the interaction between industry, higher education and government laboratories, basic research and marine sciences. The Council also provides comment at the request of the Government on reports prepared by specialist groups and provides advice on new proposals and Budget matters related to science and technology.

Following a recommendation of the Committee of Inquiry into Technological Change in Australia, the Technological Change Committee (TCC) was established in May 1981 as a standing committee of ASTEC. Its functions are to review on a continuing basis the processes and trends in technological change in Australia and elsewhere and to evaluate and report on the direct and indirect effects of technological change at the national level.

ASTEC is also proceeding with studies which will assist in the development of its strategic role involving the matching of Australia's science and technology effort to its resources, problems and goals. These studies include development of means to measure science and technology effort, examination of the mechanisms used in other countries for establishing priorities in science and technology, and of the scientific and technological implications of Government policies. Reports are also in preparation on medical research in Australia; science and technology in international co-operation and aid; microelectronics; robotics; and information systems.

National Energy Advisory Committee (NEAC)

For information on NEAC *see* Chapter 18, Energy.

National Energy Research, Development and Demonstration Council (NERDDC)

For information on NERDDC *see* Chapter 18, Energy.

Department of Science and Technology

The Department of Science and Technology has general responsibility for science and technology while other Commonwealth Departments including National Development and Energy, Defence, Housing and Construction, Health, Primary Industry and Education have lead roles in providing policy advice and funding or in carrying out research in support of their specific objectives.

In addition to the provision of policy advice on science and technology, the Department of Science and Technology provides information about science for the use of decision makers and to the public. Its role enables it to provide a scientific and technological perspective at the interdepartmental level. The Department's responsibilities includes the fostering of closer working relationships and consultation among government agencies, tertiary institutions, scientific associations, the private sector and the community.

The Department's administrative functions in relation to certain scientific services and research activities (such as the Bureau of Meteorology, the Australian Government Analytical Laboratories, the Antarctic Division, the Australian Research Grants Scheme and Australia's science agreements with other countries), help to ensure that its policy advice is tempered with an awareness of practical problems in science and technology.

Committee of Inquiry into Technological Change in Australia (CITCA)

For information on CITCA see Year Book No. 65 pp. 661, 666 and 667.

Other Organisations

Advice to government on scientific and technological issues comes also from various learned and professional bodies. Such counsel may be offered on the initiative of the organisation itself or in response to an official request. For example, the Australian Academy of Science maintains a number of sectional and standing committees which specialise in selected broad fields of science; ad hoc advisory committees are appointed by the Academy from time to time to examine and report on specific matters. In addition, the Academy has maintained since 1967 a Science and Industry Forum which brings together leading scientists and industrialists to discuss topics of national significance, a complementary Science and Society Forum was inaugurated in 1973. Communication between government and the technology area of the science-technology spectrum is facilitated by the Australian Academy of Technological Sciences.

The most broadly based of the learned and professional bodies is the Australian and New Zealand Association for the Advancement of Science (ANZAAS). The Association has established a Science Policy Commission for giving increased attention to policy issues.

In recent years, matters of scientific and technological policy have received much discussion among such learned and professional organisations as well as in academic circles. Increasingly, other professional bodies with more specific charters are giving attention to matters of science and technology policy. Such bodies include the Royal Australian Chemical Institute (RACI), the Institution of Engineers, Australia, the Australian Institute of Physics, and the Federation of Australian University Staff Associations (FAUSA) which concentrates on issues specifically affecting the university sector.

There are a number of groups within the industry sector—e.g. the Australian Industrial Research Group (AIRG) and some specialist panels (Industry Advisory Councils) of the Australian Manufacturing Council (AMC)—which, from time to time, provide advice to government on industrial research and development.

Intergovernmental co-ordination is affected through bodies established for the purpose. While certain of these are concerned with promoting research and scientific and technical services, these are secondary objectives pursued in tandem with economic, social or environmental goals. Typical of these bodies are the Australian Agricultural Council, the Australian Minerals and Energy Council, the Australian Water Resources Council, and the Australian Environment Council.

The intergovernmental ministerial councils are assisted by standing committees of officials. Frequently, expert working groups and sub-committees are established to consider particular specialised aspects of a Council's broad field of interest and to advise the council through the relevant standing committee.

Councils do not directly undertake research or the provision of services, although such activities are commonly pursued within agencies coming under the control of individual ministerial members. In some instances, councils have control of research funds and provide grants or arrange for projects to be undertaken in particular fields of interest.

In some scientific and technical fields not coming directly within the purview of the Ministerial councils, there are standing arrangements at agency level for consultation and promotion of co-operation (the Electricity Supply Association of Australia is an example).

In addition to intergovernmental agencies, official advisory bodies have been established to deal with activities, interests and responsibilities of the Commonwealth Government and its agencies, and to advise on Government support of higher education and of industry. Amongst these bodies are the Australian Research Grants Committee (ARGC); the National Health and Medical Research Council (NHMRC); the Australian Industrial Research and Development Incentives Board (AIRDIB); the CSIRO Advisory Council and its State Committees; the Rural Industry Research Fund Advisory Committees; the Tertiary Education Commission and its Councils; and the National Energy Research Development and Demonstration Council.

The Prime Minister announced the establishment of the Antarctic Research Policy Advisory Committee in February 1979 to advise the Government, through the Minister for Science and Technology, on the development of an effective and balanced program of scientific and exploration activity in the Antarctic and sub-Antarctic region. In particular, the Committee advises priorities for scientific and technological research in areas such as mineral and living resources, and on the potential environment effects of exploitation of resources.

It also advises on the scientific merit and adequacy of Australian Antarctic research programs, on the organisational arrangements for implementation of programs, and on the role of the Antarctic Division of the Department of Science and Technology in this effort. From time to time, it will undertake reviews of existing programs and provide advice on new programs, taking into account current government policy in these areas.

The Committee is chaired by Professor D. E. Caro, Vice-Chancellor of the University of Tasmania.

Development of a marine sciences and technologies program has been identified by the Commonwealth Government as a high priority task. In February 1979, the Australian Marine Sciences and Technologies Advisory Committee (AMSTAC) was established as a standing committee of ASTEC, to assess present activities in marine sciences and technologies and to advise on priorities and mechanisms for achieving a balanced national program in this area. In August 1979 the Funding Advisory Panel (FAP) of AMSTAC was established to advise the Minister for Science and Technology on the allocation of funds for grants in marine sciences and technologies. Grants totalling \$400,000 in 1979-80 and \$2 million in 1980-81 were made on the advice of AMSTAC-FAP.

In June 1981, following recommendations of the Committee of Review of Commonwealth Functions, AMSTAC was established as an independent advisory body, reporting directly to the Minister for Science and Technology. At the same time, the FAP was joined with the Queens Fellowships Committee to form an amalgamated marine sciences and technologies Grants and Queens Fellowships Committee. An amount of \$2.272 million was allocated in 1981-82 for the amalgamated grants and fellowships scheme. The Department of Science and Technology provides secretariat support for both AMSTAC and the grants and fellowships scheme. Professor J. M. Swan, FAA, Dean of the Faculty of Science, Monash University, is the current Chairman of ASMSTAC.

The Building Research and Development Advisory Committee is the main link between private industry and the principal Commonwealth research groups, the CSIRO Division of Building Research, the Department of Housing and Construction, and the Physical Working Environment Branch of the Department of Employment and Youth Affairs.

The Committee advises the Commonwealth Government organisations concerned in building research and development on the technical problems of industry and where research, investigation, development work or technical liaison activity is required. It also assists in the dissemination of knowledge of the activities of organisations undertaking research and development work, and investigates the nature and extent of both government and privately funded research in the Australian building industry and advises all parties concerned of any overlapping or duplication of research effort.

The Technology Transfer Council was formally established in August 1978 to provide a technical referral program aimed at utilising the technological expertise resident in academic, government and private research institutions, and to assist in the effective use of existing technology in Australian industry. A network of technical referral centres is planned. For the first three years, the project will operate on a pilot scale in the metals manufacturing industry. There will be two specialist centres in the first stage of the project: the Centre of Machining Technology hosted by Swinburne College of Technology, and the Centre of Casting Technology hosted by the Division of Material Science, CSIRO, Melbourne. Four generalist centres are also planned for immediate establishment.

The Information Technology Council was established in March 1978 on the initiative of the Department of Science and Technology. It is concerned with establishing facilities for the guidance, instruction, demonstration and support to business management on the use of information technology. It also seeks to promote the importance of information technologies to business and to sponsor specific projects in the field.

Established in 1963, the Australian Water Resources Council (AWRC) is a Commonwealth and State Ministers' forum for dealing with water resources matters of mutual interest. Commonwealth and State collaboration through the AWRC initially concentrated on resources assessment and research, but more recently the Council's functions have been expanded to include management and planning. The AWRC and its committees have provided an important contribution to the development of Commonwealth water policies and programs and, in many cases, provide the means of implementing them.

As part of its Secretariat role, the Department of National Development and Energy publishes reports and documents, and also arranges seminars and workshops on behalf of the AWRC.

The Commonwealth established the Water Research Fund in 1968 to provide support for a research program developed through the AWRC. The fund is administered by the Department of National Development and Energy. Funds have been committed on a triennial basis, currently running at \$450,000 annually.

The program covers basic and applied research into all aspects of water resources with the aim of providing a better basis for the assessment, planning, development and management of Australia's

water resources. It complements research work carried out by government agencies, universities and other organisations and, in general, is used to stimulate new work not handled within existing programs.

The program for the current triennium beginning in 1980-81 is based on a series of priority areas identified by the AWRC; including flood plain management, water storage management, non-point sources of pollution, salinity, waste-water disposal and reuse, drinking water quality, aquatic biology, groundwater, evapotranspiration, and instruments and techniques.

Expenditure and manpower

Project SCORE

Project SCORE (Survey and Comparisons of Research Expenditures) provides details of Australian expenditure on research and experimental development activities. It should be noted, however, that it does not provide comprehensive data on all resources devoted to scientific and technological activities in Australia. Programs not covered by Project SCORE, some of which involve large expenditures, are those which have no research and development component; such programs include many of those aimed at providing scientific or technological services.

Coverage and Methodology. The first comprehensive survey of expenditure on research and experimental development (R & D) was carried out for the 1968-69 financial year. This survey, known as Project SCORE, covered R & D expenditure and manpower in the natural and social sciences in all sectors of the Australian economy. The Project was carried out principally by means of questionnaires and, in order to provide direct comparison with other OECD countries, followed (with some exceptions) guidelines laid down by the OECD. In addition to a summary report dealing with the overall national situation, separate Project SCORE reports cover the following sectors: Commonwealth Government, Private enterprise, State Government, Higher Education, and Private Non-profit. A summary of the results for 1968-69 is given in Year Book No. 60, pp 995-1005.

The results of the second survey, for the 1973-74 financial year (1974 calendar year for the Higher Education sector), were published in two volumes: Volume 1 contains the reports for the Commonwealth Government, State Government, and Private Non-profit sectors, while Volume 2 presents an all-sector summary together with the reports for the Private enterprise and Higher Education sectors. A summary of the results is given in Year Book No. 61, pp 989-998.

The results of the third survey, for the 1976-77 financial year (1976 calendar year for the Higher Education sector), were published with reports for all sectors presented in the one volume. A summary of the results is given in Year Book No. 64, pp 703-713. A fourth survey was conducted in respect of the 1978-79 financial year (1978 calendar year for the Higher education sector), and comprehensive results for the Business Enterprise, General Government and Higher Education Sectors were published by the ABS in the latter half of 1981. An All Sector Summary incorporating limited results for the Private Non-Profit Sector will be available early in 1982.

In April 1981, the Commonwealth Government decided that, as a result of the Review of Commonwealth Functions Future Project score surveys would be conducted triennially instead of biennially. The next Project SCORE surveys are scheduled for 1981-82.

For the purposes of the surveys, *research* was defined as original investigation directed towards increasing the general body of knowledge about, or understanding of, the subject studied. Within this category, *basic research* was taken to be original investigation of which the primary aim was more complete knowledge or understanding of the subject under study, while *applied research* was taken to be original investigation of which the primary aim was the solution of a recognised practical problem. Work was defined as *experimental development* where it involved the systematic use or adaptation of research results directed towards the production of new or improved products, processes, systems or methods. The physical, chemical, biological, earth, engineering and applied, agricultural and medical sciences were included in the natural sciences, which together with the social sciences, were covered in all the surveys. The 1973-74, 1976-77 and 1978-79 surveys also covered R & D in the humanities, which was excluded in 1968-69.

Business enterprise sector. The estimate of expenditure on R & D carried out in Australia by business enterprises during 1978-79 was \$246 million at current prices. This represents a 21 per cent increase in expenditure compared with 1976-77. The 1978-79 estimate of R & D expenditure at constant (average 1974-75) prices represents no change over that for 1976-77. The corresponding estimate of manpower on R & D during 1978-79 was 8,626 man years and this represents an 8 per cent decrease in man years compared with 1976-77. A summary of the data incorporated in *Research and Experimental Development, Business Enterprises, Australia, 1978-79* (8104.0) is shown below.

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY BUSINESS ENTERPRISES(a),
AUSTRALIA
R & D EXPENDITURE AT CURRENT AND CONSTANT PRICES
(\$m)**

	1973-74	1976-77	1978-79
AT CURRENT PRICES			
Private enterprises	(b)190.4	160.4	205.8
Public sector business enterprises	n.a.	42.4	40.0
Total business enterprises	n.a.	202.8	245.8
AT CONSTANT (AVERAGE 1974-75) PRICES			
Private enterprises	(b)236.3	124.3	130.6
Public sector business enterprises	n.a.	33.2	26.7
Total business enterprises	n.a.	157.5	157.3

(a) Excludes enterprises in ASIC Division A. (b) Sample survey; the standard error expressed in \$m is \$16.0m

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY BUSINESS ENTERPRISES,
AUSTRALIA
R & D EXPENDITURE AND R & D MANPOWER BY INDUSTRY OF ENTERPRISE
(1969 EDITION OF ASIC)**

Industry of enterprise (1969 edition of ASIC)		Resources expended on R & D					
		Expenditure (\$m)		Man years of effort on R & D		Number of enterprises	
ASIC code	Description	1976-77	1978-79	1976-77	1978-79	1976-77	1978-79
11-15	Mining (excluding services to mining)	7.0	9.6	445.9	311.0	22	17
	Manufacturing—						
21, 22	Food, beverages and tobacco	11.6	16.1	550.9	545.4	69	84
23, 24	Textiles, clothing and footwear	2.1	1.4	106.4	42.0	27	22
25	Wood, wood products and furniture	0.9	1.6	49.6	54.8	22	25
26	Paper, paper products, printing and publishing	3.3	4.1	149.2	144.1	16	14
27, 23	Pharmaceuticals and veterinary products	7.4	9.8	287.7	357.9	22	26
(a)	Chemicals, petroleum and coal products	19.7	25.8	1,047.0	1,036.6	93	93
28	Non-metallic mineral products	3.8	4.1	169.1	153.8	32	26
29	Basic metal products	19.0	20.8	902.9	767.3	36	36
31	Fabricated metal products	4.0	4.8	228.1	205.0	74	84
32	Transport equipment	14.6	15.6	760.9	601.0	44	47
33, 1	Photographic, professional and scientific equipment	4.6	6.7	231.5	228.8	20	15
33, 2	Appliances and electrical equipment	21.1	32.8	1,209.2	1,211.9	129	121
33, 3	Industrial machinery and equipment	8.2	9.0	425.4	397.4	141	119
33, 4	Total other machinery and equipment	33.9	48.4	1,866.1	1,838.1	290	255
34	Leather, rubber and plastic products and manufacturing n.e.c.	3.5	5.6	184.7	209.6	57	58
C	Total manufacturing	123.9	158.1	6,302.6	5,955.6	782	770
	Other industries—						
F	Wholesale and retail trade	9.2	11.6	380.7	399.1	90	109
63	Real estate and business services	11.2	14.7	532.3	493.8	182	179
8, 4, 1, 1	Research and scientific institutions	11.7	13.1	503.8	453.1	30	28
(b)	Other n.e.c.	39.8	38.6	1,177.4	1,013.8	62	83
16, D-L	Total other industries	71.9	78.1	2,594.2	2,359.8	364	399
	Total all industries (c)	202.8	245.8	9,342.7	8,626.4	1,168	1,186

(a) ASIC Sub-division 27 excluding ASIC class 2723. (b) ASIC codes 16, D-E, G-H, 61-62, J, 8111-8303, 8412-9334. (c) Excludes ASIC Division A.

General Government Sector. The estimate of expenditure on R & D carried out by organisations in the General Government Sector in Australia during 1978-79 was \$470m at current prices. This represents a 13 per cent increase in expenditure compared with 1976-77. At constant (average 1974-75) prices R & D expenditure is estimated to have decreased by 5 per cent over the same period.

The corresponding manpower effort devoted to R & D carried out by general government organisations in Australia during 1978-79 was 15,461 man years. This represents a decrease of 9 per cent compared with 1976-77. Manpower by Commonwealth Government organisations was 9,329 man years (a decrease of 10 per cent) and by State Government organisations was 6,133 man years (a decrease of 7 per cent). A summary of the data incorporated in *Research and Experimental Development, General Government Organisations, Australia, 1978-79* (8108.0) is shown below.

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY GENERAL
GOVERNMENT ORGANISATIONS, AUSTRALIA
R & D EXPENDITURE AT CURRENT AND CONSTANT PRICES
(\$m)**

<i>General government organisations</i>	1976-77	1978-79
AT CURRENT PRICES		
Commonwealth	289.5	321.1
State	126.3	148.7
Total	415.8	469.9
AT CONSTANT (AVERAGE 1974-75) PRICES		
Commonwealth	228.1	217.3
State	99.8	92.8
Total	327.9	310.2

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY GENERAL
GOVERNMENT ORGANISATIONS, AUSTRALIA
R & D MANPOWER**

<i>General government organisations</i>	<i>Man years of effort on R & D</i>	
	1976-77	1978-79
Commonwealth	10,423	9,329
State	6,605	6,133
Total	17,028	15,461

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY GENERAL
GOVERNMENT ORGANISATIONS, AUSTRALIA
R & D EXPENDITURE AND R & D MANPOWER BY SOCIO-ECONOMIC
OBJECTIVE**

<i>Socio-economic objective(b)</i>	<i>R & D expenditure</i>		<i>Man years of effort on R & D</i>	
	1976-77	1978-79	1976-77	1978-79
	(\$m)	(\$m)	(\$m)	(\$m)
<i>National security (defence)</i>	87.6	89.2	4,232	3,826
Economic development—				
Agriculture	123.7	153.3	5,375	5,321
Forestry and fisheries	20.5	25.1	790	913
Mining (prospecting)—				
energy sources	4.3	2.3	201	70
other	10.0	10.1	373	270
Mining (extraction)—				
energy sources	0.1	0.8	..	24
other	5.8	5.7	188	140
Manufacturing	34.8	48.2	1,087	1,070
Construction	6.9	6.5	255	206
Energy	13.6	20.0	421	472
Transport	11.3	7.2	410	202
Communications	0.2	0.4	11	15
Economic service n.e.c.	17.6	12.0	736	370
<i>Total economic development</i>	248.9	291.6	9,846	9,072
Community welfare—				
Urban and regional planning	3.0	1.3	118	40
Environment	25.4	35.1	973	858
Health	11.8	16.2	503	633
Education	2.3	1.8	162	72
Welfare	0.7	1.2	56	58
Community services n.e.c.	2.8	2.0	140	82
<i>Total community welfare</i>	46.0	57.7	1,951	1,742
Advancement of knowledge—				
Earth, ocean and atmosphere n.e.c.	18.2	8.0	494	345
General advancement of knowledge	15.3	23.5	507	476
<i>Total advancement of knowledge</i>	33.4	31.4	1,001	821
Total	415.8	469.9	17,028	15,461

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY GENERAL GOVERNMENT
ORGANISATIONS, AUSTRALIA,
R & D EXPENDITURE AND R & D MANPOWER BY FIELD OF SCIENCE**

<i>Field of science(b)</i>	<i>R & D expenditure (\$m)</i>		<i>Man years of effort on R & D</i>	
	1976-77	1978-79	1976-77	1978-79
Natural sciences—				
Physical sciences	29.0	35.9	1,024	867
Chemical sciences	19.3	21.3	579	528
Biological sciences	56.6	43.6	1,687	1,233
Earth sciences	35.3	41.4	1,425	1,106
Engineering and applied sciences	127.0	142.1	5,403	4,983
Agricultural sciences	122.4	163.4	5,538	5,779
Medical sciences	7.9	9.4	391	420
<i>Total natural sciences</i>	397.6	457.0	16,047	14,918
Social sciences and humanities—				
Economics	9.0	3.0	463	157
Education	2.5	2.1	172	82
Management	0.9	1.7	42	54
Political science	0.1	0.1	3	3
Sociology	1.3	1.4	68	54
Information science	1.1	1.6	50	68
Other social sciences and humanities	3.4	3.1	182	128
<i>Total social sciences and humanities</i>	18.1	12.9	980	543
Total	415.8	469.9	17,028	15,461

Higher Education Sector. The estimate of expenditure on R & D carried out by organisations in the Higher Education Sector in Australia during 1978 was \$326m at current prices. This represents a 33 per cent increase in expenditure compared with 1976. At constant (average 1974-75) prices R & D expenditure is estimated to have increased by 7 per cent over the same period.

The corresponding manpower effort devoted to R & D carried out by Higher Education organisations in Australia during 1978 was 16,050 man years. This represents a 5 per cent increase in manpower effort compared with 1976. The manpower effort devoted to R & D carried out by universities was 15,524 man years (a 4 per cent increase) and by CAE's was 526 man years (a 46 per cent increase).

A summary of the data incorporated in *Research and Experimental Development, Higher Education Organisations, Australia, 1978* (8111.0) is shown below:

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY
HIGHER EDUCATION ORGANISATIONS, AUSTRALIA,
R & D EXPENDITURE AT CURRENT AND CONSTANT PRICES
(\$m)**

<i>Higher education organisation</i>	1976	1978
AT CURRENT PRICES		
Universities	239.9	318.8
CAE's	4.2	6.7
Total	244.1	325.5
AT CONSTANT (AVERAGE 1974-75) PRICES		
Universities	209.9	224.7
CAE's	3.8	4.8
Total	213.7	229.5

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY
HIGHER EDUCATION ORGANISATIONS, AUSTRALIA,
R & D MANPOWER**

<i>Higher education organisation</i>	<i>Man years of effort on R & D</i>	
	1976	1978
Universities	14,929	15,524
CAE's	361	526
Total	15,290	16,050

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY HIGHER EDUCATION
ORGANISATIONS, AUSTRALIA,
R & D EXPENDITURE AND R & D MANPOWER BY SOCIO-ECONOMIC OBJECTIVE**

<i>Socio-economic objective(b)</i>	<i>R & D expenditure (\$m)</i>	<i>Man years of effort on R & D</i>
	1978	1978
<i>National security (defence)</i>	0.3	10
Economic development—		
Agriculture	25.8	1,384
Forestry and fisheries	2.0	114
Mining (prospecting)—		
energy sources	0.3	17
other	1.1	61
Mining (extraction)—		
energy sources	0.3	18
other	1.8	94
Manufacturing	11.2	657
Construction	2.0	97
Energy	9.0	411
Transport	2.3	131
Communications	2.2	125
Economic services n.e.c.	12.2	612
<i>Total economic development</i>	<i>70.1</i>	<i>3,721</i>
Community welfare—		
Urban and regional planning	2.5	152
Environment	47	230
Health	56.9	2,284
Education	11.4	585
Welfare	3.3	157
Community services	8.1	365
<i>Total community welfare</i>	<i>86.9</i>	<i>3,773</i>
Advancement of knowledge—		
Earth, ocean and atmosphere n.e.c.	17.6	996
General advancement of knowledge	150.7	7,551
<i>Total advancement of knowledge</i>	<i>168.2</i>	<i>8,547</i>
Total	325.5	16,050

**RESEARCH AND EXPERIMENTAL DEVELOPMENT CARRIED OUT BY HIGHER EDUCATION
ORGANISATIONS, AUSTRALIA,
R & D EXPENDITURE AND R & D MANPOWER BY FIELD OF SCIENCE**

<i>Field of science(b)</i>	<i>R & D expenditure (\$m)</i>	<i>Man years of effort on R & D</i>
	1978	1978
Natural sciences—		
Physical sciences	34.4	1,496
Chemical sciences	23.9	1,202
Biological sciences	56.5	2,771
Earth sciences	13.6	741
Engineering and applied sciences	36.2	2,007
Agricultural sciences	24.7	1,274
Medical sciences	45.2	1,649
<i>Total natural sciences</i>	<i>234.5</i>	<i>11,140</i>
Social sciences and humanities—		
Economics	12.1	469
Education	11.0	777
Management	1.0	52
Political science	4.8	236
Sociology	4.7	264
Other social sciences and humanities (a)	57.4	3,112
<i>Total social sciences and humanities</i>	<i>91.0</i>	<i>4,910</i>
Total	325.5	16,050

(a) Includes information science.

Energy Research and Experimental Development Statistics

For information on these statistics see Chapter 18, Energy.

Resources and services

Although power to regulate the development and utilisation of Australia's natural resources rests largely with the States, the Commonwealth Government, in part because of its jurisdiction in the control of Australia's overseas trade, also plays an important role. Extensive machinery exists for consultation and collaboration between the Commonwealth and State governments in relation to the development and management of natural resources.

Several important resources and services are dealt with elsewhere in this Year Book and are thus not included in this chapter. These include health (Chapter 10), agricultural industries (Chapter 13), forestry and fisheries (Chapter 14), water resources (Chapter 15), mineral industry (Chapter 16), and transport and communications (Chapter 20).

Soil resources

A Standing Committee on Soil Conservation was established in 1946. It comprises the heads of soil conservation bodies in the States and representatives of relevant Commonwealth agencies. The Committee co-ordinates activities of interest to its member bodies such as the survey of erosion throughout Australia which was carried out in the late 1960s, and the development of co-operative arrangements for in-service training of technical personnel.

Fauna and flora resources

During the last century, as each State became established, museums and botanical gardens containing herbaria were set up. Studies of fauna and flora were carried out by these bodies and by the universities. Various divisions of CSIRO have also carried out work on fauna and flora, but an important part of total Australian research into inventorying biological resources continues to be undertaken in the museums and herbaria of the State governments.

In 1973, the Commonwealth Government set up the Australian Biological Resources Study (ABRS) under an Interim Council. Funds were made available through it to stimulate taxonomic and ecological studies of Australian fauna and flora. In 1978, following recommendations by the Interim Council and by the Australian Science and Technology Council, ABRS was established as a continuing program and is presently within the Department of Home Affairs and Environment.

Funds are made available through ABRS on the recommendation of an Advisory Committee to the Minister for Home Affairs and Environment for work designed to fill the gaps in the scientific knowledge of the Australian fauna and flora. The role of ABRS is to co-ordinate all work aimed at collecting, describing, classifying and determining the distribution of Australian animals and plants. Its responsibilities include the maintenance of a comprehensive network of national taxonomic collections and a national taxonomic data bank. Its current major projects are the preparation of the 50-volume *Flora of Australia*, the compilation of an Australian Faunal Directory and the establishment of an Australian Biotaxonomic Information System.

Fauna and flora conservation

Responsibility for the conservation and management of fauna and flora resources rests, in the main, with the State Governments. However, the Commonwealth has responsibility for such resources in its own Territories.

In 1975, the Commonwealth Government established the Australian National Parks and Wildlife Service, whose functions include care and management of national parks and wildlife in Australia and its Territories, conduct of ecological studies to determine additional areas which should be reserved as national parks and nature reserves, and survey and assessment of wildlife populations with particular reference to endangered species.

In June 1980, the Whale Protection Bill received Royal Assent and the Act was proclaimed in 1981. The legislation prohibits killing, capturing, injuring or interference with a whale, dolphin or porpoise in the Australian fishing zone and by Australians domiciled in Australia and Australian vessels and aircraft and their crews beyond the 200 mile Australian fishing zone, with penalties up to \$100,000.

Environmental protection

Responsibility for most pollution control aspects of environmental protection rests with the State Governments, which have all enacted legislation to control the operations of government and private enterprises that may have a deleterious effect on the physical environment.

The Commonwealth Government is responsible for pollution control in its own Territories and in respect of the operation of its own agencies within the States. It is also concerned with the enforcement of provisions of relevant international conventions to which Australia is a signatory.

Both the Commonwealth and State Governments also have legislation or procedures for assessing the environmental impact of proposed actions that may have a significant effect on the environment. These procedures generally provide for the preparation of environmental impact statements—sometimes allowing for public review—as a prerequisite to approval of new development projects or other activities with significant environmental consequences.

The various governments collaborate in environmental and conservation matters through three Ministerial Councils: the Australian Environment Council, which provides a framework for consultation on environmental matters; the Council of Nature Conservation Ministers, which is concerned with preservation of wildlife and the establishment and management of national parks; and the Australian Water Resources Council which is concerned with the assessment, development and use of national water resources.

Special arrangements have been made for minimising the environmental impact of uranium developments in the Northern Territory. An Office of the Supervising Scientist has been established under Commonwealth legislation. The Supervising Scientist has overall responsibility for the co-ordination and supervision of measures for the protection and restoration of the environment in the Alligator Rivers Region from the effects of uranium mining. The Supervising Scientist also manages the Alligator Rivers Region Research Institute.

Meteorology

The Bureau of Meteorology, which is a Division of the Department of Science and Technology, is the national authority for providing weather forecasting and warning services, and general meteorological information and consultative advice. Users of these services include the general public, defence forces, civil aviation and marine authorities, and specialist groups in primary and secondary industries.

Programs of research are carried out in support of these services, often in co-operation with other institutions concerned with meteorological science including universities and the CSIRO. The Australian Numerical Meteorology Research Centre, which specialises in the development of numerical model techniques for predicting atmospheric behaviour, is operated jointly by the Department of Science and Technology and CSIRO.

Total expenditure by the Bureau in 1980–81 was approximately \$45.2 million.

Ionospheric Prediction Service

The Ionospheric Prediction Service (IPS) Branch of the Department of Science and Technology exists to assist users of radio communications to achieve the most effective and efficient use of radio communication influenced by or dependent on the ionosphere. The Branch operates ionospheric and solar observatories in Australia and Papua New Guinea, produces radio propagation predictions and warnings of ionospheric and magnetic disturbances.

Research into physical phenomena affecting the ionosphere and into radio wave propagation forms part of the regular activity of the IPS.

Satellite remote sensing

In 1978 the Commonwealth Government decided to establish facilities for receiving and processing information from the U.S. National Aeronautics and Space Administration's series of Landsat satellites. The Department of Science and Technology manages the project. A data acquisition station has been established at Alice Springs and a data processing facility has been installed in Canberra. Additional information on Landsat stations is provided at pages 722–4 of Year Book No. 64.

Scientific and Technological Information Services

Scientific literature and technical information for scientists and technologists is provided through library and information services provided by the Commonwealth of Australia, State instrumentalities, tertiary institutions and industrial organisations. The more important scientific libraries and information services within the Commonwealth sector are the National Library of Australia, the CSIRO Library network and information services, the library and information services maintained by the Department of Health and that of the Australian Atomic Energy Commission.

Several Commonwealth Agencies including the Australian Atomic Energy Commission, the CSIRO, the Department of Science and Technology and the National Library of Australia are now offering Australian users access to overseas bibliographic and factual data bases. The Overseas Telecommunications Commission is operating an international data transmission service known as

MIDAS (Multi-mode International Data Acquisition Service) which has facilitated low-cost access to international data stores in North America and Europe.

Another overseas trend now arousing interest amongst Australian scientists is the development of numerical data bases which provide quick access to factual data. The CSIRO is currently operating Thermodata, a metallurgical thermodynamic data base and other similar data bases in a crystallography and mass spectra data. Similar numeric and factual data bases are at present being evaluated by other Commonwealth agencies.

A number of Australian scientific and technological indexes and directories now exist or are in the course of production by Commonwealth Government departments and agencies. Recent initiatives are:

- a Directory of Technical Information Sources for Industry which has been produced by the National Library of Australia;
- a directory of Australian research projects undertaken in the natural sciences and selected social sciences in the Higher education sector. The directory, in microfiche form, was produced by the Department of Science and Technology (in conjunction with its work on Project SCORE) and the CSIRO;
- a machine based register of Australian energy research, development and demonstration projects providing a technical description of each project is being developed by the Department of National Development and Energy as part of a National Energy Information System (NEIS);
- Scientific and Technical Research Centres in Australia, prepared by CSIRO;
- a Commonwealth Regional Renewable Energy Resources Information System (CRRERIS) is being operated by CSIRO under contract to the Department of National Development and Energy as an outcome of the Commonwealth Heads of Government Regional Meeting (CHOGRM) of February 1979.
- AUSTRE is a subject guide to recent Australian scientific and technical conference papers and reports. Begun in 1978, it has been available since 1979 as a computer-searchable data base on AUSINET; it is also published by the National Library in bi-monthly issues with an annual microfiche cumulation;

Units and Standards of Physical Measurement

The National Standards Commission, originally established in 1948 and given further responsibilities under the *Weights and Measures (National Standards) Act* 1960, advises on matters relating to weights and measures such as the establishment and use of uniform units and standards of measurement of physical quantities. The Commission is also responsible for the examination, approval and certification of the design and performance of patterns of measuring instruments used for trade, Australian participation in the preparation of international standards applicable to legal metrology and their subsequent adoption, co-ordination of training for weights and measures inspection, and liaison with State government on the regulation of weighing and measuring practice in trade.

Major government research agencies

Expenditure on research and experimental development carried out by general government organisations in 1978-79 was estimated to be \$470 million at current prices. This represents a 13% increase in expenditure compared with 1976-77. For additional information see Project SCORE paragraphs in this chapter.

Commonwealth Scientific and Industrial Research Organization (CSIRO)

The CSIRO is the largest scientific research organization in Australia. It has a total staff of some 7,000 people located in more than 100 laboratories and field stations throughout Australia. About one-third of the staff are scientists.

The CSIRO is a statutory body established by the *Science and Industry Research Act* 1949. Under the Act CSIRO replaced, but had continuity with, the former Council for Scientific and Industrial Research (CSIR) which was established in 1926. The *Science and Industry Research Act* 1949 as amended by the *Science and Industry Research Amendment Act* 1978 provides that the functions of CSIRO are:

- to carry out scientific research for any of the following purposes:
 - (i) assisting Australian industry;
 - (ii) furthering the interests of the Australian community;
 - (iii) contributing to the achievement of Australian national objectives or the performance of the national and international responsibilities of the Commonwealth;

- (iv) any other purpose determined by the Minister;
- to encourage or facilitate the application or utilization of the results of such research;
- to act as a means of liaison between Australia and other countries in matters connected with scientific research;
- to train, and to assist in the training of, research workers in the field of science and to co-operate with tertiary education institutions in relation to education in that field;
- to establish and award fellowships and studentships for research, and to make grants in aid of research for a purpose referred to in scientific research above;
- to recognise associations of persons engaged in industry for the purpose of carrying out industrial scientific research and to co-operate with, and make grants to, such associations;
- to establish, develop and maintain standards of measurement of physical quantities and, in relation to those standards—
 - (i) to promote their use;
 - (ii) to promote, and participate in, the development of calibration with respect to them; and
 - (iii) to take any other action with respect to them that the Executive thinks fit;
- to collect, interpret and disseminate information relating to scientific and technical matters; and
- to publish scientific and technical reports, periodicals and papers.

The Act provides for CSIRO to be governed by an Executive comprising a full-time Chairman, two other full-time members and between three and five part-time members. It also provides for a statutory Advisory Council and State Committees as independent sources of advice to the Executive.

The CSIRO's research is carried out in some forty divisions and five smaller units. The divisions and units are grouped into the following five Institutes:

Institute of Animal and Food Sciences: Divisions of Animal Health, Animal Production, Food Research, Human Nutrition, Project for Animal Research and Development, Molecular and Cellular Biology Unit, Wheat Research Unit.

Institute of Biological Resources: Divisions of Entomology, Fisheries Research, Forest Research, Horticultural Research, Irrigation Research, Land Resources Management, Land Use Research, Plant Industry, Soils, Tropical Crops and Pastures, Wildlife Research.

Institute of Energy and Earth Resources: Divisions of Applied Geomechanics, Energy Chemistry, Energy Technology, Fossil Fuels, Mineral Chemistry, Mineral Engineering, Mineral Physics, Mineralogy, Physical Technology Unit.

Institute of Industrial Technology: Divisions of Applied Organic Chemistry, Building Research, Chemical Technology, Manufacturing Technology, Protein Chemistry, Textile Industry, Textile Physics.

Institute of Physical Sciences: Divisions of Applied Physics, Atmospheric Physics, Chemical Physics, Cloud Physics, Computing Research, Environmental Mechanics, Materials Science, Mathematics and Statistics, Oceanography, Radiophysics, Australian Numerical Meteorology Research Centre.

There is also a Bureau of Scientific Services that is concerned with information and technology transfer activities. The Bureau consists of four units: the Central Information, Library and Editorial Section; the Centre for International Research Co-operation; the Commercial Group; and the Science Communication Unit.

The CSIRO annual budget for 1981–82 is an estimated \$265 million, most of which is provided directly by the Commonwealth Government. Some \$30 million is contributed by trust funds concerned with the wool, meat, wheat, dairying, fishing and dried fruit industries, by individual companies, by Australian and overseas government instrumentalities, and by private foundations. The trust funds constitute about two-thirds of these contributory funds and are derived mainly from industry levies but there is also a Commonwealth Government component.

The Australian Atomic Energy Commission (AAEC)

For information on AAEC *see* Chapter 18, Energy.

Antarctic Division, Department of Science and Technology

Australia has been active in research and exploration in the Antarctic region since early in the present century, but the overall effort has expanded appreciably since the 1940s when the Government established the Australian National Antarctic Research Expeditions (ANARE) operated by the Antarctic Division.

The Antarctic Division of the Department of Science and Technology administers, organises and provides logistic support for Australian activities in Antarctica, including the maintenance of three Antarctic stations (Mawson, Casey and Davis) and one sub-Antarctic station on Macquarie Island.

The Australian Antarctic scientific program encompasses research in the fields of marine and terrestrial biology, oceanography, earth sciences, glaciology, cosmic ray and upper atmosphere physics, meteorology, bathymetry, medical research, surveying and mapping. Each year, the Antarctic Division, universities and private and public research organisations are invited to submit research proposals to the Antarctic Research Policy Advisory Committee.

Australia is a signatory to the Antarctic Treaty, and many of its scientific activities in Antarctica are undertaken in collaboration with other signatory countries.

Productivity Development Division, Department of Science and Technology

The Productivity Development Division of the Department of Science and Technology administers a range of programs aimed at encouraging development and effective utilisation of existing and developing technology in Australian industry and at providing a favourable environment for the development and commercial exploitation of inventions.

In joint undertaking with industry and unions, the Division promotes the improvement of competitiveness at enterprise and industry level. Through its technology transfer programs, it develops practices and programs which will improve the competitiveness (productivity) of manufacturing industry by making better use of available knowledge and technology.

The National Materials Handling Bureau which is a part of the Division provides research and development assistance and advice relating to materials handling, physical distribution and packaging.

Australian Institute of Marine Science (AIMS)

The AIMS has been established on a 190 hectare site within a national park at Cape Ferguson, 50 kilometres south of Townsville in North Queensland. Comprehensive headquarters facilities were opened in September 1977 and include laboratories, lecture theatre, library, computer centre, administrative and other support services. A harbour for the Institute's vessels was completed in April, 1976. A 24.4 metre ocean-going research vessel constructed specifically for the Institute was delivered during October 1978.

The Institute is essentially concerned with research and emphasises multidisciplinary projects, many of which are focussed on tropical marine science. Research projects at the AIMS fell into 3 areas: estuarine and oceanic marine food webs; reef-building organisms and the Great Barrier Reef and marine pollution. These areas were selected both for their current importance to marine science and for their relevance to many applied problems. Specific programs being undertaken by the Institute concern: inshore ecology and productivity; pelagic biology; coral taxonomy; coral calcification; reef origins and maintenance; sedimentology; and physical oceanography.

Defence Science and Technology Organisation

The Defence Science and Technology Organisation, Department of Defence, conducts a significant amount of research and development, mainly in engineering and the physical sciences. Current expenditure is about \$130 million per year.

Further details on the work of the organisation are found in Chapter 4, Defence.

Technology Division, Department of Housing and Construction

To support its operations as the major design and construction authority for the Commonwealth, the Department of Housing and Construction carries out applied research and laboratory testing and provides a comprehensive range of technical services. In many cases, these services directly or indirectly benefit the needs of private industry and the public generally.

Research and special testing is conducted mainly by the Technology Division at establishments such as the Experimental Building Station in Sydney, which specialises in building and building components, and the Central Investigation and Research Laboratory in Melbourne, which specialises in engineering materials and products.

Telecom Australia Research Laboratories

Telecom Australia maintains significant facilities and a staff of approximately 500 for the performance of research and development in telecommunications science and technology.

The primary objective of Telecom's research and development is to evaluate world advances in telecommunications services and systems so that it can select those best suited to the Australian environment. It also applies its research and development facilities to the solution of technical problems arising in the operation of the Australian telecommunications network. It also co-ordinates its research and development with that of industry and academia in telecommunications and supports their efforts with research and development contracts and grants made through the Australian Computer Research Board and the Radio Research Board.

Research by business enterprises

Expenditure on research and experimental development carried out by business enterprises in 1978–79 was estimated to be \$246 million at current prices. This represents a 21 per cent increase in expenditure compared with 1976–77. For further information see Project SCORE paragraphs in this chapter.

The Government provides funding to encourage industrial research and development (IR and D) under the provisions of the *Industrial Research and Development Incentives Act* 1976. Two types of grants are payable under the Act: commencement grants to encourage companies to develop a basic R & D capability; and grants designed to give on-going support for companies with established IR and D facilities to undertake specific IR and D projects showing technical and commercial promise. In 1980–81 commencement grants will be paid at the rate of 50 per cent of eligible expenditure up to a ceiling of \$40,000, and project grants at 50 per cent of eligible expenditure up to a ceiling of \$750,000. In addition the Minister for Science and Technology is empowered under the Act to approve full funding of projects considered to be in the 'public interest'. \$49.7 million was appropriated in the 1980–81 Budget for the Industrial Research and Development Incentives Scheme and other associated industry technology programs. The Government intends that a greater proportion of its own research will be contracted out to industry. In addition, support for new and existing research Associations will be increased.

Payments Overseas for Technical Know-How

Australian R & D efforts have been significantly supplemented by overseas technology largely associated with the activities of foreign firms. Australian firms in many industries have bought or licensed foreign technology. The ABS has estimated that payments remitted overseas by business enterprises for technological know-how (e.g. patent licences, technical data and information and scientific, technical or engineering assistance) were \$130.0 million in 1978–79 while Australia received \$15.4 million for this category of technology. See the table below for further details. The adoption by industry of new technology also attracts financial support from the Commonwealth through the *Industrial Design Council of Australia* and the *Standards Association of Australia* which receive subsidies from the Commonwealth Government.

PAYMENTS AND RECEIPTS FOR TECHNICAL KNOW-HOW BY BUSINESS ENTERPRISES, AUSTRALIA 1976-77 AND 1978-79
PAYMENTS AND RECEIPTS BY INDUSTRY OF ENTERPRISE (1969 EDITION OF ASIC)

<i>Industry of enterprise (1969 edition of ASIC)</i>		<i>Payments for technical know-how</i>				<i>Receipts for technical know-how</i>			
		<i>Enterprises making payments (number)</i>		<i>Total payments (\$m)</i>		<i>Recipient enterprises (number)</i>		<i>Total receipts (\$m)</i>	
<i>ASIC code</i>	<i>Description</i>	<i>1976-77</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1978-79</i>	<i>1976-77</i>	<i>1978-79</i>
	Manufacturing—								
21,22	Food, beverages and tobacco	16	17	2.9	4.0	4	5	0.3	0.4
23,24	Textiles, clothing and footwear	14	14	1.4	1.2	n.p.	n.p.	n.p.	n.p.
25	Wood, wood products and furniture	6	n.p.	0.1	n.p.	n.p.	n.p.	n.p.	n.p.
26	Paper, paper products, printing and publishing	7	n.p.	0.5	n.p.	n.p.	5	n.p.	0.1
2723	Pharmaceuticals and veterinary products	9	13	5.0	5.6	21	19	2.4	3.2
(a)	Chemicals, petroleum and coal products	48	53	11.1	22.0	21	19	2.4	3.2
28	Non-metallic mineral products	11	11	4.0	4.4	4	4	0.7	0.9
29	Basic metal products	16	11	3.1	3.8	7	5	1.2	0.6
31	Fabricated metal products	21	21	1.4	4.4	7	14	0.8	1.3
32	Transport equipment	16	19	7.1	10.1	7	8	0.3	0.5
331-332	Photographic, professional and scientific equipment and appliances and electrical equipment	47	45	12.4	18.3	18	5	0.6	0.9
333	Industrial machinery and equipment	44	26	3.8	3.4	15	14	0.6	0.2
33	Total other machinery and equipment	91	71	16.2	21.7	33	29	1.2	1.1
34	Leather, rubber and plastic products and manufacturing n.e.c.	20	19	3.1	3.9	8	11	0.5	0.5
C	Total manufacturing	275	262	55.8	82.0	97	107	7.5	8.8
	Other industries—								
F	Wholesale and retail trade	27	42	29.2	36.4	6	13	0.3	1.3
B,D-E,G-L	Mining and other industries n.e.c.	23	48	3.9	11.7	21	31	1.4	5.3
B, D-L	Total mining and other industries	50	90	33.1	48.2	27	44	1.7	6.6
	Total all industries (b)	325	352	88.9	130.2	124	150	9.2	15.4

(a) ASIC Sub-division 27 excluding ASIC Class 2723. (b) Excludes ASIC Division A.

Metric Conversion

The conversion to the metric (SI) system of weights and measures is now well advanced in Australia. The conversion program has been developed and implemented under the guidance of a Metric Conversion Board established by the Commonwealth Government. The Board considers that the conversion was effectively achieved by 1980 as originally envisaged, although it has always been recognised that some residual use of imperial units will continue for a time thereafter, e.g. in association with equipment of long life. The implementation of the program has depended in large measure on general community co-operation. The Board sought and gained assistance from advisory groups representative of all sectors of the community. Metric conversion is now expected to proceed to completion under its own momentum. The Board was wound up on 30 June 1981.

The Australian Patent Information Service (APIS)

APIS exists to encourage and assist Industry to extract technological information from the large collection (approximately 20 million documents) of Patent Specifications held in the Patent Office. These specifications include those from the major industrialised nations.

APIS Information Officers based in Canberra, Melbourne and Sydney can assist industry by:

- conducting technology searches related to specific manufacturing problems or the development of a new product;
- Providing information on the activities of other organizations working in the same technological field;
- Providing general over-views of particular technology areas such as Solar energy, oil shale recovery etc.

APIS provides its information on a fee for service basis and quotations will be provided prior to the commencement of a technology search or competitor watch service.

Industry organisations

A number of organisations aiming, wholly or in part, to support and encourage R & D have been established within industry. By far the majority support sectional interests. The Department of Science and Technology provides grants to four recognised industry research associations. These are the *Sugar Research Institute*, the *Bread Research Institute of Australia*, *Brick Development Research Institute* and the *Australian Welding Research Association*. Preparation has reached an advanced stage for entering into an agreement with the *Radiata Pine Research Institute*.

Research in universities and colleges

Expenditure on research and experimental development carried out by Universities and Colleges of Advanced Education in 1978 was estimated to be \$326 million at current prices. This represents a 33 per cent increase in expenditure compared with 1976. For further information see Project SCORE paragraphs in this chapter.

General financial support for higher education is provided primarily by the Commonwealth Government through the Councils of the Tertiary Education Commission (the Universities Council; and Technical and Further Education Council; and the Advanced Education Council).

In addition, the Government funds research undertaken in the universities and elsewhere through a number of granting schemes. In some cases, Commonwealth Government funds are supplemented by State governments or by levies imposed on or by specific industries (e.g. the wool, wheat and beef industries) for that purpose.

The two principal granting schemes through which supplementary funds are made available for research in universities are those administered by the Australian Research Grants Committee (ARGC), and the National Health and Medical Research Council (NHMRC). For both schemes the principal criterion for awards is the scientific excellence of the research project. Applications are judged by expert advisory committees composed of practising scientists, and recommendations are made to the Minister for Science and Technology and the Minister for Health for the ARGC and NHMRC awards respectively.

The Commonwealth Department of Health administers the Health Service Research and Development Grant program which provides grants to researchers in educational and health institutions and to independent researchers. The Department receives advice from the Health Services Research and Development Grants Advisory Committee.

Fellowships such as the Queen Elizabeth the Second Fellowships and the like, while providing some additional funds, are significant more for the prestige they carry than for their contribution to overall funding levels. They are, however, more readily available to the young scientists than are the ARGC awards.

Colleges of Advanced Education do not maintain expensive research facilities or programs akin to those of the universities; nevertheless, staff are encouraged to undertake research to the extent that this is possible. Research of an applied nature, and associated consultancy services to industry and commerce, are expected to become increasingly prominent within the colleges.

Research organisations associated with education institutions

Several of the tertiary education institutions have established independent, commercial companies to promote and manage research and consultancy services to industry, commerce, government and the community. Examples are: Unisearch Ltd, associated with the University of New South Wales; Wait-Aid Ltd, associated with the Western Australian Institute of Technology; Technisearch Ltd, associated with the Royal Melbourne Institute of Technology; SARD, associated with the Swinburne College of Technology; Techsearch Inc., associated with the South Australian Institute of Technology; and the University of Newcastle Research Association.

These organisations play an important role in promoting communication between the Higher Education and other sectors. They undertake investigational and research projects, mainly in the fields of engineering and science. However, activities in other fields such as management, marketing and the social sciences are increasing. Testing work, performed generally by full-time employees, is undertaken in some instances. Results of work are confidential to the client and are not published unless authorised by that client.

Social science research

Research in the social sciences is undertaken primarily in universities and agencies of the Australian and State governments. Financial support for research in non-government bodies, especially universities, is provided by government. This support comes both from general funds, provided to the universities and also from specific granting bodies such as the ARGC and the Australian Advisory Committee on Research and Development in Education.

The bulk of social science research carried out within Commonwealth Government agencies is performed as part of the general activities of various departments. However, several agencies have been established specifically to undertake research. Agencies which have been established to undertake research in particular areas include the Australian Institute of Aboriginal Studies, the Australian Institute of Criminology, the Bureau of Industry Economics, the Bureau of Agricultural Economics and the Bureau of Transport Economics.

Agencies of the various State governments undertake research relevant to their own activities and programs especially related to health, youth and community services. A number of research organisations in the transport spheres are funded from both Commonwealth and State sources. The Australian Railway Research Board and the Australian Railway Research and Development Organisation are active in social science research.

Exchange of ideas and information on the social sciences is promoted through a number of professional and learned bodies, of which the Australian and New Zealand Association for the Advancement of Science and the Academy of the Social Sciences in Australia are the most broadly based. In addition to encouraging the advancement of the social sciences, the Academy sponsors and organises research, subsidises publications and acts as a consultant and advisor on the social sciences.

Non-government bodies which undertake or promote research in specific fields of the social sciences include the Australian Institute of International Affairs, the Australian Institute of Urban Studies, and the Australian Institute of Political Science.

International activities

International Organisations

Australia participates in a range of programs and projects of United Nations and other organisations (UNEP, UNESCO, WMO, OECD and IEA) and in the activities of both governmental and non-governmental scientific organisations. To facilitate scientific liaison and representation, the Commonwealth Government has scientific representation at overseas posts (Tokyo, London, Washington, Vienna (IEA), Paris (OECD)). Australia also participates in regional collaborative programs organised by ESCAP, the Association for Science Cooperation in Asia, the Commonwealth Science Council and the Pacific Science Association. Technical assistance is also provided for countries in the region under both multilateral and bilateral arrangements.

Participation in international non-governmental scientific bodies is arranged through learned and professional bodies. For example, the Australian Academy of Science provides representation to the International Council of Scientific Unions (ICSU) and a number of its affiliated bodies.

Studentships and Fellowships

Australia has assisted other countries, principally in the Asian and Pacific regions, by training their nationals. Large numbers of such students, mainly seeking first qualifications at tertiary level, have been accommodated under schemes such as the Colombo Plan. There are also arrangements under which established scientists from overseas are assisted to undertake study and research in Australia.

Bilateral arrangements

Various bilateral arrangements at both government and non-government levels have contributed to the development and maintenance of co-operation in science and technology between Australian institutions and scientists and those in other countries. Formal bilateral agreements, administered by the Department of Science and Technology, solely devoted to scientific and technological co-operation have been entered into with the USA (1968), India (1975), the USSR (1975; since suspended), the Federal Republic of Germany (1976), Japan (1980), the Peoples Republic of China (1980) and Mexico (1981). Support is provided for both individual visits and specialist seminars over the whole range of civil science. Where opportunities exist, other co-operative projects which depend on special facilities are supported.

A scientific exchange program between the Australian Academy of Science and the Academia Sinica of Peking was initiated in 1976-77. Scientific fields considered most promising are plant physiology, entomology and earth science.

Visits to Japan and China by Australian scientists can alternatively be supported by the Australia/Japan Foundation and the Australia/China Council.

Meteorology

Australia is a Member of the World Meteorological Organisation (WMO), with the Director of Meteorology being Australia's Permanent Representative on WMO.

Astronomy

In the field of optical astronomy, the Anglo-Australian Telescope Board, established under the provisions of an international agreement between Australia and the United Kingdom and drawing its funds in equal shares from each country, operates the 3.9 metre Anglo-Australian Telescope at Siding Spring Mountain near Coonabarabran in New South Wales. The Telescope, among the largest in the world, came into full scientific operation during 1975. Its technical excellence and the scientific work which it has made possible have brought it to be widely recognised as the world's foremost optical telescope.

Space

An agreement was signed in 1960 and has been renewed at ten-year intervals by the Governments of Australia and the United States of America to co-operate in the establishment and operation in Australia of space vehicle tracking stations. The agencies for the Australian and American Governments are the Department of Science and Technology and the National Aeronautics and Space Administration (NASA) respectively.

As part of the world-wide network supporting NASA's space program, the stations track spacecraft in their orbits around the earth or on their journeys into space, receive telemetered data from the spacecraft, and relay radio commands controlling the spacecraft.

The Department of Science and Technology is responsible for managing, staffing and operating the tracking stations on behalf of NASA. The stations are located at Orroral Valley and Tidbinbilla in the Australian Capital Territory. A communications system links them with control centres in the United States of America.

Expenditure by NASA on its tracking station operations in Australia in 1980-81 was approximately \$12.6 million.

An agreement has been signed between the Commonwealth Government and the European Space Agency (ESA) for the establishment and operation of a space vehicle tracking facility in Australia in support of ESA programs. The facility is located at the site of the Overseas Telecommunications Commission (Aust) earth station at Carnarvon, W.A.

Scientific Ballooning

A service to scientists conducting experiments based on balloon-borne platforms was previously provided under a joint venture between the Department of Science and Technology and the US National Science Foundation. Arrangements have now been made for the continuation of the service through the University of Melbourne.

Seismology

A comprehensive seismic station at Alice Springs (Joint Geological and Geophysical Research Station) is operated jointly under an agreement between the Governments of Australia and the United States of America. The agencies for the Governments are, respectively, the Department of Science and Technology and the United States Air Force.

The station provides continuous seismic records to assist the United States Government in the identification of underground nuclear explosions and, through the Department of Science and Technology provides seismic records to the Bureau of Mineral Resources, Geology and Geophysics. Records are also available, through the Department of Science and Technology, to Australian scientists for research in earth physics.

Defence

In the field of defence science, Australia collaborates with other countries through a variety of arrangements at intergovernmental level. Further information including Defence science technology multilateral and bilateral arrangements is given in Chapter 4, Defence.

Transport

Australia is represented at Federal and State levels on a number of transport research-orientated international organisations through a variety of arrangements at intergovernmental level. Further information is given in Chapter 20, Transport and Communication.

Other

At the non-governmental level, formal arrangements for scientific co-operation with counterpart institutions in other countries have been concluded by a number of Australian bodies. For example, an arrangement covering co-operation in astronomy exists between the University of Sydney and Cornell University (USA), while over a broader area the Australian National University has an arrangement with the University of Moscow which includes exchanges in the scientific fields.

Additional information

Additional information on topics presented in this chapter may be found in the annual reports of the organisations mentioned, particularly the Department of Science and Technology, the CSIRO and its divisions, the Australian Atomic Energy Commission, and the Department of Defence. Statistical information for the years 1968-69, 1973-74 and 1976-77 may be found in the reports published by the Department of Science and Technology on Project SCORE. Statistical information relating to 1978-79 may be obtained from the Australian Bureau of Statistics (ABS). See Project SCORE paragraphs in this chapter for details of ABS publications.

Also relevant are reports published by the former Office of Secondary Industry of the Department of Trade and Industry (*Survey of Industry Research and Development in Australia* (1968-69) and by the former Department of Manufacturing Industry (Bulletin No. 11, November 1974 *R & D in Manufacturing Industry* 1971-72).

Information on manufacturing industry research and development is contained in Chapter 6, Vol. 1A of ASTEC's report on *Science and Technology in Australia* 1977-78 (June 1978) Chapter 7, Vol. 1 of the Report of the Study Group on Structural Adjustment (March 1979) and the Report of the Senate Standing Committee on Science and the Environment on *Industrial Research and Development in Australia* (May 1979).

CHAPTER 26

CULTURE, RECREATION AND TRAVEL

This chapter is divided into three major sections:

- The cultural activities section consists mainly of a description of cultural organisations and some statistical information concerning financial assistance for the arts.
- The recreation section comprises descriptive information provided by the Department of Home Affairs and Environment on major aspects of leisure: community recreation, fitness, sport development and information on youth affairs provided by the Department of Employment and Youth Affairs. Information on tourism is provided by the Department of Industry and Commerce. This section also includes the results of quarterly accommodation surveys conducted by the Australian Bureau of Statistics.
- The travel section consists mainly of statistics concerning overseas visitors to Australia and Australian residents departing overseas. There is also a short note about travel within Australia.

CULTURAL ACTIVITIES

Cultural organisations and financial assistance for the arts

In Australia the arts are given financial support on several levels. The main sources of subsidy are the Commonwealth and State governments, but support has been increasing recently from local governments and universities. Support from private sources is still limited, but inclusion of the arts in the benefits of private foundations and sponsoring of awards and scholarships is gradually increasing. While support is received indirectly through government educational, cultural and other public service instrumentalities, three organisations have played a significant role in serving and financing the arts: the Australia Council, the Arts Council of Australia, and the Australian Elizabethan Theatre Trust.

The Australia Council

Established in March 1975, the Australia Council is a statutory authority which advises the Commonwealth Government on the arts and undertakes programs to sustain and promote the arts.

Apart from the Council itself, which has between ten and fourteen members, there are seven specialist Boards: Aboriginal Arts, Community Arts, Crafts, Literature, Music, Theatre, and Visual Arts. The Boards each consist of between six and eight members, except for the Aboriginal Arts Board which has between eight and ten. The Boards are the main source of policy initiatives in their field. A more complete resumé of the activities of these Boards was published in Year Book No. 64. The *Australia Council Act 1975*, was amended in 1976 and again in 1980. As a result of the 1980 amendment, responsibility for the Public Lending Right Scheme was transferred to the Department of Home Affairs and Environment with effect from 1 October 1980.

COMMONWEALTH GOVERNMENT FUNDS ALLOCATIONS TO THE AUSTRALIA COUNCIL (\$ million)

<i>Year</i>	<i>1978-79</i>	<i>1979-80</i>	<i>1980-81</i>	<i>1981-82</i>
<i>Budget</i>	<i>25.54</i>	<i>26.30</i>	<i>28.10</i>	<i>29.30</i>

**ALLOCATION OF FUNDS FOR PROGRAMS, BOARDS AND ADMINISTRATION OF THE AUSTRALIA
COUNCIL, 1981-82**
(**\$'000**)

The Australian Ballet Foundation	1,602
The Australian Opera	3,337
The Australian Elizabethan Theatre Trust Orchestras	2,741
Council Programs	1,739
Aboriginal Arts Board	1,610
Community Arts Board	1,967
Crafts Board	1,178
Literature Board	1,571
Music Board	1,548
Theatre Board	6,314
Visual Arts Board	1,358
Administration	4,343
Total	29,308

The Arts Council of Australia

The Arts Council of Australia was founded in 1947. (It should not be confused with the Australia Council already mentioned in this chapter, which is a national government agency for assistance to the arts).

The Arts Council of Australia is an independent non-government, incorporated body. It has a unique structure of volunteer and professional networks throughout Australia. Each State and Territory has an Arts Council Division which is autonomous and a professional office in each capital city (except Tasmania—Devonport). There are 234 local branches primarily, but not exclusively, in country areas.

The major functions of the Arts Council are: to take the performing arts to school and adult audiences in country areas; to tour exhibitions; to run weekend and vacation workshops in all aspects of the arts; to stimulate and co-ordinate community arts activities.

During 1980, the Arts Council arranged 6,127 performances which reached a total audience of 820,000. Box office takings for 1980 amounted to \$1.4 million. The 40 Council exhibitions during 1980 attracted almost 400,000 visitors.

The Arts Council of Australia and its Divisions are funded by State Government arts authorities and the Community Arts Board of the Australia Council.

In April 1981, the Central Secretariat of the Council moved premises to The Rocks, Sydney.

Australian Elizabethan Theatre Trust

The Australian Elizabethan Theatre Trust, which was established in the mid 1950s, was originally formed to present drama, opera, ballet and puppetry throughout Australia. Full autonomy has now been accorded to most of the performing companies established by the Trust. The Trust's major functions now are to administer the Elizabethan Trust Orchestras; to act as entrepreneur in the touring of theatre features from overseas and Australian sources; and to provide general services in communication for theatre organisations.

The Trust receives annual grants from the Commonwealth Government through the Australia Council and from State and local governments. Its revenue is supplemented by subscriptions, donations and its own activities.

The National Estate

The Australian Heritage Commission

The Committee of Inquiry into the National Estate, which reported to the Commonwealth Parliament in August 1974, recommended the establishment of a permanent commission to be the Government's policy and advisory body on National Estate matters.

The Act to establish the Australian Heritage Commission was assented to in June 1975, and amended in 1976. The Commission consists of a part-time independent Chairman and six part-time Commissioners with various skills and interests in the natural and cultural environment. Research and secretariat services for the Commission are provided by a staff of professional and clerical officers permanently located in Canberra.

The Commission's responsibilities are to advise the Minister for Home Affairs and Environment on all matters related to the National Estate; to prepare and maintain a Register of National Estate places; to develop policies and programs for education, research, professional training and public interest and understanding in fields related to the national estate; and to administer any gifts and bequests made to the Commission.

To date approximately 6,700 places have been entered in the Register of the National Estate. They are places with National Estate significance, relating to the natural environment and to Aboriginal or European culture.

Australian National Trusts

The Australian National Trusts were founded to further the conservation of lands, buildings, works and articles which are of national importance because of educational, aesthetic, historic, architectural, artistic, scientific, cultural or other special interest.

The first National Trust, the National Trust of Australia (New South Wales), was formed in 1945. Since then, National Trusts have been formed in each of the other States, the Northern Territory and the Australian Capital Territory.

Membership of the National Trusts is open to all individuals and organisations. Total membership throughout Australia is approximately 65,000. The Trusts are financed by members' subscriptions and donations from individuals and commercial and industrial organisations; the proceeds of charges for entry to Trust properties; and the fund-raising activities of members, including inspections of historic buildings and towns, archaeological sites and places of natural beauty. Each State National Trust receives financial support from the Commonwealth Government in the form of an administrative grant-in-aid of \$30,000 each per annum, and each receives support from its State Government.

The Australian Council of National Trusts was incorporated in 1965 to co-ordinate the activities of the State National Trusts and represent them at federal and international level. The Commonwealth Government supports the Council through an annual grant of \$60,000 for administrative purposes and also provides support to the Council and State Trusts through taxation concessions.

Since 1973, the National Trusts have received Commonwealth grants under the National Estates program for capital projects, mainly for the restoration of buildings and conservation studies. They have also supervised projects of other organisations financed under the program.

The number of properties owned or controlled by the Trusts exceeds 200. These include houses, nature reserves, gardens, two paddle steamers and an iron barque, an historic hamlet, and buildings which were formally a telegraph station, a stock exchange, a powder magazine, a market, an inn, a police station, a court house, a gaol and a joss house.

The Trusts have established registers of 18,000 places including buildings, urban areas, landscapes and industrial sites which they consider should be conserved as part of the national estate.

Historic Memorials Committee

The Historic Memorials Committee was established in 1911 for the purpose of securing portraits of distinguished Australians who had taken an active part in Federation. Later the Committee decided to obtain portraits or other representations of all Governors-General, Prime Ministers, Presidents of the Senate, Speakers of the House of Representatives, Chief Justices of the High Court of Australia and other distinguished Australians. In addition, the Committee has commissioned paintings or other representations recording special events connected with the Commonwealth Parliament and, more recently, the High Court of Australia.

The Committee comprises the Prime Minister (Chairman), the President of the Senate, the Speaker of the House of Representatives, the Vice President of the Executive Council, the Leader of the Opposition in the House of Representatives, and the Leader of the Opposition in the Senate. The Committee is advised on commissioning of portraits by the Visual Arts Board of the Australia Council. The Secretary to the Committee is provided by the Department of Home Affairs and Environment, Canberra.

The performing arts

Festivals

The number of festivals devoted solely or partly to the arts now total about 400 a year. The two biggest are Adelaide's biennial and Perth's annual festivals, both of which last several weeks and present overseas artists as well as leading Australian companies. Victoria's large popular festival, 'Moomba', has a substantial arts program.

Many country centres now have arts festivals which attract performers and artists from a wide area. Purely amateur and competitive performances are being infused with increased professionalism. Seminars, arts workshops and community participation programs are increasingly popular.

Theatre

Commercial theatre organisations and entrepreneurs present musicals and plays and arrange visits by overseas companies.

Opera

The Australian Opera was created in 1956 and, until late 1969 when it formed its own Board of Directors, was known as the Elizabethan Trust Opera Company. In September 1973, The Australian Opera opened its first season in the then new Sydney Opera House. It employs a chorus of 50 singers and 36 principals on a permanent basis.

The 1980 outlay for The Australian Opera was \$9,517,000. This does not include the cost of the orchestras. Of this total, \$4,514,300 came from State and Commonwealth subsidies or from donations from individuals or industry. The Commonwealth grant was \$2,800,000. The remainder was met from box office receipts and other earned income.

Attendance levels in Sydney are usually at very high levels (92% of capacity in the 1980 Sydney Summer Season, excluding seats of a very restricted view).

Co-operation with Queensland and Victorian authorities is geared towards the new arts centres in Brisbane and Melbourne, which are presently under construction.

Ballet

The Australian Ballet Foundation was formed in 1961 by the Australian Elizabethan Theatre Trust and J. C. Williamson Theatres Ltd to establish a national ballet company, which gave its first performance on 2 November 1962. On 16 October 1970, the Australian Ballet Foundation was registered as a company limited by guarantee and a licence is held under section 24 of the *Victorian Companies Act* 1961 (as amended) to dispense with the use of the word "Limited".

The Australian Ballet receives subsidies from the Commonwealth Government (through the Australia Council) and the six State Governments. It also receives support from private corporations and individuals. The Australian Ballet has its headquarters and studios in Melbourne. In fulfilment of its national commitments, the company gives more than 200 performances throughout the Commonwealth each year. It has undertaken twelve extensive international tours, the most recent being that to Mexico in May 1981.

The 1980 operating and other expenses of the Australian Ballet were \$6,197,000; of this amount \$1,344,000 was met by Commonwealth Government subsidy, \$295,000 by grants from State governments, \$55,000 from the Department of Foreign Affairs and \$105,000 from the Australia-China Council. This figure does not include the services of the Elizabethan Trust Orchestras which perform with the Ballet.

Music

The Music Board of the Australia Council is responsible for administering Commonwealth Government assistance to music and opera. Assistance is provided for a wide range of music activities, one of the most important being the development of Australian music and interest in the work of Australian composers.

Australia has eight fully professional orchestras. Six symphony orchestras have been established—one in each State capital. They are managed by the Australian Broadcasting Commission (ABC). Two Elizabethan Theatre Trust orchestras are predominantly engaged in work with the Australian Opera and Ballet. The ABC's Sydney and Melbourne Symphony Orchestras have toured the USA, Asia, Europe and Canada with acclaim.

The ABC also controls a national training orchestra and organises about 750 concerts—both symphony and recital—each year. For further details of the Australian Broadcasting Commission see Year Book No. 61, pages 416–18 and 1013.

Musica Viva Australia, a non-profit society receiving financial support from the Music Board of the Australia Council and several State Governments, seeks to increase the performance, knowledge and appreciation of chamber music through subscription concerts, festivals, workshops and education activities. Musica Viva presents concerts by distinguished overseas ensembles and by groups of leading Australian musicians and organises overseas commercial tours for Australia's leading ensembles. The Society manages approximately 800 concerts within Australia and overseas each year.

Film

Australian Film Commission

The Australian Film Commission, established by the *Australian Film Commission Act* 1975, assists Australian film and television producers with funds and services for the production, distribution and exhibition of Australian films and television programs within Australia and abroad. It also provides assistance to film organisations, film-makers co-operatives, media centres and film publications.

The Commission assists in the marketing of Australian films through overseas representatives in London and Los Angeles. Non-theatrical distribution in Australia is arranged with State film distribution agencies and through the National Library of Australia.

Film Australia, a branch of the Commission produces between sixty and seventy films annually with translations into as many as twenty-six languages. These films are made for Government Departments or are made in the national interest.

Australian Film and Television School

The Australian Film and Television School was established as an independent statutory authority by Act of Parliament in 1973 and is governed by a fifteen member Council. It is responsible for advanced film, television, radio and audio-visual communications training throughout Australia.

The School has three principal training branches:

Full-time program—a three year full-time course providing practical and professional training for creative positions in the film and television industry. Graduates are awarded a Diploma of Arts, Film and Television.

—a full-time workshop course in screenwriting of up to one year for writers of proven ability.

Open program—provides, on an Australia-wide basis, training courses of shorter duration including workshops, seminars, lectures and refresher courses for people involved in various film and television crafts, to teachers and educational institutions, for people requiring education and practical training in communication fields and to those in other areas who use or intend to use audio-visual media in their professional work as tools for education, information, documentation or research;

—operates an advisory service, through the Writers Centre, for scriptwriters at all levels of experience and throughout Australia

—produces and distributes training films, video and audio tapes and publications

National Graduate Diploma in Media—a one year (or part-time equivalent) Graduate Diploma in Media. This is intended to equip teachers with the knowledge and skills needed to design and implement media curricula and to increase expertise in the use of audio-visual teaching resources. The Scheme presently operates in Queensland, New South Wales, Victoria, South Australia and Western Australia;

In addition, the School undertakes, co-ordinates and disseminates research on the communications media and assesses training needs and employment opportunities in the industry, and maintains an extensive collection of film, television, radio and other audio visual reference materials.

Film Censorship

The Commonwealth Government's film censorship powers under the Customs Act extend only to imported films and imported advertising matter. Under that Act the Customs (Cinematograph Films) Regulations provide for the appointment of a nine-member Film Censorship Board whose function is to register films and approve advertising matter unless they fall into certain defined categories. Importers may appeal against decisions of the Film Censorship Board to the Films Board of Review. A report on the activities of the Film Censorship Board was published for the first time during 1980.

The Attorney-General's Department is responsible for film censorship and all States have agreed that the Commonwealth Boards should be the censorship authorities for the purpose of the State Acts.

Thirty-five mm feature films: In 1980, 827 feature films (including 19 Australian films) totalling 1,358 hours running time were examined. Nineteen feature films were rejected and 37 were cut. There were 7 appeals, of which 3 were upheld, and 4 dismissed. Of the 827 features, 79 were classified For General Exhibition ('G'), 180 Not Recommended for Children ('NRC'), 223 For Mature Audiences ('M') and 162 For Restricted Exhibition ('R'). One hundred and sixty-four were registered subject to special conditions.

The principal suppliers were United States of America (223 films), Hong Kong (176 films), United Kingdom (60 films), France (45 films) and Italy (42 films).

While the 'M', 'N.R.C.' and 'G' classifications are advisory, persons between the ages of 2 and 18 (6 and 18 in Victoria) are excluded by law from seeing 'R' rating films.

Sixteen mm feature films: Excluding those imported for television use, 200 feature films (including 16 Australian films) totalling 317 hours were examined.

Television films: In 1980, 8,521 items for use on television were examined. These consisted of 3,930 sixteen mm films (totalling 2,806 hours) and 4,591 videotapes (totalling 3,290 hours). The principal suppliers were the United States (5,093 items) and the United Kingdom (2,404 items). Of the total imports, 155 items were cut and 40 were classified as unsuitable for television.

Videotapes: During 1980, there was a significant increase in the number of non-television videotapes examined. Those examined comprised 47 theatrical feature titles (70 hours) and 781 non-theatrical titles (714 hours).

Eight mm films: 376 films totalling 152 hours were examined during 1980.

Advertising matter: 5,878 items intended for use in the promotion of theatrical motion pictures were examined.

Art

The Visual Arts Board

The Visual Arts Board of the Australia Council is responsible for the promotion of excellence in the visual and plastic arts throughout Australia.

In co-operation with the Department of Foreign Affairs, the Board arranges exhibitions of Australian art to tour overseas, and also arranges Australian participation in international art competitions. Exhibitions of important international art tour Australia under the auspices of the Visual Arts Board, sometimes in association with the Australian Gallery Directors' Council.

The Australian National Gallery

The foundation stone for the Australian National Gallery, on the shores of Lake Burley Griffin in Canberra, was laid by the Prime Minister on 7 November 1973. The Gallery building is 23,000 square metres in area. This includes fourteen exhibition galleries taking up 30 per cent of the floor space. The remainder will accommodate a theatre and theatrette, an education section, a library, a conservation laboratory, administrative and workshop areas and stores.

The Australian National Gallery will contain the National Collection of Australian Art and representative collections of the arts of other cultures and times.

The National Collection of Australian Art will be the focus around which other collections will be assembled.

These collections will include:

- International art before 1850
- International art from 1850
- International prints and illustrated books
- Photography
- Theatre arts
- Fashion and textiles
- African, Oceanic and Pre-Columbian Art
- Arts of Asia and South-East Asia

During 1980-81, progress towards opening the Gallery to the public in 1982-83, continued in line with the four year programme introduced in 1979. This progress was assisted by increased Government funding, to \$11,065,000 in 1980-81, and increased staff ceilings. The 1980-81 ceiling of 115, has enabled the Gallery to appoint several important curatorial staff, and to form two new departments: Education and Exhibitions.

Acquisition programmes were again keyed to the Gallery's proposed opening exhibitions.

Two exhibitions were mounted under the Gallery's ANG at ANU programme during 1980-81. These were; Photography: The Last Ten Years, and Landscape—Art: Two Way Reaction.

Other galleries

Other important art collections are housed in the Australian War Memorial and in public galleries in all State capitals and many of the larger country centres. As well as these galleries there are many municipal and private trust institutions, and university and private collections.

Museums

In each State there is at least one major State-run museum. There are also many smaller museums owned by municipal councils, district and historical societies, private trusts and private individuals. The two major national museums in the Australian Capital Territory are the Australian War Memorial and the Australian Institute of Anatomy.

The Australian War Memorial commemorates Australian Servicemen and women who died as a result of wars or warlike operations, from the Sudan (1885) to Vietnam. The commemorative area includes the magnificent glass-mosaic Hall of Memory, Cloisters containing the bronze panels of the Roll of Honour bearing 102,000 names, and the Courtyard in which there is the Pool of Reflection and

a water cascade symbolising eternal life. The names of the 30 main theatres of war in which Australian forces served are inscribed around the Courtyard. The national Anzac Day and Remembrance Day services attended by the Governor-General are held at the Stone of Remembrance in front of the building. Other wreath-laying ceremonies are also conducted at the Commemoration Stone in the Courtyard.

As well as the nation's Memorial, it is also a significant museum and art gallery, containing some 40,000 war relics ranging from aircraft to commemorative badges, and 12,000 works of art by leading Australian artists, including Nolan, Dobell, Streeton and Lambert. The Memorial's 28 Victoria Crosses are the largest such single collection in the world. The spacious galleries also display mosaics and antiquities dating from around the fifth century, sculptures, dioramas, photographs and documents. In addition, the Memorial contains an extensive library (detailed on page 685), and operates an Education Service providing study units for visiting student groups and information for teachers and students.

The Memorial is a major tourist attraction, receiving about three-quarters of a million visitors each year, including foreign Heads of State, political and Service leaders. Free screenings of historic wartime films are given every weekend and during school holidays and Voluntary Guides are available to provide free conducted tours on weekdays, including special tours for the blind and visually-impaired.

The *Australian War Memorial Act* 1980 extended the Memorial's educative role, and upgraded the administration. The Memorial is administered by a Director and Council of up to 13 members and is now responsible directly to the Minister for Home Affairs and Environment.

The Memorial building, opened in 1941 and extended in 1971, is being further extended and the galleries upgraded. A separate conservation and storage annex was opened in 1979. The War Memorial and its surrounds were entered in the Register of the National Estate in October 1981.

Literature

National Literature Board of Review

The National Literature Board of Review was established in 1968, following Commonwealth-State agreement, to achieve uniformity in the administration of laws relating to blasphemous, indecent or obscene publications of *prima facie* literary, artistic or scientific merit. In terms of the agreement, the Board is established under the Customs (National Literature Board of Review) Regulations. Appropriate Ministers of any State may, under the Agreement, refer locally published or distributed works to the Board for advice.

Book publishing

Statistics of book publishing are compiled and published by the National Library. The following table shows the number of books and pamphlets (including leaflets) published in Australia since 1972 and received by the National Library to December 1979, classified by State or Territory of publication and by class of publisher.

AUSTRALIAN BOOKS AND PAMPHLETS PUBLISHED BY YEAR OF PUBLICATION

(Source: *Australian National Bibliography, National Library of Australia*)

	Number of titles (a)					
	1975	1976	1977	1978	1979	1980
State or Territory—						
New South Wales	1,888	2,025	2,271	2,624	2,906	1,469
Victoria	1,495	1,725	1,916	2,304	2,395	1,151
Queensland	371	408	465	467	408	262
South Australia	637	696	1,051	1,042	730	317
Western Australia	353	416	505	407	383	119
Tasmania	100	135	179	240	135	42
Northern Territory	99	49	50	57	75	6
Australian Capital Territory	1,277	1,055	1,347	1,385	1,456	567
<i>Total</i>	6,220	6,509	7,784	8,526	8,488	3,933
Publisher—						
Commercial	2,220	2,375	2,710	3,287	3,617	2,276
Commonwealth Government	1,217	926	1,301	1,304	1,381	534
State Government	966	1,161	1,610	159	1,281	411
Local Government	26	31	30	42	58	11
Society, institution, company, private	1,791	2,016	2,133	2,299	2,151	701
<i>Total</i>	6,220	6,509	7,784	8,526	8,488	3,933

(a) Received by the National Library to December 1979.

Libraries

Australian Government libraries

National Library of Australia, Canberra. The National Library was formally established under the *National Library Act* 1960, which came into effect in March 1961. It was previously part of the Commonwealth Parliamentary Library. The National Library maintains and develops a national collection of library material which is representative of all the major countries of the world. It is also responsible for assembling a comprehensive collection of library material relating to Australia and the Australian people. In fulfilling the latter statutory function, the Library seeks to preserve books, periodicals, newspapers, government publications, pictures, prints, manuscripts, maps, moving picture films, music scores, sound recordings and other material. Under the deposit requirements of the *Copyright Act* 1968, a copy of all library material published in Australia is delivered to the National Library. The Library has also been enriched by the acquisition of such notable collections as the Petherick collection of 16,500 items in 1911, the Cook manuscripts in 1923, the Mathews ornithological collection in 1940, the Rex Nan Kivell collection of 16,000 items of Australian and Pacific interest including original paintings, prints, manuscripts and printed material in 1959, and the Ferguson collection of Australiana in 1970. The Library maintains a permanent exhibition of paintings, prints and other historical material selected from its various collections.

The National Library's collection of Australian and overseas material contains more than 3 million volumes, including microfilms; 33,800 paintings drawings and prints; 324,000 photographs; 4,560 shelf metres of manuscripts; 272,000 maps; 500,000 aerial photographs; 55,000 music scores, 400,000 sound recordings and tapes; and 8,000 oral history tapes. These materials may be used in the Library's reading rooms and in some cases are also available through the national inter-library loan system, in which the Library is a major participant. The Library is functionally oriented, with three main Divisions—Reference, Technical Services, and Co-ordination and Management, together with a Secretariat. Information about the activities of the Library's Divisions, including its publication program, may be found in the Library's Annual Reports.

The provision of central cataloguing services by the National Library achieves cataloguing economies on a national scale. In August 1981 the Commonwealth Government approved the development by the Library of the Australian Bibliographic Network, a national on-line shared cataloguing system. Bibliographic records for Australia and overseas books are available from the Library, both as catalogue cards and in machine-readable form. Under its Cataloguing-in-Publication program, the Library supplied cataloguing data to, Australian publishers in advance of publication so that it may be printed in their books.

Co-operative bibliographical activity includes recording, in a series of union catalogues, the holdings of the major Australian libraries. Among these are the national union catalogue of monographs (published on microfilm), *Serials in Australian Libraries, Social Sciences and Humanities*, (which complements another catalogue, *Scientific Serials in Australian Libraries*, published by the Commonwealth Scientific and Industrial Research Organization), catalogues of manuscripts, newspapers, music and oriental language material and special library material for the handicapped. These are described in the *Guide to the National Union Catalogue of Australia*.

Other aspects of the National Library's role in the user community and as a research centre include its involvement in a project to microfilm records relating to Australia and held in Great Britain and elsewhere, its rapidly developing archives of films, sound recordings and oral history, its provision of the Australian MEDLINE Network and the use of overseas data bases in its reference services, and its special section on library services to the handicapped.

A particularly important contribution to the National Library's role in the library community is its support of the Australian Advisory Council on Bibliographical Services; it provides the national secretariat and meets the administrative costs of the Council's standing committee. In September 1981 the Commonwealth Government announced the establishment of an Australian Libraries and Information Council, which will advise Commonwealth and State Ministers on the co-operative development of library and related information services.

Patent Office Library. The library of the Australian Patent, Trademarks and Designs Office in Canberra contains approximately 10,000 books and a wide variety of periodicals and other literature relating to science, technology, industrial property (patents, trademarks and designs), law and practice. Patent specifications of inventions are received from the principal countries of the world. Present holdings are over 15,000,000. An international index to these specifications is available on microfiche. The Australian Patent Information Service works in co-operation with the Library. Its major function is to make Australian industry aware of the wealth of technological information held in the world collection of patent literature and assist them in accessing this information. Australian specifications and related material are also available at Sub-Offices in Brisbane, Sydney, Melbourne, Adelaide and Perth and the State Library in Hobart.

Commonwealth Scientific and Industrial Research Organization (CSIRO). The Central Library was brought into the newly formed CSIRO Central Information, Library and Editorial Section at the end of 1973. Its holdings cover the pure and applied sciences. In addition to the Central Library located in East Melbourne, each of the Divisions has specialised collections. The Library maintains a union catalogue of the holdings of all CSIRO libraries, and maintains the constantly-updated *Scientific Serials in Australian Libraries*. The Central Information Service publishes the *CSIRO Index* and *Australian Science Index*, and directories such as *Scientific and Technical Research Centres in Australia*. It also provides a question-and-answer service; operates the CSIRO Selective Dissemination of Information (SDI) System; and provides specialist numerical information services, for example, covering chemical data.

The Australian War Memorial Library, Canberra. In the War Memorial library are preserved the documentary and pictorial records of Australia's participation in armed conflicts. Printed material includes over 80,000 volumes (books and bound periodicals); thousands of unbound periodicals; leaflets; souvenir and microfilm items; a large collection of military maps; newscuttings and newspapers; sound recordings; war posters; postage stamps; and currency. Official records and personal papers occupy almost 2,000 metres of shelving. Official war photographs covering the 1914–18, 1939–45, Korean and Vietnam wars number over 670,000, and there are about 1.5 million metres of cinefilm. Facilities exist for reference and research.

The Commonwealth Parliamentary Library. The Library is 'an intellectual resource centre' providing information and research services to the Commonwealth Parliament through the Legislative Research Service and the Library and Legislative Information Service. The Research Service comprises groups staffed by subject specialists who prepare analyses and interpretations of specific issues with which the Parliament is or may be concerned. The Library and Legislative Information Service answers questions and provides information from printed sources. The library collection is concentrated on topical material, supported by a wide collection of standard references; it totals some 60,000 titles, including 9,000 serial titles. The library publishes the Commonwealth Parliamentary Handbook, which is a standard reference work, occasional annotated reading lists, background papers, digests of bills and, in alternate fortnights, Index to Current Information and select Lists of Acquisitions.

Other Commonwealth Government libraries. Most Commonwealth Government authorities have specialised collections in their own fields and, in addition, draw largely on the National Library.

Library services in the Territories. The Northern Territory Library Service operates three public libraries in Darwin, and one each in Alice Springs, Katherine, Tennant Creek and Nhulunbuy. Since November 1980, the Service also operates the State Reference Library of the Northern Territory. At 20 September 1981, book stocks totalled 204,477 volumes, and 1728 films were available in the film library. A country borrower programme is operated to service isolated areas.

The National Library conducts the Canberra Public Library Service to residents of the Australian Capital Territory. At 30 June 1980, 515,000 volumes were held.

State libraries

Most municipal councils in the States have libraries funded largely by State governments. A detailed description of State libraries is given in Year Book No. 59, pages 685–690 and in each State Year Book.

Children's libraries and school libraries

Children's libraries exist in all States, usually as branches or extensions of State or municipal libraries. Further details of children's libraries and school libraries are given in Year Book No. 59, pages 689 and 690.

University and college libraries

Since 1957, when the Commonwealth Government inaugurated a comprehensive program of university expansion, there has been notable development of university libraries, and similar development is now taking place in Colleges of Advanced Education. Some current information on university libraries is given in the ABS annual publication *University Statistics* (4208.0).

Archives

Australian Archives

The War Archives Committee, established in 1943 by the Prime Minister to arrange for preservation of war archives, in 1946 became the Commonwealth Archives Committee with responsibility for Commonwealth archives generally. In 1944, the Australian War Memorial and the Commonwealth

National Library were designated as archival authorities for the Service departments and for other departments respectively. In 1952, the National Library became the sole archival authority for the Commonwealth, and in 1961 the Archives Division of the National Library was reconstituted as the Commonwealth Archives Office, a part of the then Prime Minister's Department. In March 1974, the Commonwealth Archives Office was re-named the Australian Archives.

The Australian Archives functions as a central agency for the administration of Commonwealth Government records which are no longer required in the day-to-day business of government. Its headquarters are in Canberra, and it has regional offices in all State capitals and in Darwin and Townsville. In relation to the Government's records management programme, its responsibilities are:

- (i) to ensure the preservation of Commonwealth records of permanent value;
- (ii) to promote efficient and economic management of current Commonwealth records, including authorisation of destruction;
- (iii) to facilitate use of Commonwealth records by members of the public; and
- (iv) to administer official policy on access to Commonwealth records, most of which are available for consultation when they are thirty years old.

At 30 June 1981, its holdings throughout Australia totalled 330,665 shelf metres of records, including 126,423 metres of permanent value material. During 1980-81, 1,516 official reference inquiries were received and 196,803 items were issued to Government departments. Some 2,651 public reference inquiries were also received, and 42,891 items were issued in the Public Search Rooms for consultation.

The Australian Archives maintains liaison with similar organisations overseas, and is a national member of the International Council on Archives, established under the auspices of the United Nations Educational, Scientific and Cultural Organisation (UNESCO).

State government archives

State government archives, dating from the beginning of European settlement in 1788, are held, in the case of New South Wales, Tasmania and Victoria, by archives offices established in 1961, 1965 and 1973 respectively; in other States they are held by the archives sections of State libraries.

Business and Labour Archives

The main collecting centres for business and labour records are the Archives of the Australian National University, the University of Melbourne, and the University of New England. Although the Australian National University and University of Melbourne archives in particular have strong collections covering a wide range of business activity, each is notable for its collections in particular fields; the Australian National University for its holdings of records of pastoral companies; the University of Melbourne for its holdings of mining companies' records. Both hold large collections of records of trade unions. The University of New England archives concentrates on records of rural industries. The Universities of Wollongong and Newcastle Archives also collect business and labour records, mainly in respect of their regions.

The Australian National University Archives of Business and Labour was established as the Australian National University Archives in 1954, when records of the Australian Agricultural Company were acquired. Its collecting activities were expanded in 1959 to include records of employer and employee organisations. Its aim is to gather primary source material to support advanced research in economic history, history and political science. The Archives contain records of 120 businesses, and over 100 employer and employee organisations (some of which are maintained on microfilm), including pamphlet collections of interest to research workers in political history.

In April 1981, the Archives moved into a large new repository and office on the University campus.

Other Australian archives

The Mitchell Library has been acquiring manuscript material since the early years of this century. More recently, the National Library, State libraries, some archives offices, a few public libraries and historical societies, the Australian Academy of Science, and the Australian War Memorial (which is also responsible for the custody and preservation of operational records of the armed services) have assembled important collections of private papers. Ecclesiastical archives have been set up by some of the churches and some firms have established their own archives services. State and local historical societies help to preserve regional, local and private historical material.

Botanical and zoological gardens

In addition to the State botanical and zoological gardens there are numerous privately-owned zoos and sanctuaries, many of them at tourist resorts, which maintain collections of Australian flora and fauna. There are also various national parks, forests, reserves, etc. dedicated for public use which are preserved largely in their natural condition. Detailed information is given in each State year book.

The following is a summary of botanical gardens and reserves in the Northern Territory, Australian Capital Territory and the Commonwealth Territory of Jervis Bay.

Northern Territory: The Darwin Botanical Gardens occupy 30 hectares and feature 12 hectares of tropical plants of both native and overseas origin. Two hectares are used for an amphitheatre and contain a number of native and exotic plants. The Gardens are controlled by the Corporation of the City of Darwin. A \$600,000 redevelopment program has recently commenced, which will include a rain forest, a typical top-end lagoon and a coastal salt-water development.

Australian Capital Territory: The National Botanic Gardens occupies a 44 hectare site on the lower slopes of Black Mountain in Canberra. It was officially opened in 1970 and comprises the largest living collection of Australian native plants with over 5,000 species in cultivation. The associated herbarium houses over 100,000 specimens. An annexe of approximately 78 hectares was established at Jervis Bay in 1951 to cultivate frost tender plants under more favourable conditions than those prevailing in Canberra, and to establish a collection of native plants representative of the flora of the Jervis Bay region. Education and horticultural research into native plants are important aspects of the Gardens activities.

During 1980-81, a decision for a 40 hectare extension to the Gardens was announced. This extension, which will enable a larger number of native species to be cultivated, will be undertaken progressively over the next ten years. As a Commonwealth Government initiative for the International Year of the Disabled, a special activity garden was commenced during the year.

The Tidbinbilla Nature Reserve (5,515 ha) is located 43 km south-west of Canberra. The Reserve includes much of the Tidbinbilla Valley which ranges from 762 metres above sea level to 1,325 metres at Tidbinbilla Peak, the highest peak of the Tidbinbilla Range which forms the western boundary of the Reserve. As a consequence of the valley topography many habitats are represented and plant and animal wildlife is diverse. A system of wildlife enclosures and waterfowl ponds, 56 kilometres of nature trails and a comprehensive information service is provided for approximately 180,000 visitors per annum.

The Gudgenby Nature Reserve (51,000 ha) occupies about 20% of the A.C.T. and contains an extensive tract of the wild highlands of south-eastern Australia. It covers the catchments of the Naas and Gudgenby Rivers and shares a common boundary with the Cotter River catchment (47,000 ha) in the A.C.T., and the magnificent Kosciusko National Park (520,000 ha) in neighbouring N.S.W.

The topography and landscapes of the Reserve, and consequently plant and animal communities, are extremely varied. Habitat ranges from grassland of the valley floors through woodland and mountain forest to sphagnum bogs, heath swamps and alpine woodland. Several high peaks rise to between 1,700 metres and 1,800 metres above sea level. Other features of importance include a series of Aboriginal rock paintings, the only ones known in the A.C.T.

The Jervis Bay Nature Reserve occupies two thirds (4,470 ha) of the Commonwealth Territory of Jervis Bay which lies on the south-east coast of Australia. The Reserve is characterised by a substantially natural landscape and outstanding coastal scenery. High cliffs, ocean and bay beaches, sand dunes, woodland, forest and heath. A small island and part of the unspoilt marine environment of Jervis Bay and its foreshores are managed in sympathy with the Nature Reserve. Camping facilities are provided and are designed to complement the natural values of the area which attracts in the order of 400,000 visitors annually.

The Black Mountain Reserve (521 ha) adjacent to Lake Burley Griffin, is a significant focal point in the Canberra landscape and an essential component of the 'mountain and lake' concept of the Canberra scene. Black Mountain Reserve is unique in its setting within the inner boundary of a National Capital. In addition to broad scale scenic attributes, the Reserve has a varied complex of flora and fauna and is used extensively for recreation and nature study.

Management aims for all nature reserves in the A.C.T. and Territory of Jervis Bay are to:

- maintain natural ecosystems and landscapes and protect sites of prehistoric and historic significance;
- provide opportunities for recreational, scientific and educational use of these resources consistent with their protection.

RECREATION

The Department of Home Affairs and Environment in December 1978 assumed responsibility for recreation, fitness and sports development.

All State governments have also established agencies with special responsibilities for recreation and sport. Increasing numbers of local government authorities are now employing recreation workers who are responsible for planning the use of recreation facilities, and for devising recreation programs.

Sports development and assistance

The Sports Development Program administered by the Department of Home Affairs and Environment, is the Commonwealth Government's major contribution to national sporting activities and national sporting bodies. In 1979–80, the Government provided \$2.0 million under this program, an increase of \$0.7 million over that provided in 1978–79. This assistance was provided mainly to national sporting bodies to:

- improve the performance standards of Australian athletes;
- increase competition opportunities at home and abroad;
- support the administration of national voluntary sporting associations;
- upgrade the standard of Australian coaching and support sports development projects and research.

Advice on the allocation of grants and other sports matters generally is provided by the Sports Advisory Council which also determines the guidelines for the Sports Development Program.

National Coaching Accreditation Scheme

The Australian Coaching Council (ACC), which is a national body representing sport through the Confederation of Australian Sport, the Australian Olympic Federation, and Commonwealth and State Governments, was established in July 1979 to co-ordinate the establishment of the Scheme which aims to increase the standard of coaching expertise in Australia and the performance levels of Australian athletes.

In 1980–81 the Commonwealth Government provided \$50,000 from the Sports Development Program to assist with the development of the Scheme.

The Australian Coaching Council is serviced by the Department of Home Affairs and Environment, while the Council's Technical Committee is serviced by the Confederation of Australian Sports Coaches Assembly. The Council meets four times a year and the Committee, which examines applications for accreditation of national coaching schemes, meets as the work-load requires. Thirty-nine national sporting organisations have received ACC approval for their national coaching schemes, and a further 6 applications are under consideration by the Council.

Australian Institute of Sport

The Australian Institute of Sport has been established to give Australians the opportunity to pursue their sporting interests, without necessarily sacrificing their education and careers. The aims of the Institute are to:

- provide specialist coaching/training for elite athletes while offering them complementary education and career training opportunities;
- support these athletes with world class facilities, and sports science and medicine back-up.

The Institute is located in Canberra, and has access to a wide range of facilities including the National Athletics Stadium and the National Indoor Sports Centre. Top level coaches supervise the Institute's programs, and facilities are available for research and technical work required in modern sports development.

Persons granted admission to the Institute are encouraged to undertake some course of study by enrolling at schools or colleges, or by admission to general courses at tertiary level. A number of people training at the Institute are also undertaking a bachelor degree course in Sport Studies, which has been introduced at the Canberra College of Advanced Education.

The Institute, which registered its first students early in 1981, offers training in eight sports—basketball, gymnastics, netball, soccer, swimming, tennis, track and field athletics and weightlifting.

International Standard Sports Facilities

In September 1980, the Prime Minister announced that over the next three years the Commonwealth Government would provide \$25 million, on a dollar for dollar basis with States and Territories, for the development of international standard sporting facilities. The aim of this program is to encourage the States and Territories to construct a range of sporting facilities to give Australian athletes the opportunity to train and compete on a similar basis to their overseas counterparts and enable Australia to be more successful in attracting international competition.

Funds available under this program are for capital expenditure for those facilities which have been accorded the highest priority in the various States and Territories. To September 1981 the Government had agreed to provide funds to New South Wales for the development of an indoor sports centre and associated athletics and hockey facilities; to Victoria for the development of facilities for hockey, equestrianism and soccer; to Queensland for the upgrading of a rifle range; and to South Australia for the construction of an indoor aquatics centre. Other projects are currently being considered.

1982 Commonwealth Games

The XII Commonwealth Games will be held in Brisbane from 30 September to 9 October 1982 and will be the most significant sporting event held in Australia for twenty years. Participants from 55 Commonwealth countries are expected to compete in the sports of archery, athletics, badminton, bowls, boxing, cycling, shooting, swimming, weightlifting and wrestling.

Responsibility for the Australian team's preparation for the Games rests with the Australian Commonwealth Games Association, while the organisation and conduct of the event has been entrusted to the XII Commonwealth Games Australia (1982) Foundation Ltd.

The costs of staging the Games are being met by the three tiers of government, i.e. Local, State and Commonwealth and from corporate funding obtained through the Games Foundation's marketing program. The Commonwealth's contribution to the Games to September 1981 was \$32.4m, provided towards facility development, host Broadcaster services, essential Games operations and team preparation.

Youth affairs

The Office of Youth Affairs is a Branch of the Department of Employment and Youth Affairs and advises the Minister on youth policy.

The primary functions of the Office are: to seek greater co-ordination and consultation between Commonwealth Departments on programs and proposals affecting youth; to seek greater co-ordination and consultation with State Governments, local government and non-government agencies in relation to Commonwealth programs affecting youth. Other functions of the Office are: to develop further the research and information capacity to increase the effectiveness of similar activities in other Commonwealth Departments; to advise on youth needs and aspirations and assist those designing specific and general programs and services for youth; to develop further channels for better communication between youth and government.

The Office pursues its functions through information services, liaison and consultation, and research and co-ordination.

It has issued a number of publications and has several in preparation. It has also issued two series of videotapes on unemployment and school/work transition and publishes a regular Newsletter. In 1981 the Office commissioned a report on the education and training of youth workers in Australia.

The Office works closely with both the voluntary and government sectors with the aim of enabling young people to communicate more easily with the government. It acts as secretariat to the National Youth Advisory Group and convenes regular meetings with State government youth agencies and peak organisations of national voluntary youth organisations.

The Office administers the Program of Assistance to Youth Organisations which provides grants to national youth organisations to enable them to extend their services to more young people, and to broaden the direct involvement of young people in management and organisational decision making. A total of \$500,000 was allocated to the Program during 1980-81, from which grants were made to 32 national youth organisations. The Office also administers the International Youth Exchange Program. This program, which was introduced in September 1980 consists of:

- a Government to Government sponsored program of international youth exchanges in the Asian/Pacific region.
- assistance to Australian-based voluntary agencies in promoting and negotiating exchanges.

Tourism

The Department of Industry and Commerce is involved in a range of policy, administrative and consultative activities designed to encourage the efficient development of tourism in Australia in co-operation with the industry and with Commonwealth and State government departments. Major functions of the department include: formulation of policy proposals, transmission of advice to the Minister on industry problems, administration of the *Australian Tourist Commission Act*, conduct of research into the tourist and travel industries, provision of secretarial support to the Tourist Minister's Council, the Australian Standing Committee on Tourism and the Travel and Tourist Industry Advisory Council and liaison with international tourism organisations. In April 1981, the Department organised the first National Tourism Outlook Conference. It is probable another National Conference will be held in 1984.

Australia has been a full member of the World Tourism Organisation (WTO) since September 1979. The WTO is an executive arm of the United Nations Economic and Social Council, whose activities cover all sectors of tourism on a world wide basis. Australia is also vice-chairman of the Organisation's Regional Commission for East Asia and the Pacific.

Australian Tourist Commission

The Australian Tourist Commission was established in 1967. It is a statutory body whose purpose is to encourage travel to and within Australia. It has ten commissioners including representatives of the Commonwealth, State and Territory governments and the tourist industry. Its 1981-82 budget is \$9.2 million.

The Commission engages in a wide variety of marketing activities including consumer and trade advertising, industry seminars and familiarisation visits for travel agents, journalists and photographers. The Commission has its head office in Melbourne and branch offices in Sydney, Auckland, London, Frankfurt, New York, Los Angeles and Tokyo and will shortly be establishing a presence in South-East Asia by the opening of an office in Singapore.

Tourist Accommodation

Census of Retail Establishments and Selected Service Establishments. Data relating to accommodation establishments have been collected as part of the 1979-80 census. For detailed statistics see *Census of Retail Establishments and Selected Service Establishments, Summary of Operations (Preliminary) by Industry Groups, Australia, 1979-80* (8613.0) for preliminary results. (See also Chapter 17, Manufacturing and Internal Trade).

Surveys of Tourist Accommodation Establishments. Quarterly accommodation surveys were commenced in the September Quarter 1975 and data published from these surveys include room occupancy, bed occupancy and takings from accommodation.

The main purpose of the surveys of tourist accommodation establishments is to measure the utilisation of available tourist accommodation. For detailed statistics from the survey see *Tourist Accommodation, Australia* (8635.0).

TOURIST ACCOMMODATION (a)

		March quarter 1980	June quarter 1980	September quarter 1980	December quarter 1980	March quarter 1981	June quarter 1981
LICENSED HOTELS WITH FACILITIES(b)							
Establishments	Number	936	923	926	932	959	952
Guest rooms	"	25,400	25,066	25,273	25,839	25,900	25,884
Bed spaces	"	59,179	58,243	59,038	59,428	60,455	60,515
Room occupancy rates	%	56.0	54.4	57.9	54.6	55.9	54.9
Bed occupancy rates	%	37.2	35.5	38.3	35.2	36.9	35.5
Gross takings from accom- modation	\$'000	41,353	40,335	45,153	44,220	47,340	47,650
MOTELS, ETC.(b)							
Establishments	Number	2,186	2,210	2,203	2,229	2,290	2,320
Guest rooms	"	55,418	55,965	55,993	56,998	58,239	59,263
Bed spaces	"	159,434	161,325	161,988	164,443	169,150	171,689
Room occupancy rates	%	59.9	59.0	62.9	58.2	62.0	60.2
Bed occupancy rates	%	38.8	36.8	39.4	35.5	39.8	37.4
Gross takings from accom- modation	\$'000	82,239	83,540	91,833	88,278	98,497	100,075
TOTAL							
Establishments	Number	3,122	3,133	3,129	3,161	3,249	3,272
Guest rooms	"	80,818	81,031	81,266	82,387	84,139	85,147
Bed spaces	"	218,613	219,568	221,026	223,871	229,605	232,204
Room occupancy rates	%	58.7	57.6	61.4	57.1	60.1	58.6
Bed occupancy rates	%	38.3	36.5	39.1	35.4	39.0	36.9
Gross takings from accom- modation	\$'000	124,591	123,875	136,987	132,500	145,836	147,724
CARAVAN PARKS(b)							
Establishments	Number	1,769	1,763	1,770	1,789	1,818	1,803
Powered sites	"	125,961	126,149	127,179	129,197	131,481	130,362
Unpowered sites	"	58,488	58,095	57,736	58,134	59,022	59,124
Cabins, flats, etc.	"	3,455	3,435	3,545	3,603	3,520	3,598
<i>Total capacity</i>	"	<i>187,904</i>	<i>187,679</i>	<i>188,460</i>	<i>190,934</i>	<i>194,023</i>	<i>193,084</i>
Site occupancy rates	%	30.7	21.6	21.0	23.5	31.3	22.5
Gross takings from accom- modation	\$'000	24,095	18,082	18,442	21,873	27,623	20,741

(a) For the purposes of this survey, hotels, motels and guest houses which provide predominantly short-term accommodation (i.e. for periods of less than two months) to the general public and which provide breakfast. (b) For definitions see *Tourist Accommodation, Australia* (8635.0).

TRAVEL

The following pages contain statistics of internal travel and travel to and from Australia, together with some descriptive matter.

Holidays

At the Census of Population and Housing, 30 June 1976, a question on holidays was asked of each person. The question was: 'Has the person been away from home ON A HOLIDAY for a week or more since 30 June 1975?'

Almost half of the people who answered this question ticked the 'Yes' box.

The following table shows the results for Australia of the Census of Population and Housing, 30 June 1976.

	<i>Persons</i>	<i>%</i>
Yes (had a holiday)	6,383,119	47.1
No (did not have a holiday)	6,742,726	49.8
Not stated	422,603	3.1
Total	13,548,448	100.0

Internal travel

National Travel Survey

In 1977-78, the Bureau of Transport Economics (BTE) in Canberra conducted a survey of non-urban travel known as the National Travel Survey (NTS) details are available on request from the BTE.

National Monitor on Domestic Tourism (DTM)

A survey on the travel behaviour of Australian tourists was commissioned by the Australian Travel Research Council in respect of 1973-74. The Survey of Australian Travel obtained details for trips between one night and three month's duration, to a destination at least 40 km from home. Details sought included income, education level, occupation, ownership of boat, type of accommodation and expenditure.

In 1977 the Australian Standing Committee on Tourism (ASCOT), which is a joint State, Territory and Commonwealth body with responsibility for advising Ministers on tourism, commissioned the Roy Morgan Research Centre to conduct a survey of domestic tourism similar to the Australian Travel Survey. The survey, known as the Domestic Tourism Monitor, began in April 1978 and is in its fourth year with three years of data now available to the tourist industry. Each Department of Tourism also issued a companion volume providing more details relating to that State.

Approximately 1,000 householders throughout Australia are being interviewed each weekend. For all domestic trips taken by households of at least one night to destinations at least 40 km from the respondent's place of residence, details are recorded of the purpose of the trip, mode of transport, type of accommodation, length of stay, main destination and en-route stops. This type of information is cross-classified according to various characteristics such as age, sex, occupation, place of residence and income. Data are also available on the characteristics of non-travellers.

Overseas travel

Statistics about travellers to and from Australia are classified in the first instance by the actual or intended length of stay in Australia or abroad; this classification distinguishes between long-term and short-term movement.

Statistics of permanent and long-term movement are shown in Chapter 6, Demography.

Statistics of short-term arrivals and departures which are in the nature of travel statistics are given below.

Short-term movement is defined as comprising visitors arriving and Australian residents departing temporarily with the intention of staying in Australia or abroad for less than twelve months, together with the departure of visitors and the return of Australian residents who have stayed in Australia or abroad for less than twelve months.

Short-term movement excludes persons who arrive in and depart from Australia on the same ship's voyage or on the same flight (variously called direct transit or 'through' passengers) or who change flights without leaving the airport's transit area; passengers on pleasure cruises commencing and finishing in Australia; and all crew. However, it includes persons who pass through the Customs Barrier and declare the purpose of their visit to Australia to be 'in transit'. Short-term visitors are more numerous than long-term visitors and have come to be regarded as 'tourists' by many users of the statistics.

SUMMARY OF SHORT-TERM TRAVELLER STATISTICS

	<i>Overseas visitors</i>		<i>Australian residents</i>	
	<i>Arriving in Australia</i>	<i>Departing from Australia</i>	<i>Departing from Australia</i>	<i>Arriving in Australia</i>
Annual average—				
1966-70	297,275	308,321	258,824	259,700
1971-75	475,925	479,015	647,608	631,446
1976-80	684,718	655,413	1,077,331	1,062,097
Year—				
1975	516,022	506,455	911,815	880,609
1976	531,813	512,467	973,799	968,224
1977	563,282	540,943	971,253	973,677
1978	630,594	597,123	1,062,234	1,029,482
1979	793,345	752,440	1,175,768	1,144,334
1980	904,558	874,090	1,203,603	1,194,768

In addition to the basic classification of travellers shown above, certain other characteristics are ascertained. These characteristics are: sex, age, marital status, country of citizenship, country of birth, occupation, intended or actual length of stay, purpose of journey, mode of transport, country of residence or where most time was or will be spent, country of embarkation or disembarkation, State of residence or where most time was or will be spent, and State of embarkation or disembarkation.

The categories shown in the previous table are cross-classified by various characteristics listed above and resulting statistics are shown in considerable detail in quarterly and annual publications. Certain unpublished information is available on request. Selected traveller statistics are shown in the following tables.

Short-term travel is subject to marked seasonal variation, December being the peak month for the arrival of overseas visitors and the departure of Australian residents.

OVERSEAS VISITORS AND AUSTRALIAN RESIDENTS: SHORT-TERM ARRIVALS AND DEPARTURES BY MONTH OF ARRIVAL OR DEPARTURE, AUSTRALIA, 1980

(Persons)

<i>Month</i>	<i>Overseas visitors</i>		<i>Australian residents</i>	
	<i>Arriving</i>	<i>Departing</i>	<i>Departing</i>	<i>Returning</i>
January	65,975	98,925	87,708	150,541
February	82,207	82,483	82,720	88,120
March	86,795	87,622	105,982	90,930
April	61,767	76,133	103,929	82,531
May	60,662	65,944	121,038	99,729
June	69,732	57,770	98,811	95,171
July	77,331	68,786	96,866	94,188
August	69,956	72,184	115,446	99,787
September	60,873	64,048	87,512	118,286
October	71,886	65,937	86,494	110,680
November	84,787	75,491	81,826	97,902
December	112,587	58,766	135,269	66,904
Total	904,558	874,090	1,203,603	1,194,768
Sea travellers as a percentage of Total	0.50	0.44	0.74	0.53

AUSTRALIAN RESIDENTS DEPARTING—SHORT-TERM MOVEMENT: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1980 (a)

(Persons)

<i>Intended length of stay</i>	<i>Stated purpose of journey</i>								<i>Total</i>
	<i>Con- vention</i>	<i>Business</i>	<i>Accom- panying business traveller</i>	<i>Visiting relatives</i>	<i>Holiday</i>	<i>Employ- ment</i>	<i>Edu- cation</i>	<i>Other and not stated</i>	
Under 1 week	1,822	23,352	1,653	3,656	10,556	1,911	281	3,355	46,587
1 week and under 2 weeks	9,890	29,833	3,207	13,769	147,136	1,293	1,708	8,498	215,333
2 weeks and under 3 weeks	5,925	24,650	2,777	20,350	178,904	1,439	1,476	7,080	242,600
3 weeks and under 1 month	2,945	13,812	2,189	23,527	89,076	574	600	5,175	137,899
1 month and under 2 months	4,421	22,775	3,672	69,163	120,268	1,823	1,453	7,880	231,455
2 months and under 3 months	1,521	7,719	1,696	38,508	58,470	1,127	853	4,211	114,104
3 months and under 6 months	544	5,233	1,529	38,968	52,936	2,212	1,637	4,012	107,070
6 months and under 9 months	*	2,410	1,602	16,402	25,387	2,847	817	3,084	52,641
9 months and under 12 months	*	2,134	2,410	7,170	13,085	4,788	1,975	3,843	35,471
Not definite, not stated	540	1,496	762	3,613	10,497	524	273	2,737	20,442
Total	27,768	133,415	11,497	235,127	706,313	18,537	11,072	49,875	1,203,603

(a) Asterisk (*) denotes that figures are subject to sampling variability too high for most practical purposes.

OVERSEAS VISITORS ARRIVING—SHORT-TERM MOVEMENT: STATED PURPOSE OF JOURNEY AND INTENDED LENGTH OF STAY, 1980 (a)

(Persons)

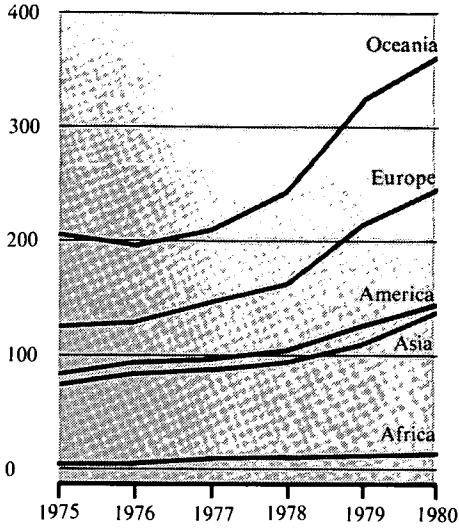
<i>Intended length of stay</i>	<i>Stated purpose of journey</i>								<i>Total</i>	
	<i>In transit</i>	<i>Con- vention</i>	<i>Busi- ness</i>	<i>Accom- panying business travel- ler</i>	<i>Visiting rela- tives</i>	<i>Holi- day</i>	<i>Em- ploy- ment</i>	<i>Edu- cation</i>		<i>Other and not stated</i>
Under 1 week	67,068	3,034	33,329	2,115	8,524	62,006	885	499	7,614	185,073
1 week and under 2 weeks	*	7,412	35,642	3,113	24,397	95,786	460	1,006	7,068	174,972
2 weeks and under 3 weeks	*	4,077	19,191	1,724	36,375	68,758	328	870	5,911	137,262
3 weeks and under 1 month	*	1,392	5,333	599	34,633	35,473	290	292	3,051	81,073
1 month and under 2 months	*	1,109	9,825	978	78,652	47,935	919	1,163	5,911	146,532
2 months and under 3 months	*	172	2,560	303	29,854	16,535	845	794	2,437	53,516
3 months and under 6 months	*	*	2,833	753	34,093	16,749	2,167	3,523	3,477	63,686
6 months and under 9 months	*	*	1,193	632	11,507	8,101	3,187	1,347	1,678	27,675
9 months and under 12 months	*	*	1,229	862	2,819	4,746	6,030	3,832	2,324	21,864
Not definite, not stated	*	254	1,582	206	3,005	4,143	617	343	2,753	12,903
Total	67,270	17,576	112,717	11,285	263,858	360,231	15,726	13,669	42,226	904,558

(a) Asterisk (*) denotes that figures are subject to sampling variability too high for most practical purposes.

The average intended length of stay abroad of Australian residents departing in 1980 for short-term visits abroad was 59 days. The average intended length of stay in Australia by short-term visitors from overseas was 47 days. Of course, statistics for Australian residents refer to their total time away from Australia; for overseas visitors they refer only to the Australian portions of their trips.

In the case of both Australian residents departing and overseas visitors arriving, the most common reason for visit was 'holiday', followed by 'visiting relatives' and 'business' as the second and third most common reasons.

**VISITOR ARRIVALS, SHORT TERM,
BY USUAL RESIDENCE,
1975 TO 1980**



**RESIDENT DEPARTURES, SHORT TERM,
BY REGION OF INTENDED STAY,
1975 TO 1980.**

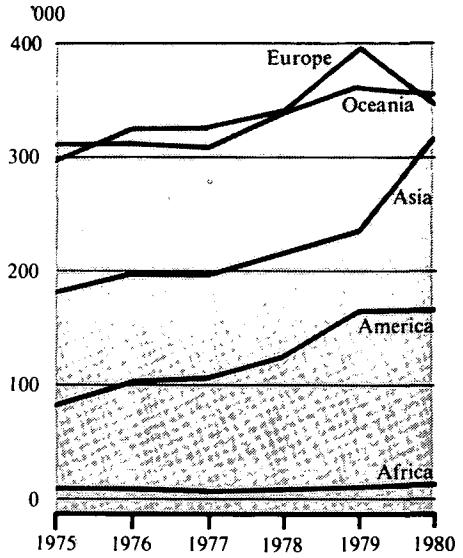


PLATE 50

**OVERSEAS VISITORS ARRIVING BY COUNTRY OF RESIDENCE AND INTENDED LENGTH OF STAY, AND
AUSTRALIAN RESIDENTS DEPARTING BY COUNTRY OF INTENDED STAY AND INTENDED LENGTH OF STAY,
AUSTRALIA, 1980 (b)**

Country of residence (visitors) and country of intended stay (residents)	Overseas visitors arriving—intended length of stay						Australian residents departing—intended length of stay					
	Under 1 week	1 week and under 1 month	1 month and under 3 months	3 months and under 12 months	Not definite, not stated, etc.	Total	Under 1 week	1 week and under 1 month	1 month and under 3 months	3 months and under 12 months	Not definite, not stated, etc.	Total
Africa—												
South Africa	1,998	3,007	3,148	1,164	*	9,387	100	2,382	3,724	1,106	120	7,432
Other	985	1,165	1,418	820	112	4,500	111	1,823	3,370	1,757	112	7,173
<i>Total, Africa</i>	<i>2,983</i>	<i>4,171</i>	<i>4,567</i>	<i>1,983</i>	<i>182</i>	<i>13,885</i>	<i>211</i>	<i>4,206</i>	<i>7,094</i>	<i>2,863</i>	<i>232</i>	<i>14,605</i>
America—												
Canada	3,611	12,102	8,050	4,396	326	28,485	*	2,900	6,843	3,072	241	13,108
U.S. America	30,236	53,957	17,962	8,098	1,147	111,400	1,911	71,950	51,779	15,762	2,682	144,084
Other	1,699	1,562	1,345	1,263	262	6,129	*	993	4,102	2,932	123	8,162
<i>Total, America</i>	<i>35,546</i>	<i>67,621</i>	<i>27,357</i>	<i>13,755</i>	<i>1,734</i>	<i>146,014</i>	<i>1,972</i>	<i>75,844</i>	<i>62,725</i>	<i>21,767</i>	<i>3,046</i>	<i>165,354</i>
Asia—												
Hong Kong	2,633	7,707	3,394	1,016	162	14,913	3,134	44,405	6,801	2,672	907	57,918
India	976	1,197	1,239	705	132	4,248	190	2,667	4,812	1,318	151	9,138
Indonesia	4,764	4,750	1,873	973	306	12,665	2,110	52,135	8,168	3,241	789	66,442
Israel	172	408	834	646	*	2,124	*	672	2,652	1,355	160	4,859
Japan	27,594	16,350	2,136	2,140	593	48,813	1,031	10,598	3,049	788	176	15,643
Malaysia	1,822	6,806	4,904	2,661	204	16,397	860	19,539	7,155	3,004	327	30,885
Philippines	1,272	1,837	985	663	144	4,901	451	19,357	4,868	1,435	512	26,623
Singapore	3,234	8,126	3,604	1,250	207	16,420	4,252	44,863	6,582	2,274	758	58,729
Thailand	838	2,014	898	526	174	4,450	420	8,370	2,581	971	140	12,483
Other and unspecified	4,314	4,399	2,562	2,053	440	13,768	303	11,929	8,194	11,643	675	32,745
<i>Total, Asia</i>	<i>47,620</i>	<i>53,593</i>	<i>22,428</i>	<i>12,632</i>	<i>2,426</i>	<i>138,699</i>	<i>12,771</i>	<i>214,537</i>	<i>54,861</i>	<i>28,704</i>	<i>4,596</i>	<i>315,469</i>
Europe—												
Austria	510	716	1,402	606	*	3,321	*	663	2,281	954	*	3,979
France	2,343	2,439	2,035	1,162	140	8,118	*	1,712	4,407	2,039	211	8,408
Germany(a)	6,544	9,183	13,513	5,514	624	35,379	160	3,612	11,429	4,977	331	20,509
Greece	493	454	1,072	2,187	170	4,375	140	1,801	8,529	19,998	990	31,458
Italy	1,644	2,240	4,472	3,508	428	12,291	110	3,133	17,360	17,529	832	38,965
Netherlands	1,809	3,641	9,300	3,313	200	18,262	*	1,718	7,407	3,686	180	13,011
Switzerland	1,180	2,412	2,492	1,547	100	7,730	*	1,162	2,594	1,111	*	4,907
U.K. and Ireland	11,619	31,856	56,815	30,003	1,163	131,459	555	19,683	107,784	57,415	2,877	188,317
U.S.S.R.	152	152	135	196	*	668	*	131	501	221	*	882
Yugoslavia	351	512	1,632	2,813	140	5,448	*	461	5,191	7,752	181	13,645
Other and unspecified	3,405	4,062	4,308	4,433	486	16,688	*	1,710	11,976	10,799	531	25,055
<i>Total, Europe</i>	<i>30,049</i>	<i>57,666</i>	<i>97,172</i>	<i>55,279</i>	<i>3,572</i>	<i>243,739</i>	<i>1,125</i>	<i>35,786</i>	<i>179,462</i>	<i>126,480</i>	<i>6,284</i>	<i>349,137</i>
Oceania—												
Fiji	3,100	3,287	1,930	1,100	229	9,645	2,111	56,479	2,514	1,233	1,186	63,523
New Caledonia	2,824	3,088	2,544	729	358	9,542	877	17,940	455	213	377	19,862
Papua New Guinea	6,798	7,852	5,883	3,376	426	24,336	3,416	11,455	4,312	4,735	609	24,527
New Zealand	52,600	192,962	35,698	22,344	3,508	307,114	21,185	155,183	30,674	7,241	3,456	217,740
Norfolk Island	478	620	261	*	*	1,458	1,681	9,794	471	123	260	12,330
Vanuatu	373	320	246	188	*	1,143	192	4,402	172	167	*	5,028
Other	2,230	1,189	1,392	1,211	122	6,145	781	7,887	1,525	983	*	11,271
<i>Total, Oceania</i>	<i>68,402</i>	<i>209,317</i>	<i>47,955</i>	<i>29,000</i>	<i>4,706</i>	<i>359,381</i>	<i>30,245</i>	<i>263,140</i>	<i>40,124</i>	<i>14,695</i>	<i>6,077</i>	<i>354,282</i>
Other	473	940	569	576	282	2,840	263	2,321	1,295	671	205	4,756
Total	185,073	393,307	200,048	113,225	12,903	904,558	46,587	595,832	345,559	195,182	20,442	1,203,603

(a) Comprises the German Democratic Republic and the Federal Republic of Germany. (b) Asterisk (*) denotes that figures are subject to sampling variability too high for most practical purposes.

CHAPTER 27

THE TERRITORIES OF AUSTRALIA

The internal Territories of Australia are the Northern Territory and the Australian Capital Territory. External Territories under the control of Australia are: Norfolk Island; the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; the Territory of Christmas Island; and the Territory of Ashmore and Cartier Islands.

Information on all Territories except Ashmore and Cartier Islands is contained in the following pages, and details of the acquisition of all the Territories will be found on pages 6 and 7 of Chapter 1. More detailed statistics and additional descriptive matter are to be found in the Annual Reports of the Administrations of the various Territories and in the *Northern Territory Statistical Summary* (1306.7) and the *Australian Capital Territory Statistical Summary* (1307.0) issued by the ABS. Statistics for the Northern Territory and the Australian Capital Territory are also included in chapters dealing with particular subjects.

THE NORTHERN TERRITORY

General description

The total area of the Northern Territory is 1,346,200 square kilometres.

The Northern Territory seat of Government is Darwin on the North Coast. Greater Darwin Area had a total population of 50,612 in July 1979.

Northern Territory Self-Government

The Northern Territory was established as a self-governing territory by the *Northern Territory (Self-Government) Act 1978* of the Commonwealth. Under that Act, the Commonwealth transferred most of its powers to the Government of the Northern Territory.

In all fields of transferred power, the Government is similar to that of the Australian States, with some differences in titles, for example there is an Administrator instead of a Governor and a Chief Minister instead of a Premier.

The Administrator, appointed by the Governor-General, has responsibility for administering the Government of the Northern Territory. The Administrator is advised by an Executive Council comprised of all Northern Territory Ministers, led by the Chief Minister. The Administrator acts with the advice of the Executive Council on all matters transferred to the Northern Territory. He acts with Commonwealth advice on matters not transferred.

The Legislative Assembly of the Northern Territory is the Northern Territory's Parliament. It has 19 Members, which are elected for a period of four years. A Speaker is elected by, and Ministers are appointed from, the Members of the Legislative Assembly. A Ministry of six is responsible for the administration of all transferred powers and acts through a number of departments and authorities, most of which are staffed by the Northern Territory Public Service.

Local Government was established in Darwin in 1957 and afterwards in regional centres. Municipal councils are elected by universal adult franchise, with elections at intervals of not more than three years. Provision has been made for a limited form of local government by smaller communities. There has been considerable interest in this provision, particularly in Aboriginal communities.

Development of Administration

Upon the extension of New South Wales westwards to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1 January 1911.

From 1911 until 30 June 1978, the Commonwealth administered the Northern Territory under the provisions of the *Northern Territory (Administration) Act 1910*, as amended. The Act provided for an Administrator, appointed by the Governor-General, to administer the Northern Territory on behalf of the Commonwealth Government.

By amendment of the Act in 1947, a Legislative Council comprising seven official and six elected members, with the Administrator as President, was created to make laws for the peace, order and good government of the Northern Territory. Composition of the Legislative Council was changed by further amendment in 1959 to provide for six official members, three nominated non-official members and eight elected members, and for an Administrator's Council to advise the Administrator. The Act was further amended in 1974 to provide for a Legislative Assembly of 19 elected Members and for a Speaker to be one of those Members, elected by the Members.

Laws passed by the Assembly were presented to the Administrator for assent. The Administrator was required to reserve laws on specific subjects for the pleasure of the Governor-General who was empowered to assent, withhold his assent or refuse his assent in part to such laws, or to return them to the Assembly with recommended amendments.

On 1 January 1977, the Commonwealth Government began a program of transferring executive powers to the Legislative Assembly by amendment of the Northern Territory (Administration) Act. A separate Northern Territory Public Service was created and administrative powers were transferred. Positions of Executive Member were created under the Act. These Members exercised ministerial-type powers in respect of transferred matters such as policy, fire brigade, local government and correctional services. An Executive Council replaced the Administrator's Council.

On 1 July 1978, the Northern Territory (Self-Government) Act came into force and established the Northern Territory as a body politic under the Crown. This Act also provided for the appointment of an Administrator by the Governor-General. It created offices of Ministers of the Northern Territory who, together with the Administrator, comprise the Executive Council of the Northern Territory. A Northern Territory Government, comprised of Ministers of the Northern Territory, was established with full responsibility for a range of state-type transferred powers administered through a Northern Territory Public Service and a Treasury. A Northern Territory flag was raised for the first time on 1 July 1978, the date upon which the Northern Territory became self-governing.

Major matters not transferred on 1 July 1978 were the mining of uranium and other prescribed substances, Aboriginal land matters, health, education and the Supreme Court. Powers in respect of health, education and the Supreme Court were progressively transferred from the Commonwealth to the Northern Territory Government during 1979.

At the end of 1979, the only major powers retained by the Commonwealth in the Northern Territory were those relating to rights in respect of Aboriginal land and the mining of uranium and other prescribed substances. Since the end of 1979, the Northern Territory, although remaining a Territory of the Commonwealth and still subject to Commonwealth laws made under Section 122 of the Constitution, is in most respects a self-governing Territory.

The Northern Territory is represented in the Parliaments of the Commonwealth by one Member in the House of Representatives and two Senators, whose terms of office coincide with that of the Member in the House of Representatives.

Physical geography

The Territory is within the torrid zone, with the exception of a strip about 300 kilometres wide which lies south of the Tropic of Capricorn.

The low flat coastline seldom reaches a height of 30 metres. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl and laterite form the occasional cliffy headlands. The coastline of 6,200 kilometres is indented by bays and inlets and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries. The only practicable deep-water port for general use, however, is Darwin.

Inland, the country generally is devoid of conspicuous landmarks. From the coast there is a general rise southwards to the vicinity of the seventeenth or eighteenth parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea and those that form the scanty supply for the interior system. Towards the centre of the continent the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east west trend.

Climate, fauna and flora

There are two main climatic divisions: the wet season, November to April; and the dry season, May to October. The changes of weather are uniform and regular. Nearly all the rainfall occurs in the summer months.

The ordinary types of native Australian fauna inhabit the Territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous), and frogs abound. There are many varieties of fresh-water fish and littoral Mollusca. Butterflies and beetles are strongly represented. The termite is a pest which is capable of serious

damage to wooden buildings unless special preventive measures are taken. Mosquitoes and sandflies are very troublesome in the 'top end', particularly in the wet season. Buffaloes exist in large herds on the northern coastal plains. Most types of native fauna are protected.

The vegetation is north Australian in type, but a number of forms belong to the Malayan and Oceanic regions. The climate and generally poor soils associated with it give rise to tropical savannah vegetation, with the size and volume of woody material present being closely related to rainfall and the quality of the forests decreasing strikingly as one proceeds inland from the northern coastline. In the north, cypress pine (which is termite resistant), ironwood, bloodwood and paperbark timbers are cut and milled for local building purposes. Further inland, particularly on the Barkly Tablelands and parts of the Victoria River district, there are better grazing grasses and some shrubs, while the wide belt of sandy plain between the Barkly Tableland and the ranges in the Alice Springs area carries mainly spinifex grass and low scrub. The plains of the Alice Springs district carry chiefly an acacia scrub known as mulga, spinifex and other sparse grasses. The principal families represented in the interior are *Gramineae*, *Chenopodiaceae*, *Compositae* and *Mimosaceae*.

Population

See also Chapter 6, Demography.

The estimated population of the Northern Territory at 30 June 1981, was 129,827 persons.

Aboriginal Affairs

Policy

The Government is committed to policies of Aboriginal self-management at all levels. Involvement of Aborigines in delivery and planning programs, and in all stages of the development and implementation of policy is paramount.

The basis of the Government's approach is to secure for Aborigines access to government services equal to that accorded other Australian citizens, together with additional services appropriate to Aborigines' state of extreme disadvantage, and, in recognition of a community obligation deriving from Aborigines' past dispossession and dispersal, to secure for them certain special benefits not available to other citizens, provided such special benefits are sanctioned by the Parliament.

Legal status

As Australian citizens, Aborigines are entitled to equality before the law. For the purpose of administering various programs designed to benefit Aborigines, the Department of Aboriginal Affairs and other Commonwealth Government departments and agencies define an 'Aboriginal' or 'Torres Strait Islander' as a person of Aboriginal or Torres Strait Islander descent who identifies himself, as an Aboriginal or Torres Strait Islander and is accepted as such by the community in which he lives.

Land and land rights

The *Aboriginal Land Rights (Northern Territory) Act 1976* gives traditional Aborigines inalienable freehold title to former reserve land in the Northern Territory and provides a procedure for them to claim title to other areas of unalienated Crown Land.

Approximately 27 per cent of the Territory is Aboriginal land or in the process of becoming Aboriginal land. An additional 18.35 per cent has been claimed but these claims have not been determined.

Aborigines who are able to prove strong traditional links with unalienated Crown Land may make a claim before the Aboriginal Land Commissioner, a judge of the Northern Territory Supreme Court. The Aboriginal Land Rights Act requires the Land Commissioner, in hearing a claim, to consider a number of matters in addition to traditional ownership before making a recommendation to the Minister for Aboriginal Affairs. The Minister can then accept or reject the Land Commissioner's recommendations.

Many Aboriginal land claims have been lodged with the Land Commissioner. By October 1981, 8 had been finalised and others were in the process of being heard or were awaiting the decision of the Minister for Aboriginal Affairs.

As a result of claims heard, Aborigines have been granted an additional 105,863 square kilometres. By October 1981, Aboriginal land in the Northern Territory totalled 362,540 square kilometres or approximately 27 per cent of the Territory.

Titles to Aboriginal land are held by Aboriginal Land Trusts and the land is administered by Aboriginal Land Councils.

Minerals on Aboriginal land remain the property of the Crown. The Aboriginal Land Rights Act provides, however, that mineral exploration can only proceed with the approval of the appropriate

land council which in turn must abide by the wishes of the traditional Aboriginal owners of the area concerned. This veto power can be overruled if the Governor-General, by Proclamation, declares that the national interest requires the grant of a mining interest, and neither House of Parliament disallows that Proclamation. Pre-existing mining interests were exempt from the requirement for Aboriginal consent and these include the Ranger Project Area and the Jabiluka deposit. In all cases however, agreement must be reached on terms and conditions of mining and the Minister for Aboriginal Affairs is able to appoint an arbitrator in cases where Aboriginal consent is not required but a land council is unable or unwilling to reach agreement with a mining interest.

Royalties from mining on Aboriginal land are paid into an Aboriginal Benefits Trust Account and are distributed to pay administrative expenses of land councils, to communities affected by mineral developments and, on the recommendation of an advisory committee, to Aboriginal communities of the Northern Territory generally. Control of uranium mining has been reserved by the Commonwealth and special arrangements have been made between the Commonwealth and the Northern Territory Governments in relation to payments in lieu of royalties.

Aboriginal communities are also being assisted to purchase land off reserves. An Aboriginal Land Fund Commission was established in 1974 for this purpose. This function was taken over on 1 July 1980 by the Aboriginal Development Commission which assists Aboriginal and Torres Strait Islander communities, groups and individuals to acquire land for a variety of purposes, engage in business enterprises, obtain finance for housing and other personal needs, and to receive training where necessary.

Community services and affairs

Government policy in the administration of Aboriginal affairs is to encourage existing State and Commonwealth departments and instrumentalities to provide services to Aboriginals as to other Australian citizens and to take special measures to ensure that these services are appropriate, accessible and reflect the variety of Aboriginal life styles. In line with the transfer of other functions to the Northern Territory Government on 1 July 1978, the Northern Territory Government has assumed responsibility for the provision of major services to Aboriginal communities including essential services such as water and power supply, health, education and support for local government. Housing however, remains the responsibility of the Commonwealth and is now administered by the Aboriginal Development Commission.

Special programs for Aboriginals

Attention is being given to changing the institutional character of Aboriginal reserve communities in the Northern Territory. Support is designed to encourage and strengthen the capacity of Aboriginals to manage their own affairs, to increase their economic independence, and to reduce social handicaps facing them.

Government policy is to provide Aboriginal primary school children in Aboriginal communities with education in their own language as far as practicable. Bilingual education programs initiated in Northern Territory Aboriginal communities in 1973 have been expanded and are operating in several schools.

Aboriginal Legal Services operated by Aboriginals and supported by the Department of Aboriginal Affairs have been established on the initiative of Aboriginal groups in all States and the Northern Territory to ensure that Aboriginals have access to legal advice and are competently represented in the courts.

Production

See also the chapters dealing with particular subjects.

Land tenure

On 30 June 1981, 19,682,293 hectares were held under freehold title; 77,169,774 hectares under leasehold; 27,717 hectares under various licences; 13,247,036 hectares reserved for public purposes and for the benefit of Aboriginals; 82,334 hectares set aside for Government use; and 24,410,846 hectares unalienated. Land rent collected for the year 1980-81 amounted to \$358,298.

Following the report of the Aboriginal Land Rights Commissioner in April 1974, the Commonwealth Government introduced the *Aboriginal Land Rights (N.T.) Act 1976*. This Act which commenced on Australia Day, 26 January 1977 provides for the granting to Aboriginals of a title in fee simple, of traditional Aboriginal land in the Northern Territory.

Existing reserves for the use and benefit of Aboriginals will be subject to fee simple title pursuant to the provisions of the Act, while title to other areas of land over which traditional rights are claimed are subject to hearings by the Aboriginal Land Commissioner, who must be a Judge of the Supreme Court of the Northern Territory.

With the commencement of the Crown Lands Amendment Act (No. 3) 1980 most existing leases in the Territory were automatically converted to freehold tenure making it the rule rather than the exception. Most Pastoral Leases and all Special Purposes Leases were excluded from automatic freeholding.

The various forms of lease or licence of lands are as follows:

Pastoral leases	—granted for periods not exceeding 50 years.
Crown leases (Term)	—granted for a term of years, and in majority of cases can be converted to freehold when developed.
Crown leases (Perpetual)	—granted in perpetuity.
Special purposes leases	—granted for a term of years or in perpetuity for purposes other than pastoral, agricultural or mining, or for private residential purposes within a town.
Grazing licences	—granted to graze stock on Crown Lands for periods not exceeding one year.
Occupation licences	—granted for manufacturing, industrial or any prescribed purposes for periods not exceeding five years.
Miscellaneous licences	—granted for periods not exceeding one year.

Pastoral and agricultural industries

Beef cattle production is the major rural industry in the Northern Territory. The beef industry has been characterised throughout its history by a slow rate of expansion due to the poor quality of native pastures in the Top End and unsatisfactory market outlets. Developments in pasture improvement and the use of adapted Zebu cross-cattle in the northern areas, the opening in 1963 of the export abattoirs in Katherine and Darwin, some improvement in disease control coupled with better management techniques, and various incentives and research programs introduced by the Government to encourage development of the pastoral industry have resulted in an increase in turnoff figures and value of production.

In the mid 1970's industry development suffered a major set-back due to a prolonged period of low export meat prices despite the upgraded export status given to Point Stuart Meatworks as well as the development of the live cattle export market in Malaysia. Over that period cattle numbers increased by approximately 400,000 head to 1.8 million, reflecting the high cost of mustering and cartage, which, together with the low returns resulted in non-profitability of cattle sold to market.

Between 1978 and 1980 the industry saw a dramatic upturn in prices by more than 300 per cent. Additional export abattoirs opened at Alice Springs and Tennant Creek. During 1981 beef cattle prices retreated from their historic high of 1980 and buffalo prices, due mainly to adverse exchange rate movement fell by up to 30 per cent.

Animal production has continued to be augmented by the buffalo meat industry. Development in the domestication of buffaloes continues on the sub-coastal plains properties, the 1981 estimated population being 6,300 out of an estimated feral buffalo population of 150,000. Buffalo meat exports of 2,200 tonnes during 1980 increased by one-third over the 1979 figure of 1,500 tonnes, the market changing quite radically. The American and Far East Markets of Hong Kong, Malaysia and Taiwan Province declined in favour of European markets, especially the Federal Republic of Germany and Scandinavia. Both the pig and poultry industries, unaffected by overseas marketing, have continued to expand.

In 1980 the Agricultural Development and Marketing Authority (ADMA) was established to encourage crop growing, diversification within the pastoral and agricultural industries, economies of scale and market development. ADMA has commenced development of three farms for cropping in the Daly Basin, 250 kilometres from Darwin, and is managing a program of co-ordinated farm development on a commercial scale for the production of maize, sorghum, soya beans, peanuts and pastures for seed production, hay or grazing. A grain handling facility and a seed and fertilizer store in Katherine have been established and horticultural marketing in the Darwin region is being promoted.

Continuing private investment in rural development is leading to greater pressures upon the Government for extension services and research. The work of CSIRO and the Dept. of Primary Production research stations and experimental farms is providing the basis for continuing rural development. As new knowledge is being gathered it will be followed by testing on farm scale.

The research institutions in existence in the Northern Territory are as follows:

Arid Zone Research Institute—Alice Springs. With the completion of the new research laboratory in 1967, more emphasis is being placed on arid zone research in the 'Centre' and on the need to conserve valuable pastoral lands while achieving maximum productivity. Fields of work at the Institute include animal health, agriculture, horticulture, soil conservation, botany, animal production and range management.

Coastal Plains Research Station. The Station has 3 main roles: one as a regional station examining suitable pasture and animal production systems in the Coastal Plains/Darwin area; the second as the major centre for rice research and a third as a centre researching into buffalo production. Its efforts have been devoted to the animal breeding investigations, with some attention being paid to the development of improved pasture systems including establishment, maintenance and the reaction to various grazing rates. Breeding trials are being conducted with Brahms and Africander cross-breeds, and Shorthorns. A small herd of cross-bred cattle (Shorthorn cows artificially inseminated from Bantang (Bali) Purebred Semen) has now been developed and the group transferred to private enterprise.

Victoria River Experiment Station. This is the only Government Experiment Station in the range-lands of the Northern Territory. Work is being undertaken on: cattle production management systems; evaluation of improved pastures; supplements; breed comparisons; and range management studies.

Tortilla Flats Research Farm. The Research Farm is mainly concerned with rice production as it is representative of the Adelaide River plains land system which extend over 10,000 square kilometres. Work is being undertaken on testing new varieties, fertilizer trials, sowing techniques and weed control in rice bays.

Berrimah Experiment Farm. The work of this Farm has been mainly restricted to pasture and crop investigations; plant introduction; fruit, vegetable and weed control trials; and intensive animal studies.

Douglas-Daly Research Station. With the advent of Agricultural Development and Marketing Authority (ADMA) cropping investigation under irrigation will be resumed. The crops experimented with will include soyabeans. Close liaison with ADMA farms in the region will continue.

NORTHERN TERRITORY: NUMBER, AREA AND LAND UTILISATION OF AGRICULTURAL ESTABLISHMENTS

	Number of agricultural establishments	Area used for crops (a)	Area under sown pastures and grasses	Balance of area (b)	Total	
					Area	Percentage of N.T. land area (134,620,000 hectares)
				'000 hectares		
1975-76	361	8.3	115.8	78,662.5	78,786.6	58.5
1976-77	289	2.4	112.8	75,263.3	75,378.5	55.9
1977-78	297	0.8	112.3	75,410.0	75,523.1	56.0
1978-79	301	1.6	90.4	76,099.9	76,191.9	56.6
1979-80	346	1.8	99.0	78,066.8	78,167.7	58.1
1980-81p	336	1.1	87.1	77,500.4	77,588.7	57.6

(a) Excludes duplication on account of area double cropped.

(b) Used for grazing, lying idle, fallow, etc.

NORTHERN TERRITORY: AGRICULTURAL STATISTICS

	Unit	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81 ^p
Livestock numbers—							
Cattle	'000	1,602.8	1,663.7	1,674.1	1,784.6	1,727.2	1,675.4
Domesticated buffaloes	'000	3.3	3.7	4.2	3.6	2.4	6.3
Poultry	'000	139.7	175.0	183.5	200.3	180.1	169.9
Pigs	'000	7.0	7.4	3.2	3.1	2.3	3.2
Gross value of livestock slaughtering and other disposals—							
Cattle and calves	\$'000	9,456	22,834	29,291	106,890	121,494	35,790
Poultry	\$'000	2	534	633	633	880	871
Pigs	\$'000	559	602	687	390	488	488
Gross value of livestock products—							
Dairy products	\$'000	113	142	72	72	86	n.y.a.
Eggs	\$'000	900	898	1,300	1,292	1,395	1,395
Crops, Area—							
Sorghum (grain and feed)	Hectares	3,934	1,705	144	764	653	592
Hay	Hectares	236	195	66	251	367	n.y.a.
Tree fruit	Hectares	40	26	15	15	16	15
Bananas	Hectares	19	11	14	12	13	13
Vegetables	Hectares	143	97	108	119	145	110
Pastures and grasses (hay, seed, green feed)	Hectares	2,058	2,175	1,591	2,123	1,717	n.y.a.
Total area used for crops (incl. pastures and grasses)	Hectares	10,331	4,566	2,407	3,697	3,549	n.y.a.
Crops, Production—							
Sorghum for grain	Tonnes	4,986	1,335	41	331	1,011	496
Hay	Tonnes	1,022	1,457	200	1,956	1,396	n.y.a.
Bananas	Tonnes	121	70	89	124	101	60
Pastures and grasses (hay, seed)	Tonnes	4,869	7,056	5,083	5,583	3,920	n.y.a.
Gross value of crops—							
Sorghum for grain	\$'000	414	117	4	6	104	n.y.a.
Fruit	\$'000	66	36	60	220	85	13
Vegetables	\$'000	122	132	421	588	332	486
Pastures and grasses	\$'000	104	152	231	164	330	n.y.a.
Total crops (incl. pastures and grasses)	\$'000	790	545	1,194	1,125	1,083	742
Gross value of agriculture	\$'000	11,820	25,555	33,177	110,402	125,426	n.y.a.

Mining

The value of mineral output continued its rapid rise of recent years from \$249.8 million in 1978-79, to \$369.6 million in 1979-80 and \$437.0 million in the 1980 calendar year. Major factors in the increasing values of production have been the generally higher metal prices, combined with increasing outputs of copper, manganese, bauxite, construction materials such as crushed rock, sand and gravel and commencement of yellowcake production from Nabarlek. The principal mining areas are the Gove Peninsula, where bauxite is produced; Groote Eylandt for manganese; Tennant Creek for copper and gold; and the Alligator Rivers region for uranium.

NORTHERN TERRITORY: MINING ESTABLISHMENTS

		1977-78	1978-79	1979-80
Establishments operating end of June	No.	13	11	13
Average employment over whole year—persons (a)	No.	1,164	1,251	1,488
Wages and salaries	\$m	16.9	19.5	28.1
Turnover	\$m	124.9	143.5	189.6
Opening stocks at 30 June	\$m	19.3	20.2	19.7
Closing stocks at 30 June	\$m	20.3	19.7	38.7
Purchases, transfers in and selected expenses	\$m	30.1	36.2	55.0
Value added (b)	\$m	95.8	106.8	153.6
Fixed capital expenditure (c)	\$m	8.7	28.2	186.1

(a) Includes working proprietors. Prior to 1977-78 employment shown at 30 June. (b) Turnover plus increase (or less decrease) in the value of stocks less purchases, transfers in and selected expenses. Commencing with 1978-79, 'rent, leasing and hiring revenue' and 'rent, leasing and hiring expenses' have been included in the calculation of value added and its components 'turnover' and 'purchases, transfers in and selected expenses'. (c) Outlay on fixed tangible assets less disposals.

Petroleum and natural gas

During 1980-81 eight new offshore permits were granted. At 30 June 1981, 22 offshore permits had been issued covering 5,586 blocks and 8 onshore permits totalling 140,703 square kilometres. There are 24 onshore oil permits and 3 oil leases under application.

Forestry

Forestry activities in the Northern Territory commenced in 1959 under the Forestry and Timber Bureau; later a State-type service was developed under the Department of the Northern Territory.

In July 1978, with the granting of self-government, forestry became the responsibility of the Territory Parks and Wildlife Commission, now the Conservation Commission of the Northern Territory.

Present activities fall into four main areas: Urban Forestry, Plantation Forestry, Native Forest Management and Conservation.

The Urban Forestry section is aimed at improving the urban environment throughout the Northern Territory through programs of park and street beautification and arid area species testing.

The Plantation Forestry section is predominantly based on plantation establishment on more favourable sites on Melville Island. The program which at this time is totally research oriented with limited plantings, is ultimately aimed at import replacement. The major species in use is *Pinus caribaea*, though early plantings were largely Cypress pine. A small pressure treatment plant providing treated round timber is operated by the Aborigines on nearby Bathurst Island.

Management of native forest is currently confined to the Murganella area of Arnhem Land where a policy of protection from fire has resulted in extensive regeneration of Cypress pine and native hardwoods, *Eucalyptus tetrodonta* and *E. nesophila*. Current research in this area is aimed at development of sound management prescriptions for treatment of this regeneration.

In its conservation role, the Conservation Commission has given emphasis to fire and ecological studies throughout the Territory together with seed collection, testing and propagation, and gene pool conservation of rare or unique species.

Fishing

The Northern Territory fishing industry has increased in importance over the last decade following development of prawn resources. Prawn trawling is now the major fishery, contributing over 80 per cent of total value. Barramundi is second, with the remainder mainly threadfin salmon, spanish mackerel, mud crabs, reef fish and bay lobsters. Prawn and barramundi are heavily fished and measures have been introduced to prevent over-exploitation. The Territory Government is encouraging development of under-utilised demersal and pelagic species (mainly fished by foreign vessels), and reef fish, crabs, scallops and squid. Foreign fishing ventures have involved the issue of Commonwealth licences to 150 Taiwanese vessels and one Japanese feasibility vessel. The Government is encouraging Australians to participate in fisheries not utilised by them and in those exploited by foreign vessels.

NORTHERN TERRITORY: PRINCIPAL FISHERIES

		1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
Prawns—							
Estimated gross weight of prawn catch	tonnes	3,346	3,191	2,882	2,165	3,504	3,212
Gross value of prawns	\$'000	5,019	4,222	8,647	8,100	17,100	15,200
Fish—							
Estimated live weight of fish catch	tonnes	781	978	1,483	1,451	1,576	1,352
Gross value of fish	\$'000	613	969	1,664	1,900	2,334	1,791
General fisheries—							
Number of boats engaged		194	289	290	380	406	585
Number of persons employed		638	830	934	1,258	1,602	1,357

Secondary industries

The types of secondary industries that have developed in the Northern Territory have been largely service industries based on demand from local markets, together with the processing of primary production for export including the processing of mined ores, prawns and beef. The isolation of the Northern Territory from the major population areas of Australia and the resultant high transportation costs make other than local market expansion difficult.

The extent of importation of commodities into the Northern Territory, significant underdeveloped raw resources and a growing population would suggest that potential exists for industrial expansion. Some see the proximity of South East Asian markets to Darwin as providing considerable future potential for export-orientated secondary industry development.

The following table shows results of the Manufacturing Censuses taken in respect of the years 1977-78 to 1979-80.

NORTHERN TERRITORY: MANUFACTURING ESTABLISHMENTS

		1977-78	1978-79(a)	1979-80(a)
Establishments at 30 June	No.	64	87	101
Persons employed (b)	No.	1,498	2,068	2,512
Wages and salaries	\$m	18.2	28.3	32.9
Turnover	\$m	145.2	186.3	251.2
Opening stocks at 30 June	\$m	44.9	37.6	45.2
Closing stocks at 30 June	\$m	46.5	41.8	50.4
Purchases, transfers in and selected expenses (c)	\$m	90.7	117.5	179.4
Value added (c)	\$m	56.1	73.0	77.0

(a) Classified to industry according to the 1978 edition of the Australian Standard Industrial Classification (ASIC). The 1969 Preliminary edition of the ASIC was used in preceding years. (b) Average over whole year. Includes working proprietors. (c) Data in this table have been revised to comply with changes in the ABS definition of *value added*. 'Rent, leasing and hiring expenses' and 'Rent, leasing and hiring revenue, previously excluded from the *value added* calculations, are now included.

Tourism

Tourism is one of the Territory's major industries with direct earnings for 1979-80 estimated at almost \$100 million. Visitors increased from 112,800 in 1971 to 330,000 in 1979-80 (about 15 per cent of these being from overseas). A visitor growth rate of 12 per cent continues to encourage investment in tourist facilities which includes casinos in Darwin and Alice Springs and the Yulara Tourist Village at Ayers Rock—Mt Olga National Park. Ayers Rock (which provides the most reliable visitors figures) showed increases from 5,000 in 1961 to 38,000 in 1971, and 79,219 in 1980-81.

The Northern Territory Tourist Commission has an Alice Springs Head Office, a Darwin Office, a Bureau in Adelaide, Melbourne, Sydney, Perth and Brisbane and a budget for 1981-82 of \$3.2 million.

National parks and reserves

There are 45 parks and reserves, covering about 48,000 square kilometres, under the care, control and management of the Conservation Commission of the Northern Territory. The Commission's functions include the preservation and protection of natural and historical features and the encouragement of public use and enjoyment of land set aside in the lands under its control.

Transport and communication

Railways

Passenger and freight train services commenced in December 1980 over the new 831 kilometre standard gauge (1,435 millimetres) Tarcoola—Alice Springs railway, construction of which commenced at Tarcoola, on the Trans-Australian Railway, in April 1975. It replaces a light pioneer narrow gauge (1,067 millimetres) line from Marree to Alice Springs, completed in 1929, and subject to frequent flooding and washaways. The Marree-Alice Springs line will be removed by 1983. Train services on the North Australia Railway, from Darwin to Birdum, ceased on 30 June 1976, by direction of the Commonwealth Government. Australian National Railways is currently carrying out survey work for a proposed new railway between Alice Springs and Darwin.

Roads

The Stuart Highway is the principal north-south axis route for the Northern Territory connecting Alice Springs, Katherine, Tennant Creek and Darwin to Adelaide. The section Darwin—Alice Springs is 1,491 kilometres long and sealed over its full length. The section south of Alice Springs is sealed to the South Australian border, a distance of 293 kilometres.

The Barkly Highway is the principal route to and from Queensland via Mount Isa. It is 648 kilometres long and is sealed. Running approximately east-west, it connects to the Stuart Highway some 26 kilometres north of Tennant Creek.

The Victoria Highway, the principal access route to and from Western Australia via Kununurra, is 467 kilometres long and is sealed.

These highways are used to carry a variety of freight, including cattle, particularly between the rail-heads at Mount Isa and Alice Springs. They provide access to meatworks at Wyndham (Western Australia), Cloncurry (Queensland) and Katherine. In addition, they play a particularly important part in the Northern Territory economy through their association with the tourist industry.

The first program for upgrading the Stuart and Barkly Highways is complete, while the second program is nearing completion. Future works will be an ongoing program to bring these roads to National Highway Standards.

Water

The Northern Territory Government provides water and wastewater facilities in main centres including Darwin, Alice Springs, Tennant Creek, Katherine, Adelaide River, Batchelor, Pine Creek and many Aboriginal communities. Piped water is available in a number of small settlements including Mataranka, Larrimah, Daly Waters, Elliott, Ti Tree and Finke.

Darwin is served by the Darwin River Dam some 70 kilometres from the city. The earth rockfill dam was completed in 1972. It is 30 metres high with a crest length of 564 metres, has an active storage of 230 million cubic metres and a safe draft of 90 megalitres per day. A supplementary source, McMinn's borefield, is supplying up to 15 megalitres per day. Studies are also being carried out to identify future sources to meet the growing needs of the Darwin region. A first stage project will be the diversion of flow from the Finnis River to Darwin River storage.

Alice Springs has twenty-five bores at Roe Creek, Tennant Creek has ten at Kelly Well and three at Cabbage Gum. Other communities are also supplied from groundwater sources. Katherine is to be supplied with treated water from the Katherine River in place of the hard water from the Tindall limestone aquifer.

Feasibility studies are in progress to assess the economic viability of multi-purpose dams at Warrai on the Adelaide River.

Soil conservation

The Conservation Commission of the Northern Territory administers soil conservation and control legislation, undertakes resource inventories to assess land capabilities and conducts soil erosion works on behalf of the Government and the private sectors.

Shipping

Shipping services to Darwin are provided from the eastern states by the Australian National Line container/bulk ore vessel, the MV Darwin Trader on a six weekly service, and from Western Australia by Western Australian State Shipping Service using two unit load vessels providing a fortnightly service. Tankers from Australian and overseas ports deliver oil products to Darwin. General cargo vessels from overseas ports also visit Darwin. The prawning and fishing industry accounts for a significant portion of the shipping entries into the port.

A regular shipping service operates from Brisbane to the Gulf of Carpentaria ports which serves Aboriginal communities as well as the mining centres of Melville Bay (Gove) and Milner Bay (Groote Eylandt), and bulk carriers load ore and other mining products for delivery to ports in Australia and overseas.

Two Darwin-based companies operate landing craft to Aboriginal communities and ports along the coast, and provide one vessel on regular service to Singapore.

Air services

At 1 September 1981 there were 100 licensed aerodromes plus 4 Commonwealth controlled airports in the Territory. Qantas operates a weekly international service from Darwin to Singapore whilst Garuda Indonesian Airways provides a twice weekly service to Den Pasar (Bali). Regular services to Darwin with intermediate stops at some Territory centres are operated by Trans Australian Airlines and Ansett Airlines of Australia from mainland capital cities and by Airlines of Western Australia from Western Australia. Airlines of Northern Australia commenced operations in 1981 and provide a network to all major Territory centres. The Northern Territory Aerial Medical Service has aircraft based at Darwin and Gove while the Royal Flying Doctor Service operates from Alice Springs. Regular commuter services operate from Darwin, Katherine and Alice Springs to outlying centres. Charter services are available at Darwin, Alice Springs, Gove, Groote Eylandt, Katherine, Tennant Creek and Jabiru. Responsibility for the economic licensing of domestic operations passed from the Commonwealth to the Northern Territory Government on 1 June 1980. The Commonwealth Government retains responsibility for safety and operational aspects and works closely with Territory authorities in the licensing of commercial operations within the Territory.

Several organisations provide helicopter services particularly for cattle mustering and aerial survey. In 1981 heavy helicopter activity from Darwin increased in support of offshore drilling rigs involved in oil and gas exploration.

Civil aircraft under contracts to the Department of Transport, Australia, operate on extensive coastal surveillance operation from Darwin.

Post, telegraph, telephone, radio and television

Postal communication is maintained by daily air transport between major Northern Territory centres and the capital cities of Australia. Large centres receive surface mails by two major road mail services operating from Queensland and South Australia. More remote centres are served by aerial services. Direct mail despatches are exchanged between Darwin and several overseas countries.

Trunk telephone links to Darwin extend from Townsville via a broadband microwave radio relay system, and from Adelaide via systems operated over leased circuits on the NAR Tarcoola-Alice Springs micro wave link. These systems also carry telegraph and data traffic and serve towns along the routes. Subscriber trunk dialling facilities were introduced to Darwin, Nhulunbuy (Gove Peninsula) in 1974 and to Katherine in 1975. ISD (International Subscriber Dialling) was introduced to telephone exchanges in the Darwin area and to Katherine and Nhulunbuy in December 1976. Tennant Creek and Elliott telephone services were connected to automatic with subscriber trunk dialling facilities during 1979.

Completion of Australia's first solar-powered broad-band microwave relay system between Tennant Creek and Alice Springs in October 1979 brought subscriber trunk dialling and ISD facilities to Alice Springs. It also provides live television programs to the National Television Service transmitter at Alice Springs.

Smaller towns in the Northern Territory are progressively being converted to automatic telephone service with STD facilities in a program extending over several years. The most recent of these was Adelaide River, Mataranka, Millingimbi and Bathurst/Melville Islands (Tiwi Exchange). An automatic exchange equipped to 600 lines was provided in November 1980 to service the newly created uranium mining town of Jabiru.

High frequency radio telephone exchanges at Katherine and Alice Springs provide connections to the telephone network for some of the remote properties in the Northern Territory. The majority of homesteads on pastoral leases are equipped with radio transceivers operating through the Royal Flying Doctor base at Alice Springs or the Telecom Australia Outpost Radio base in Darwin which provide a message passing and emergency communications service. A number of homesteads and settlements adjacent to the Darwin-Isa and Tennant Creek-Alice Springs microwave corridors are provided with VHF radio telephone giving 24 hour service with STD facilities.

Regional national broadcasting stations are situated at Darwin, Alice Springs, Tennant Creek, Katherine and Gove and there are commercial broadcasting stations located at Darwin and Alice Springs. Two television stations, ABD Channel 6 of the national broadcasting system and NTD Channel 8, a commercial station, operate in Darwin. The Darwin ABD 6 national program is also broadcast in Katherine (ABKN 7) and Tennant Creek (ABTD 9) with a translator (ABTD 9—10) to give coverage of the mining residential area at Warrego. A national television station, ABAD Channel 7, operates in Alice Springs. Remote area television provided via satellite to earth stations at Elcho Island, Nhulunbuy and Groote Eylandt will go to Jabiru, Boroloola and Daly River in 1982.

Education

See also Chapter 12, Education.

Responsibility for education in the Northern Territory was transferred from the Commonwealth Department of Education to the Northern Territory Government on 1 July 1979.

Since that date education services have been provided by the Northern Territory Department of Education.

Details of the responsibilities are outlined in the *Northern Territory of Australia Education Act* 1979. Under the Act, the Minister for Education is responsible for the general administration and control of education services. The Act states that the Minister may take all measures which, in his opinion, are necessary or desirable to assist parents of children in the Territory in fulfilling the responsibility to educate their children according to the individual needs and abilities of those children; to make education services, provided by him, available to all people in the Territory; and to assist all people of the Territory with their own education. The Act also provides for the establishment of Advisory Councils.

Schools in the Northern Territory

At 31 July 1981 there were 143 schools in the Northern Territory with a total school population of 30,889. Of that number 3,203 attended 7 private schools and 1,120 attended 6 mission schools. Approximately 9,715 students were of Aboriginal descent. In addition to primary and pre-schools, there are eight government high schools, one secondary correspondence school and one private high school. There are three area schools offering secondary courses and two residential colleges for Aboriginal students.

There are also 22 government schools in Aboriginal communities that offer post-primary courses and six mission schools with post-primary programs.

Teaching staff are provided by the Northern Territory Teaching Service and qualified applicants are recruited from all parts of Australia.

With the exception of matriculation level, where students sit for examinations offered by the South Australian Public Examinations Board, all aspects of curriculum, course accreditation and student assessment are the responsibility of the Northern Territory Curriculum Advisory Committees, with subject area committees, in Language Arts, Mathematics, Science, Social and Cultural Education, Physical and Health Education, The Arts, and Life/Work Skills. With the exception of Life/Work Skills, which is concerned with secondary education only, all committees span primary and secondary education from Transition to Year 12.

Subject area committees recommend the curricula to be followed in Northern Territory schools, determine the core of essential understandings and processes which students are expected to master in those curricula and assess the students' mastery of the core. Guidelines for all those functions are determined by the Curriculum Advisory Committee which also accredits non-matriculation courses offered to the senior school (post Year 10) students. Core Curriculum was introduced into primary schools in 1981, and will be introduced into Year 8 in 1982, Year 9 in 1983 and Year 10 in 1984. The nature and format of certificates for secondary students is currently under review.

The work of curriculum committees including the development and implementation of curricula, is supported by educational advisers and a range of educational services.

The two Schools of the Air in the Northern Territory, one at Katherine and one at Alice Springs, have developed individual programs and provide correspondence and radio lessons for students in the years One to Seven. One correspondence school caters for isolated secondary students. Aerial and road patrols are carried out regularly to provide teacher/student and parent contact.

Special schools are located in Alice Springs and Darwin for handicapped children. However, where appropriate, students with special needs are integrated into primary and secondary schools. Guidance and Special Education Advisory services operate from the two Regional Offices in Alice Springs and Darwin.

A program of exchange between Bali (Indonesia) and the Northern Territory is continuing in which two teachers from each country are exchanged for a school year, and four senior students spend up to six months in the other country. The Northern Territory have also sponsored a group of junior high school students and teachers from Bali on a two-week educational visit to the Territory each year.

Aboriginal education

Most Northern Territory Aboriginals live away from town centres and their education is provided in various settings including mission schools, government schools on or near Settlements or Aboriginal townships, on pastoral properties and outstations or homeland centres.

There has been an increasing number of requests from outstations for the Department of Education to provide assistance. A small group of teachers is currently working in this field and developing special methods and modified courses to help overcome the difficulties faced by isolated outstation groups in their quest for education.

Government schools for Aboriginal children in out-of-town centres provide tuition at pre-school and primary school level with a number of them providing post primary (secondary age) classes as well.

For Aboriginal children who wish to proceed to secondary schools there are now two residential colleges: Yirara and Kormilda. These colleges are regionally based but situated near urban centres, Yirara at Alice Springs and Kormilda in Darwin. They provide secondary age students from outlying centres with the opportunity to undertake a range of courses internally or to attend an urban high school.

Bilingual education programs in Northern Territory schools in Aboriginal communities have attracted wide interest from within Australia and overseas. There are 14 schools offering bilingual programs and 3 schools preparing resources for programmes to be introduced in the future. Many other schools include Aboriginal language and culture in the curriculum. Twelve languages are now being

used in the program and research is continuing into another two. Most school children are acquiring initial literacy skills in their own language. Although a large proportion of the curriculum is devoted to instruction in an Aboriginal language, a structured English course forms an integral part of the bilingual program. Other aspects of Aboriginal education are covered in the TAFE section.

Darwin Community College

The College was opened in 1974 and is an autonomous, multipurpose institution. It has Schools of Business and Administration, General Studies, Creative and Applied Arts, Technology and Science, Trades and Linguistics. As well as courses at Advanced Education and TAFE levels leading to awards, the College provides a wide range of non-award recreational classes. It provides lecture and tutorial assistance in a limited range of subjects to external students enrolled at the University of Queensland and at the Adelaide College of Arts and Education. The College has an annex at Nhulunbuy and the School of Australian Linguistics located at Batchelor. By August 1981 the College had recorded 6,341 enrolments for the year in the various courses offered.

Industrial Training

The Northern Territory Industries Training Commission commenced, under the provisions of the Industries Training Act (1979), on 6 June 1980. Commission members represent government, education, employers and employees. Functions include research, special needs, co-ordination, standards, promotion, accreditation, financial assistance and advice in all matters relating to post-school training and manpower matters in the Territory.

Technical and Further Education

Aboriginal Adult Education most large Aboriginal communities have an Adult Educator who relates to adults in the community and arranges non-formal programs which he or local part-time instructors and visiting lecturers teach.

Communities are developing more confidence in the management of their own affairs through implementation of policies such as the Chief Minister Five-year plan to improve Aboriginal Communities in the Territory. There is thus a growing demand for Adult Education requiring a co-ordinated effort on the part of all agencies offering Adult Education services.

Community College of Central Australia prior to 1 July 1979 was a campus of Darwin Community College. It offers electrical and aircraft engineering licences, apprenticeship, business, secretarial, tourism, hospitality, Aboriginal development, technology, art, matriculation and preparatory studies, non-credit refresher, recreational and general education courses and a tutorial program for degrees, diplomas and certificates from Warrnambool Institute of Advanced Education, Darwin Community College and the South Australian Open College of Further Education.

Katherine Rural Education Centre began teaching in 1979 and is residential. It offers a one year full-time Certificate in Rural Studies and short courses such as power saw maintenance, water conservation and use, helicopter mustering and horse shoeing.

Batchelor College is a residential TAFE institution providing programs for Aboriginal people leading to teacher education qualifications.

Adult Migrant Education Centre supersedes Adult Migrant Education Service courses and provides courses for on-arrival migrants and adult migrants preparing to enter the work force.

Finance

The following table gives details of government receipts and outlays that have been identified as relating specifically to the performance of local or State-type functions in the Northern Territory for 1977-78, 1978-79 and 1979-80. Receipts collected in the Northern Territory from Australia-wide sources (e.g. income taxes, customs duties, etc.) and outlays in the Northern Territory on items of a national character (e.g. defence, civil aviation and cash benefits paid to Northern Territory residents as part of national programs) are *not* included.

In addition to transactions relating to the Northern Territory in the Consolidated Revenue Fund and certain trust funds the transactions of the following public corporations are included: Northern Territory Port Authority, Northern Territory Housing Commission, Jabiru Town Development Authority, Corporation of the City of Darwin, Corporation of the Municipality of Alice Springs, Corporation of the Municipality of Katherine and Corporation of the Municipality of Tennant Creek. Outlay totals for 1977-78 include expenditure authorised by the Northern Territory Legislative Assembly.

On 1 July 1978 the Northern Territory became self-governing with expenditure responsibilities and revenue raising powers broadly approximating those of a State. As a consequence, statistics for 1978-79 onwards show the receipts and outlays of the Northern Territory Government and its subsidiary bodies as a distinct level of government separate from the Commonwealth.

NORTHERN TERRITORY: OUTLAY AND RECEIPTS

(\$'000)

	1977-78	1978-79		1979-80
	<i>Commonwealth Government</i>	<i>Commonwealth Government</i>	<i>Northern Territory Government</i>	<i>Northern Territory Government</i>
OUTLAY				
Final consumption expenditure—				
Law, order and public safety	18,547	1,053	25,134	33,909
Education	54,479	62,317	—	71,285
Health	45,231	24,325	29,764	59,547
Social security and welfare	24,784	18,492	11,597	12,749
Other	45,397	4,292	75,250	106,451
Gross fixed capital expenditure on new assets and stocks—				
Education	20,700	19,427	—	13,377
Roads	24,455	—	33,848	50,178
Housing and regional development	46,333	365	28,891	27,779
Health	30,487	10,163	10,582	9,892
Social security and welfare	315	57	566	195
Electricity, gas and water	24,690	—	34,327	47,624
Other	22,489	588	25,133	40,538
Net purchase of existing assets	547	—	4,675	4,937
Interest paid	—105	—	11,380	14,254
Cash benefits	182	269	—	451
Subsidies	1,286	—	1,758	55
Net advances to the private sector—				
Housing and community amenities	12,177	—	10,191	26,147
Other	1,564	—	1,356	—1,069
Grants for private capital purposes	8,786	8,612	1,221	696
Advances to public financial enterprises	—248	—	—	—
Total outlay	382,096	149,960	305,673	518,995
RECEIPTS				
Taxation—				
Payroll tax	7,630	—	10,381	15,209
Rates on land	3,376	—	4,515	5,622
Stamp duties	400	—	1,919	3,064
Motor registration	1,129	—	2,460	3,098
Other taxes, fees, fines, etc.	2,686	226	4,137	4,799
Interest, rent, etc.	3,713	—	9,540	12,298
Income from public enterprises	—5,454	593	—16,607	—20,514
Net sale of local authority and public corporation securities	—1,609	—	4,319	25,936
Other receipts	—484	—1,060	—1,274	31,305
Net charge to Commonwealth Government budget	370,708	150,201	286,284	438,178
Total receipts	382,096	149,960	305,673	518,995

THE AUSTRALIAN CAPITAL TERRITORY

General description

The Constitution provides that the Seat of Government of the Commonwealth of Australia shall be in the State of New South Wales but distant not less than 160 kilometres from Sydney. After a number of alternative sites were considered, an area of 2,395 square kilometres lying approximately 320 kilometres south-west of Sydney was transferred to the Commonwealth as from 1 January 1911. A further 73 square kilometres at Jervis Bay were transferred as from 4 September 1915 to serve as a port for the Territory.

The primary responsibility for administering the Australian Capital Territory lies with the Department of the Capital Territory, whose functions include housing, public transport and municipal services. Education, public health and justice are the responsibilities of the Departments of Education, Health and the Attorney-General respectively. The National Capital Development Commission has the responsibility for the planning and development of the Canberra city area.

In 1974, the A.C.T. Advisory Council, which had been in existence since 1930, was replaced by the A.C.T. Legislative Assembly. The first Assembly was elected on 28 September 1974 and held its first meeting on 28 October 1974.

During 1979, the name of the A.C.T. Legislative Assembly was changed to the A.C.T. House of Assembly. The first election for the House of Assembly was held on 2 June 1979 and first meeting of the House of Assembly was held on 29 June. The Assembly is constituted under the (*Legislative Assembly Ordinance*) Section 10 of which defines its role as follows:

'The Assembly may advise the Minister (for the Capital Territory) in relation to any matter affecting the Territory including the making of new Ordinances or the repeal or amendment of existing Ordinances.'

The Assembly consists of 18 Members (9 from each of the electoral divisions of Canberra and Fraser) and its procedure is modelled on that of the House of Representatives. Its Members serve on a part-time basis.

The Assembly normally considers (and sometimes introduces) Ordinances which are proposed for the Territory. It also passes resolutions on matters affecting the Territory. It is represented on a number of boards, authorities and committees such as the Canberra Commercial Development Authority, the A.C.T. Electricity Authority, the A.C.T. Schools Authority, the Capital Territory Health Commission, the Liquor Licensing Board, the Consumer Affairs Council and the Australian Constitutional Convention.

At 30 June 1981, the population of the Australian Capital Territory was 233,500. *See also* Chapter 6, Demography.

National Capital Development Commission

The *National Capital Development Commission Act 1957* provides for a Commission to undertake and carry out the planning, development and construction of the City of Canberra as the National Capital of the Commonwealth. The year 1980-81 was the twenty-fourth year of the Commission's operations. Construction work was carried out by means of agency operations with the Department of Housing and Construction and by private consultants. Expenditure in recent years is as follows: 1977-78, \$197.1 million; 1978-79, \$157.1 million; 1979-80 \$136.2 million. Total expenditure in 1980-1981 was \$112.4 million comprising: land development and services \$6.0 million; water, sewerage and stormwater services and headworks \$2.7 million; housing, flats and other accommodation \$2.5 million; educational facilities \$13.3 million; roads, public transport and traffic control \$12.2 million; city works and associated facilities \$7.3 million; Commonwealth Government offices \$22.4 million; national works \$16.5 million; health and welfare facilities \$2.6 million; others \$26.9 million.

Works and services

Housing

Until the period following the 1939-45 War, most houses and flats in the Australian Capital Territory were built and rented by the then Department of the Interior. More recently, an increasing number of houses and flats have been built by private enterprise and, as a result, the proportion of houses and flats in the Australian Capital Territory occupied by tenants of the Department of the Capital Territory (formerly the Department of the Interior) has fallen from 79.7 per cent of total occupied houses and flats in 1954 to 58.3 per cent in 1961, 38.8 per cent in 1966, 28.1 per cent in 1971 and 15.6 per cent in 1981. Although the bulk of rented accommodation is provided by public authorities

(and this situation will continue in the foreseeable future), there has been a considerable increase in the proportion of home ownership in the Australian Capital Territory since 1954. The proportion of houses and flats owned or being purchased by instalments has risen from 19.5 per cent in 1954 to 29.0 per cent in 1961, 45.6 per cent in 1966 and 51.8 per cent in 1971 and approximately 58 per cent in 1978. Home building activity in Woden Valley, Weston Creek, Tuggeranong (south-west of the former city area) and Belconnen (north-west of the former city area) has continued to expand. At June 1980 there were 19,036 occupied dwellings in the Woden Valley and Weston Creek area, 22,313 occupied dwellings in the Belconnen area and 7,998 occupied dwellings in the Tuggeranong area. *See also* Chapter 19, Housing and Construction.

Municipal services

Since its establishment, Canberra has been developed as a garden city. City Parks Administration of the Department of the Capital Territory manages all established urban parklands and sportsgrounds within the city area which amounted to approximately 7,490 hectares in 1980–81, an increase of approximately 410 ha on the 1978–79 total.

The Yarralumla Nursery, established in 1913, continues to propagate trees and shrubs for use in development projects and as replacements in the course of area maintenance. Introduction of new methods has increased productivity and improved quality of stock. During 1980–81 approximately 500,000 plants were propagated, maintaining a constant supply as in the year before.

The National Botanic Gardens and the Horticultural Research Centre at Weston are also part of the City Parks Administration.

The water supply, sewerage and drainage systems in the Australian Capital Territory are operated by the Department of Housing and Construction on behalf of the Department of the Capital Territory.

At 30 June 1981, 67,158 metered services were connected to the City Water Supply. The city draws water from three storages on the Cotter River with a total capacity of 91,000 megalitres and a storage of 125,000 megalitres on the Queanbeyan River at Googong. Distribution is via 41 reservoir installations of which 4 are twin tanks.

In 1980–81, 55,831 megalitres of water were consumed in Canberra whose population was 225,100. An additional 3,825 megalitres were supplied to Queanbeyan, N.S.W. whose population was 20,100.

Canberra's sewage is disposed of through the Lower Molonglo Water Quality Control Centre.

As at 30 June 1981, 1,784 kilometres of sewers, 14 kilometres of rising sewerage mains, 1,978 kilometres of stormwater drains and a total length of 1,799 kilometres of water line were laid.

Production

See also the chapter dealing with particular subjects.

Lands

Reference has been made in earlier issues of the Year Book to the general conditions of land tenure in the Australian Capital Territory and to the area of alienated and leased land. The Agricultural Industry chapter in this Year Book contains statistical information on these subjects.

With minor exceptions the freehold estate of land in the Australian Capital Territory has been acquired by, and is vested in the Crown. The *Seat of Government (Administration) Act* 1910 prevents the sale or disposal of such Crown land for any estate in freehold except in the case of a contract that preceded the Act. Progressively the remaining areas of freehold land are being acquired.

Leases of land for residential, commercial and other purposes in the city area are usually granted under the *City Area Leases Ordinance* 1936. Some special leases for other purposes (such as diplomatic sites or churches) are granted under the *Leases (Special Purposes) Ordinance* 1925 or the *Church Lands Leases Ordinance* 1924. Some areas outside the city area not immediately required for the development of the City or for other public purposes or where there is no intention of development are leased for agriculture or grazing under the *Leases Ordinance* 1918.

The Commonwealth Territory at Jervis Bay, comprising about 73 square kilometres, was acquired from New South Wales for the possible provision of port facilities in connection with the Australian Capital Territory. A portion of the area is occupied by the Royal Australian Naval College (*H.M.A.S. Creswell*) and a Royal Australian Navy airfield. Several blocks fronting Sussex Inlet plus an area on Bowen Island have been leased for guest houses and holiday camps, etc., under the *Leases Ordinance* 1918, and an area of land in the Murray's Beach area has been set aside for possible use as an atomic power station under the control of the Australian Atomic Energy Commission. Apart from picnic and camping areas, experimental planting, afforestation and soil conservation activities, the remainder of the area is being maintained in its natural state.

Forestry

Forestry field operations in the Australian Capital Territory began in 1915 with the planting of pines on the denuded slopes of Mount Stromlo to arrest soil erosion and improve visual quality of the landscape. In 1926, a program for development of commercial forests was approved following a comprehensive review of the Territory's potential for forest development. Major reviews of this program were made in 1932, 1954 and 1967, always, however, retaining the basic policy of systematic conservation and development. All of the better native forest has been placed under management. Forestry operations including fire protection treatment have been extended to some 44,500 hectares of natural forest in the Cotter catchment and adjacent areas. The more productive stands in these areas were harvested extensively to provide timber for Canberra's post-war expansion and were subsequently treated to promote regeneration and protect the quality of water harvested.

The policy of forest management in the Australian Capital Territory has been formulated to cater not only for commercial timber production but also to provide recreation facilities and an attractive visual environment for the national capital and to protect the water supply. These policies can be broadly summarised as follows:

- (a) to manage and develop plantations and hardwood forest area in the Australian Capital Territory and Jervis Bay for production of timber and arrange sales of all forest produce;
- (b) to initiate and maintain a variety of growth and environmental experiments to produce information for management decisions; and
- (c) to develop and implement viable multiple use policies for forest areas with particular emphasis on recreation potential and facilities, quality of water harvest in catchments and conservation of the environment.

The forest authority is charged with the management of some 74,000 hectares of land in the Australian Capital Territory. Of this, some 48,000 hectares carry native forest or woodland. As at 30 June 1981, the total area of coniferous plantations in the Australian Capital Territory and Jervis Bay was 14,119 hectares nett. Of 217 hectares at Jervis Bay, the majority consisted of *Pinus radiata* (Monterey Pine) and *Pinus elliottii* (Slash Pine). The plantations in the Australian Capital Territory consisted mainly of *Pinus radiata* and *Pinus ponderosa* (Yellow Pine). Total area of *Pinus radiata* was 13,254 hectares.

In 1980-81 there was no commercial production of hardwood timber from the Australian Capital Territory and Jervis Bay. The volume of softwood cut was 211,000 cubic metres. The total value of this unprocessed timber unloaded at the mill (milldoor value) was \$5.2 million.

Agricultural and secondary industries

In the eight years since 1973-74 the number of agricultural establishments in the Australian Capital Territory has fallen from 154 to 106. The more important items produced in 1980-81 were: wheat for grain 200 tonnes; wool 390 tonnes; meat (carcass weight) 13,600 tonnes. Livestock numbers at 31 March 1981 included 12,435 cattle and 101,541 sheep.

Secondary industries established in the Australian Capital Territory are largely the service industries associated with the growth of the Territory.

AUSTRALIAN CAPITAL TERRITORY: MANUFACTURING ESTABLISHMENTS—1977-78 to 1979-80(a)

		1977-78(a)	1978-79 (a)	1979-80(a)
Establishments operating during year	No.	90	117	115
Persons employed (b)	No.	2,892	3,073	3,156
Wages and salaries	\$m	29.9	33.7	38.0
Turnover	\$m	100.8	118.8	126.0
Opening stocks at 30 June	\$m	9.8	12.2	11.0
Closing stocks at 30 June	\$m	10.7	11.4	13.0
Purchases, transfers in and selected expenses (c)	\$m	48.5	57.4	59.0
Value added (c)	\$m	53.2	60.6	68.0

(a) Classified to industry according to the 1978 edition of the Australian Standard Industrial Classification (ASIC). The 1969 Preliminary edition of the ASIC was used in preceding years. (b) Average over whole year. Includes working proprietors. (c) Data in this table have been revised to comply with changes in the ABS definition of value added. 'Rent, leasing and hiring expenses' and 'Rent, leasing and hiring revenue', previously excluded from the value added calculation, are now included.

Commercial practices

There is growing awareness of consumer rights as evidenced by the increasing number of enquiries received by the A.C.T. Consumer Affairs Bureau and the wide range of consumer oriented legislation.

The Bureau receives and investigates complaints from consumers, conducts research into matters affecting consumer interests and provides information of benefit to consumers.

Control over weights and measures standards traditionally has been, and remains, a prerequisite for fair commercial transactions. The Weights and Measures Office periodically examines the scales and measures used for trade.

In the A.C.T., licensing is used as a means of regulating some commercial practices by establishing minimum standards of qualifications and/or experience for entry into certain occupations. These include motor vehicle dealers, stock and station and real estate agents, and pawnbrokers and secondhand dealers.

The *Co-operative Societies Ordinance* 1939 provides for the incorporation of building societies, housing and service societies and credit unions. The Registrar is responsible for the incorporation of new societies, the registration of documents, inspections and inquiries into the working and financial situation of societies and the hearing and determination of certain disputes between a society and a member.

In Canberra there are two retail fruit and vegetable markets. These have been established, operated and controlled by the Canberra Retail Markets Trust.

Transport and communication

Canberra is connected with the railway system of New South Wales at Queanbeyan by a line 8 kilometres long. This line was opened for goods traffic on 25 May 1914 and for passenger traffic on 15 October 1923. Direct or linking services operate between Canberra and Sydney, and Canberra and Melbourne. The two major domestic airlines provide many services daily each way on the Sydney-Canberra-Melbourne route, while five smaller carriers operate services to provincial centres. Regular motor coach services link Canberra with towns in New South Wales, and mainland state capitals. The total length of roads in the Territory at 30 June 1977 was: inner-urban, 1,464 kilometres; outer-urban, 281 kilometres; tourist development roads, 63 kilometres; total 1,808 kilometres. At 30 June 1979 there were also 67 kilometres of trunk cycle paths connecting suburbs with Canberra's major business centres. The Department of the Capital Territory is responsible for the regulation of transport and traffic under an A.C.T. Ordinance. ACTION, the Australian Capital Territory Internal Omnibus Network, is also operated by the Department of the Capital Territory. It operated 358 buses in 1980-81, over 74 routes covering 735.06 kilometres. A total of 11,027,947 kilometres was travelled and an estimated 20,760,000 passenger journeys made.

There are six radio broadcasting stations in the Territory: 2CY, 2CN and ABC-FM of the national broadcasting system; two commercial stations, 2CA and 2CC; and one community station, 2XX. There are two television stations, ABC Channel 3 of the national broadcasting system and Australian Capital Television Pty Ltd (Capital 7), a commercial station.

Social

See also Chapter 12, Education; Chapter 10, Health; and Chapter 11, Law and Order.

Schools

The *Education Ordinance* 1937 provides for the compulsory attendance at school of children between the ages of six and fifteen years. Government schools are administered by the A.C.T. Schools Authority, which became a Statutory body in January 1977. The Authority is representative of teachers, parents and the community. The A.C.T. Schools Accrediting Agency within the Authority system accredits courses and administers student assessment procedures for Years 11 and 12. These procedures replaced the New South Wales Higher School Certificate examination at the end of 1976.

In July 1981 there were seventeen government high schools in the Australian Capital Territory, and eight secondary colleges. High schools cater for Years 7 to 10 and secondary colleges for Years 11 and 12. Secondary students enrolled numbered 14,677.

Sixty-two schools provide courses at primary levels, three of these being in rural districts and one in the Jervis Bay area. The number of pupils enrolled in primary grades of government schools at July 1981 was 24,256.

There are six government special schools in the A.C.T. with a total enrolment of 351 students. These schools cater for pre-school, primary and secondary school aged students who are physically or intellectually handicapped. Mildly intellectually handicapped children are served by learning centres attached to six primary schools and two high schools.

Special units for deaf children are available to three schools, while blind children receive specialised support at five other Schools. Children below school age with learning or sight problems receive assistance from specially-trained staff at pre-schools and in their homes.

Thirteen primary schools cater for children of junior primary age who are unable to adjust to a normal class situation. One of these classes specialises in the care of children with language and communication disorders. Educational guidance services are provided by the Education Clinic and through counselling staff attached to schools.

Special English classes for migrant children are available at thirty-two primary schools, nine high schools and three secondary colleges. The Introductory English Centre is for secondary school migrant children with little or no English. They attend for up to six months and then return to their neighbourhood school or college.

The seventy-four pre-schools provide facilities for 5,060 children between the ages of three and five years. Provision is made at all pre-schools for the additional enrolment of children who have minimal problems such as speech, behavioural and family problems.

In July 1981 there were twenty-two non-government primary schools in Canberra, seven schools offering both primary and secondary schooling and four schools with secondary grades only. At the same time, 9,765 pupils were in primary grades of non-government schools and 7,313 in the secondary grades of these schools.

A.C.T. Further Education

The Office of A.C.T. Further Education which operates within the structure of the Department of Education is responsible for the Technical and Further Education Colleges.

There are presently three TAFE Colleges in the A.C.T. These are Canberra, Bruce and Woden. The Woden TAFE College began teaching in 1980. The new building in the heart of the Woden complex was opened in 1981. These Colleges provide trade, post trade, certificate, craft and leisure type courses at their main campuses and at several annexes. In the year ended 31 December 1980 there were 15,453 students enrolled; 13,885 in Technical and Further Education courses and 1,568 in Adult Migrant Education courses.

The Canberra School of Art and the Canberra School of Music are also part of the A.C.T. Further Education system. The Canberra School of Art offers Diploma of Arts (Visual) three years full-time study (or part-time equivalent), an Associate Diploma of Arts (Visual) with two years full-time study (or part-time equivalent). It also provides art courses for students from the Canberra College of Advanced Education as well as non-vocational classes for the community in general. In the year ended 31 December 1980 there were 847 students enrolled.

The Canberra School of Music offers a four year full-time Bachelor of Arts (Music). Courses for Canberra College of Advanced Education students and single study classes for part-time students are also offered. In the year ended 31 December 1980 there were 562 students enrolled.

It should be noted that student enrolment figures shown here have been adjusted for those students enrolled in more than one course at any time during the reference year. Student enrolment data shown in previous Year Books has not been adjusted in this matter and is therefore not comparable.

Other Tertiary Educational Institutions

The Canberra College of Advanced Education is administered by a Governing Council constituted under an Act of Parliament and offers courses in six schools—Administrative Studies, Applied Science, Liberal Studies, Teacher Education, Information Sciences and Environmental Design. Courses have a professional or vocational orientation and lead to master and bachelor degrees, and associate and graduate diplomas. There were 5,299 students enrolled as at August 1981.

The Australian National University was established by an Act of Parliament and is administered by its governing Council. The Institute of Advanced Studies within the University is a centre for research and training in research. It includes the John Curtin School of Medical Research and Research Schools of Physical Sciences, Social Sciences, Pacific Studies, Chemistry, Biological Sciences and Earth Sciences. The faculties carry out both undergraduate and post-graduate training and research and are composed of the faculties of Arts, Asian Studies, Economics, Law and Science. The total student enrolment as at August 1981 was 5,955.

The University has established the following centres: Centre for Resource and Environmental Studies; Humanities Research Centre; North Australia Research Unit (based in Darwin); Survey Research Centre; Centre for Continuing Education; Computer Centre; Office for Research in Academic Methods; and the National Health and Medical Research Council Social Psychiatry Research Unit.

Continuing education

The Centre for Continuing Education, which is run by the Australian National University, is intended to foster 'the learning society' by enriching the contacts between the university and the community to their mutual advantage. The Centre offers a wide range of courses in the natural and social sciences and the humanities.

Evening classes in the A.C.T. are provided at three high schools and four secondary colleges as a continuing education service of the A.C.T. Schools Authority. Enrolments in evening classes in July 1981 numbered 3,526, of which 1,955 were enrolled in recreational classes. Evening classes offer courses leading to the award of a certificate of entry to post-secondary and tertiary institutions as well as a variety of craft and cultural courses.

Apprenticeship training

At 30 June 1981, 1,367 indentured apprentices were in training in the 53 declared apprenticeship trades in the Australian Capital Territory. Apprentices were employed by about 700 approved employers. During 1980-81 there were 1,080 applications for apprenticeship. New indentures totalling 508 were registered, representing a decrease of 7.3 per cent in new indentures on 1979-80 totals. In this period 385 apprenticeships were completed and 182 cancelled. Trade courses at the Canberra and Bruce TAFE Colleges are supplemented, where required, by remedial classes in Mathematics and English.

Adult migrant education

The Office of A.C.T. Further Education, on behalf of the Department of Immigration and Ethnic Affairs, is responsible for the Adult Migrant Education Program in the A.C.T.

All English classes are free and they are open to migrants who are permanent residents of Australia.

The language program is organised in two strands. These are an on-going strand for migrants who have been in Australia for some time and an on-arrival strand for newly arrived migrants. As part of the on-going program part-time classes are offered at different levels and at various times in the day and evening. A more intensive part-time course, aimed primarily at unemployed migrants whose lack of proficiency in the English language is prejudicing their employment prospects, is available as is a full-time accelerated English course lasting ten weeks.

As well, English classes are provided in the work place either partly or wholly within working hours. Migrants who are unable to attend classes may undertake a correspondence course, or have a tutor visit them in their own homes.

The on-arrival strand of the program caters for migrants who have arrived in Australia within the previous six months. The full-time courses offered provide an introduction to Australian society and way of life as well as a basic English language instruction. On completion, students are encouraged to enrol in part-time classes.

All migrants attending full-time courses are eligible to receive a living allowance.

Tourism

Tourism has quickly become a major factor in the A.C.T. economy and in the planning and development of the Capital. A large-scale, Government-commissioned study conducted in 1975-76 estimated 2.5 million visitors for the year, spending \$72 million in the A.C.T. and Queanbeyan. Continuing surveys based on the study findings indicate between 3.5 and 3.9 million visitors per annum to the area by 1986. Tourism, a labour-intensive industry, will grow in economic significance to the A.C.T.; for 1981-82, visitor spending is expected to exceed \$140 million.

The official tourist servicing and promotional operation in the A.C.T. is provided by the Department of the Capital Territory through the A.C.T. Government Tourist Bureau. Planning and development of physical facilities remain the responsibility of the National Capital Development Commission.

The Bureau operates a highway reception and information centre on the northern (main) gateway to the city, and a branch office in Sydney. Total operational costs, including salaries and overtime, amounted to approximately \$1,030,000 in 1980-81.

Most patronised tourist features in the A.C.T. are the Australian War Memorial, the Black Mountain Telecommunication Tower, the High Court of Australia, Parliament House, the National Library, the Royal Australian Mint, and the mountain lookouts and reserves. Major new attractions under construction are the National Gallery and the new and permanent Parliament House.

Finance

In the following table, identifiable receipts and outlay relating to the Australian Capital Territory have been classified in a National Accounts form. The table covers transactions of the Commonwealth Government in respect of the Australian Capital Territory in the Consolidated Revenue Fund and the following trust funds: Australian Capital Territory Forestry, Australian Capital Territory Housing, Australian Capital Territory Transport and Australian Capital Territory Suspense. In addition, details

of the financial transactions of the following public corporations are also covered: Australian Capital Territory Electricity Authority, Commonwealth Brickworks (to September 1979), Canberra Retail Market Trust, National Capital Development Commission, the Canberra Theatre Trust, the Canberra College of Advanced Education, A.C.T. Poker Machine Licensing Board, Canberra Commercial Development Authority, A.C.T. Totalisator Agency Board and the Capital Territory Health Commission including the Canberra and Woden Valley Hospitals. Not included are revenue derived by the Commonwealth Government from income taxes, sales tax, etc., levied in the Australian Capital Territory; outlay on items of a national character such as defence, civil aviation, railways, etc.; and payments to residents from the National Welfare Fund.

AUSTRALIAN CAPITAL TERRITORY: RECEIPTS AND OUTLAY
(S'000)

	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
RECEIPTS						
Taxation—						
Rates on land	7,139	10,464	12,098	13,634	15,011	16,540
Liquor	710	984	1,260	1,325	2,395	2,136
Motor registration and licences	3,374	4,322	4,954	7,127	7,859	7,793
Payroll tax	9,038	10,761	11,296	11,945	13,142	12,373
Stamp duties	3,433	4,162	4,455	5,003	5,573	6,904
Other taxes, fees, fines, etc.	748	1,413	1,635	2,839	4,223	3,662
Interest, rent, etc.	13,514	16,920	21,899	26,214	26,124	26,103
Income from public enterprises	864	3,541	4,566	4,301	5,702	5,893
Net sale of public corporation securities	—214	3,605	(a) 27,903	(a) 15,492	6,798	6,915
Other receipts	1,985	473	(a)—9,780	18,125	13,867	7,692
Net charge to Commonwealth Government budget	261,657	313,283	316,291	329,215	294,767	300,875
Total receipts	302,248	369,928	396,577	435,220	395,461	396,886
OUTLAY						
Final consumption expenditure—						
Law, order and public safety	10,420	10,156	13,808	16,109	19,215	21,099
Education	49,019	65,233	79,089	90,619	100,696	111,665
Health, social security and welfare	23,857	35,144	44,711	52,855	58,919	68,627
Other	43,068	48,767	49,727	47,038	43,673	49,676
Expenditure on new fixed assets and stocks—						
Education	22,111	34,139	31,186	26,367	20,676	20,716
Health, social security and welfare	11,006	11,322	7,406	8,493	8,941	6,367
Housing	7,811	7,749	—1,777	—5,263	—4,751	—7,016
Community and regional development	36,675	36,467	35,235	32,984	16,000	10,211
Protection of the environment	17,301	27,424	24,277	13,212	8,366	5,024
Recreation and related cultural services	4,851	7,088	10,371	11,751	13,999	17,356
Electricity, gas and water	5,647	12,170	28,817	25,495	16,465	6,935
Roads	10,264	11,607	11,937	30,819	31,882	25,763
Other	28,479	43,876	49,535	63,828	57,043	62,215
Net purchase of existing assets	—5,485	—21,084	—19,426	—13,604	—17,423	—15,725
Interest paid	664	665	1,072	3,576	6,415	7,137
Cash benefits	18	13	8	..	..	..
Subsidies	120	143	167	207	191	376
Net advances for housing	29,796	29,451	19,480	21,493	7,566	1,502
Grants for private capital purposes	6,626	9,599	10,954	9,240	7,588	4,958
Total outlay	302,248	369,928	396,577	435,220	395,461	396,886

(a) Includes financing transactions of the Canberra Commercial Development Authority.

NORFOLK ISLAND

General description

Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29°02'S, longitude 167°57'E approximately. Its total area is approximately 3,455 hectares, the island being about 8 kilometres long and 5 kilometres wide. It is 1,676 kilometres from Sydney and 1,063 kilometres from Auckland. The coastline, which is 32 kilometres long, consists of almost inaccessible cliffs rising from

the waters edge, except at Kingston in the south and the landing place at Cascade on the northern side. The climate is equable, the average daily maximum temperature varying between 16°C and 28°C, and the average annual rainfall is 1,350 millimetres. The resident population is about 1,800.

The island served as a penal station from 1788 to 1813 and from 1825 to 1855. In 1856, 194 descendants of the *Bounty* mutineers were transferred there from Pitcairn Island.

Administration

In 1856, the Island was created a distinct and separate settlement under the jurisdiction of the Governor of New South Wales. In 1897 it was made a dependency under the Governor of that Colony, and finally, by the passage of the *Norfolk Island Act* 1913, became a Territory of Australia. It is controlled by the Minister for Home Affairs and Environment through an Administrator.

In May 1978 the Government announced that it should try to develop for Norfolk Island a form of Government involving the Island's own elected representatives under which the necessary revenue could be raised by its own system of law.

The *Norfolk Island Act* 1979, which was assented to on 30 May, established the framework for this objective. The passage of this Act followed a series of detailed discussions between the Minister for Home Affairs and Environment and the Norfolk Island Council, the Island's advisory body.

In broad terms, the Act equips Norfolk Island with responsible legislative and executive government to enable it to run its own affairs to the greatest practicable extent.

Wide powers are exercised by the Norfolk Island Legislative Assembly and by an Executive Council, comprising the executive members of the Legislative Assembly who have ministerial-type responsibilities.

The Act preserves the Commonwealth's responsibility for Norfolk Island as a Territory under its authority, and indicates the Parliament's intention that consideration will be given to an extension of the powers of the Legislative Assembly and the political and administrative institutions of Norfolk Island within five years.

The island's Supreme Court sits as required and a Court of Petty Sessions exercises both civil and criminal jurisdiction.

The Office of the Administrator is financed from Commonwealth expenditure which amounted to \$161,761 in 1980-81. A further \$286,000 was provided by the Commonwealth during the year for the restoration and maintenance of historic structures.

Economic activity

The major economic activity of the island is tourism. Primary production is not fully adequate for local needs and foodstuffs are imported from New Zealand and Australia, mainly for the tourist trade.

Primary industries. The soil on the island is particularly fertile, the climate equable and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperate and semi-tropical products to be cultivated. However, the island's comparative isolation presents trading difficulties, and there is only very limited production of export crops.

Fish abound off the island. In the past a number of ventures have been formed to exploit this resource, but they have been short-lived, mainly because of the lack of sheltered harbour. A modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. Owing to a marked scarcity of whales after 1961, however, the station was closed down.

An active forestry program is being carried out to increase the resources of Norfolk Island Pine and to introduce suitable types of eucalypts.

Tourists. Regular sea and air services to the island are available for those who seek a quiet holiday in surroundings of beauty and historic interest. At present, accommodation consists of flats and hotels as well as licensed and unlicensed guest houses.

Employment. A large proportion of the population derives its income from various aspects of the tourist industry including the operation of hotels and duty-free stores. The Commonwealth Government provides service through staff from the Departments of Transport and Science and Technology (Bureau of Meteorology) and teachers are seconded by the N.S.W. State Education Department. A number of clerical and other positions are available to islanders in the Norfolk Island Administration. Very few people rely for their income entirely on agricultural pursuits.

Trade, transport and communication

Imports to Norfolk Island since the 1939-45 War have risen from \$65,000 in 1945-46 to over \$13 million in 1980-81. The major proportion came from Australia and New Zealand. Exports in 1980-81 amounted to \$1.8 million to Australia and New Zealand, the principal markets. No duties are chargeable on goods imported into Australia from Norfolk Island if (i) the goods are produced or manufactured in Norfolk Island and shipped direct to Australia, and (ii) not goods which, if manufactured or produced in Australia, would be subject to excise duty.

One shipping company operates a service to Norfolk Island at approximately monthly intervals, linking the Island with Australia, New Zealand and other islands in the South Pacific area.

A passenger and air freight service between Sydney and Norfolk Island is operated by East-West Airlines Ltd. six times a week, and more frequently in peak periods. Air New Zealand Limited provides a service five times a week to the Island from Auckland. A light aircraft charter service operates between the island and Brisbane.

There are approximately 80 kilometres of motor roads on the island. A substantial section of the population possesses private motor cars. Hire cars, taxis and scooters are available.

The island has an automatic telephone service and radio telephone link with Sydney. A local broadcasting service is operated by the Administration.

Education

Education is free and compulsory between the ages of 6 and 15 years. The school, which is conducted for the Administration by the New South Wales Department of Education, conforms to the Australian standard of public education, ranging from Kindergarten to the School Certificate (Year 10) level. The number of students enrolled at 30 June 1981 was 299.

Some bursaries, subject to a means test, are available for pupils who wish to attend a mainland school either to continue their studies beyond the School Certificate level or to undertake high school courses not available on the Island. A limited number of trainee scholarships are available for pupils who have left school and wish to undertake apprenticeships or similar training away from the Island.

Judiciary

The judicial system of Norfolk Island consists of a Supreme Court and a Court of Petty Sessions. The Supreme Court is the highest judicial authority in the Territory and is a superior court of record with original criminal and civil jurisdiction. The jurisdiction of the court is exercised by one judge sitting in court or, to the extent that in the cases provided by or under ordinance, sitting in chambers. The jurisdiction of the Court of Petty Sessions is exercised by the Chief Magistrate or any three magistrates other than the Chief Magistrate.

Finance

Until 1979 Norfolk Island revenue was supplemented by annual grants from the Commonwealth Government. Under present constitutional arrangements the cost of maintaining the island, other than the Administrator and his staff, is met as far as practicable from Island sources.

NORFOLK ISLAND: REVENUE AND EXPENDITURE

(\$'000)

	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
REVENUE						
Government grant	126	126	126	144	—	—
Customs duty	387	403	472	566	680	495
Liquor profit	184	207	233	285	332	339
Company fees	178	208	237	187	137	121
Sale of stamps	297	425	550	613	856	1,075
Vehicle registration and licence fees	44	52	73	77	77	81
All other	166	258	330	412	427	677
Total revenue	1,382	1,679	2,021	2,284	2,509	3,288
EXPENDITURE						
Administration	472	645	704	786	736	403
Education services	209	245	291	322	122	425
Health and welfare services	176	164	250	275	312	363
Repairs and maintenance	200	227	251	302	389	378
Capital works and services	429	170	124	252	252	253
Miscellaneous services	125	133	413	172	242	255
Legislative Assembly	n.a.	n.a.	n.a.	n.a.	92	134
Total expenditure	1,611	1,584	1,782	2,109	2,145	2,811

HEARD ISLAND AND McDONALD ISLANDS

These islands, about 4,100 kilometres south-west of Fremantle, were transferred from the United Kingdom to Australia as from 26 December 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the *Heard and McDonald Islands Act* 1953. In 1968, the responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

In December 1947, an Australian scientific station was established on Heard Island. Meteorological investigations were conducted until the station was closed in March 1955 following the establishment of Mawson station on the Antarctic mainland. Australian expeditions have since visited the Island from time to time. Heard Island is about 43 kilometres long and 20 kilometres wide. The McDonald Islands are 43 kilometres to the west of Heard Island. They are small, rocky and precipitous. The first known landing on McDonald Island, the largest of the group of the same name, took place on 27 January 1971 when two members of the Australian National Antarctic Research Expeditions (ANARE) paid a short visit on their way to the Heard Island station.

AUSTRALIAN ANTARCTIC TERRITORY

An Imperial Order in Council of 7 February 1933 placed under Australian authority all the islands and territories other than Terre Adelie situated south of 60°S latitude and lying between 160°E longitude and 45°E longitude. The Order came into force with a Proclamation issued by the Governor-General on 24 August 1936 after the passage of the *Australian Antarctic Territory Acceptance Act* 1933. The boundaries of Terre Adelie were definitively fixed by a French Decree of 1 April 1938 as the islands and territories south of 60°S latitude lying between 136°E longitude and 142°E longitude. The *Australian Antarctic Territory Act* 1954 declared that the laws in force in the Australian Capital Territory are, so far as they are applicable and are not inconsistent with any ordinance made under the Act, in force in the Australian Antarctic Territory. In 1968 responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

On 13 February 1954 the Australian National Antarctic Research Expeditions (ANARE) established a station on MacRobertson Land at latitude 67° 36'S and longitude 62° 53'E. The station was named Mawson in honour of the late Sir Douglas Mawson and was the first permanent Australian station to be set up on the Antarctic continent. Scientific research (including meteorology, cosmic ray physics and glaciology) is conducted at Mawson, which is also a centre for coastal and inland survey expeditions.

A second Australian scientific research station was established on the coast of Princess Elizabeth Land on 13 January 1957 at latitude 68° 35'S and longitude 77° 58'E. The station was named in honour of the late Captain John King Davis, second-in-command of two of Mawson's expeditions and master of several famous Antarctic ships. The station was temporarily closed on 25 January 1965 and re-opened on 15 February 1969. On 4 February 1959 the Commonwealth Government accepted from the United States Government custody of Wilkes station, which was established by the United States on 16 January 1957 on Vincennes Bay at latitude 66° 15'S and longitude 110° 32'E. The station was named in honour of Lieutenant Charles Wilkes who commanded the 1838-42 United States expedition to the area. The station was closed on 19 February 1969 when activities were transferred to Casey station built about 2 kilometres south of Wilkes. Casey station, which was opened on 19 February 1969, was named in honour of Baron Casey, former Governor-General of Australia, in recognition of this long association with Australia's Antarctic effort.

In 1957, as part of the International Geophysical Year (IGY), twelve nations co-operated in research programs covering a broad range of scientific pursuits. The outstanding co-operation between nations in the Antarctic during the IGY gave rise to discussions which resulted in the Antarctic Treaty. On 1 December 1959 the Antarctic Treaty was signed by the nations that had been active in Antarctica during the IGY, including all of those with territorial claims. The original signatories were Argentina, Australia, Belgium, U.K., Chile, France, Japan, New Zealand, Norway, South Africa, the U.S.S.R., and U.S.A. The Treaty entered into force for Australia on 23 June 1961. The Treaty, *inter alia*, reserves the Antarctic area south of 60°S latitude for peaceful purposes, provides for international co-operation in scientific investigations and research, and preserves for the duration of the Treaty the *status quo* with regard to territorial sovereignty, rights and claims.

The original signatories of the Treaty, the Consultative Parties, meet at approximately two yearly intervals at Antarctic Treaty Consultative Meetings. Only Consultative Parties may participate in the Consultative Meetings. Eleven Consultative Meetings have been held since the Treaty was signed, the first being held in Canberra in 1961.

The Treaty makes provision for other states to accede to it. Since 1959, seven nations have acceded: Brazil, Poland, German Democratic Republic, Czechoslovakia, Romania, Denmark, the Netherlands and the Federal Republic of Germany. The Treaty also makes provision in Article IX (2) for acceding nations to become Consultative Parties " . . . during such times as the Contracting Party demonstrates its interest in Antarctica by conducting substantial research activity there, such as the establishment of a scientific station, or the despatch of a scientific expedition". In July 1977, Poland was acknowledged by the Consultative Parties to have fulfilled the requirements established in Article IX (2) of the Antarctic Treaty and, as a consequence, to have the right to appoint representatives to participate in the Consultative Meetings. Poland subsequently attended the Ninth Antarctic Treaty Consultative Meeting. Similarly, the Federal Republic of Germany was accepted as a Consultative Party at the preparatory meeting to the Eleventh Antarctic Treaty Consultative Meeting and attended the Eleventh Treaty Meeting held in Buenos Aires in June/July 1981.

At a diplomatic conference in Canberra in May 1980, Treaty Partners adopted the Convention for the Conservation of Antarctic Marine Living Resources. This Convention establishes the basis of a conservation regime for the entire ecosystem of the Southern Ocean. Australia is the depositary Government for the Convention. The headquarters of the International Commission, formed under the Convention, will be established in Hobart.

COCOS (KEELING) ISLANDS

General description

The Cocos (Keeling) Islands, two separate atolls comprising some twenty-seven small coral islands with a total area of about 14 square kilometres, are situated in the Indian Ocean in latitude 12° 05'S and longitude 96° 53'E. They lie some 2,768 kilometres north-west of Perth and 3,685 kilometres west of Darwin.

The main islands of the Territory are West Island, the largest, about 10 kilometres long, on which are the airport, the Administration and the community of mainland-recruited employees; Home Island, where the Cocos Malay community lives; Direction Island; South Island; and Horsburgh Island. North Keeling Island, which forms part of the Territory, lies about 24 kilometres to the north of the group and has no inhabitants.

The main atoll is low-lying, flat, and thickly covered by coconut palms, and surrounds a lagoon which has an anchorage in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about nine months of the year. However, the winds vary at times, and meteorological reports from the Territory are particularly valuable for those engaged in forecasting for the eastern Indian Ocean. The temperature varies between 21°C and 32°C, and the average yearly rainfall is 1,998 millimetres. There are occasional violent storms. The estimated population at 30 June 1981 was 569.

History and administration

Summarised particulars of the discovery of the islands and their history up to 1946, when they became a dependency of the colony of Singapore, are given in Year Book No. 51, page 140, and in earlier issues. On 23 November 1955 the Cocos Islands ceased to form part of the Colony of Singapore and were placed under the authority of Australia. The transfer was effected by an Order in Council made by Her Majesty Queen Elizabeth the Second under the Imperial Act titled the *Cocos Islands Act 1955* and by the *Cocos (Keeling) Islands Act 1955* of the Commonwealth Parliament whereby the islands were declared to be accepted by Australia as a Territory to be known as the Territory of Cocos (Keeling) Islands.

Responsibility for the administration of the Territory rests with the Minister for Home Affairs and Environment. An Administrator was appointed to administer the Territory on behalf of Australia on 23 July 1975 under the *Cocos Administration Ordinance*. This Ordinance provides for an upgrading of the level of Government representation in the Territory. Until 23 July 1975 an official Representative appointed by the Minister under the then *Official Representative Ordinance 1955* exercised such powers and functions in relation to the Territory as were delegated to him by the Minister under the *Cocos (Keeling) Islands Act 1955* or were otherwise conferred on him under that Act or under any other law of the Territory. The laws of the Colony of Singapore which were in force in the islands immediately before the date of the transfer were, with certain exceptions, continued in force by the *Cocos (Keeling) Islands Act 1955*. They may be amended or repealed by Ordinances made under the provisions of that Act which empower the Governor-General to make Ordinances for the peace, order and good government of the Territory.

Policy goals for the Territory were announced by the Government on 16 June 1977. Important steps forward in the implementation of these goals have followed the Commonwealth's purchase from Mr John Clunies-Ross of the whole of his interests in the Cocos (Keeling) Islands with the exception of his residence and an associated dwelling. The purchase took effect on 1 September 1978.

On 30 January 1979, the Government leased the copra plantation and some other land purchased from Mr Clunies-Ross to the Cocos Islands Co-operative Society Limited. The Government now contracts with the Co-operative for the provision of certain services it requires. The contract payments are based on Australian prices and rates.

The economy of the Cocos Malay community is now largely in the community's own hands and is essentially self-sufficient.

On 17 May 1979, the *Local Government Ordinance* 1979 was enacted under which the Cocos (Keeling) Islands Council was established. The Ordinance gives the elected Council responsibility for a wide range of functions in the Home Island village area, which the Government has transferred to the Council upon trust for the benefit of the Cocos community. The Council also advises the Administrator on any other matters that may affect the Territory and comments on all proposed legislation for the Territory.

A separate Cocos Postal Service came into operation on 3 September 1979. Revenue from the Service is to be used for the benefit of the Cocos Malay community.

Considerable improvements have also been made in other areas, particularly in education and health.

Transport and communication

There is an airport of international standard at West Island, controlled by the Administrator under licence from the Department of Transport. There is a regular Perth-Cocos (Keeling) Islands-Christmas Island-Perth charter service every 2 weeks. A shipping service operates to the Territory at intervals of several weeks. A radio telephone service between West Island and Perth is maintained by the Administration. There are local postal and telephone services, and a non-commercial broadcasting station.

CHRISTMAS ISLAND

Christmas Island is an isolated peak situated in the Indian Ocean in latitude 10°25'S, longitude 105°40'E. It is approximately 360 kilometres south from Java Head at the south entrance to Sunda Strait, 1,300 kilometres from Singapore and 2,600 kilometres from Perth. Christmas Island covers an area of about 135 square kilometres. It consists of a central plateau about 150 to 250 metres above sea level with several prominent rises up to 360 metres high. The plateau descends to the sea in a series of steep slopes alternating with terraces. Sea cliffs over 200 metres high run along a considerable portion of the coastline except in a few places, the chief of which is Flying Fish Cove where the principal settlement is located and which is also the only anchorage.

The climate is pleasant, the prevailing winds coming from the south-east to east-south-east from May to December, and occasionally shifting round to between north and west from December to April (the wet season). The average yearly rainfall is about 2,673 mm with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which maintain an adequate supply of fresh water for the small population and the installations. The mean average temperature is about 27°C, and does not vary greatly throughout the year.

Economy

The economy of the Territory is based almost entirely on the mining and extraction of phosphate. During the year ended 30 June 1981, 1,321,000 tonnes of phosphate rock, 96,393 tonnes of phosphate dust and 8,000 tonnes of citraphos/calciphos were exported. To minimise the impact on the environment of mining the British Phosphate Commissioners (BPC), as managing agents for the Christmas Island Phosphate Commission, have adopted a program of land reclamation and maintain a plant nursery for reforestation.

Population

Some 3,308 people (2,288 males and 1,020 females) were residents of the island at 30 June 1981. There is no indigenous population and many of the 2,808 Asian residents were either born in the Territory or have arrived over the past thirty years. Under the provisions of the Christmas Island Act and the Citizenship Act, many are Australian citizens.

Education

From January 1975, the Government implemented in the Territory a series of new education arrangements which based the education system on an Australian curriculum. A summary of the previous arrangements is given in Year Book No. 60, page 1088, and in earlier issues.

Under the new arrangements, the Christmas Island Area School provides pre-school, primary and secondary education. The Christmas Island Technical School conducts trades and commercial courses, and provides adult education classes and supervision of correspondence courses from the Western Australian Education Department's Technical Extension Service. At 30 June 1981, 602 children were enrolled at the Area School. Staff for the Area and Technical Schools totalled 63.

History and administration

Summarised particulars of the history of Christmas Island up to its administration by the United Kingdom as a separate Crown Colony (from 1 January 1958, pending transfer to Australia) are given in Year Book No. 51, page 141, and in earlier issues. On 1 October 1958 the island was transferred to Australia by the *Christmas Island Act* 1958 and an Official Representative was appointed to administer the Territory. In 1968 an Administrator was appointed, replacing the Official Representative and upgrading the level of Government representation. Responsibility for the administration and government of the Territory rests with the Minister for Home Affairs and Environment and the Administrator administers the Territory in accordance with instructions given to him by the Minister. The laws which were in force on the island at 30 September 1958 were continued as the laws of the Territory after its transfer to Australia. They may be amended or repealed by Ordinances or by laws made under Ordinances of the Territory.

Transport and communication

Transport to and from the Island is maintained by vessels operated under charter by the British Phosphate Commissioners as managing agents for the Christmas Island Phosphate Commission.

An air charter arranged by the Department of Home Affairs and Environment provides a fortnightly service to and from the island out of Perth via the Cocos Islands. The BPC operate a fortnightly air charter between Singapore or Kuala Lumpur and the island, and ships which they own or charter run between the island and ports in Australia, New Zealand, Singapore and Malaysia.

The Territory has its own radio broadcasting station, police force, postal service and philatelic bureau. A radio-telephone and teleprinter service operates between the island and the mainland, and links with Singapore and ships at sea.

CORAL SEA ISLANDS

The Coral Sea Islands Territory comprises scattered reefs and islands, often little more than sandbanks, spread over a sea area of 1,035,995 square kilometres with only a few square kilometres of land area. The territory lies between the Great Barrier Reef and longitude 157°10'E and between latitude 12° and 24°S. Some of the better known islands in the Territory are Cato Island, Chilcott Islet in the Coringa Group and the islands of the Willis Group.

The islands, or cays, are formed largely of coral and sand and some have a cover of grassy or scrub-type vegetation. Large populations of sea birds nest and breed in the area.

History

About one hundred years ago guano workers camped on a number of the islands collecting manure deposited by the sea birds. But isolation, a lack of permanent fresh water and the limited size of the cays discouraged subsequent permanent occupation.

The Commonwealth Government based its claim to the Coral Sea Islands on numerous acts of sovereignty since early this century and asserted its sovereignty by enacting the *Coral Sea Islands Act* 1969 (which declared the Coral Sea Islands to be a Territory of Australia).

Installations

A lighthouse has been erected on Bougainville Reef and beacons operate on the Frederick and Lihou Reefs. A three-man meteorological station has provided a service on Willis Island since 1921 and there are eight automatic weather stations scattered throughout the Territory.

Most of the islands have been surveyed and the area is visited regularly both by Royal Australian Navy vessels and maintenance vessels of the Bureau of Meteorology.

Administration

By ordinance the laws of the Australian Capital Territory apply in the Coral Sea Islands Territory. The Minister for Home Affairs and Environment is responsible for matters affecting the Territory.

STATISTICAL SUMMARY: AUSTRALIA

In earlier issues of the Year Book, it was the practice to include in the Statistical Summary figures for every tenth year of the period 1861 to 1901, plus the latest year for which data were available. In each subsequent issue, the latest year available was substituted for the year immediately preceding it until the next tenth year had been reached, and the earliest year in the series was eliminated as space was needed. In consequence of this system, no single issue of the Year Book contained a continuous yearly series.

In this and recent issues of the Year Book, this defect has been remedied in part by the inclusion of a continuous series back to the year 1949 where possible, with earlier tenth years back to 1901. In this issue of the Year Book the time series has been altered to show a continuous series back to 1956 where possible, with earlier tenth years back to 1901. In issue No. 39, pages xxviii-xxix, some of the series are shown for every tenth year from 1861 to 1941. There are, however, discrepancies between the original series and the series now published.

Breaks in series, preliminary figures, etc., are indicated by the symbols shown on page 00 of this Year Book.

DEMOGRAPHY

Year ended 31 December—	Population(a)			Natural increase	Over-seas migration(b)	Marriages		Divorces (c) and judicial separations	Births		Deaths		Infant deaths	
	Males	Females	Persons			No.	Rate(d)		No.	Rate(d)	No.	Rate(d)	No.	Rate(e)
	'000	'000	'000			'000	'000		'000	'000	'000	'000	'000	'000
1901	2,005	1,820	3,825	56.6	17.8	28	7.3	-	103	27.2	46	12.2	10.7	103.6
1911	2,382	2,192	4,574	74.3	77.7	39	8.8	1	122	27.2	48	10.7	8.4	68.5
1921	2,799	2,712	5,511	82.1	17.3	47	8.6	1	136	25.0	54	9.9	9.0	65.7
1931	3,333	3,220	6,553	61.9	-10.8	39	6.0	2	119	18.2	57	8.7	5.0	42.1
1941	3,599	3,545	7,144	63.3	5.2	75	10.6	3	135	18.9	71	10.0	5.3	39.7
1951	4,311	4,217	8,528	111.5	111.4	77	9.2	7	193	23.0	82	9.7	4.9	25.2
1956	4,829	4,702	9,531	126.0	94.0	72	7.6	6	212	22.5	86	9.1	4.6	21.7
1957	4,930	4,814	9,744	135.4	78.7	74	7.6	6	220	22.9	85	8.8	4.7	21.4
1958	5,026	4,921	9,947	138.8	65.4	74	7.5	7	223	22.6	84	8.5	4.6	20.5
1959	5,132	5,029	10,161	137.8	76.8	74	7.4	7	227	22.6	89	8.9	4.9	21.5
1960	5,253	5,139	10,392	141.9	90.1	75	7.3	7	230	22.4	88	8.6	4.6	20.2
1961	5,374	5,268	10,643	151.8	61.5	77	7.3	7	240	22.8	89	8.5	4.7	19.5
1962	5,740	5,376	10,846	144.4	62.5	79	7.4	7	237	22.2	93	8.7	4.8	20.4
1963	5,572	5,484	11,055	141.3	71.6	81	7.4	8	236	21.6	95	8.7	4.6	19.5
1964	5,683	5,597	11,280	129.1	99.3	86	7.7	8	229	20.6	101	9.0	4.4	19.1
1965	5,794	5,712	11,505	123.7	104.9	94	8.2	9	223	19.6	100	8.8	4.1	18.5
1966	5,891	5,814	11,705	119.2	86.9	96	8.3	10	224	19.3	105	9.0	4.2	18.7
1967	5,992	5,920	11,912	126.6	91.9	100	8.5	10	229	19.4	103	8.7	4.2	18.3
1968	6,108	6,037	12,146	131.4	113.1	106	8.8	11	241	20.0	110	9.1	4.3	17.8
1969	6,238	6,169	12,407	143.7	129.0	112	9.2	11	250	20.4	106	8.7	4.5	17.9
1970	6,365	6,299	12,663	144.5	122.9	116	9.3	12	258	20.6	113	9.0	4.6	17.9
1971	6,572.0	6,498.1	13,070.0	165.7	103.6	118	9.1	13	276	21.4	111	8.6	4.8	17.3
1972	6,676.7	6,607.2	13,283.9	155.2	56.3	114	8.7	16	265	20.1	110	8.3	4.4	16.7
1973	6,777.7	6,712.8	13,490.6	136.8	67.5	113	8.4	16	248	18.5	111	8.3	4.1	16.5
1974	6,885.3	6,824.2	13,709.5	129.3	87.2	111	8.1	18	245	18.0	116	8.5	4.0	16.1
1975	6,948.0	6,901.3	13,849.3	124.0	13.5	104	7.6	24	233	16.9	109	7.9	3.3	14.3
1976	7,014.3	6,976.9	13,991.2	115.1	25.6	110	7.9	63	228	16.4	113	8.1	3.2	13.8
1977	7,097.7	7,065.8	14,163.5	117.5	54.8	105	7.5	45	226	16.1	109	7.7	2.8	12.5
1978	7,178.8	7,152.1	14,330.9	115.8	51.6	103	7.2	41	224	15.7	108	7.6	2.7	12.2
1979	7,269.3	p7,247.2	p14,516.5	116.6	69.0	104	7.2	38	223	15.5	107	7.4	2.5	11.4
1980	p7,373.9	p7,352.8	p14,726.8	116.8	93.4	109	7.5	39	226	15.4	109	p7.4	p2.4	p10.7

Figures for 1971 and later years are based on Census results adjusted for underenumeration.
 (a) At 31 December. (b) Excess of arrivals over departures. Minus sign (-) indicates excess of departures over arrivals. From 1 July 1971 net migration has been defined as the excess of overseas arrivals over overseas departures, classified as permanent and long-term (long-term includes visits to or absences from Australia lasting one year or longer). (c) Included decrees made absolute and nullities of marriage up to and including 1979. From 1980 excludes nullities of marriage. (d) Number per 1,000 of mean population. (e) Number per 1,000 live births. (f) Excess of births over civilian deaths from September 1939 to June 1947. (g) Excludes movements of defence personnel from September 1939 to June 1947. (h) Excludes deaths of defence personnel from September 1939 to June 1947. (i) Includes Aborigines.

SOCIAL

PENSIONS, BENEFITS, ETC.

Year ended 30 June—	Age and invalid pensions (including Wives' Allowance Pensions)			Family allowances (a)		Widow's pensions		Unemployment benefits	
	Pensioners (b)	No. of wives (c)	Amount paid (d)	No. of children (b)	Allowance paid	Pensioners (b)	Amount paid (d)	No. on benefit— weekly average	Amount paid (d)
1902	..	..	..	..	..	..	..	..	..
1912	90	..	4.3	..	..	..	..	..	..
1922	147	..	10.8	..	..	..	..	..	..
1932	261	..	22.3	..	..	..	..	..	..
1942	341	..	38.5	910	22.6	..	..	..	..
1952	426	11	119.6	2,518	93.2	41	11.2	2	(j)
1956	535	13	203.3	2,876	(e)120.8	43	15.4	4	1.4
1957	554	13	218.4	2,978	114.1	45	17.7	12	4.2
1958	574	12	243.2	3,074	117.5	47	19.7	24	9.8
1959	598	12	259.1	3,172	(e)135.1	50	21.6	28	11.9
1960	619	13	294.0	3,252	125.1	52	24.3	21	9.0
1961	651	14	315.9	3,340	(e)148.6	55	26.9	22	8.9
1962	691	14	360.5	3,420	132.8	57	30.2	53	25.3
1963	711	15	375.5	3,458	135.4	58	31.4	40	21.3
1964	725	16	399.9	3,631	(e)168.8	62	41.6	26	13.5
1965	736	16	426.6	3,711	172.8	65	47.0	14	6.8
1966	744	17	442.4	3,763	176.4	69	50.0	15	7.8
1967	764	19	481.8	3,835	(e)199.3	73	56.4	21	11.2
1968	797	19	514.0	3,891	187.9	75	61.1	21	11.2
1969	827	20	558.6	3,996	193.3	78	69.1	18	9.3
1970	913	23	642.0	4,079	(e)220.1	87	81.8	13	8.9
1971	942	23	702.3	4,156	198.5	90	90.5	15	10.8
1972	972	24	818.5	4,235	216.6	93	104.6	29	26.0
1973	1,081	41	1,072.4	4,239	(e)253.9	106	140.5	40	46.6
1974	1,184	47	1,372.4	4,261	225.4	115	181.0	34	58.2
1975	1,266	51	1,918.9	4,284	224.9	121	241.4	117	251.7
1976	1,342	59	2,536.4	4,293	(e)265.5	129	325.3	192	513.9
1977	1,408	69	2,994.6	4,302	1,023.3	139	370.2	216	618.1
1978	1,469	78	3,532.3	4,304	1,038.1	150	439.5	266	794.1
1979	1,512	86	3,919.4	4,231	(g)974.9	161	499.3	(h)306	910.0
1980	1,551	91	4,305.1	4,224	(i)1,035.4	166	561.4	(j)306	925.2
1981	1,569	86	4,816.5	4,227	950.4	166	641.8	(j)310	995.7

Year ended 30 June—	Hospital and nursing home benefits— amount paid	Medical benefits— amount paid	Pharma- ceutical benefits— amount paid	Total Commonwealth Government expenditure on pensions, benefits, etc.(k)	Disability pensions paid to veterans and dependants		Service pensions paid to veterans and dependants	
					No. (b)	Amount paid	No (b)	Amount paid
1902	..	..	..	..	..	..	..	..
1912	..	..	..	4.3	..	..	..	..
1922	..	..	..	12.1	225	14.1	..	..
1932	..	..	..	23.0	274	14.9	..	..
1942	..	..	..	61.8	220	15.0	14	1.2
1952	13.4	2.1	15.4	275.2	525	66.7	17	3.6
1956	19.1	14.6	23.8	429.7	600	91.3	35	8.3
1957	19.6	18.3	23.4	447.8	614	95.6	39	9.8
1958	21.6	20.6	30.1	495.0	629	106.6	42	11.3
1959	29.6	23.2	41.9	556.5	643	109.0	44	12.4
1960	37.2	26.8	48.7	598.7	655	117.5	46	13.5
1961	41.3	28.4	55.8	661.2	662	132.6	50	15.6
1962	44.4	30.6	70.4	730.4	671	135.1	58	19.4
1963	47.3	32.6	76.9	758.6	671	140.7	62	21.7
1964	56.2	34.4	78.8	832.7	669	154.5	65	24.2
1965	58.8	44.6	82.2	890.4	660	153.5	65	25.5
1966	60.7	54.6	91.8	941.6	647	170.5	66	28.2
1967	67.4	58.2	101.3	1,031.1	632	161.7	67	29.1
1968	74.8	62.5	105.1	1,075.0	617	164.4	69	31.8
1969	85.9	66.5	118.4	1,162.3	601	182.8	67	34.1
1970	111.4	76.1	136.7	1,341.8	585	183.5	74	39.9
1971	122.8	115.5	160.3	1,477.2	570	191.4	77	43.7
1972	162.0	160.4	173.3	1,752.3	553	211.1	78	49.2
1973	198.9	191.1	177.6	2,197.4	546	225.0	96	72.3
1974	226.5	198.9	218.3	2,666.2	532	252.2	109	103.6
1975	292.8	243.6	262.3	3,691.0	514	314.1	122	155.2
1976	254.1	(l)	283.8	4,658.4	499	340.1	142	218.9
1977	195.4	(l)	234.9	5,925.4	485	371.5	164	283.3
1978	188.5	(l)	256.0	6,794.8	463	419.0	189	372.1
1979	200.2	(c)	271.3	7,365.0	448	415.3	212	436.0
1980	220.2	(l)	274.6	8,331.9	435	432.0	240	525.0

(a) Previously child and student endowment. (b) At 30 June. (c) Wives allowance commenced on 8 July 1943 and was replaced by wives pension on 5 October 1972. (d) Includes expenditure on additional pension/benefit for children. (e) Five 12-weekly payments made during the year instead of the normal four. (f) Less than \$0.05 million. (g) Does not include \$22,714,000 paid in respect of family allowance payday 3 July 1979. (h) Estimate used for Western Australia. (i) Includes \$22,714,000 paid during 1978-79 in respect of family payday 3 July 1979. (j) Estimated. (k) National Welfare Fund items only, including expenditure for all years on pensions, benefits, etc. which subsequently became payable from the National Welfare Fund. In addition to the items shown in the preceding columns, the tables include expenditure on—the rehabilitation services; milk for school children; tuberculosis campaign; sickness, special and funeral benefits and some miscellaneous welfare and health services. Excludes war and service pensions, telephone rental concessions for pensioners and some minor welfare and health services. (l) Medical benefits applicable to the period 1976-79 were funded from both National Welfare fund and consolidated revenue.

SOCIAL—continued

EDUCATION

POLICE AND PRISONS

Year(a)	Schools				Universities (b)				Convicted Prisoners
	Government		Non-government		Number	Students	Police(c)		
	Number	Pupils	Number	Pupils					
	'000	'000	'000	'000		'000	'000	'000	
1902	7.2	637	2.4	144	4	1.9	5.9	4.2	
1912	8.4	663	1.9	164	6	3.8	6.6	3.4	
1922	9.6	837	1.7	202	6	7.8	7.0	3.0	
1932	10.2	934	1.8	221	6	9.9	8.6	4.1	
1942	9.0	868	1.8	250	6	10.8	9.7	3.5	
1952	7.6	1,145	1.9	348	8	29.6	12.6	4.8	
1956	7.7	1,357	2.1	432	9	34.4	13.5	6.0	
1957	7.7	1,425	2.1	453	9	36.6	14.1	6.4	
1958	7.8	1,496	2.0	471	9	41.5	14.5	6.6	
1959	7.8	1,558	2.1	489	9	47.2	14.9	6.6	
1960	7.9	1,613	2.1	511	9	53.4	15.3	6.8	
1961	7.9	1,664	2.1	527	9	57.7	15.9	7.2	
1962	7.9	1,711	2.2	540	10	63.3	16.4	7.4	
1963	7.9	1,754	2.2	553	10	69.1	16.7	7.7	
1964	7.9	1,799	2.2	565	10	76.2	17.2	7.7	
1965	7.8	1,855	2.2	580	11	83.3	17.6	7.7	
1966	7.8	1,919	2.2	583	13	91.3	18.4	8.1	
1967	7.7	1,991	2.2	595	14	95.4	19.0	8.7	
1968	7.6	2,055	2.2	601	14	101.5	19.7	8.8	
1969	7.5	2,114	2.2	603	14	109.7	20.1	9.2	
1970	7.5	2,160	2.2	608	15	116.8	20.3	9.3	
1971	7.4	2,197	2.2	611	15	123.8	21.0	9.5	
1972	7.4	2,229	2.2	612	15	128.7	22.2	9.8	
1973	7.3	2,241	2.2	613	15	133.1	23.1	9.1	
1974	7.3	2,258	2.2	618	17	142.9	24.4	7.6	
1975	7.3	2,298	2.1	621	18	148.3	25.7	7.8	
1976	7.3	2,335	2.1	625	18	154.0	26.3	8.0	
1977	7.3	2,364	2.1	631	19	158.4	27.4	8.1	
1978	7.4	2,371	2.1	639	19	160.0	27.9	8.7	
1979	7.4	2,337	2.2	650	19	160.8	31.0	9.4	
1980	7.4	2,318	2.2	666	19	163.2	31.6	8.8	

(a) Years ended at varying dates for education statistics. Years ended 30 June for Police and Prisons. (b) A university is counted for the first time when it enrolls its first student and not from the date it was founded. (c) Excludes Commonwealth Police from 1902 to 1978 inclusive.

INDUSTRIES

PASTORAL, DAIRYING, ETC.

Year ended 30 June—	Livestock(a)			Wool (b)(c)	Meat(d)				Total meat	
	Cattle	Sheep	Pigs		Butter	Cheese	Beef and veal	Mutton and lamb		Pigmeat
1902	8.5	72	0.9	245	(e)46	(e)5.3	n.a.	n.a.	n.a.	n.a.
1912	11.8	97	1.1	362	(e)96	(e)7.2	n.a.	n.a.	n.a.	n.a.
1922	14.4	86	1.0	328	(e)121	(e)14.8	345	222	51	618
1932	12.3	111	1.2	457	177	14.3	355	312	72	739
1942	13.6	125	1.4	529	170	30.6	542	378	124	1,043
1952	14.9	118	1.0	490	137	41.3	591	287	86	964
1956	16.5	139	1.2	643	212	39.3	763	386	95	1,245
1957	17.3	150	1.3	710	196	45.9	828	373	90	1,290
1958	16.9	149	1.4	650	179	36.6	804	428	103	1,336
1959	16.3	153	1.3	722	197	44.5	921	500	104	1,525
1960	16.5	155	1.4	762	201	45.7	764	583	102	1,449
1961	17.3	153	1.6	737	185	47.9	643	584	109	1,336
1962	18.0	158	1.7	770	202	56.6	804	596	122	1,522
1963	18.5	159	1.4	759	206	59.6	929	603	116	1,648
1964	19.1	165	1.5	810	207	59.2	1,001	595	113	1,710
1965	18.8	171	1.7	809	206	62.6	1,026	594	122	1,743
1966	17.9	158	1.7	754	209	59.6	946	608	135	1,690
1967	18.3	164	1.8	799	222	69.8	879	596	142	1,617
1968	19.2	167	2.1	803	196	70.5	904	665	150	1,718
1969	20.6	175	2.3	883	198	74.3	935	680	162	1,777
1970	22.2	180	2.4	926	223	76.3	1,010	755	174	1,940
1971	24.4	178	2.6	890	203	77.6	1,047	825	182	2,054
1972	27.4	163	3.2	882	195	80.9	1,168	956	194	2,319
1973	29.1	140	3.3	735	185	93.4	1,438	713	236	2,388
1974	30.8	145	2.5	701	175	95.8	1,322	467	211	2,000
1975	32.8	152	2.2	793	(f)161	(f)98.6	1,547	528	175	2,249
1976	33.4	149	2.2	754	148	112.6	1,840	588	174	2,602
1977	31.5	135	2.2	703	118	103.5	1,988	549	185	2,722
1978	29.3	131	2.2	677	112	115.7	2,184	514	199	2,897
1979	27.1	134	2.3	704	105	141.8	2,018	491	199	2,708
1980	26.2	136	2.5	715	84	154.2	1,564	548	220	2,332
1981	25.2	133	2.4	701	79	135.0	1,486	588	233	2,307

(a) At 31 December of previous year for years to 1942, at 31 March thereafter. (b) In terms of greasy. (c) 1901-02 and 1911-12 year ended previous December; then until 1946-47 year ended March; 1947-48 onwards, year ended June. (d) Carcass weight in terms of fresh meat. (e) Year ended previous December. (f) From 1974-75 excludes the production of certain small producers.

INDUSTRIES—continued
AGRICULTURE

Season	Wheat for grain			Oats for grain			Barley for grain			Maize		
	Area	Production	Average yield	Area	Production	Average yield	Area	Production	Average yield	Area	Production	Average yield
	mil hectares	mil tonnes	tonnes	'000 hectares	mil tonnes	tonnes	'000 hectares	mil tonnes	tonnes	'000 hectares	mil tonnes	tonnes
1901-02	2.07	1.05	0.51	187	0.18	0.95	30	0.03	1.14	119	0.18	1.50
1911-12	3.01	1.95	0.65	250	0.17	0.70	47	0.05	0.99	138	0.23	1.65
1921-22	3.93	3.51	0.89	297	0.22	0.74	121	0.14	1.14	124	0.20	1.61
1931-32	5.97	5.18	0.87	439	0.28	0.63	139	0.14	1.03	109	0.18	1.65
1941-42	4.86	4.53	0.93	591	0.40	0.68	317	0.41	1.29	122	0.19	1.55
1951-52	4.20	4.34	1.03	957	0.63	0.65	452	0.50	1.10	69	0.10	1.49
1956-57	3.19	3.65	1.15	1,034	0.64	0.62	847	1.12	1.32	73	0.14	1.90
1957-58	3.58	2.65	0.74	1,197	0.57	0.48	858	0.69	0.81	74	0.14	1.92
1958-59	4.21	5.84	1.39	1,608	1.58	0.98	963	1.43	1.48	73	0.17	2.35
1959-60	4.93	5.39	1.09	1,226	0.85	0.69	963	0.78	0.81	75	0.17	2.28
1960-61	5.44	7.43	1.37	1,472	1.38	0.94	1,145	1.54	1.35	75	0.16	2.12
1961-62	5.96	6.71	1.13	1,253	1.00	0.80	965	0.94	0.98	85	0.19	2.18
1962-63	6.66	8.34	1.25	1,332	1.25	0.94	820	0.90	1.09	85	0.19	2.23
1963-64	6.67	8.91	1.34	1,373	1.24	0.90	815	0.98	1.21	87	0.17	1.96
1964-65	7.25	10.02	1.38	1,415	1.27	0.90	835	1.12	1.34	86	0.17	2.03
1965-66	7.09	7.05	1.00	1,525	1.10	0.72	930	0.95	1.02	80	0.12	1.57
1966-67	8.43	12.67	1.50	1,723	1.94	1.13	1,011	1.40	1.38	82	0.19	2.33
1967-68	9.08	7.55	0.83	1,368	0.72	0.53	1,057	0.83	0.79	81	0.18	2.24
1968-69	10.85	14.80	1.37	1,567	1.71	1.09	1,341	1.65	1.23	67	0.15	2.23
1969-70	9.49	10.55	1.11	1,374	1.25	0.91	1,521	1.70	1.12	80	0.19	2.41
1970-71	6.48	7.89	1.22	1,484	1.61	1.09	2,000	2.35	1.18	85	0.21	2.48
1971-72	7.14	8.61	1.21	1,237	1.28	1.03	2,532	3.66	1.21	78	0.21	2.74
1972-73	7.60	6.59	0.87	995	0.74	0.74	2,140	1.73	0.81	59	0.14	2.34
1973-74	8.95	11.99	1.34	1,182	1.11	0.94	1,894	2.40	1.27	46	0.11	2.32
1974-75	8.31	11.36	1.37	897	0.87	0.97	1,826	2.52	1.38	51	0.13	2.59
1975-76	8.56	11.98	1.40	988	1.14	1.15	2,329	3.18	1.36	47	0.13	2.81
1976-77	8.96	11.80	1.32	995	1.07	1.08	2,321	2.85	1.23	53	0.14	2.72
1977-78	9.95	9.37	0.94	1,076	0.99	0.92	2,803	2.38	0.85	45	0.13	2.87
1978-79	10.25	18.09	1.77	1,359	1.76	1.30	2,785	4.01	1.44	50	0.17	3.38
1979-80	11.16	16.19	1.45	1,123	1.41	1.26	2,482	3.70	1.49	54	0.15	2.78
1980-81	11.29	10.87	0.96	1,090	1.13	1.04	2,452	2.71	1.11	56	n.y.a.	n.y.a.

Season	Hay			Potatoes			Sugar-cane(a)			Vineyards		All crops	
	Area	Production	Average yield	Area	Production	Average yield	Area	Production	Average yield	Area	Wine made	Area	mil. hectares
	'000 hectares	'000 tonnes	tonnes	'000 hectares	'000 tonnes	tonnes	'000 hectares	'000 tonnes	tonnes	'000 hectares	litres	mil. hectares	mil. hectares
1901-02	683	2,057	3.01	44	328	7.4	35	1,390	39.5	26	24	3.4	
1911-12	1,019	2,914	2.86	53	306	5.8	41	1,709	41.8	25	23	4.9	
1921-22	1,212	3,965	3.27	60	394	6.5	52	2,476	47.7	37	39	6.2	
1931-32	1,066	3,218	3.02	59	403	6.9	98	4,281	43.8	46	65	8.6	
1941-42	1,116	3,632	3.25	40	338	8.4	103	5,236	50.8	53	71	(b)8.3	
1951-52	627	2,382	3.80	48	517	10.8	114	5,412	47.5	55	160	(b)8.1	
1956-57	753	3,092	4.10	41	527	12.9	150	9,421	62.9	53	140	8.1	
1957-58	905	3,016	3.33	48	585	12.2	152	9,397	61.8	53	154	9.0	
1958-59	1,221	5,171	4.23	42	584	13.8	150	10,377	69.4	53	148	10.4	
1959-60	852	3,227	3.79	44	589	13.4	127	9,147	72.0	53	129	10.6	
1960-61	1,203	5,160	4.29	37	458	12.3	138	9,313	67.5	53	153	12.0	
1961-62	920	3,752	4.08	38	534	14.0	157	9,730	62.1	54	190	12.0	
1962-63	1,101	4,793	4.35	46	677	14.7	163	12,940	79.6	54	136	13.0	
1963-64	1,053	4,338	4.12	41	571	13.8	169	12,313	72.9	55	172	13.0	
1964-65	1,130	5,043	4.46	36	516	14.5	190	15,312	80.4	56	177	14.0	
1965-66	1,125	4,246	3.77	39	649	16.7	204	14,382	70.6	57	156	14.0	
1966-67	1,415	6,473	4.58	40	653	16.3	226	16,953	75.1	56	190	16.0	
1967-68	502	1,246	2.48	43	669	15.6	224	17,025	76.1	57	202	14.6	
1968-69	428	1,728	4.04	46	811	17.7	230	18,708	81.3	58	236	16.7	
1969-70	428	1,514	3.54	43	762	17.6	213	15,784	74.2	61	288	15.7	
1970-71	348	1,298	3.73	39	774	20.1	221	17,645	80.0	64	250	13.4	
1971-72	340	1,246	3.66	40	822	20.3	234	19,391	83.0	67	289	14.2	
1972-73	453	1,224	2.70	37	721	19.7	242	18,928	78.3	69	266	14.3	
1973-74	325	1,034	3.18	34	649	19.0	226	19,278	85.4	70	295	15.1	
1974-75	216	669	3.10	38	742	19.7	253	20,418	80.7	71	361	13.8	
1975-76	230	738	3.21	33	696	20.9	257	21,959	85.5	70	356	14.5	
1976-77	287	891	3.10	34	728	21.5	288	23,344	81.0	71	383	15.0	
1977-78	313	795	2.54	36	772	21.4	295	23,493	79.6	71	340	16.9	
1978-79	293	955	3.26	35	795	23.0	252	21,457	85.2	71	335	17.5	
1979-80	265	819	3.09	37	857	23.0	267	21,151	79.2	70	414	18.1	
1980-81	325	832	2.56	35	n.y.a.	n.y.a.	288	23,948	83.2	68	374	18.4	

(a) Cane cut for crushing. (b) Excludes Northern Territory.

INDUSTRIES—continued
GROSS VALUE OF PRODUCTION OF PRIMARY INDUSTRIES

Year ended 30 June—	Crop production		Pastoral	Dairying	Poultry	Bee-farming	Total agriculture	Hunting	Forestry	Fishing	Total primary excluding mining
	\$m	\$m									
1902	47.6	54.4	15.2	4.0	0.2	121.4	n.a.	(a)5.6	(b)	127.0	
1912	77.6	105.4	32.2	8.0	0.2	223.4	n.a.	9.6	2.2	235.2	
1922	163.8	150.2	70.6	18.0	0.2	402.8	n.a.	18.2	2.8	423.8	
1932	149.0	123.1	66.1	17.1	0.2	355.5	3.2	15.4	3.3	377.4	
1942	201.0	198.7	91.1	24.8	0.9	516.4	10.8	23.3	4.2	554.7	
1952	664.3	899.6	260.6	97.0	1.7	1,923.3	14.8	82.7	13.3	2,034.1	
1956	769.9	1,036.2	395.7	107.6	3.9	2,313.2	13.4	110.0	19.6	2,456.2	
1957	704.3	1,356.1	376.8	110.0	5.1	2,552.3	13.4	115.2	23.1	2,704.0	
1958	681.7	1,089.8	370.7	110.9	3.8	2,256.9	13.7	114.1	22.8	2,407.5	
1959	919.9	1,076.1	400.7	109.6	3.8	2,509.9	14.3	116.4	24.5	2,665.1	
1960	820.7	1,275.2	425.4	119.7	5.1	2,646.1	15.4	108.1	27.2	2,796.8	
1961	1,071.4	1,130.6	409.5	130.2	3.8	2,745.4	14.8	108.4	28.5	2,897.1	
1962	1,008.3	1,187.3	412.5	121.7	4.0	2,733.9	13.3	100.1	31.7	2,879.0	
1963	1,136.6	1,287.1	439.4	123.6	3.5	2,990.2	12.8	101.6	34.1	3,138.7	
1964	1,228.4	1,562.7	463.5	138.2	6.0	3,398.9	15.0	108.0	35.4	3,557.3	
1965	1,320.0	1,454.5	505.3	137.4	5.1	3,422.3	14.6	116.3	42.4	3,595.6	
1966	1,181.3	1,467.8	508.0	154.6	4.3	3,316.0	15.6	120.3	45.8	3,497.7	
1967	1,639.3	1,486.1	523.8	171.6	4.0	3,824.7	13.5	117.7	48.8	4,004.7	
1968	1,268.8	1,395.2	504.1	169.3	4.6	3,342.1	12.1	118.8	58.5	3,531.5	
1969	1,717.3	1,536.8	513.7	176.2	3.0	3,947.0	12.1	119.5	63.0	4,141.6	

(a) Includes Fishing. (b) Included in Forestry.

The classification categories 'Pastoral', 'Dairying', 'Poultry' and 'Bee-farming' employed in the previous table have been replaced by a more appropriate commodity classification. Direct comparison with figures for previous years is not possible.

GROSS VALUE OF PRODUCTION OF PRIMARY INDUSTRIES

Year ended 30 June—	Livestock slaughtering and other disposals(a)		Livestock products	Total agriculture	Forestry	Fishing	Hunting
	Crops	\$m					
1970	1,453.8	1,007.7	1,268.6	3,730.1	125.0	63.3	12.5
1971	1,490.8	1,009.9	1,079.0	3,579.7	137.2	77.2	10.2
1972	1,597.6	1,134.4	1,235.6	3,967.7	151.2	92.1	10.2
1973	1,582.4	1,542.2	1,832.5	4,957.1	170.6	100.7	12.1
1974	2,858.7	1,696.0	1,857.0	6,411.7	193.3	109.3	12.5
1975	3,203.8	1,019.2	1,653.1	5,876.0	212.6	107.7	13.8
1976	3,248.2	1,246.4	1,678.1	6,172.7	227.1	146.6	18.0
1977	3,189.7	1,685.7	1,881.2	6,756.6	251.7	206.3	23.5
1978	3,048.8	1,954.4	1,970.4	6,973.6	263.4	233.4	27.1
1979	4,917.5	3,097.7	2,218.2	10,233.4	276.8	279.7	38.1
1980	5,540.8	3,659.4	2,568.0	11,768.2	357.4	317.5	38.0
1981p	5,272.8	3,339.7	2,787.8	11,400.3	n.y.a.	n.y.a.	n.y.a.

(a) Includes adjustment for net exports (overseas and interstate) of live animals.

INDUSTRIES—continued

Year ended 31 December—	MINERALS								FORESTRY		
	Copper	Gold	Lead	Zinc	Iron ore	Black coal	Brown coal	Crude oil	Year ended 30 June—	Sawn output of Aust. grown timber	
	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	
	'000 tonnes	'000 grams	'000 tonnes	'000 tonnes	mil. tonnes	mil. tonnes	mil. tonnes	'000 cu m		'000 cu m	
1901	29.9	102,642	n.a.	(b)	n.a.	7.0	..	1902	..	(c) 1,067	
1911	46.1	77,263	225.3	241.9	(b)	10.7	..	1912	..	(c) 1,428	
1921	11.2	23,577	82.3	141.7	0.7	13.1	..	1922	..	1,392	
1931	13.9	18,510	150.8	75.4	(b)	10.8	..	1932	..	559	
1941	22.7	46,553	295.7	251.2	2.5	19.1	..	1942	..	2,157	
1951	18.4	27,855	215.4	192.3	2.5	25.9	..	1952	..	3,287	
1956	55.4	32,031	304.3	282.5	4.0	30.3	..	1957	..	3,348	
1957	60.2	33,714	339.1	324.0	3.9	31.2	..	1958	..	3,282	
1958	76.9	34,338	333.6	298.4	4.0	32.6	..	1959	..	3,445	
1959	96.5	33,751	321.4	279.8	4.2	33.9	..	1960	..	3,589	
1960	111.2	33,800	313.1	322.6	4.4	38.1	..	1961	..	3,346	
1961	97.2	33,476	274.0	316.2	5.4	40.9	..	1962	..	3,190	
1962	108.7	33,245	376.0	342.9	4.9	42.3	..	1963	..	3,341	
1963	114.8	31,849	416.9	357.1	5.6	44.0	..	1964	..	3,509	
1964	105.7	29,979	380.9	350.1	5.8	47.2	198	1965	..	3,615	
1965	91.8	27,298	367.9	354.8	6.8	52.9	417	1966	..	3,558	
1966	111.3	28,521	370.8	375.3	11.1	56.0	539	1967	..	3,448	
1967	91.8	25,049	381.8	407.0	17.3	59.0	1,208	1968	..	3,476	
1968	109.6	24,316	388.8	422.4	26.6	64.2	2,206	1969	..	(d) 3,325	
1969(e)	125.3	22,711	417.7	463.2	32.5	43.3	23.1	2,237	1970	..	(d) 3,386
1970(e)	142.3	20,605	459.4	520.8	45.1	48.5	23.9	4,871	1971	..	3,438
1971(e)	173.0	19,103	416.4	444.1	57.1	49.7	22.8	14,937	1972	..	3,367
1972(e)	171.9	23,253	420.8	497.5	62.1	53.5	23.3	19,038	1973	..	3,408
1973(e)	198.7	20,002	385.0	507.0	74.6	59.8	24.1	20,669	1974	..	3,336
1974(e)	246.7	16,271	370.4	441.3	91.5	59.3	26.3	23,096	1975	..	3,230
1975(e)	235.6	15,153	416.5	508.2	98.2	70.1	27.3	23,096	1976	..	3,228
1976(e)	218.3	16,901	396.7	479.3	92.7	69.3	29.2	23,839	1977	..	3,164
1977(e)	217.2	15,666	418.2	475.3	94.8	76.0	31.0	24,549	1978	..	3,056
1978(e)	217.1	21,047	418.8	484.4	89.9	79.3	30.5	24,941	1979	..	2,919
1979(e)	238.7	19,584	423.5	498.5	84.6	81.2	32.1	24,839	1980	..	3,160
1980(e)	235.1	18,272	n.a.	518.0	97.0	81.2	36.2	23,647	1981	..	3,308

(a) Metallic content of minerals produced. (b) Less than 0.05. (c) Year ended previous December. (d) Excludes estimated quantity of timber from logs peeled or sliced for veneers. (e) Year ended 30 June.

FACTORIES (a)

Year ended 30 June—	Net value of production(d)									
	Number	Persons employed (b)	Salaries and wages paid(c)	Chemicals, etc.	Industrial metals, etc.	Textiles, etc.	Clothing	Food, etc.	Paper, etc.	All groups
1902(e)	(f)	(f)	(f)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	58.2
1912(e)	14.5	312	55	2.2	24.1	15.0	23.6	8.5	108.3	
1922	18.0	379	136	6.4	47.2	38.4	54.4	18.0	225.0	
1932	21.7	337	112	15.8	45.6	13.8	57.4	19.2	222.0	
1942	27.0	725	360	59.6	239.8	42.0	106.4	34.2	633.0	
1952	45.8	978	1,224	127.4	826.2	113.2	282.2	136.4	2,049.7	
1956	52.4	1,060	1,707	238.3	1,193.9	163.6	204.9	198.1	3,001.4	
1957	53.2	1,063	1,782	273.8	1,281.7	182.9	211.0	217.4	3,244.2	
1958	54.0	1,074	1,859	291.3	1,389.0	183.0	216.1	241.4	3,457.4	
1959	54.9	1,088	1,941	322.4	1,471.6	191.3	221.5	263.4	3,685.2	
1960	56.7	1,132	2,173	360.3	1,700.4	216.7	237.7	298.2	4,161.1	
1961	57.8	1,145	2,289	366.1	1,795.9	213.6	247.2	318.6	4,349.8	
1962	58.5	1,121	2,287	364.3	1,770.3	211.2	252.4	326.9	4,394.6	
1963	59.1	1,168	2,447	411.4	1,954.7	233.8	266.3	350.9	4,795.2	
1964	59.4	1,210	2,652	449.5	2,174.0	252.5	281.4	379.7	5,270.0	
1965	61.0	1,269	2,994	504.8	2,486.1	279.6	302.3	426.9	5,896.8	
1966	61.7	1,294	3,163	542.7	2,647.8	282.8	319.0	459.5	6,251.9	
1967	62.5	1,309	3,408	627.6	2,912.9	303.1	341.5	503.3	6,877.0	
1968	63.0	1,331	3,666	687.0	3,163.6	315.0	360.1	549.0	7,430.9	
1969(g)	35.9	1,264	3,908	633.0	3,201.6	301.0	409.2	1,184.4	620.7	7,475.5
1970	35.7	1,297	4,329	681.8	3,551.9	310.3	452.1	1,321.9	701.8	8,261.7
1971				No manufacturing census was conducted in respect of this year.						
1972	36.1	1,303	5,257	804.1	4,052.0	333.7	521.5	1,683.9	818.1	9,703.2
1973	36.4	1,298	5,820	885.5	4,337.7	376.8	563.9	1,943.5	915.4	10,746.0
1974	37.1	1,338	7,177	1,076.2	5,529.4	481.1	676.1	2,126.0	1,110.5	13,149.2
1975(h)	27.0	1,245	8,531	1,172.2	6,635.8	409.2	696.8	2,650.5	1,279.4	15,246.4
1976(h)	27.5	1,200	9,472	1,261.7	7,084.9	542.3	841.7	3,074.1	1,391.4	16,921.0
1977(h)	26.8	1,176	10,536	1,464.6	8,088.5	563.1	894.2	3,501.8	1,614.2	19,234.3
1978(h)	26.1	1,144	11,136	1,697.4	8,217.9	581.4	967.7	3,767.4	1,763.0	20,236.3
1979(h)	26.3	1,144	11,966	1,898.8	9,180.2	641.5	1,049.4	4,035.5	1,960.8	22,230.1
1980(h)	27.4	1,154	13,358	2,201.4	10,887.8	708.4	1,130.7	4,413.8	2,248.4	25,614.0

(a) Excludes Northern Territory and Australian Capital Territory before 1 July 1964. (b) Average over whole year, includes working proprietors. (c) Excludes amounts drawn by working proprietors. (d) Value added in process of manufacture (i.e. value of output less value of materials and fuel used). (e) Year ended previous December. (f) Owing to variation in classification, effective comparison is not possible. (g) Direct comparison with figures for previous years are not possible (for details, see page 411). (h) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed.

INDUSTRIES, WAGES AND PRICES

GROSS VALUE OF PRODUCTION

BUILDING

WAGES AND PRICES

Year ended 30 June—	Mining and quarrying		New dwellings completed(a)		Value of work done on all buildings(b)		Year ended 31 December—	Weekly wage rates index adult males(c)	Retail price index numbers six State capital cities combined(d)
	\$m	\$m	Number	Value	\$m	\$m			
1902	44.0	(e)58.2	n.a.	n.a.	n.a.	n.a.	1901	n.a.	88
1912	46.6	(e)108.3	n.a.	n.a.	n.a.	n.a.	1911	n.a.	100
1922	40.0	225.0	n.a.	n.a.	n.a.	n.a.	1921	n.a.	(h)168
1932	27.0	220.0	n.a.	n.a.	n.a.	n.a.	1931	n.a.	145
1942	66.8	633.0	n.a.	n.a.	n.a.	n.a.	1941	38.5	167
							1951	85.8	313
1952	194.4	2,049.7	80.1	354.1	n.a.	n.a.	1956	110.8	419
1957	280.0	3,244.2	68.4	419.5	n.a.	n.a.	1957	112.4	429
1958	253.6	3,457.4	74.6	463.0	811.6	811.6	1958	114.3	435
1959	236.7	3,685.2	84.2	527.3	864.9	864.9	1959	122.0	443
1960	252.3	4,161.1	90.0	571.0	1,001.6	1,001.6	1960	125.7	459
1961	278.1	4,349.8	94.5	627.4	1,130.8	1,130.8	1961	129.5	471
1962	274.5	4,394.6	86.3	593.2	1,076.9	1,076.9	1962	129.8	469
1963	291.0	4,795.2	87.7	610.2	1,140.7	1,140.7	1963	133.0	472
1964	327.7	5,270.0	96.7	685.8	1,323.9	1,323.9	1964	140.4	483
1965	400.1	5,896.8	112.7	823.0	1,555.9	1,555.9	1965	144.3	502
1966	443.9	6,251.9	112.8	869.9	1,681.2	1,681.2	1966	152.4	517
1967	515.5	6,877.0	111.9	914.8	1,745.4	1,745.4	1967	159.3	534
1968	568.1	7,430.9	120.2	1,022.8	1,914.3	1,914.3	1968	173.4	548
1969	(f)749.2	(f)7,468.5	130.7	1,182.1	2,195.4	2,195.4	1969	183.6	564
1970	(f)1,042.6	(f)8,277.8	142.2	1,379.4	2,556.7	2,556.7	1970	191.9	586
1971	(f)1,289.5	(g)n.a.	142.1	1,478.9	2,815.6	2,815.6	1971	218.0	621
1972	(f)1,428.3	(f)9,696.6	143.8	1,628.7	3,132.4	3,132.4	1972	239.8	658
1973	(f)1,597.3	(f)10,725.9	150.6	1,845.5	3,542.4	3,542.4	1973	275.1	720
1974	(f)1,996.1	(f)13,149.1	150.0	2,143.0	4,214.9	4,214.9	1974	373.8	829
1975	(f)2,669.1	(f)15,231.6	141.1	2,454.2	4,713.3	4,713.3	1975	416.8	954
1976	(f)3,049.7	(f)16,921.0	132.0	2,808.6	5,595.0	5,595.0	1976	478.1	1,083
1977	(f)3,548.2	(f)19,234.3	144.8	3,635.1	6,445.5	6,445.5	1977	526.8	1,216
1978	(f)3,905.0	(f)20,236.3	128.9	3,595.7	6,510.0	6,510.0	1978	569.9	1,313
1979	(f)3,875.1	(f)22,230.1	117.1	3,529.7	6,946.4	6,946.4	1979	597.7	1,432
1980	(f)4,406.9	(f)25,614.0	129.3	4,174.9	8,018.2	8,018.2	1980	662.0	1,578
1981	(f)5,608.6	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	1981	n.y.a.	

(a) Series commenced 1945-46. Partly estimated before July 1951, and excludes Northern Territory before July 1954. (b) Building by private contractors, government authorities and owner builders. (c) At 31 December, Base, year 1954=100, weighted average. Excludes rural industry. (d) Base, year 1911=100. The index numbers are presented as a continuous series, but they give only a broad indication of long-term trends in retail price levels. They are derived by linking a number of indexes that differ greatly in scope. The successive indexes used are: from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946-47, the 'C' Series Retail Price Index; from 1946-47 to 1948-49, a composite of Consumer Price Index Housing Group (partly estimated) and 'C' Series Index excluding Rent; and from 1948-49 onwards, the Consumer Price Index. (e) Year ended previous December. (f) Value added from 1968-69. (g) Manufacturing census was not conducted. (h) November.

TRANSPORT AND COMMUNICATION
SHIPPING

Year ended 30 June—	Vessels on overseas voyages								
	Arrivals		Departures		Overseas cargo				
	No.	Net tonnage	No.	Net tonnage	Discharged		Loaded		
				mil. tonnes	mil. tonnes	mil. tonnes	mil. cubic metres	mil. tonnes	mil. cubic metres
1902	(a)		(a)						
1912(b)	2,081	5.0	2,093	5.0	n.a.	n.a.	n.a.	n.a.	n.a.
1922	1,567	4.6	1,544	4.5	(c)2.4			(c)5.8	
1932	1,519	5.7	1,538	5.7	2.1	1.0	6.0	0.8	
1942	1,276	5.2	1,268	5.6	3.8	2.0	2.9	1.5	
1952	2,038	9.0	2,098	9.3	9.9	5.3	4.6	1.4	
1956	2,425	11.2	2,457	11.1	12.6	3.9	6.8	1.8	
1957	2,628	11.8	2,662	11.8	12.8	3.1	8.9	1.6	
1958	2,656	12.4	2,598	12.1	13.9	3.3	7.5	1.7	
1959	2,706	12.9	2,757	13.1	14.5	3.0	8.8	1.7	
1960	2,976	14.5	2,969	14.4	15.7	3.7	10.3	1.7	
1961	3,382	17.3	3,396	17.0	17.5	4.3	14.0	1.8	
1962	3,599	18.9	3,611	18.8	17.8	3.1	17.5	1.8	
1963	3,411	19.0	3,351	18.6	19.8	3.8	15.7	1.8	
1964	3,714	20.7	3,763	20.9	21.1	4.5	20.1	2.1	
1965	3,813	21.7	3,788	21.7	23.6	5.0	20.8	2.2	
1966	3,929	23.0	4,029	23.3	24.5	4.7	22.1	2.3	
1967	3,977	27.4	4,017	27.6	27.5	4.7	33.2	2.2	
1968	3,972	30.1	4,013	30.3	28.0	5.3	42.0	2.4	
1969	4,390	36.4	4,360	36.2	29.8	5.9	55.8	2.3	
1970	4,971	44.5	5,053	44.6	28.7	5.8	78.1	2.4	
1971	5,476	50.8	5,578	51.4	21.8	5.7	101.8	3.0	
1972	5,439	53.1	5,447	53.5	19.5	5.9	108.0	3.2	
1973	5,647	62.6	5,631	62.0	20.2	6.1	132.4	3.5	
1974	5,975	72.0	5,909	71.5	23.1	7.6	150.5	3.1	
1975	6,230	80.3	5,254	80.3	21.9	8.0	164.9	2.9	
1976	5,772	75.0	5,824	75.4	19.7	7.2	156.1	2.5	
1977	5,830	79.7	5,823	79.5	20.6	7.8	164.9	2.2	
1978	5,615	80.2	5,668	80.4	21.7	5.3	164.5	2.2	
1979	5,677	82.8	5,655	82.5	21.9	6.8	165.1	2.2	
1980	6,249	(d)247.2	6,168	(d)246.6	22.9	8.1	186.9	1.8	

(a) Separate details not available. Total entrances and clearances for year ended December 1901, 4,028 vessels, 6.5 million tons. (b) Year ended previous December. (c) Tons weight plus tons measurement. (d) Net tonnage replaced by dead weight tonnage as from July 1, 1979.

GOVERNMENT RAILWAYS (a)

REGULAR INTERNAL AIR SERVICES

Year ended 30 June—	Route kilo- metres (b)	Train kilo- metres	Pas- senger journeys	Freight net		Kilo- metres flown	Passengers		Freight		Mail	
				Freight- tonnes carried	tonne- kilo- metres		Embark- ations	Pas- senger kilo- metres	Tonnes up- lifted	Tonne- kilo- metres	Tonnes up- lifted	Tonne- kilo- metres
1902	'000	mil.	mil.	mil.	mil.	mil.	'000	mil.	'000	mil.	'000	mil.
1902	20.6	61.5	115	15.7	n.a.	..	..	..	..	..	..	..
1912	27.0	88.8	228	25.9	n.a.	..	..	..	..	..	..	..
1922	37.7	90.3	335	32.0	n.a.	..	..	..	..	..	..	..
1932	43.5	102.7	303	26.5	n.a.	1.4	6	5	..	..	..	n.a.
1942	43.8	142.4	475	39.5	n.a.	12.6	151	122	1.2	1.5	n.a.	0.7
1952	43.1	150.3	501	45.0	11,046	67.3	1,829	1,162	52.2	39.0	2.4	1.9
1956	42.6	154.8	515	47.6	11,894	70.3	2,020	1,333	76.6	56.8	2.3	2.0
1957	42.6	153.0	499	48.3	12,203	67.8	2,125	1,434	68.1	53.0	2.3	2.0
1958	42.5	145.3	494	46.0	11,132	65.2	2,123	1,447	63.5	48.2	2.4	2.0
1959	42.3	146.9	485	48.8	11,970	64.9	2,235	1,519	57.0	42.0	2.4	2.2
1960	42.2	140.2	479	52.0	13,091	69.5	2,660	1,823	59.3	42.6	4.4	3.8
1961	42.0	149.7	463	56.3	14,370	68.1	2,639	1,786	57.2	41.2	5.4	4.5
1962	41.2	149.0	461	56.5	14,427	66.3	2,666	1,802	51.9	38.1	5.7	4.7
1963	41.0	149.6	465	56.8	15,131	70.3	2,833	1,965	53.9	41.3	5.9	4.9
1964	40.5	155.3	471	62.7	17,170	78.8	3,257	2,266	57.3	44.5	6.4	5.5
1965	40.3	155.5	464	65.9	18,224	84.2	3,764	2,638	63.5	49.5	7.0	5.9
1966	40.2	151.7	460	65.5	18,050	88.5	4,158	2,947	69.0	54.9	7.8	6.7
1967	40.3	150.8	455	69.6	18,832	91.3	4,425	3,174	74.4	58.6	8.7	7.5
1968	40.5	152.1	453	72.2	20,054	91.3	4,668	3,420	77.2	61.8	8.5	7.6
1969	40.4	151.0	447	77.0	21,463	97.1	5,185	3,865	81.6	66.5	9.0	8.0
1970	40.3	156.3	450	83.7	23,973	106.6	5,911	4,511	90.8	74.5	9.6	8.7
1971	40.3	156.3	453	87.3	25,206	114.6	6,340	4,974	91.4	78.0	9.9	9.3
1972	40.3	153.7	404	88.7	25,403	113.0	6,629	5,134	89.9	74.2	10.1	9.3
1973	40.5	152.0	372	92.5	26,582	118.6	7,503	5,685	94.4	81.5	10.1	9.8
1974	40.4	151.2	373	97.0	28,329	131.8	8,858	6,812	112.7	98.3	9.9	9.3
1975	40.6	150.6	361	103.5	29,792	135.5	9,393	7,374	107.8	97.9	9.6	9.0
1976	40.8	150.1	338	104.4	30,809	130.1	9,315	7,281	106.1	97.5	9.7	9.1
1977	40.1	151.1	332	109.9	31,995	122.9	9,349	7,330	108.1	96.3	9.6	9.1
1978	39.7	148.8	323	107.3	31,837	134.7	10,289	8,181	120.9	106.5	11.3	10.7
1979	39.4	147.5	375	111.1	32,056	135.4	10,724	8,619	127.5	110.7	13.1	12.5
1980	40.6	150.9	401	125.7	36,366	138.2	11,505	9,486	129.8	109.6	15.1	14.2

(a) Particulars of train-kilometres, passenger journeys, freight tonnes carried, and freight net tonne-kilometres refer only to operations for which revenue is received. (b) At end of period.

TRANSPORT AND COMMUNICATION—continued

ROAD TRANSPORT

COMMUNICATION

Year ended 30 June—	Tram trolley-bus and bus services(a) Passenger journeys	Motor vehicles on the register				Telephones			Broadcasting and television licences in force(b)		
		Motor cars and station wagons	Commercial vehicles (c)	Motor cycles	Total motor vehicles (including motor cycles)	Postal matter dealt with(d)	Instruments in service (b)	Services in operation (b)(e)	Telegrams (f)	Broadcast listeners	Television viewers
		'000	'000	'000	'000	mil. articles	'000	'000	mil.	'000	'000
1902 . . .	mil.	..	..	..	..	(g)384	(g)36	(g)28	(g)8.2	..	..
1912 . . .	n.a.	n.a.	n.a.	n.a.	n.a.	(g)698	(g)118	(g)96	(g)13.9	..	..
1922 . . .	569		102	38	139	778	259	196	16.8	(h)1	..
1932 . . .	589	420	96	72	588	887	485	364	13.9	369	..
1942 . . .	(i)1,067	451	250	50	751	1,124	739	531	26.1	1,320	..
1952 . . .	1,019	1,028	588	155	1,770	1,482	1,301	939	29.8	1,961	..
1956 . . .	927	1,430	693	123	2,246	1,741	1,704	1,240	25.4	2,089	..
1957 . . .	833	1,537	710	118	2,366	1,784	1,814	1,318	24.0	2,107	74
1958 . . .	803	1,661	731	114	2,506	1,895	1,937	1,407	22.9	2,138	291
1959 . . .	778	1,784	755	110	2,649	1,951	2,056	1,491	22.5	2,264	578
1960 . . .	758	1,938	784	102	2,824	1,953	2,164	1,562	22.2	2,283	955
1961 . . .	726	2,070	800	93	2,963	2,048	2,266	1,631	21.8	2,256	1,217
1962 . . .	718	2,201	815	85	3,101	2,101	2,382	1,719	21.6	2,220	1,424
1963 . . .	712	2,377	832	77	3,286	2,202	2,523	1,812	21.8	2,240	1,655
1964 . . .	702	2,583	846	69	3,498	2,342	2,670	1,919	23.4	2,302	1,882
1965 . . .	685	2,792	858	65	3,715	2,443	2,811	2,010	24.3	2,358	2,045
1966 . . .	653	2,947	868	64	3,878	2,556	2,978	2,120	25.0	2,526	2,226
1967 . . .	621	3,104	880	69	4,053	2,683	3,178	2,235	25.6	2,538	2,405
1968 . . .	609	3,305	892	83	4,279	2,648	3,392	2,359	(j)23.4	2,580	2,519
1969 . . .	590	3,499	911	98	4,508	2,648	3,599	2,511	(j)23.3	2,630	2,649
1970 . . .	575	3,720	938	114	4,772	2,664	3,913	2,704	(j)23.2	2,670	2,758
1971 . . .	561	3,935	961	144	5,039	2,685	4,152	2,857	(j)21.2	2,699	2,845
1972 . . .	503	4,141	996	180	5,317	2,649	4,400	2,978	(j)20.2	2,758	2,939
1973 . . .	521	4,362	1,041	210	5,613	2,691	4,659	3,147	(j)20.4	2,814	3,013
1974 . . .	533	4,604	1,090	259	5,953	2,656	5,000	3,361	(j)20.7	(k)2,851	(k)3,022
1975 . . .	531	4,859	1,140	278	6,277	2,516	5,267	3,539	(j)18.5	..	..
1976 . . .	515	5,073	1,215	293	6,581	2,209	5,502	3,700	(j)12.9	..	..
1977 . . .	514	5,243	1,280	296	6,818	2,198	5,835	3,907	(j)10.4	..	..
1978 . . .	516	5,462	1,360	292	7,115	2,304	6,181	4,166	9.0	..	..
1979 . . .	(l)459	5,657	1,413	288	7,358	2,505	6,677	4,449	7.1	..	..
1980 . . .	n.y.a.	5,799	1,464	311	7,574	2,631	7,153	4,743	5.4	..	..
1981 . . .	n.y.a.	n.y.a.	n.y.a.	n.y.a.	n.y.a.	2,767	n.y.a.	n.y.a.	n.y.a.	..	..

(a) Government and municipal trolley-bus services ceased in August 1969. (b) At end of period. (c) Open and closed light commercial type vehicles; utilities and panel vans, rigid and articulated trucks, other truck type vehicles and buses. (d) Letters, postcards, letter-cards, newspapers, packets, parcels, and registered articles. (e) All single lines plus one half the number of duplex lines. Until the introduction of duplex services in December 1948, statistics of exchange lines and telephone services were identical. (f) Telegrams despatched to places within Australia and despatched to or received from overseas. (g) Year ended previous December. (h) Year 1923-24. First year licences issued. (i) Tram passenger journeys only before 1942. (j) Excludes telegrams received from overseas. These particulars are no longer available. (k) Television viewer and broadcast listener's licences were abolished on 17 September 1974. (l) Excludes details for South Australia, which are no longer separately identifiable from the railway operations of the State Transport Authority.

PRIVATE FINANCE

June—	NOTE ISSUE			BANKING	
	Australian notes on issue (a)	Trading banks		Debits to customers' accounts (b)	Savings banks Depositors' balances (c)
		Advances (b)	Deposits (b)		
	\$m	\$m	\$m	\$m	\$m
1956	745	1,945	2,992	1,124	2,282
1957	763	1,897	3,231	1,251	2,455
1958	775	2,060	3,240	1,284	2,594
1959	790	2,007	3,362	1,432	2,783
1960	843	2,211	3,611	1,737	3,045
1961	839	2,238	3,600	1,654	3,155
1962	856	2,287	3,837	1,848	3,470
1963	869	2,465	4,064	2,028	3,940
1964	870	2,610	4,649	2,318	4,476
1965	862	2,955	5,038	2,653	4,887
1966	849	3,183	5,308	2,660	5,254
1967	938	3,548	5,614	2,964	5,765
1968	1,006	4,020	6,087	3,572	6,222
1969	1,107	4,384	6,706	4,035	6,707
1970	1,216	4,903	7,099	4,861	7,105
1971	1,369	5,317	7,431	5,668	7,635
1972	1,499	5,876	8,322	6,146	8,391
1973	1,758	7,856	11,072	8,035	10,238
1974	2,146	10,120	12,714	8,988	11,199
1975	2,557	11,205	14,936	10,095	(d)12,873
1976	2,921	12,576	16,955	13,368	14,828
1977	3,291	14,006	19,089	14,879	16,372
1978	3,670	15,683	19,746	17,624	18,052
1979	4,107	17,653	22,179	20,555	19,839
1980	4,586	20,402	25,647	24,730	21,268
1981	5,187	23,047	29,306	28,334	23,227

(a) Last Wednesday in June. (b) Weekly average for month of June. (c) End of June. (d) From June 1975 break in series due to a change in accounting procedures by one bank.

PUBLIC FINANCE

Year ended 30 June—	COMMONWEALTH GOVERNMENT			STATE		ALL PUBLIC AUTHORITIES			
	Consolidated revenue fund		Taxation collections	Consolidated revenue fund		Taxation collections	Government Consumption Expenditure	Final Expenditure	Public Gross Fixed Capital Expenditure (b)
	Revenue	Expenditure		Revenue	Expenditure				
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	
1902	23	8	18	56	58	5	..	..
1912	41	29	32	83	82	11	..	..
1922	128	128	99	170	175	36	..	..
1932	143	143	109	199	242	65	..	..
1942	420	420	362	305	299	115	..	..
1952	2,034	2,034	1,848	777	783	126	803	806	
1956	2,227	2,277	2,014	1,052	1,082	196	1,043	927	
1957	2,624	2,624	2,208	1,154	1,168	229	1,086	950	
1958	2,648	2,648	2,338	1,210	1,224	256	1,121	998	
1959	2,592	2,592	2,283	1,280	1,295	276	1,210	1,100	
1960	2,877	2,877	2,519	1,399	1,404	320	1,319	1,214	
1961	3,277	3,277	2,871	1,511	1,513	335	1,430	1,256	
1962	3,283	3,283	2,858	1,609	1,617	394	1,528	1,380	
1963	3,371	3,371	2,907	1,694	1,696	438	1,628	1,434	
1964	3,809	3,809	3,247	1,829	1,829	496	1,827	1,586	
1965	4,418	4,418	3,819	1,947	1,965	549	2,060	1,852	
1966	4,879	4,879	4,221	2,094	2,119	591	2,335	2,066	
1967	5,228	5,288	4,492	2,286	2,289	664	2,734	2,184	
1968	5,760	5,760	4,952	2,463	2,468	753	3,112	2,369	
1969	6,086	6,086	5,528	2,689	2,700	861	3,402	2,525	
1970	6,979	6,979	6,380	3,010	3,028	962	3,683	2,757	
1971	7,838	7,838	7,183	3,457	3,483	1,010	4,212	2,943	
1972	8,688	8,688	7,939	4,035	4,050	1,414	4,800	3,299	
1973	9,278	9,278	8,470	4,675	4,704	1,781	5,462	3,485	
1974	11,976	11,976	10,917	5,481	5,514	Y,207	6,687	3,981	
1975	15,391	15,391	14,211	7,109	7,187	2,792	9,234	5,651	
1976	19,713	19,713	16,938	8,536	8,498	3,470	11,530	6,701	
1977	21,436	21,436	19,806	9,796	9,790	3,973	13,504	7,103	
1978	23,455	23,455	21,501	10,895	10,925	4,301	15,270	7,904	
1979	25,484	25,484	23,534	(d)12,177	(d)12,172	(d)4,667	16,807	8,181	
1980	29,627	29,627	27,553	(d)14,008	(d)13,954	(d)5,264	18,976	8,805	
1981	35,052	35,052	32,785	(d)16,095	(d)16,150	(d)6,055	21,950	9,786	

(a) At 30 June. Expressed in Australian currency equivalents at ruling rates of exchange. (b) Includes General Government, Public trading enterprises and Public financial enterprises. (d) Includes Northern Territory.

OVERSEAS TRADE

Year ended 30 June—	TOTALS		PRINCIPAL EXPORTS					
	Imports	Exports	Coal(a)	Wool(b)	Barley	Wheat	Petroleum products	Flour(c)
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902(g)	76	100	n.a.	30	n.a.	6	n.a.	n.a.
1912(g)	122	158	2	52	—	13	—	3
1922	188	256	2	96	1	57	—	11
1932	104	216	1	74	3	38	—	8
1942	348	338	1	112	—	9	—	8
1952	2,107	1,350	1	636	22	111	—	66
1956	1,642	1,564	2	653	21	93	6	39
1957	1,438	1,986	4	930	25	120	6	43
1958	1,584	1,636	7	720	19	57	11	29
1959	1,593	1,623	5	578	34	77	15	26
1960	1,854	1,875	9	742	23	123	21	30
1961	2,175	1,938	15	649	29	205	24	38
1962	1,769	2,155	27	720	30	285	25	35
1963	2,163	2,152	22	733	10	217	29	31
1964	2,373	2,782	32	926	18	362	20	42
1965	2,905	2,651	51	781	18	297	11	37
1966	2,939	2,721	63	757	12	264	9	25
1967	3,045	3,024	72	840	22	361	30	23
1968	3,264	3,045	85	739	7	343	33	24
1969	3,469	3,374	117	827	18	258	26	22
1970	3,881	4,137	164	803	23	338	27	21
1971	4,150	4,376	195	593	51	433	38	20
1972	4,008	4,893	238	633	73	419	45	13
1973	4,121	6,214	291	1,262	39	273	41	12
1974	6,085	6,914	348	1,248	68	517	95	20
1975	8,083	8,673	721	815	187	1,028	145	49
1976	8,240	9,601	1,063	1,032	201	922	144	39
1977	10,411	11,646	1,282	1,587	223	863	190	26
1978	11,167	12,270	1,482	1,289	122	1,011	223	21
1979	13,752	14,243	1,524	1,592	148	794	295	14
1980	16,218	18,870	1,675	1,738	354	2,177	427	12
1981p	18,965	19,189	1,965	1,845	245	1,729	501	13

PRINCIPAL EXPORTS—continued

Year ended 30 June—	Butter(d)	Hides and skins	Meats	Fruit(e)	Sugar	Lead and lead alloys unworked (f)	Ores and concentrates	
							Iron	Other
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1902(g)	3	3	5	—	—	n.a.	—	—
1912(g)	9	6	9	1	—	3	—	8
1922	16	6	11	6	—	4	—	1
1932	21	5	13	10	5	5	—	—
1942	16	12	28	11	5	14	—	2
1952	10	34	71	44	14	52	—	40
1956	59	42	119	67	49	49	—	38
1957	53	49	100	53	58	63	—	51
1958	32	51	111	72	70	43	—	42
1959	51	47	194	73	64	38	—	33
1960	58	64	177	64	53	33	—	44
1961	41	54	145	61	70	33	—	54
1962	49	64	179	74	68	38	—	48
1963	49	74	226	73	91	35	—	44
1964	57	92	244	92	157	50	—	54
1965	67	80	286	86	113	61	1	77
1966	58	89	228	107	94	67	3	88
1967	65	86	286	95	100	54	46	100
1968	47	62	285	105	98	63	103	123
1969	41	75	291	92	122	66	180	143
1970	53	88	426	88	116	106	278	205
1971	48	71	438	100	150	30	374	231
1972	49	80	569	89	211	68	376	226
1973	62	189	867	117	250	83	439	239
1974	42	148	801	105	223	121	499	309
1975	34	102	450	91	645	130	707	423
1976	64	142	679	96	570	111	771	528
1977	38	239	896	99	637	166	902	674
1978	44	244	1,128	115	537	194	921	701
1979	49	351	1,722	141	448	260	968	727
1980	39	355	1,738	188	667	548	1,076	1,092
1981p	30	191	1,587	210	1,146	308	1,117	2,089

(a) Anthracite, bituminous and sub-bituminous (except briquettes). (b) Includes greasy wool, slip, wool scoured and carbonised, wool exported on skins. (c) Flour, plain white. (d) Includes concentrates and ghee. (e) Includes juices and fruit preparations. (f) Includes silverlead. (g) Year ended previous December.

OVERSEAS TRADE—continued
PRINCIPAL IMPORTS

Year ended 30 June—	<i>Vegetable foodstuffs, etc.</i>	<i>Apparel, etc.</i>	<i>Oil, etc.</i>	<i>Metals, etc.</i>	<i>Rubber</i>	<i>Paper, etc.</i>
	\$m	\$m	\$m	\$m	\$m	\$m
1902(a)	7.2	21.8	2.4	15.6	1.0	3.2
1912(a)	7.4	32.4	3.2	28.0	2.8	5.2
1922	8.0	62.0	9.4	45.6	3.4	8.8
1932	5.2	30.8	11.0	14.8	1.6	8.8
1942	12.3	65.3	32.4	143.6	6.0	8.7
1952	50.1	407.1	174.9	768.8	68.0	137.5
1956	44.1	222.7	199.3	644.1	44.1	87.2
1957	51.6	182.7	191.1	530.1	33.4	83.5
1958	51.5	217.0	203.4	564.4	33.3	89.8
1959	55.3	193.9	209.0	585.6	33.6	96.1
1960	54.9	222.1	213.5	710.1	48.5	103.8
1961	60.5	264.9	223.3	871.3	47.3	133.8
1962	56.3	208.4	219.8	630.3	35.5	109.6
1963	55.5	233.3	246.3	850.0	46.7	133.5
1964	61.6	234.0	251.5	947.1	51.2	141.7
1965	66.2	272.1	260.1	1,275.2	66.3	156.5

Year ended 30 June—	<i>Food and live animals</i>	<i>Beverages and tobacco</i>	<i>Crude materials, inedible, except fuels</i>	<i>Mineral fuels, lubricants and related materials</i>	<i>Animal and vegetable oils and fats</i>	<i>Chemicals</i>	<i>Manu- factured goods classified chiefly by materials</i>	<i>Machinery and transport equipment</i>	<i>Miscel- laneous manu- factured articles</i>	<i>Com- modities and trans- actions of merchan- dise trade not elsewhere classified</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1966	110	37	197	252	15	266	590	1,121	220	90
1967	118	38	206	247	15	297	586	1,144	243	110
1968	117	36	224	241	14	309	644	1,250	270	111
1969	128	44	228	252	13	328	688	1,328	298	116
1970	140	48	247	255	16	363	753	1,528	350	124
1971	158	50	235	190	18	410	867	1,644	403	125
1972	160	51	219	194	15	410	856	1,483	432	137
1973	163	52	268	175	13	424	893	1,489	475	119
1974	237	65	415	377	28	580	1,404	2,091	721	108
1975	302	75	390	724	43	786	1,496	3,059	961	125
1976	275	90	387	807	42	709	1,460	3,177	1,045	160
1977	455	99	471	996	54	926	1,891	3,980	1,354	105
1978	531	122	477	1,157	66	1,009	1,993	4,118	1,484	124
1979(b)	533	131	562	1,140	66	1,201	2,408	5,731	1,742	125
1980	655	142	700	2,098	81	1,579	2,900	5,656	2,005	226
1981p	655	169	764	2,726	63	1,588	3,269	7,032	2,264	260

(a) Year ended previous December. (b) From 1 July 1978, imports have been classified according to the new A.I.C.C. which is based on the Standard International Trade Classification, Revision 2. The figures for 1979 on, are therefore not comparable to those for previous years.

NATIONAL ACCOUNTS
GROSS DOMESTIC PRODUCT

Year—	At current prices		At constant prices(a)			
	(b)		1953-54 prices (b)	1959-60 prices (b)	1966-67 prices (b)	1974-75 prices (b)
	\$m	\$m	\$m	\$m	\$m	\$m
1956-57	11,326	10,275	11,857	..	..	..
1957-58	11,576	10,433	12,110	..	..	..
1958-59	12,437	11,349	13,006	..	..	..
1959-60	13,715	11,992	13,715	16,353	..	..
1960-61	14,582	..	14,145	16,911	..	..
1961-62	14,928	..	14,298	17,104	..	..
1962-63	16,136	..	15,235	18,276	..	..
1963-64	17,919	..	16,385	19,577	..	..
1964-65	19,710	..	17,648	20,959	..	..
1965-66	20,703	..	17,900	21,390	..	..
1966-67	22,792	..	19,070	22,792	42,405	..
1967-68	24,325	..	..	23,708	43,928	..
1968-69	27,463	..	..	25,837	48,129	..
1969-70	30,456	..	..	27,454	50,841	..
1970-71	33,649	..	..	28,698	53,422	..
1971-72	37,580	..	..	29,999	55,828	..
1972-73	42,745	..	..	31,405	57,764	..
1973-74	51,300	..	..	33,001	60,734	..
1974-75	61,666	..	..	33,382	61,666	..
1975-76	72,493	..	..	..	63,148	..
1976-77	83,176	..	..	..	65,286	..
1977-78	90,275	..	..	..	65,518	..
1978-79	101,661	..	..	..	68,423	..
1979-80	114,347	..	..	..	69,698	..
1980-81	130,029	..	..	..	71,748	..

(a) For a description of constant price estimates, see *Australian National Accounts*, 1976-77 (5204.0) pp 15 and 109. (b) *Australian National Accounts* 1979-80, and, for the last five years, the Budget Paper No. 9, *National Income and Expenditure* 1980-81.

GROSS FIXED CAPITAL EXPENDITURE

Year—	At current prices		At constant prices(a)			
	(b)		1953-54 prices(b)	1959-60 prices(b)	1966-67 prices(b)	1974-75 prices(b)
	\$m	\$m	\$m	\$m	\$m	\$m
1956-57	2,667	2,380	2,819	..	..	..
1957-58	2,856	2,499	2,951	..	..	..
1958-59	3,022	2,614	3,085	..	..	..
1959-60	3,405	2,886	3,405	3,947	..	..
1960-61	3,671	..	3,569	4,159	..	..
1961-62	3,708	..	3,558	4,149	..	..
1962-63	4,014	..	3,837	4,465	..	..
1963-64	4,499	..	4,227	4,916	..	..
1964-65	5,250	..	4,789	5,559	..	..
1965-66	5,723	..	5,077	5,910	..	..
1966-67	6,009	..	5,159	6,009	11,098	..
1967-68	6,533	..	..	6,351	11,778	..
1968-69	7,255	..	..	6,810	12,655	..
1969-70	7,919	..	..	7,124	13,304	..
1970-71	8,782	..	..	7,441	14,040	..
1971-72	9,630	..	..	7,640	14,360	..
1972-73	10,170	..	..	7,588	14,253	..
1973-74	11,753	..	..	7,807	14,514	..
1974-75	14,185	..	..	7,667	14,185	..
1975-76	17,023	..	..	..	14,717	..
1976-77	18,962	..	..	..	14,555	..
1977-78	20,611	..	..	..	14,470	..
1978-79	23,098	..	..	..	15,087	..
1979-80	25,095	..	..	..	14,808	..
1980-81	31,051	..	..	..	16,461	..

(a) For a description of constant price estimates, see *Australian National Accounts* 1976-77 (5204.0) pp 15 and 109. (b) *Australian National Accounts* 1979-80, and for the last five years, the Budget Paper No. 9, *National Income and Expenditure*, 1980-81.

DIARY OF PRINCIPAL ECONOMIC EVENTS, NOVEMBER 1980 TO OCTOBER 1981

The diary records major announcements by Commonwealth and State Governments which concern the Australian economy. Included are announcements on interest rates, taxation, capital raisings, tariff protection and industry assistance. Also included are significant announcements by the Australian Reserve Bank relating to Australian banking, monetary policy, etc., and by private and public enterprises relating to major investment plans, prices, etc. It also records national wage case decisions announced by the Arbitration Commission. In some instances closely related items have been recorded together against the first relevant date.

November 1980

- 4 The Commonwealth Government announced that the Japanese Government had set its beef import quotas for delivery between January and June 1981 at 62,800 tonnes in total, an increase of 500 tonnes on the corresponding period in 1980.
- 6 The Commonwealth Government announced it had held preliminary discussions in Tokyo regarding the possibility of a Commonwealth public bank issue in the Tokyo capital market during the current financial year.
- 7 The Commonwealth Government announced it had given approval under its foreign investment policy for the acquisition by AGB Research Australia Ltd of the market research company McNair Anderson Associates Ltd. A condition of the approval was that AGB seek to secure Australian equity of at least 40 per cent in McNair Andersons within six years.

Details were released of negotiations to export one million tonnes of wheat to China during 1981, the final year of the current three year agreement with China. The contract will take the total supplied under the agreement to 5 million tonnes.
- 12 The Commonwealth Government announced further details of the proposal announced in the Prime Minister's Election Policy Speech to introduce a special depreciation allowance of 20 per cent per year, on a prime cost basis over 5 years, for new machinery used wholly and exclusively in agricultural, pastoral and forestry operations and for new vessels used in the fishing industry.

A long term contract for the supply of sugar to Korea was finalised by Colonial Sugar Refineries. The contract is for the supply of 250,000 tonnes of sugar between 1981 and 1984 and is expected to be worth more than \$185 million at current prices.
- 13 Details of a coal export contract with Japan worth at least \$42 million were released. The contract is for the supply of steaming coal by Coalex Proprietary Limited, a subsidiary of Oakbridge Limited, and calls for the shipment of 200,000 tonnes per year for five years of good quality steaming coal beginning 1 April 1981. In addition, 100,000 tonnes of lower grade coal will be sold during each year of the five year contract at a lower price than the base contract price of \$42 per tonne.
- 14 The Commonwealth Government announced that it had approved the export of liquid petroleum gas worth \$300 million over 5 years as part of the Cooper Basin liquids project, due to be operational by 1983.
- 19 The Commonwealth Government gave details of the proposed amendment to the income tax laws to provide full deductibility of capital expenditure by a primary producer on soil conservation. Capital expenditures that qualify for this new concession will not also qualify for the investment allowance.
- 28 Custom Credit Corporation Limited announced increases in rates paid on debentures. The new maximum rates for longer term deposits will be 13.5 per cent per annum. Citicorp also increased the rate on two year debenture stock by 1.25 per cent to 14 per cent per annum.

December 1980

- 2 A number of decisions affecting the interest rates charged by trading and savings banks in Australia were announced by the Commonwealth Government. The changes included:
- an increase of 2 percentage points to 12.5 per cent in the maximum interest rate trading banks may charge on overdrafts with limits of less than \$100,000;
 - an increase of one percentage point to 11.5 per cent in the maximum interest rate charged by banks for loans under \$100,000 for owner-occupied housing; and
 - the abolition of controls on trading and savings banks' deposit rates.

The Commonwealth Government announced its approval of the foreign investment proposal by Alcoa of Australia Limited to establish a new aluminium smelter at Portland, Victoria. The proposal is for an initial expenditure of \$350 to \$400 million with 49 per cent Australian ownership.

- 8 Finalisation of an agreement with a Japanese consortium to produce liquid fuel from brown coal was announced by the Victorian Government. The Nippon Brown Coal Liquefaction Company Limited will build a pilot plant costing at least \$160 million at Morwell on land supplied by the Victorian Government. Production is expected to commence in July 1983 and will use coal and electricity supplied free of charge.
- 9 The Commonwealth Government announced its approval of a foreign investment proposal by Kleinwort, Benson Ltd of the UK to establish, jointly with the Colonial Mutual Life Assurance Society Ltd, a merchant bank in Australia—Kleinwort, Benson (Australia) Limited.
- 18 The Reserve Bank of Australia announced an increase of one percentage point to 7.0 per cent in the major trading banks' Statutory Reserve Deposit ratio with effect from 6 January 1981. The increase is expected to draw \$246 million from trading banks' funds.
- 23 The Commonwealth Government announced details of the new import parity price for indigenous crude oil to apply from 1 January 1981. The new price for Bass Strait crude oil would be \$30.23, an increase of \$2.73 on the old price of \$27.50.

It was also announced that the maximum wholesale price for domestic sales of naturally occurring LPG would rise by \$22.60 to \$250.23 per tonne from 1 January 1981.

Discovery of a shale oil bed at the Nagoorin prospect in North Queensland was announced by the chairman of Mining Houses of Australia Limited. Test wells have indicated a shale oil bed more than 200 metres thick.

- 31 The Commonwealth Government announced developing country preferential tariff rates on textiles, clothing and footwear products that would apply from 1 January 1981.

January 1981

- 2 The Broken Hill Proprietary Company Limited announced a rise of 2 per cent in the price of all its iron and steel products. The increase will apply from 7 January.
- 6 Plans to build two power stations at an estimated cost of \$3,500 million at Driffield in Victoria were released by the Victorian Government.

Australia's special drawing rights were increased by 50 per cent by the International Monetary Fund. The benchmark quota increase from \$860 million to \$1,289.9 million was the first increase for two years.

- 9 The Conciliation and Arbitration Commission granted an increase of 3.7 per cent in all federal wage awards effective from the first pay period commencing on or after 9 January. It was also announced that this would be the last national wage hearing under the existing principles.

The Commonwealth Government announced that the Australian Loan Council had decided to increase maximum interest rates for borrowings by local and semi-government authorities. The new maximum borrowing rates effective from 9 January are as follows: 4 to 9 years – public loans 13.4 per cent; private loans 13.7 per cent; 10 years and over – public loans 13.6 per cent; private loans 13.9 per cent. The new rates are 0.5 per cent higher than the present rate.

- 14 The Commonwealth Government released the latest schedule of major manufacturing and mining investment projects. This schedule, which relates to information collected in October 1980, lists 306 projects at the "committed" or "final feasibility" stages worth \$33.4 billion in all. Of the total, some \$10.3 billion is attributable to manufacturing projects with the remaining \$23.1 billion directed towards mining investment.
- 18 Plans for Nissan to produce small car front wheel drive engines in Australia were announced by the Commonwealth Government. The new plant will be built at Clayton, Victoria, and is expected to be in operation by 1983.
The South Australian Government announced the grant of a petroleum exploration permit to Shoreline Exploration. The company is committed to initial expenditure of \$400,000 on seismic survey work during the first year of the six year permit period. Exploration will involve an area covering 8,500 square kilometres of the Otway Basin off the south-east coast of South Australia.
- 19 The Conciliation and Arbitration Commission announced that a public inquiry into wage fixation principles would begin in February.
The discovery of a medium sized tin deposit at Razorback, Tasmania, by Appollo International Minerals NL and Conzinc Riotinto of Australia Limited was announced by directors of Appollo. It is estimated that the deposit contains over 4,000 tonnes of tin although recovery rates are not known.
- 20 Approval of plans to construct a third coal loader in New South Wales was announced by the N.S.W. Government. The loader will be built at Newcastle and is expected to cost \$230 million.
- 30 The Commonwealth Government announced its intention to introduce legislation to counter tax avoidance schemes which exploit provisions of the income tax law relating to the transfer of trading stock. The amending legislation will be framed to take effect from 31 January 1981.

February 1981

- 4 The Prices Justification Tribunal approved increases in the maximum wholesale price of petrol ranging from 1.3 to 2.22 cents per litre, with effect from 5 February.
- 5 The Commonwealth Government gave formal approval for the Australian Bank Limited to commence operations, making it the first trading bank to be established since 1945. The Australian Bank is expected to commence trading in early July. The bank's major activities will include commercial and general banking, project finance, foreign exchange, lending facilities and advisory services.
The Commonwealth Government proclaimed the *Commonwealth Employees Redeployment and Retirement Act, 1981*. This opens the way to voluntary early retirement of public servants at the age of 55 years and provides new arrangements to facilitate compulsory redeployment or retrenchment.
- 9 A flow of oil at the rate of 3,250 barrels per day from the Strezlecki Number 4 well in the Cooper Basin was announced by Delhi Petroleum Limited.
- 11 Approval (with a number of qualifications) was granted by the New South Wales Government for the construction by Tomago Aluminium Company Pty Ltd of a smelter at Tomago in the Hunter Valley of New South Wales.
- 25 The report of the Holcroft Committee of Inquiry into Domestic Air Fares was tabled in Commonwealth Parliament. It argued that long distance fares were subsidising short distance services and recommended a fare structure closely related to the cost of providing services. The report also suggested that some degree of deregulation of price fixing was desirable.
The Commonwealth Government agreed to shorten the term of the new two airline agreement from ten to five years, and to hold a major inquiry into deregulation.
- 27 The Commonwealth Government announced that Australia and the Commission of the European Communities had reached agreement on arrangements for the shipment of Australian steel products to EC markets during 1981. The new arrangements provided for Australia's overall quota to be reduced by 15 per cent to 382,500 tonnes from the previous figure of 450,000 tonnes and followed mandatory production cuts averaging 15 per cent per annum imposed on Community producers for the first 6 months of 1980.

The commencement date for the Blair Athol steaming coal project has been brought forward by twelve months to April 1984, and the partners have decided to sell a 24.9 per cent stake to Australian interests to qualify the project under the Foreign Investment Review Board's guidelines for a minimum 50 per cent Australian equity in resource projects.

Coal royalties in New South Wales were raised by 70 cents to \$1.70 per tonne from 1 February.

March 1981

- 2 CSR Limited and the Mitsui SRC Development Company Limited, signed an agreement to conduct a \$3 million joint feasibility study of the commercial production of solvent refined coal and liquid fuels from brown coal deposits in Victoria's La Trobe Valley.
- 4 The Bank of New South Wales announced an increase in the interest rate on overdrafts of more than \$100,000 of 0.75 per cent bringing it to 14.25 per cent. Similar increases were announced by the Australia and New Zealand Banking Group effective from 13 March and the National Bank effective from 1 April. An increase of 0.5 per cent in interest rates on overdrafts of less than \$100,000 bringing it to 12.5 per cent, was announced by the Bank of New South Wales on 17 March. The National Bank increased the interest rate on overdrafts of less than \$100,000 by 1 per cent, to 12.5 per cent effective from 1 April.
- 5 Meat import quotas will not be operating in the United States market for the second quarter of 1981, and will probably not be imposed at any time this year, making it the third consecutive year during which the market has been open. This is the result of reduced supplies available from Australia and New Zealand.
- 10 The Commonwealth Government announced its approval in terms of its foreign investment policy to a proposed re-organisation of the Consolidated Gold Fields Group in Australia. This would result in the establishment of a new single public company, Renison Goldfields Consolidated Limited (RGC) to head the group.

A nuclear safeguards agreement was signed between Canada and Australia. The agreement provides for the prohibition of explosives for military use, and the application of International Atomic Energy Agency safeguards. Australia has signed earlier safeguard agreements with Finland, the Philippines, South Korea, the United States, the United Kingdom and France.

- 19 It was announced by Nippon Oil that it will import 0.4 million tonnes of steaming coal each year from the Bayswater colliery in New South Wales, commencing October 1981.
- 26 Alcan announced plans for a smelter at Bundaberg. This is estimated to cost \$930 million and construction will begin in 1981.

The Japanese government decided to cut chilled beef imports for the three months to June 1981 from the normal 9,000 tonnes to 4,800 tonnes. This cut is due to a decline in Japanese domestic meat prices.

April 1981

- 1 Domestic airfares for short routes were increased by up to 39 per cent and were cut for long routes by up to 6 per cent.
- 6 Spokesmen for Esso Exploration, Central Pacific Minerals and Southern Pacific Petroleum announced that the estimated cost of the pilot plant earlier proposed for the first stages of development had trebled to more than \$2,000 million and the cost of the commercial plant to \$20,000 million.
- 7 The Conciliation and Arbitration Commission announced a new system of wage fixing principles following its Inquiry into the wage determination system. In handing down its decision the Commission reinstated a centralised system of wage determination based on 6-monthly hearings. The main features of the new system are:
 - the automatic adjustment of award wages and salaries for 80 per cent of the December and March quarter CPI movements, other than in exceptional and compelling circumstances, following publication of the March quarter CPI (the First Review);

- a 'final review', following publication of the September quarter CPI, which will consider the remaining 20 per cent CPI movement left over from the December and March quarters, the June and September quarters CPI movements and productivity movements (which will include applications for changes in work conditions, including shorter working hours).

A provisional agreement was reached between six Hunter Valley mining companies and the six major Japanese steel mills for a price of \$47.30 per tonne to apply to coal shipments in May.

- 16 The Commonwealth Government announced its approval of a proposal by Tomago Aluminium Company Pty Ltd to establish and operate a new aluminium smelter at Tomago in the Hunter Valley.
- 27 Australian iron ore exporters and Japanese steel mills have agreed to price increases for exports of iron ore to Japan ranging from 7.5 to 8.75 per cent.
- 29 The Commonwealth Government announced details of new health funding and insurance arrangements.

The Commonwealth Government announced the possible issue into general circulation of a \$1 coin to progressively replace the \$1 note.

- 30 Australia's five year contract for the supply of sugar to Japan will not be renewed when it expires on 30 June 1981. It will be replaced by an 18 month agreement for the supply of 700,000 tonnes, this amount being approximately equal to the present annual volume of exports with prices based on spot prices. Under the existing agreement prices and quantities are fixed. The Japanese desire for more flexibility is due partly to falling world prices. Over the period between October 1980 and April 1981, the world price of sugar on the London market has decreased by half from £400 a tonne to £200 a tonne.

The National Bank announced the introduction of a Savings Card as an alternative to the pass-book for on call savings accounts. The new account offers an interest rate of 9 per cent on balances of \$1,000 or more. Savings banks generally pay 3.75 per cent for on call deposits of up to \$4,000.

May 1981

- 1 The Oaky Creek project in Queensland was given the go ahead following guarantees by the participants that 50 per cent Australian equity will be introduced before the first coal shipments take place.
 - 4 The Treasurer, Mr Howard, announced that for 1981-82 the States are to receive a 9 per cent increase in general revenue grants and a further 1 per cent to compensate for the absorption of some grants previously paid as specific purpose grants for public transport, soil conservation and pathology.
- The Commonwealth Government announced that Australia had agreed to sign the Agreement Establishing the Common Fund for Commodities. The Fund is being established to assist with the financing of international commodity trade stabilisation measures.
- 7 The Conciliation and Arbitration Commission granted a 3.6 per cent increase in all federal awards under the revised National Wage Case guidelines.
 - 12 The Commonwealth Government announced its decision to raise, with effect from 1 January 1981, the general payroll tax exemption level and the partial exemption level applying in the ACT to match those applying in NSW since that date. As a result employers in the ACT with payrolls below \$80,400 in a full year would be exempted, with partial exemption applying to employers with payrolls below \$201,000 in a full year.
 - 15 Export quotas were automatically re-imposed under the International Sugar Agreement following a dramatic drop in the world sugar price to less than \$US0.16 per pound. However Australia's 1981 quota of 2.6 million tonnes should enable sale of the entire 1981 harvest.
 - 26 The Commonwealth Government announced it had completed negotiations for a Yen bond issue in the Tokyo capital market. The loan is for Y20 billion (\$80 million approximately) and carries a coupon rate of 8.5 per cent per annum. It is for a term of 12 years.

June 1981

- 5 Hoechst Australia is to build a \$40 million graphite products manufacturing plant in Victoria with capacity to supply the total requirements of the Australian aluminium smelting industry. Currently graphite products are imported.
- 12 The Commonwealth Government announced that Japan's allocation for imports from Australia of chilled beef in the July–September quarter this year would be 6,000 tonnes.
- 15 The Commonwealth Government gave its consent under section 63 of the *Banking Act* 1959 for the amalgamations proposed between the Bank of New South Wales and the Commercial Bank of Australia Limited and between the National Bank of Australasia Limited and the Commercial Banking Company of Sydney Limited.
- 19 The Loan Council agreed to State Government loan programs for 1981–82 of \$1,307.25 million (of which one-third is provided as a Commonwealth grant) representing the same money amount as that provided for in 1980–81. Borrowing programs for the 'larger' State authorities for 1981–82 were set at \$2,098.3 million, including infrastructure borrowing programs for such authorities of \$806.7 million, an increase of 11.2 per cent on the larger authorities program in 1980–81. The Commonwealth's semi-government authorities' program, including infrastructure, will be \$363.0 million, smaller, in current prices, than the 1980–81 program.
The Commonwealth Government announced its decision on the final global quota level for passenger motor vehicle imports in 1981. It had been decided that no further quotas would be issued in 1981 and that the 88,000 units allocated to date would constitute the quota for 1981.
- 20 Commonwealth and State Governments met to consider, inter alia, the report of the Commonwealth Grants Commission on States' shares of tax sharing grants. Pending a further report by the Commission, interim arrangements were agreed to providing for additional assistance amounting to \$60 million in 1981–82 to be allocated between New South Wales, Victoria and Queensland.
- 24 It was announced by the Commonwealth Government that the depreciation limit in respect of motor cars and station wagons (including four wheel drive vehicles) for income tax purposes for the 1981–82 income year would be \$19,732.
The Commonwealth Government announced that the *Petroleum Products Pricing Act* 1981 had been proclaimed on 26 June 1981 and that the Petroleum Products Pricing Authority was operational from that date. As a consequence of the proclamation, the PJT was now abolished and the Petroleum Pricing authority is responsible for matters concerning the pricing of particular petroleum products by declared companies.
- 26 West Australian Petroleum Limited announced that it will spend \$100 million in 1981 on natural gas ventures off the Western Australian coast—a \$34 million increase on the original budget allocation. A major portion of this expenditure will be on exploration.

July 1981

- 1 The Commonwealth Government announced the release of the IEA review of Australia's energy policies. The review endorsed the trust of Australian energy policies while recommending they be strengthened in a number of areas.
- 8 In the first national wage case under the revamped indexation guidelines, the full bench of the Arbitration Commission granted a 3.6 per cent increase to Australia's wage and salary earners. This represented 80 per cent of the increase in the December quarter 1980 and March quarter 1981 consumer price index.
- 10 Esso-BHP announced that they will spend about \$160 million on thirty oil and gas wells in a new Bass Strait exploration programme over the next three and a half years and \$1.2 billion by 1985 on development work, mainly on fields already known in the offshore Gippsland Basin.
Western Collieries Limited announced the discovery of a brown coal deposit of more than 1,000 million tonnes in the Esperance region of south-eastern Western Australia.
- 15 The Commonwealth Government announced that it had completed negotiations for its first Euroyen bond issue. The amount of the loan is Y15 billion (\$A57 million approximately) and carries a coupon rate of 8.5 per cent per annum. It is for a 10 year term and would be issued at par.

- 17 The Commonwealth Government announced that it had decided to amend the income tax law so that deductions will be allowed for income tax purposes for gifts of \$2 or more made during the current financial year to the relevant committee appointed by the Commonwealth, a State or Territory Government for the purpose of observance of the International Year of Disabled Persons.
- 19 The Commonwealth Government announced that following a review of existing policy on outward portfolio investment, it had decided to significantly relax restrictions on portfolio investment overseas. The decisions meant that from 20 July 1981 there would no longer be any restriction on the amount that may be invested overseas in equities and in real estate. There would not be any change in the amounts that may be invested overseas in eligible fixed interest securities and it would still be necessary to obtain prior exchange control approval from the Reserve Bank for all portfolio investment overseas.
- 21 It was announced that a group of Japanese businesses are about to sign a formal agreement for a major feasibility study of the Condor oil shale project in Queensland. It is estimated that \$20 million will be spent on the two year study.
- 31 The Conciliation and Arbitration Commission announced the abandonment of wage indexation. The end of the existing wage indexation system was announced by the President of the Arbitration Commission, Sir John Moore. A high level of industrial disputation in key areas was cited as evidence of a lack of commitment to the system. The Commission said it would not hear any further national wage case before February 1982, but would hear cases brought by individual unions.

August 1981

- 5 It was announced by the Commonwealth Government that it would be acting to eliminate the additional preference for Australian goods in Government purchasing, except in relation to certain defence-strategic industries.
- 11 The Reserve Bank announced a reduction of the minimum term for which trading banks could issue certificates of deposit from 3 months to 30 days.
The Commonwealth Government announced that it had agreed to an increase of 1 per cent in maximum bank lending rates for overdrafts drawn under limits of less than \$100,000 and for loans for owner occupied housing. The increased limits took effect on 17 August.
- 14 The Australian Bank Ltd commenced business. This bank is the first new nationally operating trading bank to be formed in Australia since 1912.
- 18 The Treasurer presented the 1981-82 Budget.
- 27 The Commonwealth Government announced its proposal to amend the income tax law as it applies to income of trust estates to deal with certain schemes designed to avoid tax.
Following a work value investigation, the Committee of Reference for Defence Forces Pay recommended wage increases of 2.8-2.9 per cent for some 70,000 full-time and 30,000 Reservist Defence Force personnel in addition to an earlier 4 per cent interim increase. The recommendation was accepted by the Government.

September 1981

- 1 A Full Bench of the Conciliation and Arbitration Commission refused to ratify an agreement which had been reached between the Transport Workers' Union and the Australian Road Transport Federation (ARTF) for a \$20 per week wage increase. The ARTF subsequently agreed to implement the agreement by way of an over-award payment.
- 4 A Mission from the Secretariat of the Organisation for Economic Co-operation and Development (OECD) visited Australia from 4 to 10 September as part of its preparation of the regular OECD Survey of the Australian economy.
The Reserve Bank announced that it was requesting the major trading banks as a group to limit the rate of growth in their advances outstanding, for the time being to 12 per cent per annum. This request superseded the previous guidance figure of 10 per cent per annum.
- 16 The Commonwealth Government announced that Australian and EEC representatives in Geneva had overcome problems with the beef quota and had completed formalities which would result in both parties receiving from one another the full benefits of the bilateral Australia/EEC settlement negotiated during the Tokyo Round of the Multilateral Trade Negotiations (MTN).

October 1981

- 1 Wage increases of between 7 and 12.5 per cent were granted to 30,000 NSW nurses by the NSW Industrial Commission additional to earlier interim increases of 10-12.5 per cent.
- 15 The Tasmanian Government announced that most State Government employees would receive full automatic quarterly wage indexation at least until the next National Wage Case. The first increase is to cover the September and June quarter CPI increases as well as the 0.9 per cent "discount" component of the Conciliation and Arbitration Commission's National Wage Case decision of 7 May 1981.
- 21 The Commonwealth Government announced it had decided to increase the interest rate applying to its Income Equalisation Deposits (IED's) scheme for primary producers from 7 per cent to 9.5 per cent.
- 29 An extraordinary meeting of OPEC held in Geneva reached agreement on a \$US34 per barrel market price (i.e. a \$US2 per barrel increase in Saudi market and a \$US2 per barrel decrease for other OPEC producers) and a price freeze until the end of 1982. The meeting also agreed that the maximum price for high quality crude oil should be \$US38 per barrel.
- 30 An agreement providing for wage increases of \$6.50 to \$18.70 per week for some 18,000 oil industry employees was ratified by the Conciliation and Arbitration Commission.

The Western Australian Industrial Commission announced its decision to grant an increase of \$6.30 per week in the State's female minimum wage and its intentions to apply the same increase to all employees covered by Western Australian State awards.

LIST OF SPECIAL ARTICLES AND MISCELLANEOUS MATTER CONTAINED IN PREVIOUS ISSUES

This list refers to special articles and other more or less important miscellaneous matter which have appeared in previous issues of the Year Book but which are not included, or are included in abbreviated form only, in the present issue.

The figures below indicate, respectively, the number and page of the Year Book to which reference is made. In cases where matter was published in more than one previous issue, the volume and page for the last issue containing such matter are given. For possible revisions, however, issues immediately following the one referred to should also be consulted.

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