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TABLE OF CONTENTS

Preface	vii
Introduction	ix
Geography and climate	1
Government	21
International relations	37
Defence	63
Population	71
Labour	101
Income and welfare	151
Special Article — Government redistribution of income in Australia	185
Health	195
Education	231
Crime and justice	261
Culture and recreation	283
Special Article — Women in small business	327
Industry overview	313
Environment	335
Agriculture	359
Forestry and fishing	399
Mining	419
Energy	439
Manufacturing	453
Construction and housing	469
Service industries	493
Tourism	507
Transport	523
Communications	543
Special Article — Household adoption of digital technologies	553
Science and technology	567
Special Article — Understanding the innovation process in manufacturing	584
Financial system	589

Government finance	623
Prices	651
National accounts	669
Special Article — Natural resources in national balance sheets	689
International accounts and trade	695
List of Special Articles contained in previous issues	743
Acknowledgements	745
For inquiries ...	746
Index	747

Preface

Year Book Australia is the principal reference work produced by the Australian Bureau of Statistics (ABS). It provides a comprehensive and detailed statistical review of various aspects of the economy and social conditions in Australia, together with their administrative and legislative background. In addition, it contains descriptive matter dealing with Australia's government, international relations, defence, geography and climate.

The first Official Year Book of the Commonwealth was published in 1908, although individual Australian States and colonies had been producing year books for several decades previously.

The statistics contained in this volume are the most recent available at the time of its preparation. More detailed and, in many cases, more recent statistics are available in the publications of the ABS and other organisations. The sources of information are shown throughout and at the end of chapters of the Year Book, while the *ABS Catalogue of Publications and Products* (1101.0) lists all current publications of the ABS.

ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued co-operation is very much appreciated. Particular thanks and appreciation are extended to those organisations which have kindly supplied material for inclusion in this 1997 edition of *Year Book Australia*.

Australian Bureau of Statistics
Canberra
March 1997

W. McLennan
Australian Statistician

Introduction

Year Book Australia provides a comprehensive overview of the economic and social conditions of contemporary Australia. It is a statistically oriented publication with sufficient background information to establish a context for the statistics and to assist in understanding and interpreting them.

Many of the statistics are derived from the Australian Bureau of Statistics (ABS), the official statistical agency which produces the *Year Book*. However, a great deal of the information is also contributed by other, predominantly government, organisations. The official nature of the contributors to the *Year Book* ensures a high degree of objectivity and reliability in the picture presented of contemporary Australia.

The *Year Book* also presents some historical and international perspectives of Australia.

This current (79th) edition is the latest in a long series of *Year Books* extending back to the first edition in 1908. This series provides a valuable source of information on the state of Australia at any particular point in this period.

Year Book Australia 1997 is also available on CD-ROM.

Finding information

The contents pages at the beginning of the *Year Book* and preceding each chapter provide a guide to the broad subjects contained in each chapter. The index assists in locating information on more specific subjects. A list of special, one-off articles which have appeared in previous editions is contained at the end of the *Year Book*.

The tables and graphs in a chapter are numbered and the text is cross-referenced, as necessary, to the table or graph to which it relates.

Further information

While the statistics and descriptive information contained in the *Year Book* provide a comprehensive overview of Australia, they represent only a relatively small part of the statistics and other information

available. The *Year Book* is aimed primarily at providing a ready and convenient source of reference, both to those familiar and unfamiliar with a particular subject. In other words, because of the range of subjects, and limitations on the size of the *Year Book*, it aims at breadth rather than depth of information.

For those requiring information in greater depth, the *Year Book* also serves as a directory to more detailed sources, with the source shown for each statistical table, graph and map. Where the ABS is the source, the title and catalogue number of the relevant publication are quoted. For other sources, the name of the organisation is shown, and the publication title where appropriate. Relevant ABS and other publications are also listed at the end of each chapter. A useful complementary publication is the *ABS Catalogue of Publications and Products* (1101.0) which lists all current publications and products of the ABS.

The Year Books or Statistical Summaries produced by the ABS for each State or Territory respectively, provide information similar to that contained in the *Year Book Australia*, for the State or Territory concerned.

In many cases, the ABS can also provide information which is not published or which is compiled from a variety of published and unpublished sources. Information of this kind may be obtained through the Information Consultancy Service. Charges are generally made for such information. Inquiries may be made by contacting the Inquiries Section in the nearest ABS office (see page 746).

The annual reports of government departments and agencies also provide a valuable source of more detailed information on subjects covered in the *Year Book*.

For a variety of reasons, it is not possible for all statistics in the *Year Book* to relate to the latest or the same year. Readers wishing to obtain or clarify the latest available statistics should contact the relevant source.

Comments from readers

The ABS endeavours to keep the balance of the contents of the *Year Book* in line with the ever-changing nature of the nation. For this

reason comments on the adequacy and balance of the contents of the *Year Book* are welcomed and should be directed to the Editor of the *Year Book* at ABS National Office, Canberra.

Symbols and abbreviations

The following symbols, where shown in columns of figures of 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 — figures 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
n.e.s.	not elsewhere specified
—	break in continuity of series (where drawn across a column between two consecutive figures)
*	subject to high standard errors and should be used with caution

The following abbreviations are used for the titles of the Australian States and Territories and Australia:

NSW	New South Wales
Vic.	Victoria
Qld	Queensland
WA	Western Australia
SA	South Australia
Tas.	Tasmania
NT	Northern Territory
ACT	Australian Capital Territory
Aust.	Australia

Yearly periods shown, for example, as 1995, refer to the year ended 31 December 1995; those shown, for example, as 1995–96, refer to the year ended 30 June 1996. Other yearly periods are specifically indicated. The range of years shown in the table headings, for example, 1901 to 1995–96, indicates the period covered, but does not necessarily imply that each intervening year is included or that the yearly period has remained the same throughout the series.

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

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

1

Geography and climate

Geography of Australia	3
Position and area	3
Landforms and their history	4
Rivers and lakes	7
Climate of Australia	8
Climatic controls	8
Rainfall and other precipitation	9
Annual	9
Seasonal	10
Rainday frequency	10
Rainfall intensity	10
Thunderstorms and hail	12
Snow	12
Temperature	12
Average temperatures	12
Average monthly maxima	12
Average monthly minima	12
Extreme maxima	12
Extreme minima	13
Heat waves	13
Other aspects of climate	14
Frost	14
Humidity	15
Global radiation	15
Sunshine	15
Cloud	15
Fog	16
Winds	16
Droughts	16
Floods	17
Water resources	17
Bibliography	20

Geography of Australia

Position and area

Australia comprises a land area of about 7,682,300 km². The land lies between latitudes 10°41' south (Cape York) and 43°39' south (South Cape, Tasmania) and between longitudes 113°09' east (Steep Point) and 153°39' east (Cape Byron). The most southerly point on the mainland is South Point (Wilson's Promontory) 39°08' south.

The latitudinal distance between Cape York and South Point is about 3,180 km, while the latitudinal distance between Cape York and South East Cape, Tasmania, is 3,680 km. The longitudinal distance between Steep Point and Cape Byron is about 4,000 km.

1.1 AREA, COASTLINE, TROPICAL AND TEMPERATE ZONES, AND STANDARD TIMES

State/Territory	Estimated area		Length of coastline km	% of total area		Standard times	
	Total km ²	Total area %		Tropical zone	Temperate zone	Meridian selected	Ahead of GMT(a) hours
New South Wales	801 600	10.43	1 900	..	100	150°E	10.0
Victoria	227 600	2.96	1 800	..	100	150°E	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	9.5
Western Australia	2 525 500	32.87	12 500	37	63	120°E	8.0
Tasmania	67 800	.88	3 200	..	100	150°E	10.0
Northern Territory	1 346 200	17.52	6 200	81	19	142°30' E	9.5
Australian Capital Territory	2 400	.03	(b)35	..	100	150°E	10.0
Australia	7 682 300	100.00	36 735	39	61	..	..

(a) Greenwich Mean Time. During daylight saving periods, an hour should be added to the times in this column. (b) Jervis Bay Territory.

Source: Bureau of Meteorology.

The area of Australia is almost as great as that of the United States of America (excluding Alaska), about 50% greater than Europe (excluding the former USSR) and 32 times greater than the

United Kingdom. Tables 1.2 and 1.3 show the area of Australia in relation to areas of other continents and selected countries.

1.2 AREAS OF CONTINENTS

Continents	Area '000 km ²
Asia	44 614
Africa	30 319
North, Central America and West Indies	24 247
South America	17 834
Europe	10 600
Australia and Oceania	8 504
Total land mass excluding Arctic and Antarctic continents	135 774

Source: Encyclopedia Britannica and The World Book Encyclopedia.

1.3 AREAS OF SELECTED COUNTRIES

Continent/country	Area '000 km ²
Countries (seven largest)	
Russia	17 073
Canada	9 976
China	9 590
United States of America	9 363
Brazil	8 512
Australia	7 682
India	3 288
Selected other countries	
Belorus	208
France	544
Germany	357
Indonesia	1 919
Japan	372
Kazakhstan	2 717
Papua New Guinea	462
New Zealand	269
Ukraine	604
United Kingdom	244
Total land mass excluding Arctic and Antarctic continents	135 774

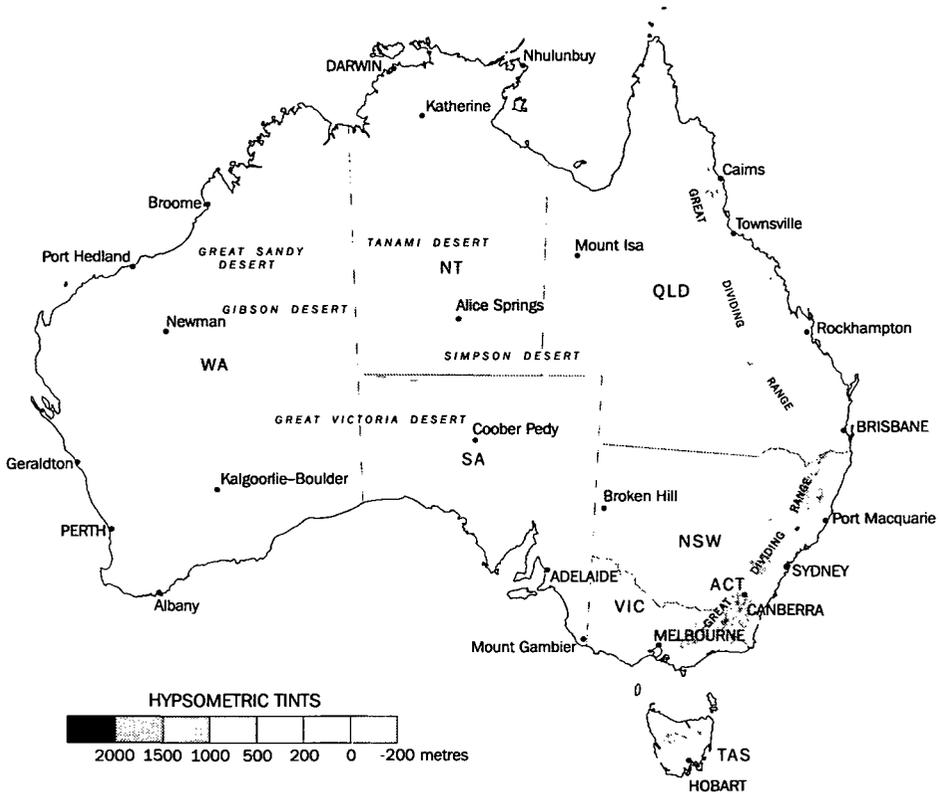
Source: *Encyclopedia Britannica and The World Book Encyclopedia.*

Landforms and their history

Australia is the lowest, flattest and, apart from Antarctica, the driest of the continents. Unlike Europe and North America, where some landscapes date back to 'only' 20,000 years ago, when great ice sheets retreated, the age of

landforms in Australia is generally measured in many millions of years. This fact gives Australia a very distinctive physical geography. Map in 1.4 shows the major relief patterns of the Australian continent.

1.4 AUSTRALIA, Elevation



Source: AUSLIG 1996.

The continent can be divided into three parts:

- the Western Plateau;
- the Central Lowlands; and
- the Eastern Highlands.

The Western Plateau consists of very old rocks (some over 3,000 million years old), and much of it has existed as a landmass for over 500 million years. Several parts have individual plateau names (e.g. Kimberley, Hammersley, Arnhem Land, Yilgarn). In the Perth area, younger rocks along a coastal strip are separated from the rest by the Darling Fault escarpment. The Nullabor Plain is virtually an uplifted sea floor, a limestone plain of Miocene age (about 25 million years).

The Central Lowlands stretch from the Gulf of Carpentaria through the Great Artesian Basin to

the Murray–Darling Plains. The Great Artesian Basin is filled with sedimentary rocks which hold water that enters in the wetter Eastern Highlands.

Much of the centre of Australia is flat, but there are numerous ranges (e.g. Macdonnells, Musgrave) and some individual mountains of which Uluru (Ayers Rock) is probably the best known. Faulting and folding in this area took place long ago, the area was worn to a plain, the plain uplifted and then eroded to form the modern ranges on today's plain. In looking at Uluru, one remarkable thing is not so much how it got there, but that so much has been eroded from all around, to leave it there. In the South Australian part of the Central Lowlands, fault movements are more recent, and the area can be considered as a number of blocks that have been moved up and down to

form a series of ranges (Mt Lofty, Flinders Ranges) and hills (such as the Adelaide Hills), with the down faulted blocks occupied by sea (e.g. Spencer Gulf) or lowlands including the lower Murray Plains.

The Eastern Highlands rise gently from central Australia towards a series of high plateaus, and even the highest part around Mt Kosciusko (2,230 metres) is part of a plateau.

There are a few younger faults and folds, such as the Lake George Fault near Canberra, and the Lapstone Monocline near Sydney.

Some plateaus in the Eastern Highlands are dissected by erosion into rugged hills, and the eastern edges of plateaus tend to form high escarpments. Many of these are united to form a Great Escarpment that runs from northern Queensland to the Victorian border. Australia's highest waterfalls (Wollombi on the Macleay, Wallaman Falls on a tributary of the Herbert, Barron Falls near Cairns, and Wentworth Falls in the Blue Mountains) all occur where rivers flow over the Great Escarpment. For most of its length the Great Divide (separating rivers flowing to Central Australia from rivers flowing to the Pacific) runs across remarkably flat country dotted with lakes and airstrips. In eastern Victoria, however, the old plateau has been eroded into separate High Plains (such as Dargo High Plain)

The present topography results from a long landscape history which can conveniently be started in the Permian, about 290 million years ago, when much of Australia was glaciated by a huge ice cap. After the ice melted, parts of the continent subsided and were covered with sediment to form sedimentary basins such as the Great Artesian Basin. By early Cretaceous times, about 140 million years ago, Australia was already so flat and low that a major rise in sea level divided it into three landmasses as the shallow Cretaceous sea spread over the land

In the following Tertiary times, Australia can be regarded as a landscape of broad swells varied by a number of sedimentary basins (Murray, Gippsland, Eucla, Carpentaria, Lake Eyre and other basins). These slowly filled up and some are now sources of coal or oil. The Eastern Highlands were uplifted about this time.

Throughout the Tertiary, volcanoes erupted in eastern Australia. Some individual volcanoes were the size of modern Vesuvius, and huge lava plains covered large areas. Volcanic activity

continued up to a few thousand years ago in Victoria and Queensland. Australia's youngest volcano is Mt Gambier in South Australia, about 6,000 years old.

Between 55 and 10 million years ago Australia drifted across the surface of the earth as a plate, moving north from a position once adjacent to Antarctica. There have been many changes in the climate of Australia in the past, but oddly these do not seem to be due to changing latitude (associated with global scale plate movements). Even when Australia was close to the South Pole, the climate was relatively warm and wet, and this persisted for a long time despite changes in latitude. It was probably under this climate that the deep weathered, iron-rich profiles that characterise much of Australia were formed. Aridity only seems to have set in after Australia reached its present latitude, and the northern part was probably never arid.

Today a large part of Australia is arid or semi-arid. Sand dunes are mostly longitudinal and are aligned with dominant wind directions associated with the regular passage of high pressure cells (anticyclones). These 'highs' rotate anticlockwise and track at about 28°S in winter and 38°S in summer, resulting in predominantly south-east to easterly flows in the north and north-west to westerly flows in the south. Looking down from above, the south-east Trade Winds or 'Trades' would be those winds in the top right hand quarter of a hypothetical, stationary 'high' centred on the Australian continent.

The dunes are mostly fixed now. Stony deserts or gibber plains (covered with small stones or 'gibbers') are areas without a sand cover and occupy a larger area than the dunefields. Salt lakes occur in many low positions, in places following lines of ancient drainage. They are often associated with lunettes, dunes formed on the downwind side of lakes. Many important finds of Aboriginal prehistory have been made in lunettes. Despite the prevalence of arid conditions today, real aridity seems to be geologically young, with no dunes or salt lakes older than a million years.

The past few million years were notable for the Quaternary ice age. There were many glacial and interglacial periods (over 20) during this time, the last glacial period occurring about 20,000 years ago. In Tasmania, there is evidence of three different glaciations: the last glaciation,

one sometime in the Quaternary, and one in the Tertiary. On the mainland, there is evidence of only the last glaciation, and the ice then covered only 25 km², in the vicinity of Mt Kosciusko.

The broad shape of Australia has been influenced over long periods by earth movements associated with large tectonic processes. However, much of the detail has been carved by river erosion. A significant number of Australia's rivers, like the Diamantina River, drain inland. While they may be eroding their valleys near their highland sources, their lower courses are filling up with alluvium, and the rivers often end in salt lakes which are dry for most of the time. Other rivers reach the sea, and have dissected a broad near-coast region into plateaus, hills and valleys. Many of the features of the drainage pattern of Australia have a very long history, and some individual valleys have maintained their position for hundreds of millions of years. The salt lakes of the Yilgarn Plateau in Western Australia are the remnants of a drainage pattern that was active before continental drift separated Australia from Antarctica.

During the last ice age, sea level was more than 100 metres lower than it is today; the current outer reef area of the Great Barrier Reef would have been the coast at that time. The rivers tended to cut down to the lower level, especially towards the sea. When the sea level rose again, some of the lower valleys were drowned, making fine harbours — like Sydney Harbour — while others tended to fill with alluvium as the sea rose — making the typical lowland valleys around the Australian coast.

Coastal geomorphology is also largely the result of the accumulation of sediment in drowned coasts. In some areas, such as Ninety Mile Beach (Victoria) or the Coorong (South Australia), there are beaches made simply from this accumulation. In much of the east there is a characteristic alternation of rocky headland and long beach, backed by plains filled with river and marine sediments.

The offshore shape of Australia, revealed in isobath contours, results mainly from the pattern of break-up of the super-continent of which Australia was once a part. In some areas, such as the Great Australian Bight, there is a broad continental shelf bounded by a steeper continental slope. In other areas, like south-east New South Wales around Merimbula and much of the Tasmanian coastline, the continental shelf

is very narrow, sometimes coming to within 20 nautical miles of the coast. The Queensland coast is bounded by a broad plateau on which the Great Barrier Reef has grown in only the last two million years. In South Australia the continental shelf is grooved by submarine canyons.

The Australian landforms of today are thus seen to result from long-continued processes in a unique setting, giving rise to typical Australian landscapes, which in turn provide the physical basis for the distribution and nature of biological and human activity in Australia.

Rivers and lakes

As can be inferred from the elevation and relief map (figure 1.4), the rivers of Australia may be divided into two major classes; those of the coastal margins with moderate rates of fall and those of the central plains with very slight fall. Of the rivers of the east coast, the longest in Queensland are the Burdekin and the Fitzroy, while the Hunter is the largest coastal river of New South Wales. The longest river system in Australia is the Murray–Darling which 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 length of the Murray is about 2,520 km and the Darling and Upper Darling together are also just over 2,000 km long. The rivers of the north-west coast of Australia, for example the Murchison, Gascoyne, Ashburton, Fortescue, De Grey, Fitzroy, Drysdale and Ord, are of considerable length. So also are those rivers in the Northern Territory, for example 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 land.

There are many types of lake in Australia, the largest being drainage sumps from the internal rivers. In dry seasons these lakes finally become beds of salt and dry mud. The largest are Lake Eyre 9,500 km², Lake Torrens 5,900 km² and Lake Gairdner 4,300 km².

Other lake types are glacial, most common in Tasmania; volcanic crater lakes, predominantly in Victoria and Queensland; fault angle lakes, of which Lake George near Canberra is a good example; and coastal lakes formed by marine damming of valleys.

Climate of Australia

The island continent of Australia features a wide range of climatic zones, from the tropical regions of the north, through the arid expanses of the interior, to the temperate regions of the south

Widely known as 'The Dry Continent', the land mass is relatively arid, with 80% having a median rainfall less than 600 mm per year and 50% less than 300 mm (the average is 150 mm). Seasonal fluctuations can be large, with temperatures ranging from above 50°C to well below zero. However, extreme minimum temperatures are not as low as those recorded in other continents, probably because of the absence of extensive mountain masses to induce orographic cooling (which is in the order of $-0.6^{\circ}\text{C}/100\text{ m}$ increase in elevation) and because of the large expanse of relatively warm surrounding oceans

Although the climate can be described as *predominantly continental*, the *insular nature* of the land mass produces modifications to the general continental pattern.

Australia experiences many of nature's more extreme phenomena, particularly droughts, floods, tropical cyclones, severe storms and bushfires.

Climatic controls

The generally low relief of Australia is evident in the elevation and relief map (figure 1.4). Compared to other continents, Australia causes little obstruction to the atmospheric systems which control the climate. A notable exception is the eastern uplands which modify the atmospheric flow, sometimes causing the 'Easterly Dip' which is evident in some surface pressure charts.

In the winter half of the year (May–October) anticyclones, or high pressure systems, pass from west to east across the continent and may remain almost stationary over the interior for several days. These anticyclones may be 4,000 km wide and, in the Southern Hemisphere, rotate anticlockwise. Northern Australia is thus influenced by mild, dry south-east winds (the Trade Winds or 'Trades'), and southern Australia experiences cool, moist westerly winds. The westerlies and the frontal systems associated with extensive depressions (lows, sometimes called extra-tropical cyclones) travelling over the Southern Ocean have a

controlling influence on the climate of southern Australia during the winter season, causing rainy periods. Periodic north-west cloud bands in the upper levels of the atmosphere over the continent may interact with southern systems to produce rainfall episodes, particularly over eastern areas. 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 km. Cold fronts associated with the southern depressions, or with secondary depressions over the Tasman Sea, may produce strong winds and large day-to-day variations 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 intertropical convergence zone, resulting in a hot rainy season. Southward dips of the monsoonal low pressure trough sometimes spawn tropical depressions, and may prolong rainy conditions over northern Australia for up to three weeks at a time.

Tropical cyclones are strong, well-organised low pressure systems of tropical origin where average surface winds are expected to reach at least gale force (speed equivalent of 34–40 knots) — gusts are usually 50% higher than the average (sometimes the definition of tropical cyclone includes surface pressure less than 1,000 hectopascals). Severe tropical cyclones reach at least Storm Force (57–65 knots) — the highest wind speed recorded in Australia was 259 km/h, which occurred with Cyclone Trixie (February 1975). Tropical cyclones develop over the seas where temperatures exceed 27°C around northern Australia in summer, between November and April. Interestingly, tropical cyclones do not usually form within 5° (or so) north or south of the Equator because the Coriolis Force associated with the rotation of the Earth is close to zero in this zone and this 'twist' is important

for cyclone formation. Their frequency of occurrence and the tracks they follow vary greatly from season to season. On average, about three cyclones per season directly affect the Queensland coast, and about three affect the north and north-west coasts. Tropical cyclones approaching the coast usually produce very heavy rain and high winds in coastal areas. Some cyclones move inland, losing intensity but still producing widespread heavy rainfall and, occasionally, moderate to severe damage.

The climate of eastern and northern Australia is influenced by the Oscillation (SO), a see-sawing of atmospheric pressure between the northern Australian/Indonesian region and the central Pacific Ocean. This Oscillation is one of the most important causes of climatic variation after the annual seasonal cycle over eastern and northern Australia. The strength of the SO is defined by the Southern Oscillation Index, which is a measure of the difference in sea level atmospheric pressure between Tahiti in the central Pacific and Darwin in northern Australia. At one extreme of the Oscillation, the pressure is abnormally high at Darwin and abnormally low at Tahiti. Severe and widespread drought over eastern and northern Australia generally accompanies this extreme. These conditions generally commence early in the year, last for about 12 months, and have a recurrence period of two to seven years.

The above extreme is generally immediately preceded or followed by the opposite extreme where pressures at Darwin are abnormally low and those at Tahiti are abnormally high. In this case, rainfall is generally above average over eastern and northern Australia.

The SO is linked to sea surface temperatures (SSTs) in the Pacific Ocean. Dry extreme SO years are accompanied by above normal SSTs in the central and/or eastern equatorial Pacific and vice versa. Dry extreme years are called El Niño years (El Niño is 'baby boy' in Spanish). Wet extreme years are called La Niña years (La Niña is 'baby girl'). Continuing research in the El Niño/La Niña phenomenon is

revealing the connectivity between atmospheric circulation, sea surface temperatures, currents (surface as well as deep currents) and their interaction with the land masses.

Rainfall and other precipitation

Annual

The area of lowest rainfall is in the vicinity of Lake Eyre in South Australia, where the median annual rainfall is only about 100 mm. Another very low rainfall area is in Western Australia in the Giles–Warburton Range region, which has a median annual rainfall of about 150 mm. 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 mm. 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 mm of rain may fall within a few days and cause widespread flooding.

The region with the highest median annual rainfall is the east coast of Queensland between Cairns and Cardwell, where Tully has a median of 4,048 mm (63 years to 1987 inclusive). The mountainous region of western Tasmania also has a high annual rainfall, with Lake Margaret having a median of 3,565 mm (76 years to 1987 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 mm.

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

1.5 AREA DISTRIBUTION OF MEDIAN ANNUAL RAINFALL

Median annual rainfall (mm)	NSW(a) %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	Aust. %
Under 199	8.0	..	10.2	74.2	43.5	..	15.5	29.6
200-299	20.3	6.3	13.0	13.5	29.6	..	35.6	22.9
300-399	19.0	19.2	12.3	6.8	10.5	..	9.0	11.2
400-499	12.4	11.8	13.5	3.2	4.3	..	6.6	7.6
500-599	11.3	14.1	11.6	1.8	3.1	12.2	5.8	6.6
600-799	15.1	24.5	20.5	0.5	4.6	18.2	11.6	10.7
800-1 200	11.3	17.7	12.6	..	3.7	25.0	9.6	7.7
Above 1 200	2.6	6.4	6.3	..	0.7	44.6	6.3	3.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes Australian Capital Territory.

Source: Bureau of Meteorology.

Seasonal

As outlined earlier, the rainfall pattern of Australia 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. The parameters are median annual rainfall and seasonal rainfall incidence.

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 to the corresponding uniform and winter zones. The main features of the seasonal rainfall are:

- marked wet summer (the 'Monsoon') and dry winter of northern Australia;
- wet summer and relatively dry winter of south-eastern Queensland and north-eastern New South Wales;
- uniform rainfall in south-eastern Australia — much of New South Wales, parts of eastern Victoria and southern Tasmania;
- marked wet winter and dry summer of south-west Western Australia and, to a lesser extent, much of the remainder of southern Australia directly influenced by westerly circulation (sometimes called a 'Mediterranean' climate); and
- arid area comprising about half 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.

Rainday frequency

A rainday occurs where more than 0.2 mm of rain falls in 24 hours, usually from 9 a.m. to 9 a.m. the next day. The frequency of raindays exceeds 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 raindays 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 raindays per year. In the high rainfall areas of northern Australia the number of raindays is about 80 per year, but heavier falls occur in this region than in southern regions.

Rainfall intensity

The values in table 1.6 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 24 hour (9 a.m. to 9 a.m.) falls are listed in table 1.7. Most of the very high 24 hour falls (above 700 mm) 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 annual rainfalls are listed by State/Territory in table 1.8.

1.6 HIGHEST RAINFALL INTENSITIES

Station	Period of record	Years of complete records	Period in hours				
			1 mm	3 mm	6 mm	12 mm	24 mm
Adelaide	1897–1991	91	69	133	141	141	141
Alice Springs	1951–1994	44	75	87	108	160	207
Brisbane	1911–1991	81	99	142	182	266	327
Broome	1948–1991	44	112	157	185	313	353
Canberra	1938–1990	45	40	57	67	76	120
Carnarvon	1956–1991	36	44	63	83	95	108
Charleville	1953–1992	35	42	66	75	111	142
Darwin (Airport)	1953–1994	42	89	160	214	260	291
Esperance	1963–1991	27	39	50	62	75	86
Hobart	1911–1991	81	28	56	87	117	168
Meekatharra	1953–1991	39	60	67	81	99	112
Melbourne	1873–1994	108	76	83	86	97	130
Mildura	1953–1993	41	49	60	65	66	91
Perth	1946–1991	45	31	43	52	77	97
Sydney	1913–1991	75	121	194	200	244	340
Townsville	1953–1992	39	94	168	235	296	319

Source: Pluviograph records in Bureau of Meteorology archives.

1.7 HIGHEST DAILY RAINFALLS(a)

State/Territory	Date	Amount mm
New South Wales		
Dorrigo (Myrtle Street)	21.2.1954	809
Lowanna (Yalamurra)	22.4.1974	662
Victoria		
Tanybryn	22.3.1983	375
Nowa Nowa (Wairawa)	11.3.1906	275
Queensland(a)		
Beerwah (Crohamhurst)	3.2.1893	907
Finch Hatton PO	18.2.1958	878
South Australia		
Motpena	14.3.1989	273
Nilpena	14.3.1989	247
Western Australia		
Roebourne (Whim Creek)	3.4.1898	747
Broome (Kilto)	4.12.1970	635
Tasmania		
Cullenswood	22.3.1974	352
Mathinna	5.4.1929	337
Northern Territory		
Roper Valley Station	15.4.1963	545
Angurugu (Groote Eylandt)	28.3.1953	513

(a) Bellenden Ker (Top Station) has recorded a 24 hour total of 960 mm from 3 p.m. to 3 p.m. on 3 and 4 January 1979. The standard daily rainfall period is 9 a.m. to 9 a.m.

Source: Bureau of Meteorology.

1.8 HIGHEST ANNUAL RAINFALLS

State/Territory	Station	Year	Amount mm
NSW	Tallowood Point	1950	4 540
Vic.	Falls Creek SEC	1956	3 739
Qld	Bellenden Ker (Top Station)	1979	11 251
SA	Aldgate State School	1917	1 853
WA	Armadale (Jarrahdale PO)	1917	2 169
Tas.	Lake Margaret	1948	4 504
NT	Elizabeth Downs	1973	2 966

Source: Bureau of Meteorology.

Thunderstorms and hail

A thunderday at a given location is a calendar day on which thunder is heard at least once. The average annual number of thunderdays varies from 74 per year near Darwin to less than 10 per year over parts of the southern regions. Convective processes during the summer wet season cause high thunderstorm incidence in northern Australia. The generally high incidence of thunderdays (40–60 annually) over the eastern upland areas is caused mainly by orographic uplift of moist air streams.

Hail, mostly of small size (less than 10 mm 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 mm diameter). Large 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. In some years, snow falls in the altitude range of 500–1,000 metres. 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 Mount Kosciuszko (2,228 metres) small areas of snow may persist through summer, but there are no permanent snowfields.

Temperature**Average temperatures**

Average annual air temperatures 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 temperatures 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

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 in Western Australia (150 km 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.

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 low is –5°C.

Extreme maxima

Temperatures have exceeded 45°C at nearly all inland stations more than 150 km 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/Territory, are shown in the following table.

1.9 EXTREME MAXIMUM TEMPERATURES

Station	°C	Date
New South Wales		
Bourke	52.8	17.1.1877
Wilcannia	50.0	11.1.1939
Menindee	49.7	10.1.1939
Victoria		
Mildura	50.8	6.1.1906
Swan Hill	49.4	18.1.1906
Queensland		
Cloncurry	53.1	16.1.1889
Winton	50.7	14.12.1888
Birdsville	49.5	24.12.1972
South Australia		
Oodnadatta	50.7	2.1.1960
Marree	49.4	2.1.1960
Whyalla	49.4	2.1.1960
Western Australia		
Eucla	50.7	22.1.1906
Mundrabilla	49.8	3.1.1979
Forrest	49.8	13.1.1979
Madura	49.4	7.1.1971
Tasmania		
Bushy Park	40.8	26.12.1945
Hobart	40.8	4.1.1976
Northern Territory		
Finke	48.3	2.1.1960
Jervois	47.5	3.1.1978
Australian Capital Territory		
Canberra (Acton)	42.8	11.1.1939

Source: Bureau of Meteorology.

Extreme minima

The lowest temperatures in Australia have been recorded in the Snowy Mountains, where Charlotte Pass (elevation 1,760 metres) recorded -23.0°C on 28 June 1994. 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 temperature of -4.3°C has been recorded, and at Swansea, on the east coast of Tasmania, the temperature has fallen as low as -5.0°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 (-5.0°C). Even very close to the tropical coastline, temperatures have fallen to 0°C, a low recording being -0.8°C for Mackay.

1.10 EXTREME MINIMUM TEMPERATURES

Station	°C	Date
New South Wales		
Charlotte Pass	-23.0	18.6.1994
Kiandra	-20.6	2.8.1929
Perisher Valley	-19.5	23.7.1979
Victoria		
Mount Hotham	-12.8	30.7.1931
Omeo	-11.7	15.6.1965
Hotham Heights	-11.1	15.8.1968
Queensland		
Stanthorpe	-11.0	4.7.1895
Warwick	-10.6	12.7.1965
Mitchell	-9.4	15.8.1979
South Australia		
Yongala	-8.2	20.7.1976
Yunta	-7.7	16.7.1976
Ernabella	-7.6	19.7.1983
Western Australia		
Booylgoo Springs	-6.7	12.7.1969
Wandering	-5.7	1.6.1964
Tasmania		
Shannon	-13.0	30.6.1983
Butlers Gorge	-13.0	30.6.1983
Tarraleah	-13.0	30.6.1983
Northern Territory		
Alice Springs	-7.5	12.7.1976
Tempe Downs	-6.9	24.7.1971
Australian Capital Territory		
Gudgenby	-14.6	11.7.1971

Source: Bureau of Meteorology.

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 10 successive days have been recorded at many inland stations. This figure increases in western Queensland and north-west Western Australia to more than 20 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 to 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 +7.6°C on the 12th, Melbourne a record of +5.6°C on the 13th and Sydney a record of +5.3°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 35.6°C.

Other aspects of climate

Frost

Frost can cause serious losses of agricultural crops, and numerous climatic studies have been made in Australia relating to specific crops cultivated in local areas.

Frost frequency depends on location and orography, and even on minor variations in topography. In simplified terms, location controls the extent to which the relatively warm ocean temperatures ameliorate those on land (often called 'continentality') and, on an even larger scale, location in this context means proximity to the Equator or to the cooler climates towards the south. Orography relates loosely to elevation (noting that an air parcel which is obliged to rise above a mountain range will cool (by expansion) about 0.6°C for each 100 metres it rises above sea level), and to topography. Topography influences frost on a much more local scale than the other factors. It does this through controlling 'cold air draining', which is a night time phenomenon where cool air 'flows' down hillsides and accumulates in low lying areas, occasionally causing 'frost hollows' with very low temperatures. The topographic effect is largely independent of the other factors and can happen anywhere in complex terrain under clear and calm weather conditions.

Frost hazard will be greatest in areas which are away from the immediate coast, are at relatively high elevations and have complex terrain which is conducive to cold air drainage.

The parts of Australia which are most subject to frost are the eastern uplands from north-eastern Victoria to the western Darling Downs in

southern Queensland. Most stations in this region experience more than 10 nights a month with readings of 0°C (or under) for three to five months of the year. On Tasmania's Central Plateau similar conditions occur for three to six months of the year. Frosts may occur within a few miles of the coasts except in the Northern Territory and most of the north Queensland coasts.

Regions in which frosts may occur at any time of the year comprise most of Tasmania, large areas of the tablelands of New South Wales, much of inland Victoria, particularly the north-east, and a small part of the extreme south-west of Western Australia. Over most of the interior of the continent, and on the highlands of Queensland as far north as the Atherton Plateau, frosts commence in April and end in September. Minimum temperatures below 0°C are experienced in most of the subtropical interior in June and July.

The median frost period over the continent varies from over 200 days per year in the south-eastern uplands areas south of the Hunter Valley, to zero days in northern Australia. In the southern regions of the continent, the annual frost period generally decreases from about 100 days inland to below 50 days towards the coast. However, there are appreciable spatial variations depending mainly on local orography. In Tasmania the frost period exceeds 300 days on the uplands and decreases to 100 days near the coast.

The regions of mainland Australia most prone to heavy frosts are the eastern uplands and adjacent areas extending from Victoria through New South Wales to south-eastern Queensland. Stations above 1,000 metres in altitude in the southern parts of these uplands have more than 100 heavy frosts annually, and in the upland areas below 1,000 metres the annual frequency ranges from 100 to about 20. Over the remainder of southern Queensland, New South Wales and Victoria, although there are great spatial variations, the average annual frequency of heavy frosts typically ranges from about 20 inland to 10 towards the coast.

In Tasmania, uplands above 1,000 metres have more than 100 heavy frosts annually and, in neighbouring areas, the frequency is about 100 decreasing to 20 towards the coasts. Even some coastal stations have a relatively high frequency (Swansea, for example, has 16).

The southern half of Western Australia, the whole of South Australia, and the Alice Springs district of the Northern Territory experience heavy frosts. Differences in annual frequencies between places are great, but in general the frequency is about 10 inland decreasing towards the coasts. Some places average more than 20 heavy frosts annually, notably Wandering, Western Australia (22) and Yongala, South Australia (42). At Alice Springs the annual average frequency is 12.

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. Moisture content can be expressed by a number of parameters, of which the most commonly known is relative humidity. Relative humidity can be thought of as the relative evaporating power of the air; when the humidity is low, a wet surface, like our skin, can evaporate freely. When it is high, evaporation is retarded. People can feel this as discomfort or even stress as the body's ability to perspire (and hence cool) decreases with increasing relative humidity. The combination of high temperature and high humidity is potentially dangerous for people who are active in such conditions.

The main features of the relative humidity pattern are:

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

Global radiation

Global (short wave) radiation includes that radiation energy reaching the ground directly from the sun and that received indirectly from the sky, scattered downwards by clouds, dust particles, etc.

A high correlation exists between daily global radiation and daily hours of sunshine. On the north-west coast around Port Hedland, where average daily global radiation is the highest for Australia (640 milliwatt hours), average daily sunshine is also highest, being approximately 10 hours. Sunshine is more dependent on variations in cloud coverage than is global radiation, since the latter includes diffuse radiation from the sky as well as direct radiation from the sun. An example is Darwin where, in the dry month of July, sunshine approaches twice that of the wet (cloudy) month of January, but global radiation amounts for the two months are comparable.

Sunshine

Sunshine here refers to bright or direct sunshine. Australia receives relatively large amounts of sunshine although seasonal cloud formations have a notable effect on its spatial and temporal distribution. Cloud cover reduces both incoming solar radiation and outgoing long wave radiation and thus affects sunshine, air temperature and other climatic elements on the Earth's surface.

Most of the continent receives more than 3,000 hours of sunshine a year, or nearly 70% of the total possible. In central Australia and the mid-west coast of Western Australia, totals slightly in excess of 3,500 hours occur. Totals of less than 1,750 hours occur on the west coast and highlands of Tasmania; this amount is only 40% of the total possible per year (about 4,380 hours).

In southern Australia the duration of sunshine is greatest about December when the sun is at its highest elevation, and lowest in June when the sun is lowest. In northern Australia sunshine is generally greatest about August–October prior to the wet season, and least about January–March during the wet season.

Cloud

Seasonal changes in cloudiness vary with the distribution of rainfall. In the southern parts of the continent, particularly in the coastal and low-lying areas, the winter months are generally more cloudy than the summer months. This is due to the formation of extensive areas of stratiform cloud and fog during the colder months, when the structure of the lower layers of the atmosphere favours the physical processes resulting in this type of cloud. Particularly strong seasonal variability of cloud

cover exists in northern Australia where skies are clouded during the summer wet season and mainly cloudless during the winter dry season. Cloud coverage is greater near coasts and on the windward slopes of the eastern uplands of Australia and less over the dry interior.

Fog

The formation of fog depends on the occurrence of favourable meteorological elements — mainly temperature, humidity, wind, and cloud cover. The nature of the local terrain is important for the development of fog and there is a tendency for this phenomenon to persist in valleys and hollows. The incidence of fog may vary significantly over distances as short as one kilometre.

Fog in Australia tends to be more common in the south than the north, although parts of the east coastal areas are relatively fog-prone even in the tropics. Incidence is much greater in the colder months, particularly in the eastern uplands. Fog may persist during the day, but rarely until the afternoon over the interior. The highest fog incidence at a capital city is at Canberra which has an average of 17 days per year on which fog occurs, 29 of which are in the period of May to August. Brisbane averages 20 days of fog per year. Darwin averages only two days per year, in the months of July and August.

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.

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 to south-east orientation of the Derwent River Valley.

Perth is the windiest capital with an average wind speed of 15.6 km/h; Canberra is the least windy with an average speed of 5.4 km/h

The highest wind speeds and wind gusts recorded in Australia have been associated with tropical cyclones. The highest recorded gust was 259 km/h at Mardie (near Onslow), Western Australia on 19 February 1975, and gusts reaching 200 km/h have been recorded on several occasions in northern Australia with cyclone visitations. The highest gusts recorded at Australian capitals were 217 km/h at Darwin and 156 km/h at Perth.

Droughts

Drought, in general terms, refers to an acute deficit of water supply to meet a specified demand. The best single measure of water availability in Australia is rainfall, although parameters such as evaporation and soil moisture are significant, even dominant in some situations. Demands for water are very diverse, hence the actual declaration of drought conditions for an area will generally also depend on the effects of a naturally occurring water deficit on the principal local industries.

Since the 1860s there have been 10 major Australian droughts. Some of these major droughts could be described as periods consisting of a series of dry spells of various lengths, overlapping in time and space, and totalling up to about a decade. The drought periods of 1895–1903, 1958–68, 1982–83 and 1991–95 were the most devastating in terms of their extent and effects on primary production. The latter drought resulted in a possible \$5 b cost to Australia's economy, and \$590m in drought relief by the Commonwealth Government. The remaining major droughts occurred in 1864–66 (and 1868), 1880–86, 1888, 1911–16, 1918–20 and 1939–45

In this same period, several droughts of lesser severity caused significant losses over large areas of some States. They occurred in 1922–23 and 1926–29, 1933–38, 1946–49, 1951–52, 1970–73 and 1976.

South-eastern Australia (New South Wales, southern Queensland, Victoria, Tasmania and the settled parts of South Australia) contains about 75% of the nation's population, and droughts affecting this region have a markedly adverse impact on the economy. There have been eight severe droughts in south-eastern Australia since 1888, and these were

encompassed within the major Australian droughts specified previously, except for the severe drought in 1972–73. Drought definitions and the area of coverage and length of droughts, together with related information, may be obtained from *Year Book Australia, 1988*.

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 caused by summer rains, they may occur in any season.

The great Fitzroy and Burdekin river basins of Queensland receive flood rains during the summer wet seasons. 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.

Water resources

Rainfall, or the lack of it, is the most important single factor determining land use and rural production in Australia. The scarcity of both surface and ground water resources, together with the low rates of precipitation which restrict agriculture (quite apart from economic factors), has led to extensive programs to regulate supplies by construction of dams, reservoirs, large tanks and other storages.

The major topographical feature affecting the rainfall and drainage patterns in Australia is the absence of high mountain barriers. Australia's topographical features encompass sloping tablelands and uplands along the east coast Main Divide, the low plain and marked depression in the interior, and the Great Western Plateau.

Only one-third of the Australian land area 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 but account for the majority of the country's average annual discharge. Surface drainage is totally absent from some arid areas of low relief.

Australia's large area (7.7 km²) and latitudinal range (3,700 km) have resulted in climatic conditions ranging from alpine to 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.

The availability of water resources controls, to a large degree, the possibility and density of settlement; this in turn influences 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. Development, however, has not been without costs. Significant environmental degradation and deterioration in water quality are becoming evident.

1.11 MAJOR GROUND WATER RESOURCES

State/Territory	Area of aquifers km ²	Ground water resource						Abstraction during 1983-84 GL
		Major divertible resource					Total GL	
		Fresh GL	Marginal GL	Brackish GL	Saline GL			
New South Wales	595 900	881	564	431	304	2 180	242	
Victoria	103 700	469	294	69	30	862	146	
Queensland	1 174 800	1 760	683	255	144	2 840	962	
South Australia	486 100	102	647	375	86	1 210	504	
Western Australia	2 622 000	578	1 240	652	261	2 740	355	
Tasmania	7 240	47	69	8	—	124	5	
Northern Territory	236 700	994	3 380	43	10	4 420	24	
Australia	5 226 440	4 831	6 877	1 833	835	14 376	2 238	

Source: Australian Water Resources Council, 1987.

Permanent rivers and streams flow in only a small part of the continent. The average annual discharge of Australian rivers has been recently assessed at 397 teralitres of which 100 teralitres are now estimated to be exploitable on a

sustained yield basis. This is small in comparison with river flows on other continents, as indicated in the following broad comparison of rainfall and run-off of the continents.

1.12 RAINFALL AND RUN-OFF OF THE CONTINENTS

Continent	Area km ²	Average yearly rainfall mm	Run-off mm	Run-off km ³	Run-off %
Africa	30 300 000	690	260	7 900	38
Asia	45 000 000	600	290	13 000	48
Australia	7 700 000	465	57	440	12
Europe	9 800 000	640	250	2 500	39
North America	20 700 000	660	340	6 900	52
South America	17 800 000	1 630	930	16 700	57

Source: Department of Resources and Energy, 1983.

In addition, there is a pronounced concentration of run-off in the summer months in northern Australia while the southern part of the continent has a distinct, if somewhat less marked, winter maximum.

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.

The portion of run-off able to be diverted for use is very low compared with other continents, and results from the high variability of stream flow, high rates of evaporation and the lack of storage sites on many catchments. On an Australia-wide basis, only 21.5% of the divertible resource has currently been developed for use;

much of the remaining resource is available in remote regions where development is impractical and uneconomic. In areas such as the Murray-Darling Division, where water is scarce, there are few resources not yet developed, and management is focusing on greater efficiency in water use.

Water resources are assessed within a framework comprising four levels:

- the total water resource is the volume of water present in the environment, measured as mean annual run-off for surface water, and mean annual recharge for ground water;
- the divertible resource is the portion of run-off and recharge which can be developed for use;
- the developed resource is the portion of the divertible resource which has been developed for use; and

- resource utilisation is a measure of the portion of the developed resource which is actually used.

Emphasis is given to the second level of assessment, the divertible resource, as the prime measure of the resource. The divertible

resource is defined as the average annual volume of water which, using current technology, could be removed from developed or potential surface water or ground water sources on a sustained basis, without causing adverse effects or long-term depletion of storages.

1.13 SURFACE WATER RESOURCES

State/Territory	Area km ²	Mean annual run-off GL	Mean annual outflow GL	Major divertible resource					Surface water resource	Developed resource GL
				Fresh GL	Marginal GL	Brackish GL	Saline GL	Total GL	Total GL	
New South Wales	802 000	42 400	37 200	16 900	—	—	—	16 900	7 970	
Victoria	228 000	19 200	18 800	9 050	240	120	—	9 810	5 990	
Queensland	1 730 000	159 000	158 000	32 700	—	—	—	32 700	3 840	
South Australia	984 000	2 120	1 250	193	109	59	20	384	124	
Western Australia	2 520 000	39 900	39 700	10 200	516	856	168	11 700	2 340	
Tasmania	68 200	52 900	52 900	10 800	—	—	—	10 900	1 020	
Northern Territory	1 350 000	81 200	79 200	17 700	—	—	—	17 700	59	
Australian Capital Territory	2 400	549	549	175	—	—	—	175	106	
Australia	7 684 600	397 300	387 600	97 700	865	1 040	190	100 300	21 500	

Source: Australian Water Resources Council, 1987.

Australia's water resources are managed by a large number of resource management agencies, 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 coordination or operation of interstate projects through bodies such as the Murray–Darling Basin Commission.

A description of the management, main storage and use of water resources across the States and Territories is contained in the chapter, *Water resources*, in the 1994 and earlier editions of *Year Book Australia*.

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World Book Encyclopedia.

Introduction	23
Parliamentary government	23
Scheme of parliamentary government	23
The Sovereign	24
The Governor-General	24
Powers and functions	24
Holders of office	24
Administrators	24
Governors of the States	24
Powers and functions	24
Holders of office	25
Commonwealth government	25
Commonwealth Parliaments and Ministries	25
How are governments formed?	25
The role of Parliament	25
Parliament and the executive	26
Leader of the Opposition	30
State of the parties in the Commonwealth Parliament	30
Numbers and salaries of Commonwealth Government Ministers	30
Parliaments and elections	30
Commonwealth Parliament	30
Qualifications for membership and for franchise	30
Representation and elections	30
Parliamentary salaries and allowances	33
Referendums	33
The States and Territories	33
Acts of the Parliaments	34
The enactment of Commonwealth Parliament legislation	35
National Anthem and colours of Australia	35
Bibliography	36

Introduction

When people speak of ‘the Government’ they are usually referring to ‘executive government’, the body of Ministers which administers and enforces the laws made by Parliament.

There are three levels of government in Australia: Federal, State and local.

The six Australian colonies federated in 1901 to form the Commonwealth of Australia. Most of the Commonwealth Parliament’s legislative powers are enumerated in Section 51 of the Constitution. Areas of power not specified remain the responsibility of the States and Territories. A system of local government, established under State legislation, creates a third tier of government. In 1996, Australia had 842 elected members of Parliament, of whom 224 were Commonwealth and 618 State and Territory members.

Both the State and the Commonwealth systems of government derive from the British Westminster system, although many features of the Commonwealth Constitution (including the federal structure) are based on the United States Constitution. Generally, however, the salient features of the Westminster system have been retained. Ministers are members of Parliament, and are required to be accountable and answerable to it. In the twentieth century, Australia has been characterised by a strong party system and adversarial style of politics between the government and opposition.

This chapter outlines the basic features of the constitutional structure of the Commonwealth Parliament and Government and its electoral system, and the role of the Commonwealth Parliament and its relationship to the Executive, and provides details of the Ministry and other political leaders.

The Australian Constitution is reproduced in the Year Book from time to time, the latest being the 1992 edition.

A chapter outlining Australia’s prehistory to Federation was contained in the 1991 and earlier Year Books.

Parliamentary government

Scheme of parliamentary government

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

No Act of the Parliament of the United Kingdom passed after the commencement of the *Australia Act 1986* extends, or is deemed to extend, to the Commonwealth of Australia or to an Australian State or Territory as part of the law of the Commonwealth, of the State or of the Territory. Further, the restrictions that formerly existed on the legislative powers of the Parliaments of the States were removed by the Act.

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 all States 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 and Western Australia as the Legislative Assembly; and in the State Parliaments of South Australia and Tasmania as the House of Assembly. The single House of Parliament in Queensland, the Northern Territory and the Australian Capital Territory is known as the Legislative Assembly. The extent of the legislative powers of each of the 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 Parliaments of each State are elected by the people, the franchise extending to Australian citizens who are at least 18 and possess certain residential qualifications. For the Commonwealth Parliament the qualifications for the franchise are identical for both Houses, extending to Australian citizens and British subjects (on the electoral roll on 25 January 1984) who are 18 or older.

The Sovereign

On 7 February 1952 the then Governor-General of the Commonwealth of Australia, acting with advice of members of the Federal Executive Council, proclaimed Princess Elizabeth as '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'. 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 out in the Schedule to that 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

Under the Australian Constitution, the Governor-General exercises the executive power of the Commonwealth of Australia, and certain other powers and functions conferred by the Constitution that include, among others, the powers to appoint times for holding the sessions of the Parliament, to prorogue Parliament, and to 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; to choose and summon Executive Councillors, who hold office during the

Governor-General's pleasure; and to appoint Ministers of State for the Commonwealth of Australia. In addition, the Governor-General, as the Queen's representative, is Commander-in-Chief of the Defence Forces.

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

Holders of office

The present Governor-General is His Excellency the Honourable Sir William Patrick Deane, AC, KBE. Those persons who have held the office of Governor-General from the inception of the Commonwealth of Australia until 1988 are pictured in *Year Book Australia, 1988*

Administrators

In addition to the holders of the office of Governor-General, certain persons have, from time to time, been appointed by the Queen to administer the Government of the Commonwealth of Australia. These persons are appointed in the event of the death, incapacity, removal from office or absence from Australia of the *Governor-General*.

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 to 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 the Commonwealth *Australia Act 1986*, as well as under the Acts of the Parliaments of the States.

A Governor of a State assents in the Queen's name to Bills passed by the Parliament of the State. Since the enactment of the *Australia Act 1986*, an Act of Parliament of a State that has been assented to by the Governor of the State is no longer subject to disallowance by the Queen or suspension pending signification of the Queen's pleasure. The Governor administers the prerogative of mercy by the reprieve or pardon of criminal offenders within his/her

jurisdiction, and may remit fines and penalties due to the Crown in right of the State. In the performance of his/her 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 following table shows the Governors of the States at September 1996.

2.1 STATE GOVERNORS, Holders of Office — September 1996

State	State Governors
New South Wales	His Excellency the Honourable Mr Justice Gordon Samuels, AC, QC
Victoria	His Excellency the Honourable Richard McGarvie
Queensland	Her Excellency Mrs Leneen Forde, AC
South Australia	Her Excellency the Honourable Dame Roma Mitchell, AC, DBE
Western Australia	His Excellency Major General Michael Jeffrey, AO, MC
Tasmania	His Excellency Sir Guy Green
Northern Territory(a)	His Honour the Honourable Austin Asche, QC

(a) Administrator of the Northern Territory.

Source: *Department of the Parliamentary Library*.

Commonwealth government Commonwealth Parliaments and Ministries

How are governments formed?

Under our political system at the Federal level, the Ministry must have the confidence of the House of Representatives. For that reason, the Prime Minister is also the leader of the party or coalition of parties holding a majority of the seats in the House and ministers are members of the same party or coalition. In most cases, new governments are formed after general elections have been held to determine the composition of the House, but a new government could also be formed on any occasion between elections if the majority party changes its leader, or loses its majority (e.g. as a result of a by-election), or is defeated in an important vote in the House through the defection of backbench members of the party. Reshuffles of the Ministry may occur at any time between elections; in that case there is no spill of all positions such as occurs in the formation of a new ministry.

After an election, the Governor-General sends for the leader of the party or coalition which has secured a majority in the House of Representatives and commissions that person to

form a government. The incoming Prime Minister then goes about the process of finding members of his or her parliamentary party or coalition to serve as ministers in the Government.

The role of Parliament

Parliament has four important functions: to provide for the formation of a government; to legislate; to provide a forum for popular representation; and to scrutinise the actions of government.

The formation of a government is the most important outcome of a general election. Either the government is returned, by virtue of retaining a majority of seats in the House of Representatives, or the opposition party or coalition of parties wins a majority, resulting in the formation of a new government.

More than half of Parliament's time is taken up with the consideration of proposed legislation. Between 150 and 250 bills are passed each year. Most bills are not contentious, being 'machinery' legislation necessary for the orderly processes of government. A great many bills are amendment bills, proposing alterations to existing legislation. Most of the bills are government bills, the policies originating in

Cabinet or in government departments and composed by parliamentary drafters. Parliamentary deliberation frequently results in amendments to the proposed legislation, often as a result of representations to Senators and Members by those affected by the legislation.

The representation of the people is an important role of those elected to Parliament. Looking after constituents occupies a great deal of their time. The relative importance of this role may be judged by the high proportion of time spent by Members in their electorates and away from Parliament.

The public interest is served by the operations of a range of committees from each House, or joint committees, comprising both Senators and Members, which achieve a non-partisan scrutiny of government operations and conduct frequent inquiries into a range of issues.

Committees of the Parliament are established in order that its legislative, inquiry and scrutiny functions can be carried out more thoroughly and with the benefit of expert advice of which committees are able to take advantage. The composition and procedures of committees, being reasonably flexible and informal, allow them to perform these functions better than would the Houses themselves meeting in their chambers.

Parliament and the executive

The idea that Parliament 'controls' ministers, as well as government policy and the departments and statutory bodies which implement these policies, is a concept which had more relevance in the nineteenth century than it does today. Stable majority party government in the twentieth century is perhaps the main reason for the decline in absolute parliamentary control and for the decline in the influence of Parliament relative to that of the Executive. Government business takes nearly half of the time of the Parliament, and Parliament's agenda

is largely determined by Cabinet decisions and the legislative timetabling requirements of ministers. Today it is more realistic to speak of Parliament influencing or guiding the Executive, or of Parliament scrutinising the actions of executive government and recommending or pressing upon it different courses of action. This influence is exerted in many ways through the procedures of each House and through question time in each House.

Two aspects of parliamentary control over executive government are worthy of special mention. The first relates to the legislative power of the Parliament, the second to influence and control through committees of the Parliament. Government bills are debated in each House. Many questions and queries may be raised in the House of Representatives and amendments are moved there. Because governments enjoy a majority in the House, amendments cannot be forced on government bills: whether or not they are accepted depends on the wishes of the Government.

It is a different story in the Senate, where no government has enjoyed a majority since 1981. If the Government wants legislation passed by the Senate it often has to agree to amendments proposed by the Opposition and minor parties. The Senate is far more active than the House in sending proposed legislation to committees.

Parliamentary influence over executive government takes various forms. At one level the close interest in and scrutiny of proceedings in the House of Representatives means that, although party discipline will ultimately protect the Executive on the floor of the House, members of the House are able to exert powerful but often indirect influence on government.

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

2.2 COMMONWEALTH PARLIAMENTS

Number of Parliament	Date of opening	Date of dissolution
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	(a)30 July 1914
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	1 October 1949
Nineteenth	22 February 1950	(a)19 March 1951
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	(a)11 April 1974
Twenty-ninth	9 July 1974	(a)11 November 1975
Thirtieth	17 February 1976	8 November 1977
Thirty-first	21 February 1978	19 September 1980
Thirty-second	25 November 1980	(a)4 February 1983
Thirty-third	21 April 1983	26 October 1984
Thirty-fourth	21 February 1985	(a)5 June 1987
Thirty-fifth	14 September 1987	19 February 1990
Thirty-sixth	8 May 1990	8 February 1993
Thirty-seventh	4 May 1993	29 January 1996
Thirty-eighth	30 April 1996	—

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

Source: *Department of the Parliamentary Library*.

Table 2.3 shows the name of each Commonwealth Government Ministry to hold

office since 1 January 1901 and the dates of its term of office.

2.3 COMMONWEALTH GOVERNMENT MINISTRIES SINCE 1901

	Ministry	Period of office
(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 2 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 8 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 to 7 May 1982
(xlvii)	FRASER MINISTRY	7 May 1982 to 11 March 1983
(xlviii)	HAWKE MINISTRY	11 March 1983 to 13 December 1984
(xlix)	HAWKE MINISTRY	13 December 1984 to 24 July 1987
(i)	HAWKE MINISTRY	24 July 1987 to 4 April 1990
(ii)	HAWKE MINISTRY	4 April 1990 to 20 December 1991
(iii)	KEATING MINISTRY	20 December 1991 to 24 March 1993
(iii)	KEATING MINISTRY	24 March 1993 to 11 March 1996
(iv)	HOWARD MINISTRY	11 March 1996

Source: Department of the Parliamentary Library.

In *Year Book Australia, 1924* the names are given of each Ministry up to the Bruce–Page Ministry together with the names of the successive holders of portfolios therein. *Year Book Australia, 1953* 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 issues of the *Year Book Australia, 1953 to 1975–76* inclusive, and in successive issues from 1980.

Particulars of the First Howard Ministry are shown below.

2.4 FIRST HOWARD MINISTRY — At November 1996

	Minister
CABINET MINISTERS	
Prime Minister	Howard, the Hon. John Winston, MP
Minister for Trade and Deputy Prime Minister	Fischer, the Hon. Timothy Andrew, MP
Treasurer	Costello, the Hon. Peter Howard, MP
Minister for Primary Industries and Energy	Anderson, the Hon. John Duncan, MP
Minister for the Environment and Leader of the Government in the Senate	Hill, Senator the Hon. Robert Murray
Minister for Communications and the Arts and Deputy Leader of the Government in the Senate	Alston, Senator the Hon. Richard Kenneth Robert
Minister for Industrial Relations, Leader of the House and Minister Assisting the Prime Minister for the Public Service	Reith, the Hon. Peter Keaston, MP
Minister for Social Security	
Minister Assisting the Prime Minister for the Status of Women	Newman, Senator the Hon. Jocelyn Margaret
Minister for Foreign Affairs	Downer, the Hon. Alexander John Gosse, MP
Minister for Industry, Science and Tourism and Vice-President of the Executive Council	Moore, the Hon. John Colinton, MP
Minister for Defence	McLachlan, the Hon. Ian Murray, AO, MP
Minister for Transport and Regional Development	Sharp, the Hon. John Randall, MP
Minister for Health and Family Services	Wooldridge, the Hon. Dr Michael Richard Lewis, MP
Minister for Finance	Fahey, the Hon. John Joseph, MP
Minister for Employment, Education, Training and Youth Affairs	Vanstone, Senator the Hon. Amanda Eloise
OTHER MINISTERS	
Minister for Immigration and Multicultural Affairs	Ruddock, the Hon. Philip Maxwell, MP
Minister for Science and Technology and Deputy Leader of the House	McGauran, the Hon. Peter John, MP
Minister for Schools, Vocational Education and Training and Minister Assisting the Minister for Finance for Privatisation	Kemp, the Hon. Dr David Alistair, MP
Assistant Treasurer	Kemp, Senator the Hon. Rod
Minister for Resources and Energy	Parer, Senator the Hon. Warwick Raymond
Minister for Small Business and Consumer Affairs	Prosser, the Hon. Geoffrey Daniel, MP
Minister for Family Services	Moylan, the Hon. Judith Eleanor, MP
Minister for Defence Industry, Science and Personnel	Bishop, the Hon. Bronwyn Kathleen, MP
Attorney-General and Minister for Justice	Williams, the Hon. Daryl Robert, AM, QC, MP
Minister for Sport, Territories and Local Government and Minister Assisting the Prime Minister for the Sydney 2000 Games	Smith, the Hon. Warwick Leslie, MP
Minister for Veterans' Affairs	Scott, the Hon. Bruce Craig, MP
Minister for Aboriginal and Torres Strait Islander Affairs	Herron, Senator the Hon. John Joseph
Minister for Administrative Services	Jull, the Hon. David Francis, MP
Parliamentary Secretary (Cabinet) to the Prime Minister	Miles, the Hon. Christopher Gordon, MP
Parliamentary Secretary to the Prime Minister	Minchin, Senator the Hon. Nicholas Hugh
Parliamentary Secretary to the Minister for Trade and Parliamentary Secretary to the Minister for Primary Industries and Energy	Brownhill, Senator the Hon. David Gordon Cadell
Parliamentary Secretary to the Treasurer	Campbell, Senator the Hon. Ian Gordon
Parliamentary Secretary to the Minister for Social Security and Manager of Government Business in the Senate	Tambling, Senator the Hon. Grant
Parliamentary Secretary to the Minister for the Environment and Parliamentary Secretary to the Minister for Sports, Territories and Local Government	Macdonald, Senator the Hon. Ian
Parliamentary Secretary to the Minister for Foreign Affairs	Thomson, the Hon. Andrew Peter, MP
Parliamentary Secretary to the Minister for Transport and Regional Development	Ronaldson, Senator the Hon. Michael, MP
Parliamentary Secretary to the Minister for Health and Family Services	Woods, Senator the Hon. Robert Leslie
Parliamentary Secretary to the Minister for Employment, Education, Training and Youth Affairs	Abbott, the Hon. Anthony John, MP

Source: Department of the Parliamentary Library.

Leader of the Opposition

The Hon. K.C. Beazley, MP (Labor Party) is the leader of the Opposition.

State of the parties in the Commonwealth Parliament

2.5 STATE OF THE PARTIES, Commonwealth Parliament — September 1996

	no.
House of Representatives	
Australian Labor Party	49
Liberal Party	76
National Party of Australia	18
Independent	5
Senate	
Australian Labor Party	28
Liberal Party	31
Australian Democrats	7
National Party of Australia	6
The Greens	2
Independent	2

Source: Department of the Parliamentary Library.

Numbers and salaries of Commonwealth Government Ministers

Under sections 65 and 66, respectively, of the Australian Constitution 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, each provision to operate until the Parliament otherwise provides.

Subsequently, the number and salaries have increased from time to time. As at September 1996 the number of Ministers was 28 and ministerial salaries ranged from \$120,891 for the Prime Minister, to \$78,440 for the Deputy Prime Minister, \$63,930 for the Treasurer and for the Leader of the Government in the Senate, \$56,734 for the Leader of the House, \$52,862 for a Minister in the Cabinet and \$42,862 for Ministers not in the Cabinet. Where more than one office is held only one salary is payable, that being the higher salary.

All amounts shown in the foregoing paragraphs are in addition to amounts payable as parliamentary salaries and allowances.

Parliaments and elections

Commonwealth Parliament

Qualifications for membership and for franchise

Any Australian citizen, 18 or over who is, or is qualified to become, an elector of the Commonwealth Parliament is qualified for membership of either house of the Commonwealth Parliament.

Any Australian citizen (or British subject who was on the Commonwealth Roll as at 25 January 1984) over 18 is qualified to enrol and vote at federal elections. Residence in a subdivision for a period of one month before enrolment is necessary to enable a qualified person to enrol. Enrolment and voting are compulsory for all eligible persons.

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 a pecuniary interest in any agreement with the public service of the Commonwealth except as a member of an incorporated company of more than 25 persons.

Persons convicted of treason and not pardoned, or convicted and under sentence for any offence punishable by imprisonment for five years or longer, or of unsound mind, or persons who are holders of temporary entry permits under the *Migration Act 1958* or who are prohibited non-citizens under that Act, are excluded from enrolment and voting.

Representation and elections

From the establishment of the Commonwealth of Australia until 1949 the Senate consisted of 36 members, six being returned by each of the original federating States. The Australian Constitution empowers the Commonwealth Parliament to increase or decrease the size of the Parliament. As the population of Australia had more than doubled since its inception, the Parliament passed the *Representation Act 1948*.

This Act provided that there should be 10 Senators from each State instead of six, thus increasing the total to 60 Senators, enlarging both Houses of Parliament and providing a representation ratio nearer to the proportion which existed at Federation. The *Representation Act 1983* further provided for 12 Senators for each State from the first meeting of the thirty-fourth Parliament.

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 total 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. From the first meeting of the thirty-fourth Parliament, there was a further increase of 23 to 145 State Members flowing from the increase in the number of State Senators to 72.

Since the redistribution of electorates in 1949 giving effect to the increase in the size of the House of Representatives, further redistributions have taken place in 1955, 1968, 1974 (Western Australia only), 1977, 1979 (Western Australia only), 1984, when the size of the Parliament was increased again, 1988–89 (Victoria and Western Australia only), 1991 (New South Wales, Queensland, South Australia, Tasmania and the Australian Capital Territory) and 1994 (Victoria, Queensland and the Australian Capital Territory). Redistributions must be held whenever the representation entitlement of a State changes, when more than one-third of the electorates in a State deviates from the quota by more than 10% for more than two months, or every seven years. The quota (or average number) of electors is the basis for electoral distribution. There may be a deviation from the quota of up to 10% in order to achieve equality of enrolment midway between redistributions. In determining boundaries, Redistribution Committees take account of economic, social and regional interests, means of communication and travel, the trend of

population changes, physical features and area, and the existing boundaries of electoral divisions.

The Electoral Commissioner determines the representation entitlements of the States and Territories during the tenth month after the first meeting of a new House of Representatives. Determinations are based on the latest population statistics as provided by the Australian Statistician. The quota is ascertained by dividing the number of people of the Commonwealth by twice the number of Senators representing the States. The population of the Territories and all Senators representing the Territories are excluded from calculation when determining the quota. The population of each State and Territory is then divided by the quota to determine their representation entitlements. If there is a remaining fraction of over half a quota, the State or Territory is entitled to an additional seat. This accounts for the minor fluctuations in the size of the House of Representatives. The representation entitlements of the States and Territories at the most recent determinations are shown in table 2.6, which also shows the total size of the Parliament. Under section 24 of the Constitution, Tasmania remains entitled to the five seats guaranteed to any original State in 1901.

2.6 REPRESENTATION ENTITLEMENTS, States and Territories

State/Territory	1981	1984	1988	1991	1994
New South Wales	43	51	51	50	50
Victoria	33	39	38	38	37
Queensland	19	24	24	25	26
South Australia	11	13	13	12	12
Western Australia	11	13	14	14	14
Tasmania	5	5	5	5	5
Northern Territory	1	1	1	1	1
Australian Capital Territory	2	2	2	2	3
Total Parliament	125	148	148	147	148

Source: Department of the Parliamentary Library.

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 1922* 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.

2.7 COMMONWEALTH PARLIAMENT ELECTIONS — 2 March 1996

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
ELECTORS ENROLLED									
Electors enrolled	3 955 782	2 972 635	2 091 384	1 001 006	1 088 487	329 304	98 800	203 170	11 740 568
HOUSE OF REPRESENTATIVES									
First preference votes									
Australian Labor Party	1 453 542	1 190 404	639 510	320 678	347 583	137 607	36 994	91 447	4 217 765
Liberal Party	1 229 423	1 106 556	757 621	460 246	440 647	138 087	—	78 109	4 210 689
National Party	443 542	128 091	306 986	—	13 333	1 218	—	—	893 170
Country Liberal Party	—	—	—	—	—	—	38 302	—	38 302
Australian Democrats	240 255	203 892	129 244	93 899	55 862	12 696	—	—	735 848
The Greens	95 609	52 810	47 379	27 146	53 101	19 689	5 324	16 596	317 654
Australians Against Further Immigration	52 128	16 914	1 258	1 780	943	—	—	—	73 023
Call to Australia	34 108	8 081	494	—	—	—	—	—	42 683
Others	125 602	66 573	45 678	16 970	89 487	1 274	4 423	4 711	354 718
Formal votes	3 674 209	2 773 321	1 928 170	920 719	1 000 956	310 571	85 043	190 863	10 883 852
Informal votes	138 157	83 615	50 605	39 172	32 616	7 472	2 985	5 543	360 165
Total votes recorded	3 812 366	2 856 936	1 978 775	959 891	1 033 572	318 043	88 028	196 406	11 244 017
SENATE									
First preference votes									
Australian Labor Party	1 370 918	1 101 497	583 850	301 094	341 580	120 678	38 667	81 866	3 940 150
Liberal Party	—	—	680 553	428 053	456 379	130 552	—	74 949	1 770 486
National Party	—	—	288 199	—	20 877	3 693	—	—	312 769
Liberal-National Party	1 522 722	1 146 655	—	—	—	—	—	—	2 669 377
Country Liberal Party	—	—	—	—	—	—	40 050	—	40 050
Australian Democrats	351 491	300 848	254 219	135 730	93 938	22 006	1 535	19 590	1 179 357
The Greens	97 928	81 273	46 285	19 441	57 006	26 830	5 453	11 297	345 513
Australians Against Further Immigration	61 811	40 607	13 117	9 424	12 645	—	—	—	137 604
Call to Australia	72 969	16 497	9 543	6 817	7 028	1 519	—	2 901	117 274
Australian Shooters Party	74 032	19 573	12 146	8 973	—	—	—	—	114 724
Others	130 412	60 535	36 550	24 244	14 846	3 692	—	1 454	271 733
Formal votes	3 682 283	2 767 485	1 924 462	933 776	1 004 299	308 970	85 705	192 057	10 899 037
Informal votes	143 388	101 789	64 979	31 552	36 369	10 083	2 422	4 860	395 442
Total votes recorded	3 825 671	2 869 274	1 989 441	965 328	1 040 668	319 053	88 127	196 917	11 294 479

Source: Department of the Parliamentary Library.

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 was granted full voting rights on 21 February 1967.

Following the passing of the *Australian Capital Territory Representation (House of Representatives) Act 1973* the Australian Capital Territory was divided into two electoral divisions.

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.

In 1948, amendments to the *Commonwealth Electoral Act 1918* 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 1993 appear in earlier issues of *Year Book Australia*. Full details are contained in the Election Statistics issued by the Electoral Commissioner following each election.

The numbers of electors enrolled and first preference votes cast for the major political parties in each State and Territory at the 1996 election for each House of the Commonwealth Parliament were as shown in table 2.7.

Parliamentary salaries and allowances

The basic salary payable to a Senator or Member of the House of Representatives was \$80,257 at September 1996. In addition, Senators or Members receive an electoral allowance of \$25,540 in the case of a Senator or a Member representing an electorate of less than 2,000 km², \$30,370 in the case of a Member representing an electorate of 2,000 km² or more but less than 5,000 km², or \$37,035 in the case of a Member representing an electorate of 5,000 km² or more.

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, (except in circumstances specified in section 128 of the Constitution which permits a referendum to proceed if passed by only one chamber), 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, 42 proposals have been submitted to referendums. The consent of the electors has been received in eight cases: the first in relation to the election of Senators in 1906, the second (1910) and third (1928) in respect of State Debts, the fourth in respect of Social Services in 1946 and the fifth in respect of Aboriginal people in 1967. The remaining three proposals in relation respectively to Senate casual vacancies, maximum retirement age for justices of the High Court and judges of 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 World War I. A national song poll was held on 21 May 1977. Voting was preferential and, after the distribution of preferences, 'Advance Australia Fair' became the national song of Australia.

For further details of referendums see *Year Book Australia, 1966*, pages 66–68, *Year Book Australia, 1974*, pages 90–91, *Year Book Australia, 1977–78*, pages 72–73 and *Year Book Australia, 1986*, pages 55–56.

The States and Territories

This section contains summarised information in tables 2.8, 2.9 and 2.10; for greater detail refer to State Year Books.

2.8 GOVERNMENT LEADERS, States and Territories — September 1996

State/Territory	Government Leader
New South Wales	The Hon. R. J. Carr, MP (ALP)
Victoria	The Hon. J. G. Kennett, MP (LP)
Queensland	The Hon. R. E. Borbidge, MLA (NP)
South Australia	The Hon. D. C. Brown, MP (LP)
Western Australia	The Hon. R. Court, MLA (LP)
Tasmania	The Hon. T. M. Rundle MLA (LP)
Northern Territory	The Hon. S. L. Stone MLA (CLP)
Australian Capital Territory	The Hon. K. Carnell, MLA (LP)

Source: Department of the Parliamentary Library.

2.9 OPPOSITION LEADERS, States and Territories — September 1996

State/Territory	Opposition Leader
New South Wales	The Hon. P. Collins, MP (LP)
Victoria	J. M. Brumby, MP (ALP)
Queensland	P. Beattie MLA (ALP)
South Australia	The Hon. M. Rann, MP (ALP)
Western Australia	J. A. McGinty, MP (ALP)
Tasmania	The Hon. M. W. Field, MHA (ALP)
Northern Territory	M. A. Hickey MLA (ALP)
Australian Capital Territory	A. Whitecross MLA (ALP)

Source: Department of the Parliamentary Library.

2.10 STATE OF THE PARTIES, States and Territories — September 1996

	no.
New South Wales	
Legislative Assembly	
Australian Labor Party	51
Liberal Party	29
National Party of Australia	16
Independent	3
Legislative Council	
Australian Labor Party	17
Liberal Party	12
National Party of Australia	6
Independent	4
Australian Democrats	2
The Greens	1
Victoria	
Legislative Assembly	
Australian Labor Party	29
Liberal Party	49
National Party of Australia	9
Independent	1
Legislative Council	
Australian Labor Party	10
Liberal Party	28
National Party of Australia	6
Queensland	
Legislative Assembly	
Australian Labor Party	44
National Party of Australia	29
Liberal Party	15
Independent	1

...continued

2.10 STATE OF THE PARTIES, States and Territories — September 1996 — continued

	no.
South Australia	
House of Assembly	
Australian Labor Party	11
Liberal Party	36
Legislative Council	
Australian Labor Party	9
Liberal Party	11
Australian Democrats	2
Western Australia	
Legislative Assembly	
Australian Labor Party	23
Liberal Party	26
National Party of Australia	6
Independent	2
Legislative Council	
Australian Labor Party	14
Liberal Party	15
National Party of Australia	3
Independent	1
The Greens	1
Tasmania	
House of Assembly	
Australian Labor Party	14
Liberal Party	16
Tasmanian Greens	4
Independent	1
Legislative Council	
Australian Labor Party	3
Liberal Party	1
Independent	15
Northern Territory	
Legislative Assembly	
Australian Labor Party	8
Country Liberal Party	16
Independent	1
Australian Capital Territory	
Legislative Assembly	
Australian Labor Party	6
Liberal Party	7
ACT Greens	2
Independent	2

Source: Department of the Parliamentary Library.

Acts of the 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 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. The power of the States to make laws was enhanced in 1986 by the enactment by the Commonwealth Parliament of the *Australia Act 1986* and the accompanying *Australia (Request and Consent) Act 1986*. 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 of Commonwealth Parliament legislation

The legislation passed by the Commonwealth Parliament between 1901 and 1973, and which was then still in operation, was published in a consolidated form entitled *Acts of the Parliament 1901–73*. 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 between 1901 and 1973 in relation to the several provisions of the Australian Constitution. Reference should be made to these for complete information.

In 1995 the number of enactments of the Commonwealth Parliament was 176.

National Anthem and colours of Australia

His Excellency, the Governor-General of the Commonwealth of Australia, issued the following Proclamation on 19 April 1984:

I, SIR NINIAN MARTIN STEPHEN,
Governor-General of the Commonwealth of Australia, acting with the advice of the Federal Executive Council, hereby declare:

- (a) that the anthem 'God Save The Queen' shall henceforth be known as the Royal Anthem and be used in the presence of Her Majesty The Queen or a member of the Royal Family;
- (b) that the National Anthem shall consist of the tune known as 'Advance Australia Fair' with the following words:

*Australians all let us rejoice,
For we are young and free,
We've golden soil and wealth for toil;
Our home is girt by sea;
Our land abounds in nature's gifts
Of beauty rich and rare,
In history's page, let every stage
Advance Australia Fair.*

*In joyful strains then let us sing,
Advance Australia Fair.
Beneath our radiant Southern Cross
We'll toil with hearts and hands;
To make this Commonwealth of ours
Renowned of all the lands;
For those who've come across the seas
We've boundless plains to share;
With courage let us all combine
To Advance Australia Fair.
In joyful strains then let us sing,
Advance Australia Fair.*

- (c) that the Vice-Regal Salute to be used in the presence of His Excellency The Governor-General shall consist of the first four bars and the last four bars of the tune known as Advance Australia Fair;
- (d) that the National Anthem shall be used on all official and ceremonial occasions, other than occasions on which either the Royal Anthem or the Vice-Regal Salute is used; and
- (e) that green and gold (Pantone Matching System numbers 116C and 348C as used for printing on paper) shall be the national colours of Australia for use on all occasions on which such colours are customarily used.

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3

International relations

Introduction	39
ASEAN	39
South and south-east Asia	39
Indonesia	39
Malaysia	40
Philippines	40
Singapore	40
Brunei	40
Thailand	40
Vietnam	41
Cambodia	41
Laos	41
Burma	41
India	41
Pakistan	41
Sri Lanka	42
Bangladesh	42
North Asia	42
China	42
Hong Kong	42
Taiwan	42
Japan	42
Korea	43
South Pacific	43
New Zealand	44
Papua New Guinea	44
The Americas	44
Europe	45
The Middle East	45
Africa	46
Indian Ocean	46
APEC	47
Regional security dialogues	47
The ASEAN Regional Forum (ARF)	47
Bilateral security linkages	48

ANZUS	49
Nuclear issues	49
Disarmament and arms control	50
The Commonwealth	51
International trade relations	51
The multilateral framework	52
Australia's role in the multilateral trading system	52
Law of the Sea	52
International environment	53
Antarctica	53
Treaties	54
Human rights	54
Cultural relations	54
Consular services and passports	54
Australian overseas aid program	55
Country and regional assistance	56
Papua New Guinea	56
South Pacific	56
East Asia	56
South Asia	57
Africa	57
Cross-regional programs	57
Multilateral, humanitarian and non-government organisation assistance	57
Multilateral development banks and international organisations	57
Emergencies and refugees	57
Community programs	58
Australian Centre for International Agricultural Research (ACIAR)	58
Australian representation overseas	58
Permanent missions	59
Trade missions	59
Other consulates	59
Bibliography	61

Introduction

Australia has a wide spread of regional and global interests, not least as a major trading country and a country of immigration. Trade and investment with the Asia–Pacific region, and with the Americas and Europe, make a significant contribution to Australia's prosperity. Australia is a relatively affluent and resource-rich country in a populous and dynamic region.

The political, economic and strategic importance to Australia of the countries of the Asia–Pacific region has led to the development of broader and deeper relationships with those countries, including with the United States where we share an enduring alliance relationship. At the same time, links with Britain and other European countries are important features in Australian foreign policy in terms of cultural tradition, security, strategic interests, trade and investment.

The Asia–Pacific region as a whole now accounts for about half of global production and about 40% of global trade. More than 60% of Australian merchandise exports are sold to Asian economies, and North Asia and South East Asia accounted for over 60% of Australia's total growth in merchandise exports between 1983 and 1993. Of Australia's top 12 markets, 11 are members of the Asia Pacific Economic Cooperation (APEC) group.

Awareness of the growing nexus between security and economic development has led successive Australian Governments to promote and maintain friendly and cooperative relations with the countries of the Asia Pacific region, both as a means to secure our strategic interests and to develop mutually profitable trade and investment links and exchanges of technology. Australia gives special attention to its relations with regional neighbours such as the United States, China, Japan, the Republic of Korea, the member countries of ASEAN (the Association of South East Asian Nations), New Zealand, Papua New Guinea and the Pacific island countries.

International issues including global trade rules, economic cooperation, arms control and disarmament, conflict prevention and resolution, global environment protection, human rights, status of women, refugees and post-cold war security have assumed importance in Australia's international policies,

apace with an increasing recognition of the growing interdependence of the world community. Australia regards as a high priority its participation in the resolution of these global issues, not only in the United Nations and other multilateral forums such as the World Trade Organisation (WTO), but also in the regional context through plurilateral bodies such as APEC.

ASEAN

The Association of South East Asian Nations (ASEAN) brings together seven countries of South East Asia into one political and economic organisation. Current members of ASEAN are Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam. In 1997 Laos, Cambodia and possibly also Burma are expected to join ASEAN. Australia has a formal and institutionalised Dialogue Partnership with ASEAN. Australian Foreign Ministers attend the annual ASEAN Post Ministerial Conference in the capital city of the country which holds the Chairmanship of the ASEAN Standing Committee. The Australian Trade Minister and his counterpart Minister from New Zealand also attend annual meetings with their ASEAN counterpart ministers to discuss linkages between the ASEAN Free Trade Area (AFTA) and the Closer Economic Relations (CER) arrangement between Australia and New Zealand.

South and south-east Asia

Indonesia

Indonesia's importance to Australia is dictated by its position as Australia's largest, most populous neighbour, its location across important air and sea routes, its key role in regional affairs and its export and investment market potential. Australia's relationship with Indonesia is a vital part of its engagement with Asia and provides a springboard for closer strategic and economic involvement in South East Asia. Australia also works closely with Indonesia on multilateral issues and in major regional forums, particularly APEC and the ASEAN Regional Forum (ARF). The Australia–Indonesia Agreement on Maintaining Security which was signed in 1995 is a significant and natural extension of this cooperation

between Australia and Indonesia. It sets out the common interests of both countries in the peace and security of the region and underlines the intention of both to cooperate in support of our long shared long-term strategic interests. The Australia-Indonesia Ministerial Forum, which meets every two years, gives government impetus to strengthening and broadening the bilateral economic relationship.

Malaysia

Malaysia's rapid economic development, location, active participation in the South East Asian region and its long-standing relationship with Australia in many spheres have a direct impact on Australia's interests. The bilateral relationship has active and cooperative relations in a number of areas including defence, trade and investment, education and other diverse activities including narcotics control, tourism and aviation. Total bilateral trade reached \$3,917m for 1995-96, with Australian exports totalling \$2,281m. Malaysia's view is an increasingly important factor in Australia's regional economic and security concerns, as Malaysia has expanded its influence and taken an increasingly active role in regional fora, particularly ASEAN and APEC.

Philippines

The bilateral relationship with the Philippines is friendly and long-standing. The 50th anniversary of Australia-Philippines diplomatic relations occurred in 1996. Under the administration of President Fidel Ramos, the Philippines is experiencing a new era of political stability and economic growth. Indeed, the Philippines has registered steady economic growth since 1992. Gross National Product (GNP) grew by 5.5% in 1995 and the International Monetary Fund (IMF) predicted growth of at least 6.5% in 1996. The Philippines has also reoriented its foreign policy away from the United States towards its own region. Aside from its membership of ASEAN, the Philippines is an active supporter of APEC, which it chaired during 1996, and the ASEAN Regional Forum. In the past five years, Australia's two-way trade with the Philippines has more than doubled.

Singapore

Relations between Australia and Singapore have become more productive, diverse and mutually beneficial than ever before. Australia and Singapore are now engaged in significant cooperation and dialogue on major regional and

global economic, political and security issues, including APEC, the ASEAN Regional Forum, prospects for an AFTA-CER linkage, and cooperation in developing linkages in the Indian Ocean region. Our relations with Singapore also encompass trade and investment, defence, students, civil aviation, tourism, immigration and cultural relations. These linkages have been assisted by historical ties, comparable political and legal structures, similar regional security objectives, common interests in enhanced regional economic cooperation and well established commercial exchanges. Australia/Singapore trade for 1995-96 was valued at \$6,163m. Singapore is Australia's seventh largest trading partner.

Brunei

Brunei is a country of increasing importance to Australia. Although a small nation, it is situated in a region of major strategic, political and economic interest and is a member of three regional groupings of significant importance to Australia — APEC, ASEAN and the ASEAN Regional Forum. As Australia's consultative partner in ASEAN, Brunei has provided useful insight into internal ASEAN dialogue. Brunei is an important link in Australia's developing partnership and integration with South East Asia. Trade between Australia and Brunei, valued at \$77m in 1995-96, is an important component of the bilateral relationship.

Thailand

Australia has long had a close and cordial relationship with Thailand. The bilateral relationship spans a wide range of fields, including trade, defence cooperation, tourism, education, narcotics control, refugee resettlement and development cooperation. We maintain a constructive dialogue embracing economic and political issues at the different bilateral, regional and international levels, including such matters as APEC, the Cairns Group and regional security issues such as Burma and Cambodia. Trade continues to expand at a rapid rate — two-way merchandise trade was \$2,777m in 1995-96 with the balance in Australia's favour — encouraged by both Governments and by regular bilateral visits. Former Prime Minister Keating visited Thailand in 1994, and Mr Banham Silpa-Archa visited Australia in 1995 as opposition leader shortly before being elected Prime Minister. The Australian Minister for Foreign Affairs, Mr Downer, included Thailand in his first overseas visit to emphasise the importance the

Government places on relations with regional nations.

Vietnam

Vietnam continued the process of integration with the region, becoming a member of ASEAN in 1995. Despite the increased profile of Vietnam's relationships with ASEAN nations and major investors such as Taiwan and South Korea, Australia remained an established and long-term economic and political partner and has consolidated and expanded relations with Vietnam across a range of issues. Australia is a significant foreign investor in Vietnam. Bilateral trade has been growing quickly, reaching \$528m in 1995–96, and is expected to continue to grow as the Vietnamese economy develops. Dialogues on strategic, security, human rights and veterans' affairs issues continue to evolve.

Cambodia

Australia's principal policy objectives in Cambodia are to support the democratically elected Government, to help raise overall living standards and to rebuild civil and economic structures. As a signatory to the Paris Accords, Australia takes an active interest in developments in Cambodia, particularly in the areas of good governance, human rights, landmine clearance and development. Cambodia's upcoming membership of ASEAN accords it strategic importance to Australia. Cambodia offers limited opportunities for Australian business and investment (exports of \$22m in 1995–96) but there is long-term potential.

Laos

Australia has a positive reputation in Laos built over more than 40 years of unbroken diplomatic relations and supplemented by Australia's high profile program of bilateral aid. Laos is of relatively high strategic and economic value to Australia because of its position in the Mekong Basin Region and upcoming membership of ASEAN. The opportunities for expanding Australian commercial activities in Laos are also disproportionate to Laos's size. Laos is resource-rich but infrastructure poor; Australia can benefit and contribute on both counts. Australia is a significant foreign investor in Laos. Exports to Laos were \$15m in 1995–96.

Burma

Although the Nobel Peace Prize winner, Daw Aung San Suu Kyi, was released from house arrest in 1995, the State Law and Order Restoration Committee, Burma's military government, has made very little progress towards political liberalisation. Australia continues to play a prominent role, both directly in our dealings with Burma and through international fora such as the United Nations, in supporting Burma's democracy movement, and in pressing the State Law and Order Restoration Council to implement human rights and political reforms.

India

India is becoming an increasingly important regional partner for Australia and there was significant growth in Australia–India trade and investment throughout 1996. Merchandise exports to India rose by 21%, from \$979m in 1994–95 to \$1,181m in 1995–96. Australian investment in India rose to an estimated \$550m, while approvals for new investment increased from \$177m in 1994 to \$601m in 1995. There is ongoing high-level dialogue with India on a wide range of important issues, including disarmament, nuclear non-proliferation, regional economic and security organisations, including APEC and the ASEAN Regional Forum, the environment, women's development and other social issues, international law enforcement, and science and technology. A major initiative, Australia India–New Horizons, which took place in India in late 1996, will promote Australian capabilities in India across the spectrum — including business, culture, sport, science and technology and the environment.

Pakistan

A key Australian Government objective in Pakistan is the expansion of trade and investment. Australian exports increased by around 36% between 1994–95 and 1995–96. Australian investment in Pakistan has risen from a negligible amount a few years ago to around \$300m in mid-1996. Representations to the Pakistan Government on behalf of companies investing in Pakistan contributed to this growth. The Australian High Commission in Islamabad facilitated the visit to Australia of a high-level business mission from Pakistan in February 1996, which was particularly successful in highlighting investment opportunities in Pakistan for Australia.

Sri Lanka

Against the background of the ongoing conflict in Sri Lanka between the Government and the Liberation Tigers of Tamil Eelam (LTTE), Australia–Sri Lanka relations are strengthening, especially in economic areas. Exports increased by 37% in 1995–96, and Australia — with current investments valued at \$385m — became the largest foreign investor in Sri Lanka. Further investment proposals, valued at over \$1b, are in the pipeline. Several successful high-level visits have taken place, including by the then Foreign Minister Gareth Evans and a visit to Australia by the Sri Lankan Minister for Justice. An Australian Parliamentary Delegation visited Sri Lanka in October 1995.

Bangladesh

Australian objectives in Bangladesh are to support the development of democracy and to improve the environment for Australian trade and investment, against the background of the long-running political dispute between the opposition parties and the Bangladesh Government. Despite the negative economic effects of the protracted political deadlock in the country, Australian exports to Bangladesh in 1995–96 surged by 86% to \$171m. The staging of elections in June 1996 provided the opportunity to support Bangladesh democracy through assistance to the Commonwealth Election Observer Mission.

North Asia

China

Australia and China enjoy a wide-ranging relationship encompassing frequent ministerial and official level contacts underpinning substantial and growing economic and trade ties. China is Australia's fifth largest trading partner, while Australia is China's tenth largest partner (having entered the top 10 in 1996 for the first time). Two-way trade reached \$7,783m in 1995–96, with Australian exports at \$3,772m and imports at \$4,011m. Two-way trade was expected to reach \$8b by the end of 1996. Trade with China constitutes 5% of Australia's total trade. Australian investment in China is also expanding rapidly. Firms are increasingly producing for export from China, and to service the increasingly affluent Chinese market. Total Australian realised investment in China to the end of 1995 was over \$1b. Chinese investment in Australia is also growing, particularly in the

resources sector. The Joint Ministerial Economic Commission (JMEC) is the key government mechanism for the management of the economic relationship. JMEC meets biennially at Ministerial level. The ninth session of JMEC will be held in Australia in the second half of 1997.

Hong Kong

In 1995–96, Hong Kong was Australia's tenth largest trading partner with two-way trade valued at \$4,034m. Exports to Hong Kong totalled \$3,064m, making it Australia's eighth largest export market. Hong Kong is Australia's sixth largest market for export of services, worth \$905m in 1994–95. Over 30,000 Australians live in the territory and more than 350 Australian companies are based in Hong Kong. Hong Kong is Australia's sixth largest destination for foreign investment, worth \$3.2b in 1994–95, and fourth largest source of foreign investment in Australia with investment of HK\$1.45b in 1994–95.

Taiwan

Australia's commercial relationship with Taiwan has expanded significantly over recent years, with two-way trade reaching \$6,027m in 1995–96. Taiwan is Australia's seventh largest export market, valued at \$3,442m. In the absence of diplomatic relations with Taiwan, Australia's commercial interests are represented by the Australian Commerce and Industry Office (ACIO) in Taipei. Direct airlines were established in 1991, and arrangements on investment promotion and patents were signed in August 1993 by the Australian Commerce and Industry Office and the relevant Taiwan agencies. A Double Tax Agreement was signed in May 1996 which will provide more favourable conditions for Australian businesses operating in Taiwan. Tourism is growing strongly with 158,100 Taiwan tourists visiting Australia in 1995–96, making Taiwan Australia's seventh largest source of visitors.

Japan

Japan remains Australia's largest trading partner, with two-way trade in 1995–96 of \$27,220m, over 17.7% of Australia's total trade, and with a surplus of \$5.6b in Australia's favour. While unprocessed primary products account for around 44% of total merchandise exports to Japan, exports of manufactured products continued to grow and accounted for around 14% of total exports in 1995–96. Tourism, the largest services export to Japan, has shown good growth with more than 813,000 Japanese

tourists visiting Australia in 1995–96. Japan is the third largest source of foreign investment in Australia, behind the United Kingdom and the United States. Although total Japanese investment in Australia, relative to its investment in other countries in the Asia–Pacific region, has declined in recent years, the proportion directed to the manufacturing sector has increased, with around 30% of Japanese foreign direct investment in Australia in 1995 being in the manufacturing sector.

There is an active agenda of bilateral consultations between Australia and Japan, both at Ministerial and officials' level. Since the new government took office, the Prime Minister and several key Ministers, including the Ministers for Foreign Affairs and Trade, have visited Japan. Several Ministers participated in the November 1996 meeting of the Australia Japan Ministerial Committee (AJMC) in Tokyo, which considered a range of proposals for further deepening and broadening the relationship.

During the period 1996–98 Japan and Australia will jointly celebrate a number of significant anniversaries in the Australia–Japan relationship which have been designated the 'Friendship Anniversaries'. These include the twentieth anniversary of the Basic Treaty of Friendship and Cooperation, the fortieth anniversary of the signing of the Australia–Japan Commerce Agreement and the centenary of the opening of the Japanese Consulate in Sydney.

Korea

Relations between Australia and the Republic of Korea (ROK) continue to expand across the board, building on the strong complementarities in trade and shared political, strategic and economic interests in the Asia–Pacific region. The active agenda of bilateral cooperation was further supplemented in 1996 by the inauguration of consultations on political-military, development cooperation and UN issues.

The ROK remains Australia's second largest export market and fourth largest trading partner, with exports in 1995–96 of \$6,608m. Although our exports to the ROK continue to be dominated by primary products, particularly non-monetary gold, coal and iron ore, there has been rapid growth in recent years in exports of Australian manufactures, reflecting our increased competitiveness in non-traditional areas and the success of efforts to promote Australia as a source of high technology and

higher value-added products. Services exports have also registered strong growth, with the ROK becoming our largest source of fee-paying students (with almost 6,200 student visas issued in 1995 compared with around 4,000 in 1994), and one of our fastest growing tourism markets with 196,000 Korean visitors in 1995–96, compared with only 9,000 in 1983.

Relations between the Democratic People's Republic of Korea (DPRK) and Australia remain suspended following the DPRK's decision in 1975 to close its Embassy in Canberra and expel Australian diplomats from Pyongyang. Trade remains at low levels, reflecting the DPRK's economic difficulties and shortages of foreign exchange.

In response to serious food shortages following severe flooding in 1994–95, Australia contributed a total of \$1.1m to two UN Emergency Appeals for the DPRK. Australia has also provided strong support for the Korean Peninsula Energy Development Organisation (KEDO), which has played a key role in addressing concerns about nuclear proliferation on the Korean Peninsula, and for the Four Party Meeting proposal (involving the ROK, DPRK, the United States and China) aimed at achieving a permanent peace treaty on the Korean Peninsula.

South Pacific

Australia, as a prominent player in the South Pacific region, maintains active and friendly relations with Pacific island countries and seeks to encourage sound government, balanced development and sustainable resource management in the region.

Australia is the largest single aid donor in the South Pacific, conducting substantial aid and defence cooperation programs in the region, budgeted respectively at \$449m and \$42m in 1996–97 (including Papua New Guinea). A focus of such assistance is to seek to improve the competitiveness of Pacific island countries through encouraging and facilitating economic reform in the region.

Australia actively participates in and strongly supports a range of South Pacific regional bodies, including the South Pacific Forum, the South Pacific Commission, the Forum Fisheries Agency and the South Pacific Regional Environmental Program.

New Zealand

Relations between Australia and New Zealand reflect their shared history, similarities in political and social structure and the importance of economic links. Although some differences of view exist in the area of defence policy, Australia and New Zealand also share mutual security arrangements which are embodied in the ANZUS Treaty. The cooperative nature of the relationship between the two countries is exemplified in the Closer Economic Relations Trade Agreement (CER), which has achieved full free trade in goods and most services between the two countries. Work on CER is now focusing on 'third generation' trade facilitation initiatives such as a scheme for mutual recognition of regulations relating to goods and the registration of occupations, and the development of a joint food standards-setting system. Australia and New Zealand also often work closely in their approaches to the international political and economic environment.

Papua New Guinea

Australia and Papua New Guinea have a close relationship based on ties that have continued at all levels of society since Papua New Guinea attained its independence in 1975. In 1995–96 Australian exports were valued at \$1,036m and imports at \$1,221m. The total level of Australian investment in Papua New Guinea was \$2.2b as at 30 June 1995.

The 1987 Joint Declaration of Principles (JDP) provides a framework for bilateral relations between Australia and Papua New Guinea and covers a range of issues including defence, trade, investment, development assistance, consular relations, communications and border administration. An important element of the JDP is its consultative mechanism, the Australia–Papua New Guinea Ministerial Forum. The ninth Forum took place in Adelaide in September 1996.

Papua New Guinea is the largest single recipient of Australian development assistance, accounting for about one-fifth of the development cooperation program, at around \$300m per annum. The 1989 Treaty on Development Cooperation establishes principles, levels and forms of Australia's aid to Papua New Guinea. Under the Treaty, budget support is being progressively phased out, and by the year 2000 it will be wholly replaced by

jointly programmed aid directed at fostering Papua New Guinea's development and self-reliance.

The Torres Strait Treaty between Australia and Papua New Guinea entered into force in February 1985. The Treaty defines maritime boundaries and sets down provisions to protect the traditional way of life of inhabitants on both sides of the border, to protect the environment, to regulate the exploitation of resources and to ensure freedom of navigation and overflight.

The Americas

Australia continues to have a substantial and wide-ranging political, economic and security relationship with the United States based on strong cultural and historical ties.

A formal security treaty has linked the two countries for over 40 years, and at the most recent meeting of the annual Australia–United States Ministerial Consultations (AUSMIN) in July 1996, the two sides released two important statements, a Joint Security Declaration ('the Sydney Statement') and a Joint Communique, both of which re-affirmed Australia and United States commitment to the ANZUS alliance and to a continued United States strategic and economic engagement in the Asia–Pacific region.

The economic relationship with the United States is also significant. The United States is Australia's second largest trading partner and the largest recipient of Australian overseas investment. It is also the country which is Australia's largest source of foreign investment. Two-way trade in goods exceeded \$22,000m in 1995–96, with the trade balance heavily in favour of the United States.

Canada is a country comparable with Australia in terms of institutions and traditions, geographical size and international outlook. This allows a close degree of cooperation and interchange of ideas between the two nations at many levels, particularly in the multilateral arena in key institutions such as the World Trade Organisation (WTO) and regionally in APEC.

Australia is taking an increasing interest in developments in Latin America, especially those related to trade and investment. In recent times, Latin America has been characterised by a shift toward progressive trade liberalisation, privatisation and budget consolidation policies

which has accompanied a trend towards democracy. The result has been generally sound economic performance and a more positive business environment for foreign firms. Australia has initiated exchanges with Latin American countries on trade liberalisation matters, for example through a high-level dialogue between Australia and New Zealand and Mercosur, the Latin American Common Market comprising Brazil, Argentina, Uruguay and Paraguay. There was a continuing increase in political and official contacts during 1996, including through meetings of APEC and the Cairns Group. The focus of Australia's links with the Caribbean is in sport, culture and multilateral cooperation.

Europe

Australia maintains constructive relations with the countries of Western Europe and the European Union (EU) and its institutions. Bilateral relations with the individual countries of Western Europe continue to be of very considerable importance to Australia. During 1996 special emphasis was given to developing stronger relations with Germany and the United Kingdom.

Australia's historical, cultural and social links with Europe underpin these bilateral ties and Europe is a leading source of technology and ideas. Cooperation with European countries on a number of international issues is extensive, and our trade and investment links continue to develop.

The EU is Australia's largest source of investment funds and major host of Australian overseas investment, its largest source of imports and its second largest market for exports of goods and services. Australia and the EU developed a new, broader relationship during 1996. The bilateral agenda with the European Commission now includes constructive exchanges on a wide range of issues on which the two sides share concerns and interests.

Despite continuing political and economic uncertainties in Russia and the countries of the Commonwealth of Independent States, the promotion and facilitation of trade and investment is a key element of Australian government activity in that region. Constructive exchanges have taken place with Russia on several important bilateral agreements under negotiation and on a range of foreign policy issues. Several important Russian visitors were

welcomed to Australia during 1996, including former Prime Minister Gaidar and the Governor of Nizhny Novgorod, Mr Boris Nemtsov. The government has also produced a major study on the economic prospects of, and opportunities for trade and investment in Pacific Russia. The successful implementation of the first round of Russian presidential elections in June 1996 was welcomed by the government.

In Central Europe, the continuing conflict in Yugoslavia remained a source of concern in 1996. The achievement of the Dayton Framework Agreement in November 1995 for the restoration of peace in Bosnia and Herzegovina and respect for its sovereignty was endorsed by the Government as a major breakthrough. Australia also maintained its humanitarian aid to the former Yugoslavia. On the economic front, the Government, during 1996, promoted the expansion of Australian commercial interests in the region, including through the conclusion of double taxation and investment promotion and protection agreements and the despatch of government-business economic missions to Bulgaria, Slovenia, Slovakia and Poland. The pursuit by a number of Central European countries of early membership of the EU highlights the importance of an enhanced Australian commercial presence in this region.

The Middle East

Australian involvement in the Middle East is underpinned by commercial interest and long-standing friendships.

Australia has a substantial commercial imperative in the maintenance of existing (largely commodity) markets and the development of new markets which reflect our changing trade and commercial profile, notably in the provision of services.

Australia continues to promote the search for a comprehensive, just and lasting regional peace. Australia is fundamentally committed to Israel's right to exist within secure and recognised borders. The Government supports the right of the Palestinians to self-determination and also acknowledges that the question of self-determination and the ultimate shape of the Palestinian entity, including the possibility of an independent state, is subject to the final status negotiations between the parties directly involved. Australia has played a prominent role in multilateral tracks of the peace process, most

notably in the Arms Control and Regional Security Group and the Water Resources Working Group.

The Middle East is of strategic concern with regional disputes and tensions frequently having global significance. Australia has committed personnel and resources to activities designed to strengthen regional security: the Multinational Force and Observers (MFO), United Nations Truce Supervision Organisation (UNTSO) and the Multinational Interception Force (MIF).

Political and humanitarian developments in the region command considerable attention, given the resonance such issues have in the Australian community. Concern for the universal application of human rights and the pursuit of other items on the international agenda (e.g. terrorism, narcotics and the environment) have become prominent among Australia's regional priorities in recent years.

Africa

Africa held a higher profile for Australia in 1995–96. Australia's Foreign Minister attended the Organisation of African Unity Heads of Government Summit in Cameroon in the middle of 1996 and special envoys visited most African countries. Regular contact was maintained with African leaders at multilateral events. Australia attended the Southern African Development Community (SADC) Consultative Conference held in South Africa in February 1996. The 'good governance' program, administered by the Australian High Commission in Harare promoted democratic processes and principles of good governance in several southern African nations.

The development of an improved framework for expanding our trade and investment markets, and assisting in the promotion of a wide range of economic and social reform programs, was a particular concern in strengthening the relationship with South Africa. Considerable progress was made in promoting South Africa as a potential market, particularly for elaborately transformed manufactures. South Africa's participation as a feature market at the National Trade and Investment Outlook Conference held in Melbourne in December 1995 proved very successful.

The finalisation of South Africa's provincial elections and the commencement of the reconciliation process have reduced substantially the level of political violence in the country. Crime, unemployment and attracting foreign investment through trade liberalisation and economic reform will continue to be the main priorities for the South African Government.

Total Australian aid flows to Africa in 1995–96 were around \$180m or 12% of total Australian aid. This aid is distributed, inter alia, through our contributions to the World Bank, direct bilateral aid programs, humanitarian aid including the World Food Program, and through non-government organisations (NGOs). In 1995 a review of Australia's aid to Africa resulted in full country programs for South Africa, Mozambique, and Zimbabwe, and an increased emphasis on regional assistance, especially through the Southern African Development Community (SADC). In addition, Australia also provides aid to a wide range of African countries through various multilateral and NGO programs.

In recent years Australia has had a significant involvement in peacekeeping and humanitarian relief operations in Namibia, Somalia, Rwanda and Mozambique, and assisted with landmine clearance in Angola and Mozambique.

Indian Ocean

Australia was a leading player in the development of Indian Ocean regional cooperation in 1995, initiating one of the two major tracks along which cooperation has developed and playing a significant role in shaping the other. In June 1995 the Australian Government, together with the Western Australian Government, sponsored an International Forum on the Indian Ocean Region (IFIOR) in Perth. This meeting, which attracted 122 participants from 23 countries in the region, launched a 'second track' non-governmental process to complement the 'first track' inter-governmental dialogue which had begun several months earlier in Mauritius. A key outcome of IFIOR was the establishment of a Consultative Business Network, through which the Australian Chamber of Commerce and Industry, in partnership with the Department of Foreign Affairs and Trade, has promoted business links in the region.

At the Government's initiative, the Indian Ocean Centre was established in July 1995 at Curtin University in Perth as a research centre to support the various emerging regional dialogues exploring aspects of regional cooperation. With principal funding and support from the Sub-program, the Centre coordinated the regional activities of the Indian Ocean Research Network, supported the work of the Business Network and worked with the Department of Foreign Affairs and Trade in building both 'first' and 'second track' dialogue.

Another key achievement in the inter-governmental process was the proposal to create a new regional body, to be known as the Indian Ocean Rim Association for Regional Cooperation (IOR-ARC). Australia worked closely with India in the process of drafting the Charter of the new Association.

APEC

The Asia-Pacific includes a number of the fastest growing economies in the world. Rapid development in the region over several decades has been accompanied by massive structural change, with the impetus of manufactures export-led growth increasingly spreading from Japan and the newly industrialising economies (South Korea, Taiwan, Hong Kong and Singapore) to China, ASEAN and other economies. Regional economies now account for around 56% of world output and 46% of world exports. Economic interdependence has increased, reflecting strong economic complementarities and substantial intra-regional flows of trade, investment and technology.

The Asia Pacific Economic Cooperation process, established in 1989 as a result of an Australian initiative, has developed rapidly against this background. APEC's initial Ministerial Meeting, held in Canberra in November 1989, included 12 economies: Australia, New Zealand, ASEAN(6), Japan, Korea, the United States and Canada. Membership was expanded in 1991 to include the economies of China, Kong Kong and Taiwan. In 1993, Mexico and Papua New Guinea were admitted, and Chile joined in 1994. APEC's agenda has expanded quickly, with initial cooperation and consultation broadening to a much stronger focus on trade and investment facilitation and liberalisation. An important step forward occurred in November 1993, when the first meeting of APEC Economic Leaders was hosted by President Clinton.

The second meeting of APEC Economic Leaders, hosted by President Soeharto in Bogor, Indonesia, in November 1994, set in train a further expansion of APEC as an economic forum. APEC Leaders made a firm commitment at Bogor to achieving free and open trade and investment in the region by 2020, with industrialised economies achieving this goal by the earlier date of 2010. At Osaka in November 1995, Leaders endorsed a detailed plan — the Osaka Action Agenda — setting out how these and other APEC goals would be achieved. The implementation process focuses on each APEC member preparing an Individual Action Plan (IAP), tabled by the annual Ministerial and Leaders meetings in the Philippines in November 1996. IAPs are expected to be gradually improved over time as economies find it possible to move further towards the Bogor goals.

About 76% of Australia's merchandise exports were directed to APEC economies in 1995–96, up from 64% in 1975. Exports to ASEAN have been growing particularly rapidly. Imports from APEC had risen to 67% of total merchandise imports by 1995–96, up from 52% in 1975. Australia has a strong stake in trade and investment liberalisation in the region and in steps to simplify and harmonise trade-related practices and procedures, particularly in areas such as standards, customs and movement of business personnel. The further development of APEC, consistent with the Bogor Declaration, should also contribute to the broader objective of building regional cohesiveness in the context of rapid change.

Regional security dialogues

The ASEAN Regional Forum (ARF)

In the 1990s Australia has worked actively with countries of the Asia-Pacific to encourage, for the first time in the history of the region, the development of a multilateral, cooperative approach to regional security issues.

The establishment of the ARF as a region-wide venue to discuss security-related issues is the most important step forward to date in the emergence of new multilateral security processes. The ARF, which met first in mid 1994, held its third meeting on 23 July 1996 in Jakarta. The ARF is attended by the Foreign Ministers, accompanied by only one senior official, from all

the major countries in the Asia-Pacific region. It now comprises 21 participants with the addition of India and Burma at the third ARF, following agreement by Ministers on criteria for new members. These are: Australia, Brunei, Burma, Cambodia, Canada, China, the EU (represented by the Presidency), India, Indonesia, Japan, Laos, Malaysia, New Zealand, Papua New Guinea, the Philippines, the ROK, Russia, Singapore, Thailand, Vietnam and the United States. The Foreign Ministers meet in an informal setting to discuss regional political and security issues of concern or potential concern and to agree on cooperative measures which they might take to contribute to maintenance of peace and security in the region and to the avoidance of conflict. Ministers increasingly have shown themselves comfortable discussing sensitive issues, such as the South China Sea and Burma, frankly but in a non-confrontational way.

In addition to the Ministerial-level discussions of the ARF, and linked directly to it, there are a number of 'first track', official-level meetings and 'second track', academic forums (in which officials also participate in their personal capacity). The most important of these at the official-level is the annual May ARF Senior Officials' Meeting which, as well as being a preparatory meeting for the ARF, is a regional security dialogue in its own right, as current political and security issues in the region are discussed. In the 1996-97 intersessional period official-level groups will meet to discuss confidence-building measures, peacekeeping, search and rescue and disaster relief coordination. Under the umbrella of the peacekeeping group, Australia will co-organise with Malaysia a 'train-the-trainers' activity. Officials from all ARF countries participate in these activities, which are directed towards elaborating concrete cooperative measures for adoption by the ARF. The ARF has also indicated a number of proposals which it would like to see considered in second-track ARF meetings. In late 1996 second track ARF seminars were held on preventive diplomacy and on non-proliferation. Australia along with Germany (on behalf of the EU) and Indonesia co-sponsored the non-proliferation seminar.

There are a large number of other important unofficial, second track academic meetings which contribute to multilateral regional security dialogue and cooperation. One second track dialogue process is the Council for Security Cooperation in the Asia-Pacific (CSCAP), established by 'strategic studies' institutes in 1993. CSCAP currently has 14 country/institution members (Australia, Canada, the DPRK, Indonesia, Japan, Malaysia, Mongolia, New Zealand, Philippines, ROK, Russia, Singapore, Thailand and the United States) and two associate member institutions from India and the EU. The Australian National Committee of CSCAP is co-chaired by Professor Ball of the Strategic and Defence Studies Centre and Professor Harris of the Research School of Pacific and Asian Studies at the Australian National University.

Bilateral security linkages

The development of a region-wide security dialogue through the ARF is part of a pattern of expanding bilateral, sub-regional and region-wide linkages — formal and informal — in a growing web of relationships. All these links contribute to building a sense of trust, a sense of shared interests and a sense of shared responsibility for the region's future, with strong bilateral relationships underpinning regional stability and effective multilateral activity.

In addition to its alliance with the United States, Australia also has close security relationships with New Zealand, Papua New Guinea, and more recently the formalisation of the security relationship with Indonesia through the Agreement on Maintaining Security. Australia is also party to the long standing Five Power Defence Arrangements which include Malaysia, Singapore, the United Kingdom and New Zealand. In addition to these more formal linkages, Australia has a range of less formal defence and security ties with other South East Asian countries and in 1996 instituted semi-official security talks with Vietnam. Australia is also strengthening bilateral security links with North East Asian countries through initiatives such as the establishment of politico-military talks with the Republic of Korea and Japan, and the upgrading of official discussions on regional security with China.

ANZUS

Following a review in 1983 of the ANZUS Treaty by the Australian Government, including a re-examination with its ANZUS partners at the 1983 ANZUS Council Meeting in Washington, the Government reaffirmed the alliance as fundamental to Australia's national security and foreign and defence policies. The text of the ANZUS Treaty of 1952 can be found in Treaty Series No. 2, for 1952, printed by the then Department of External Affairs. In 1984, the New Zealand Government implemented a policy of denying the entry to New Zealand of nuclear-powered warships or of warships (or aircraft) which might carry nuclear weapons. Consequently the United States, at the *Australia–United States ministerial talks* in August 1986, formally suspended its security obligations to New Zealand under the ANZUS Treaty pending adequate corrective measures. Both the United States and Australia agreed that the relationship between the United States and Australia under the ANZUS Treaty, and the rights and obligations assumed by the United States and Australia towards each other under the Treaty, would remain constant and undiminished. ANZUS continues to govern the bilateral defence relationship between Australia and the United States and that between Australia and New Zealand.

The 1994 Defence White Paper 'Defending Australia' noted that Australia's defence alliance with the United States continued to be a key element of Australia's defence policy and that the relationship formalised in the ANZUS Treaty reflected the close alignment of enduring strategic interests.

Nuclear issues

Australia's strong commitment to effective nuclear disarmament and arms control is reflected in its support for the international non-proliferation regime. Australia ratified the Nuclear Non-Proliferation Treaty (NPT) in 1973 and encourages universal adherence to it. The NPT currently has 183 member states and is a central part of the international security framework. In 1995, 25 years after its entry into force, the treaty members agreed to make the NPT a permanent treaty.

Australia has continued to encourage new adherents to the NPT and scrupulous fulfilment of the obligation for all Non-Nuclear Weapon States Parties to conclude a safeguards agreement with the International Atomic Energy Agency (IAEA).

Australia is a founding member of the IAEA and provides political and financial support to the organisation. Australia's active participation, including contributions to the IAEA regular budget and to the Technical Assistance and Cooperation Fund, helps the Agency to continue to function in an effective and efficient manner. Through membership of the IAEA, Australia is able to promote non-proliferation objectives and contribute to regional and international nuclear cooperation and technical assistance, including in the areas of nuclear science and technology and nuclear waste safety. Australia has been working with other countries through the Agency to strengthen the international nuclear safeguards regime in the light of the lessons of the Gulf War.

The stringent nuclear safeguards conditions applied to exports and subsequent use of Australian uranium are set out as binding international legal obligations in the bilateral nuclear safeguards agreements which customer countries must enter into before any uranium exports from Australia are permitted. These conditions include an undertaking not to use *Australian-obligated nuclear material (AONM)* for any military or explosive purpose, the acceptance of IAEA safeguards in order to verify that undertaking and a strict system for accounting for quantities of AONM as it moves through the civil nuclear fuel cycle. Australia has concluded 14 bilateral nuclear safeguards agreements covering 24 countries.

Australia has long recognised the importance of effective controls on nuclear and nuclear-related dual-use items and is an active member of the Nuclear Suppliers' Group and the Zangger Committee. These groups bring together countries that are principal suppliers of nuclear material and associated material, equipment and technology, and have established guidelines governing export control mechanisms to ensure that trade and cooperation in the peaceful uses of nuclear technology do not contribute to proliferation of nuclear weapons.

Australia is also a member of the Nuclear Energy Agency (NEA) of the Organisation for Economic Cooperation and Development (OECD), which consists of all European Member countries of the OECD as well as Canada, Japan, the ROK, Mexico and the United States.

Disarmament and arms control

Australia promotes global security and stability by working for arms control and disarmament objectives at the UN in New York, the Conference on Disarmament (CD) in Geneva and many other world forums. A key foreign policy objective is to establish and strengthen international arrangements against the proliferation of weapons of mass destruction and missile delivery systems capable of carrying them. This contributes to keeping Australia's region and other regions free from any such proliferation and so contributes to maintaining a positive security environment both in our region and globally.

The conclusion of the Comprehensive Test Ban Treaty (CTBT) has been a high priority for Australia for a number of years. When over two years of negotiations in the Conference on Disarmament in Geneva failed to gain agreement on the Treaty text, Australia initiated a resolution in the UN General Assembly which saw the Treaty adopted and opened for signature on 10 September 1996. The CTBT will lock into place an end to nuclear testing by the five nuclear weapon states — the United States, the United Kingdom, Russia, France and China.

Australia, together with other South Pacific countries, was instrumental in negotiating the South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga), which came into effect on 11 December 1986. The signature by France, the United Kingdom and the United States of the Protocols of the Treaty of Rarotonga in March 1996 fulfilled a long-standing Australian and South Pacific Forum objective. The past year has also seen the establishment of two new nuclear weapon free zones: the Southeast Asian Nuclear Weapon Free Zone in December 1995 and the African Nuclear Weapon Free Zone, also known as the Treaty of Pelindaba, in April 1996.

The opening for signature of the Chemical Weapons Convention (CWC) on 13 January 1993 saw the achievement of a long-standing Australian objective. When it enters into force (180 days after the 65th ratification), the CWC will put in place a global ban on chemical weapons, including a requirement that all existing stocks of these weapons be destroyed. It also provides for an effective mechanism to verify compliance with the Convention. The CWC is expected to enter into force during the first half of 1997. Australia has strongly supported efforts to achieve an effective CWC, both during the negotiation of the treaty at the Conference on Disarmament and subsequently in the Preparatory Commission for the Organisation for the Prohibition of Chemical Weapons, the international organisation based in The Hague which will be responsible for implementation of the CWC. Australia was the sixth country to ratify the CWC, following enactment of the *Chemical Weapons (Prohibition) Act 1994*. A Chemical Weapons Convention Office has been established to manage implementation of the CWC within Australia. Australia has also maintained since 1988 a program of cooperation with South East Asian and South Pacific countries on CWC issues — the Chemical Weapons Regional Initiative. This program is now focused on helping these countries with their national implementation of the Convention.

Australia also strongly supports efforts to strengthen the Biological Weapons Convention (BWC), particularly the development of international arrangements to verify compliance with the treaty. These are needed if the BWC is to provide an effective global ban on these inhumane and potentially devastating weapons. Australia has accordingly been an active participant in the negotiations in the Ad Hoc Group of BWC parties established by the special conference of BWC States Parties in 1994. These negotiations are expected to result in the development of a protocol to the BWC containing verification measures.

Australia chairs a group of 29 countries called the Australia Group, which works towards harmonising the export licensing measures of participating countries over chemicals, biological agents and equipment which can be

used in the production of chemical and biological weapons. The Group's activities assist the achievement of the non-proliferation objectives of the CWC and BWC. As well as participating in the work of the Nuclear Suppliers' Group, Australia participates in the Missile Technology Control Regime: these two bodies enable similar cooperation in the nuclear weapons and missile fields.

Concerned about the scale of the widespread civilian suffering caused by the use of anti-personnel mines, Australia in April 1996 suspended the use of landmines by the Australian Defence Force and announced that it would support a global ban on landmines. Australia played an active role in negotiations to strengthen the *Inhumane Weapons Convention* which concluded with the adoption of an amended Protocol governing the use and transfer of landmines on 3 May 1996. Australia participated in a meeting of like-minded states in Ottawa in October 1996 which developed a strategy for achieving a global ban. Australia hopes to be one of the first states to ratify the amended Protocol and is encouraging other states to also move quickly, in order to bring the amended Protocol into force as soon as possible.

Australia is a strong supporter of the UN Conventional Arms Register and has provided data on our major arms imports and exports. It has also urged our regional neighbours to participate at the CD and the UN in discussions on further multilateral measures to increase transparency in the area of conventional armaments.

Australia is a party to the following disarmament and arms control agreements: the Partial Test Ban Treaty, the Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare, the Outer Space Treaty, the Sea-Bed Arms Control Treaty, the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention, the Biological Weapons Convention, the Environmental Modification Convention, the Antarctic Treaty, the Inhumane Weapons Convention, the Moon Treaty and the South Pacific Nuclear Free Zone Treaty.

The Commonwealth

The Commonwealth is an association of 53 countries drawn from every region of the globe and comprising one-quarter of the world's population. Australia seeks, through its Commonwealth membership, to foster international peace and security and political, social and economic advancement. The last Commonwealth Heads of Government Meeting was held in Auckland, New Zealand in November 1995 and the next meeting will be held in Edinburgh, Scotland in October 1997. The Auckland CHOGM agreed to establish the Commonwealth Ministerial Action Group (CMAG), comprising the Foreign Ministers from eight countries, not including Australia, in response to the continuing violations of the principles contained in the Harare Declaration by some Commonwealth countries, in particular Nigeria. The Harare Declaration is a key Commonwealth document which sets out the principles by which member states will abide, including the protection and promotion of fundamental political values, democracy, democratic processes and institutions, the rule of law and the independence of the judiciary. CMAG's task is to assess the nature of the infringement and recommend measures for collective Commonwealth action aimed at the speedy restoration of democracy and constitutional rule.

International trade relations

With formal trade barriers being dismantled and international competition increasing, trade policy can no longer be concerned simply with controls imposed at the border. The future trade policy agenda is being shaped by pressures which go beyond new or more advanced forms of government intervention in the trade of goods and services and into the issues which affect the international movement of capital, labour and technology.

Globalisation of production is one of the driving forces behind the future trade policy agenda. Firms are increasingly organising their activities on a regional or global scale to achieve efficiencies. This usually involves a search for the optimal mixture of trade and investment activities most likely to secure the firm's commercial objectives. There is a view that traditional trade policy mainly concerned with border measures is not capable of dealing with all of the issues arising from this trend.

The multilateral framework

For nearly 50 years the General Agreement on Tariffs and Trade (GATT) signed in 1947 provided basic rules for the conduct of international trade. The GATT was not an organisation but a treaty to which governments became contracting parties. It was replaced as of 1 January 1995 by the Agreement establishing the World Trade Organisation (WTO). This created for the first time an international organisation with a permanent existence to be responsible for the trading relationships between countries. It has much broader scope than the GATT in terms of the commercial activity and trade policies to which it applies.

The key provisions of the GATT provided for non discriminatory trade between members. This was established through adherence to the principles of most-favoured-nation (MFN) treatment and national treatment. These mean, respectively, that the goods of all members will be granted treatment no less favourable than any other, and that once goods have entered they must be treated the same as domestically produced goods.

Australia's role in the multilateral trading system

As exports make an increasing contribution to the economy, expanding market access for Australian goods and services is central to creating wealth and jobs. The multilateral trading system enables middle-sized nations like Australia to defend and protect market access for their exporters. Its system of rules provides transparency, predictability and fairness for Australia's firms in international markets.

In the GATT and now in the WTO, Australia has been a staunch advocate for the establishment and close monitoring of multilateral rules. Australia has played a key role in strengthening the institutional development of the WTO. Australian representatives have been the chairs of a number of WTO committees including the Negotiating Group on Maritime Transport Services, the Dispute Settlement Body and the Working Party on State Trading Enterprises.

An important innovation for the WTO is the introduction of Ministerial Conferences as the management body of the organisation. The first

biennial WTO Ministerial Conference was held in Singapore in December 1996. The conference presented another opportunity for Australia to take a key role in exercising its responsibility for influencing the direction and development of the multilateral trading system. Australian initiatives on the built-in agenda, environment and industrials, have become the focus of international attention as providing the core elements of a post-Singapore work program.

Australia has taken a leading role in the work on agriculture. Ministers of the Cairns Group of agricultural fair traders, which Australia co-chairs, agreed at their 1996 meeting in Cartagena (Colombia) the terms of the 'Cartagena Compact' initiative which set the Group's objectives for the Singapore Ministerial and the post-Singapore agricultural work program of the WTO.

Australia's approaches to APEC and in the promotion of closer links between Australia and New Zealand and the members of the ASEAN Free Trade Area (AFTA) are strengthening trade and economic cooperation at the regional level.

Law of the Sea

The United Nations Convention on the Law of the Sea (UNCLOS) entered into force in 1994, with Australia an original party. UNCLOS provides for the creation of several international institutions, including the International Sea-bed Authority (ISA) and the International Tribunal for the Law of the Sea (the Tribunal). The past year has seen much activity concerned with the creation of these institutions.

The ISA is the institution which will manage the exploitation of the resources of the deep sea-bed beyond the limits of national jurisdiction. It is based in Kingston, Jamaica. The first Council (the executive arm) of the ISA was elected in March 1996. Australia was elected for a two-year term in the chamber composed of states which are land-based producers of minerals also found on the deep sea-bed.

The Tribunal is the judicial organ established by UNCLOS. It is one of the means of compulsory dispute settlement which states may choose under UNCLOS. The first election of the 21 members of the Tribunal was held in August 1996. No Australian was elected.

International environment

Australia continues to be actively involved in addressing environmental issues of international importance. Many of these issues have transboundary or global effects. Others are localised but occur in many localities simultaneously. These problems include depletion of the ozone layer, climate change, loss of biological diversity, desertification, management of hazardous chemicals and transfer/disposal of hazardous waste. Australia has a significant national interest in many of these issues, being a mega-diverse country in terms of its species and habitat, having an important agricultural industry which is a significant exporter, being a dry continent with very limited supplies of freshwater, and having a huge coastline and surrounding oceans and extensive Antarctic territories. International efforts to address these issues not only have important environmental implications but affect trade, human health, political/economic/environmental security and social welfare in general.

The United Nations Conference on Environment and Development (UNCED), held in Rio de Janeiro in 1992, brought to the world's attention the need for development to be placed on a 'sustainable' path whereby development meets the needs of the present without jeopardising the ability of future generations to meet their own needs. Outcomes of UNCED included Agenda 21, the Rio Declaration on Environment and Development, the Framework Convention on Climate Change, the Convention on Biological Diversity and a Statement of Principles on Forests. Internationally, attention is focusing on elaborating protocols to the post-Rio Conventions objectives, as well as on addressing other areas of Agenda 21. Australia is heavily involved in addressing the domestic regulatory and economic implications of these conventions. Australia has placed priority on coalition-building to increase the level of cooperation with countries which share similar views on environmental issues of international importance, such as the Group of Temperate Southern Hemisphere Countries on Environment, known as the Valdivia Group, and cooperation in international environment forums within the grouping of non-EU OECD countries known as JUSCANZ. Australia was also an active participant in the establishment of the International Coral Reef Initiative (ICRI), a

collaborative effort among a number of nations to ensure the conservation and sustainable use of coral reefs and similar ecosystems.

Antarctica

Australia has had a long association with Antarctica. It commenced with expeditions as early as last century and continues today 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: Casey, Davis and Mawson.

As one of the 12 original signatories, Australia attaches particular significance to the 1959 Antarctic Treaty, which serves important Australian scientific, environmental and security interests. Antarctic Treaty Consultative Meetings (ATCM) are held annually in one of the Consultative Party States. The twentieth ATCM was held in Utrecht, the Netherlands in April/May 1996. There are now 42 governments which are parties to the Antarctic Treaty. Of these, 26 are Consultative Parties (ATCPs) entitled to participate fully in Consultative Meetings.

Hobart is host to the Commission for the Conservation of Antarctic Marine Living Resources, which is responsible for developing measures necessary for the conservation of the Antarctic marine ecosystem. The Commission and its Scientific Committee meet annually.

On 22 May 1989, the Australian Government announced that it was opposed to mining in Antarctica and that it would not sign the Convention on the Regulation of Antarctic Mineral Resource Activities. Instead the Australian and French Governments pursued the negotiation of a comprehensive environmental protection regime for Antarctica and its dependent and associated ecosystems. Following consultations the Protocol on Environmental Protection to the Antarctic Treaty was opened for signature in Madrid on 4 October 1991. The Protocol designated Antarctica as a natural reserve devoted to peace and science. When it enters into force, the Protocol will establish a comprehensive regime

for assessing the environmental impact of activities in Antarctica and guidelines for waste disposal, marine pollution, the conservation of fauna and flora and area protection and management. Mining activities are specifically prohibited for at least the next 50 years. All 26 ATCPs must ratify the Protocol for it to enter into force. As at August 1996 there remained four ATCPs yet to ratify.

Consistent with the priority attached to protecting the Antarctic environment, in December 1992 Australia became the first ATCP to enact legislation to implement the Protocol and ratified the Protocol on 6 April 1994.

Treaties

Treaties that Australia is contemplating are tabled in Commonwealth Parliament for at least 15 sitting days for scrutiny before binding action. The texts of bilateral and multilateral treaties to which Australia is a party are printed in the Australian Treaty Series when they enter into force. Australia's current position with regard to particular treaties may be ascertained by referring to the Australian Treaty List. Monthly updates are contained in the Department of Foreign Affairs and Trade publication *Insight*.

In addition, the texts of multilateral treaties, in the negotiation of which Australia has participated but to which it has yet to become a party, are printed in annual volumes of Select Documents on International Affairs. The foregoing publications are available from Commonwealth Government Bookshops, with the exception of *Insight*, which is available from the Department of Foreign Affairs and Trade, Canberra.

The texts of Australian treaties and related domestic law are available electronically through the Australasian Legal Information Institute, at the Internet site <http://www.austlii.edu.au>.

Human rights

Human rights issues are prominent on the Government's international agenda, consistent with Australia's strong commitment to the universal protection and promotion of internationally accepted human rights standards, and its belief that strategies to ensure the observance of human rights have a preventive security dimension.

Australia is actively involved in human rights promotion through multilateral channels including the UN General Assembly, the Commission on Human Rights, the Commission on the Status of Women, and numerous other UN bodies and meetings. The Government provides technical assistance for the promotion of human rights through UN programs and on a bilateral basis through the AusAID program. Australia also promotes the establishment of national institutions for the promotion and protection of human rights, particularly in the Asia-Pacific region, on the basis that positive action at the national level is the surest means of improving human rights observance.

In addition to multilateral and institution-building activity, Australia works to promote human rights through direct contact with other governments. Australia regularly makes bilateral representations, on behalf of individuals or groups, many of which are made on behalf of the Amnesty International Group of the Australian Parliament. Since 1987, when the Department of Foreign Affairs and Trade first started maintaining a register of human rights representations, the Australian Government has raised over 4,000 individual and group cases with other governments.

Cultural relations

The Government seeks to project Australia overseas as a diverse, creative, technologically advanced and sophisticated country which is making its own distinctive and significant contribution to the Asia-Pacific region and the global community. The international cultural relations program plays a significant and unique role in conveying abroad these messages about modern Australia in support of key foreign and trade policy objectives. Cultural relations activities span a wide range of fields from the visual and performing arts, sport, science and technology, Australian studies, environment and other 'people to people' contacts.

Consular services and passports

The Department of Foreign Affairs and Trade protects the interests of Australian citizens overseas in accordance with international law. Consular officers are often called upon to assist Australians who are hospitalised, who have been victims of crime or who have been detained or imprisoned overseas. Consular services to

Australian citizens are provided by all Australian diplomatic and consular posts and by 31 honorary consuls. There are also 11 countries, mostly in Africa, where Canadian diplomatic and consular posts provide consular assistance to Australians under the Australia Canada Consular Sharing Agreement. Honorary consuls are appointed where there is a need for an Australian presence and for consular services that cannot be met within the resources of the Department of Foreign Affairs and Trade. An Australian citizen is often appointed as honorary consul. In the absence of an appropriate Australian candidate, consideration is given to non-Australians. Australia's posts abroad are shown in tables 3.2 and 3.3.

Under the authority of the *Passports Act 1938* the Department of Foreign Affairs and Trade provides travel documents to eligible Australian citizens. In Australia, there is a passport office in the capital city of each State and Territory. There is also an office in Newcastle. Overseas, all diplomatic and consular posts issue passports. In 1995–96 there were 699,645 passports issued. Most applications (75.7%) were lodged at one of Australia Post's network of offices through Australia Post, under an agency agreement with Australia Post. A passport information and enquiry service is available to the general public and over 568,000 calls were handled in 1995–96. To support the Department of Foreign Affairs and Trade's consular operations, the passport information and enquiry service incorporates a facility to handle large numbers of telephone enquiries from the public about overseas crises which might involve Australians.

Australian overseas aid program

The purpose of Australia's development cooperation program is to assist developing countries reduce poverty and improve the standard of living of their people through sustainable development. In doing this the aid program aims to assist in achieving a more secure and equitable international order.

In 1996–97 Australia's official development assistance (ODA) will total approximately \$1,450m (current dollars). This represents a decline of 10% in real terms on 1995–96

expenditure. Australia's ODA to gross national product (GNP) ratio in 1996–97 is expected to be 0.29%. This places Australia above the current weighted average of 0.27% for donor members of the Development Assistance Committee (DAC) of the OECD.

The aid program is administered by the Australian Agency for International Development (AusAID) and is divided into three main areas: Country and Regional Assistance; Multilateral, Humanitarian and NGO Assistance; and funding to the Australian Centre for International Agricultural Research (ACIAR). In 1995–96, Country and Regional Assistance totalled \$870.8m; Multilateral, Humanitarian and NGO Assistance totalled \$554.3m; and ACIAR expenditure totalled \$40m. Expenditure on Corporate Services totalled an additional \$56.9m.

Although AusAID administers most of Australia's development cooperation, expenditure on ODA-related activities also takes place in other government departments and agencies. In 1995–96, more than \$42.5m of total ODA was spent by other government agencies. In 1996–97, \$56.5m of total ODA is projected to be spent by other government agencies.

3.1 AUSTRALIAN AID FLOWS, Major Recipients — 1996–97 Estimate(a)

Country	\$m
Papua New Guinea	319.5
Indonesia	108.0
Africa	105.6
Vietnam	63.6
Philippines	60.0
China	41.7
Bangladesh	32.2
Cambodia	30.8
Thailand	26.3
India	21.0
Fiji	19.1
Laos	17.3
Vanuatu	12.8
Western Samoa	11.6
Sri Lanka	11.6
Solomon Islands	11.5
Tonga	10.4

(a) Total aid flows include assistance provided under Country and Regional Programs, multilateral agencies, emergency and relief assistance, NGO projects, and ACIAR activities.

Source: AusAID.

Country and regional assistance

The bulk of Australia's overseas development assistance is provided on a country program basis. Country programming involves formulating long-term development cooperation strategies in partnership with recipient countries which match recipient country needs with Australia's objectives and capacity to assist. Within the framework of country strategies, individual country programs comprise a range of discrete activities. These may include projects, the training of recipient country students, the provision of technical assistance, the supply of equipment and commodities, food aid, and non-government organisation (NGO) activities.

For the majority of recipient countries the shape of Australia's country assistance is reviewed annually, usually during annual High Level Consultations with partner governments. This review process takes into account the budget allocation. In addition, all country programs follow a regular cycle which includes planning, implementation and review of activities. This includes careful screening to ensure that activities are environmentally sustainable and that mechanisms are in place to ensure that the benefits of development cooperation are shared equitably between men and women.

Additional support to individual countries is provided through regionally focused or multi-country programs, as well as through a variety of international organisations and community programs (see *Multilateral, humanitarian and NGO assistance*).

Papua New Guinea

Papua New Guinea receives the largest share of the Australian aid program, with total flows in 1996-97 estimated to reach \$319.5m, including country program assistance of \$313.5m. This represents over one fifth of the total Australian development cooperation program, reflecting the significance of the relationship between the two countries.

Australia's aid program to Papua New Guinea aims principally to promote sustainable development, self-reliance, stability and social cohesion and the successful implementation of Papua New Guinea's economic reform program. In 1996-97, assistance in the form of programmed activities will outweigh budget support to Papua New Guinea for the first time. This reflects an agreement by the two

Governments to move progressively to a level of 100% jointly programmed activities by the year 2000. The next few years will see a rapidly increasing pace of implementation of Australian activities in Papua New Guinea in six mutually agreed sectors: education and training, health, infrastructure, law and order, renewable resources and the private sector.

South Pacific

Despite their relatively small economies and their distance from potential markets, many Pacific Island Countries (PICs) are performing well in terms of social development. However, both the Australian and Pacific Island Governments have recognised the urgent need for cooperation in pursuing economic reforms necessary to achieve sustainable growth. In addition, PICs face several emerging development challenges such as increasing urbanisation, creating new health and environmental risks. In 1996-97, bilateral, multi-country and regional programs in the South Pacific will total around \$129.1m, making Australia the largest donor to the region. The focus will be on education, health, sustainable resource use, private sector development and economic and public sector reform.

East Asia

The East Asia region is one in which many countries continue to experience rapid and sustained economic growth. Some countries nevertheless remain among the poorest in the world. Assistance to the region in 1996-97 will total \$371m, including country program assistance of \$247.2m.

Assistance to Vietnam, Cambodia and Laos, three of the world's poorest nations, will concentrate on poverty alleviation through targeted intervention in areas such as health, education and training, and the development and reconstruction of basic infrastructure. In Indonesia, Australian assistance supports human resource development, rural infrastructure development, environmental management and maternal and child health care. Assistance to the Philippines will increasingly concentrate on the southern Philippines, and focuses on health, human resource development and rural infrastructure development. Development assistance to Malaysia and Thailand is being wound down in recognition of their development achievements.

Assistance to China, the world's most rapidly growing country, will total \$41.7m, including country program assistance of \$33m. This will focus on the environment, education and training, health and population, and community development sectors.

South Asia

Endemic poverty and low social development remain major problems in this region. In 1996–97, assistance to South Asia will total \$92.5m, including country program assistance of \$42.7m. Australia's aid program to the region focuses on food security, human resource development, technology transfer, institutional strengthening, health, agriculture, the environment and community development. The main recipients of country program assistance are India (\$14.3m), Bangladesh (\$16.7m), Nepal (\$3.4m) and Sri Lanka (\$3.0m).

Africa

Unlike East Asian countries where the flow of private investment has grown rapidly, private investment in African countries has at most grown very slowly and, in many countries not at all. As a result of the 1995 review of the policy basis of Australian aid to Africa, three countries now have full country program status within Australia's aid program: South Africa, Zimbabwe and Mozambique. Priority areas of assistance to these countries are education and training, water supply and sanitation, health service delivery and private sector development. Total country program expenditure in 1996–97 for these three countries will be \$38.5m. Total aid flows to Africa are expected to amount to \$105.6m.

Cross-regional programs

Cross-regional programs provide support for activities where the focus is not on any particular country or region. By far the most significant cross-regional program consists of two in-Australia tertiary education scholarships: Australian Sponsored Training Scholarships, and Australian Development Cooperation Scholarships. The former comprises a program of scholarships for individuals who have been nominated by their governments. Under the latter program individuals apply directly, without the need for government nomination. Over 6,600 sponsored students are expected to study in Australia in 1996–97.

Over the past ten years AusAID has worked closely with educational institutions in an effort

to build their capacity to develop a range of quality services devoted to the support of international students. As from January 1997, AusAID's new training management strategy will see educational institutions contracted to provide education services, scholarship management and support services to students.

Multilateral, humanitarian and non-government organisation assistance

Multilateral development banks and international organisations

The Australian Government recognises that multilateral cooperation can bring results that are unachievable in a bilateral program alone, especially for a medium-sized donor like Australia. Through support for multilateral agencies, Australia also contributes to their policies and program directions. To ensure that Australia is achieving its goals through multilateral development organisations, close monitoring of the various agencies is undertaken.

Contributions to international organisations in 1996–97 will total \$304.5m. UN development agencies will receive \$74.7m, with the largest contributions directed to the World Food Program (\$54m), the United Nations Development Program (\$9m) and the United Nations Children's Fund (\$4.5m). Australia's contributions of \$204.7m to the multilateral development banks will go mainly to the concessional lending arms of the World Bank and the Asian Development Bank, namely the International Development Association and the Asian Development Fund. Other beneficiaries of Australia's contributions to international organisations in 1996–97 include Commonwealth development organisations, international health and environment programs and international non-government organisations.

Emergencies and refugees

In 1996–97 the allocation for emergency and refugee assistance will be \$81m. Africa is likely to remain the major recipient of Australia's humanitarian assistance in the medium term. Many African countries are making a transition to peace and stability following the cessation of civil conflict. In Mozambique, Australian assistance is helping support the repatriation and reintegration of thousands of refugees. In

Angola, Australia's efforts are directed at supporting UN sponsored demobilisation of soldiers and programs by non-government organisations to help repair community infrastructure. In both countries Australia contributes to the international effort to clear landmines. In the Horn of Africa, rehabilitation of infrastructure, reintegration of displaced persons, and efforts to promote food security are contributing to stability in Ethiopia and Eritrea.

In the Pacific, a significant contribution is being made to disaster preparedness programs which aim to strengthen the institutional capacity of local authorities to respond effectively to emergencies. In South and South East Asia, Australia supports programs for refugees and internally displaced people in Bangladesh, Thailand, Nepal, Sri Lanka and Cambodia.

Australia also supports the programs of a number of international relief agencies by making contributions to their core budgets. Agencies which benefit include the UN High Commissioner for Refugees, the UN Relief and Works Agency and the International Committee of the Red Cross.

Community programs

The Australian Government actively seeks the involvement of non-government organisations (NGOs), the academic community and other professional groups in the delivery of the Australian aid program.

NGOs play a valuable role in translating the Australian community's concern for the poor and disadvantaged peoples of developing countries into practical, tangible projects which address basic human needs at the community level. Total funding channelled through NGOs is expected to exceed \$100m in 1996-97. This includes overseas development projects, volunteer programs and emergency relief assistance. A key element of this funding is the AusAID-NGO Cooperation Program (ANCP), which subsidises development activities designed and implemented by NGOs. The ANCP has been allocated \$15.8m in 1996-97. Funding is also provided through a number of NGO windows in country programs.

The aid program also supports academic research through the provision of funds to the National Centre for Development Studies and the Australian National University. The Government also commissions

development-related research from other research institutions in Australia.

Australian Centre for International Agricultural Research (ACIAR)

ACIAR is a statutory body with its own Board, Director and Policy Advisory Council. It promotes research into improving sustainable agricultural production and natural resource management in developing countries. ACIAR also facilitates research collaboration between Australia and individual developing countries for mutual advantage by mobilising appropriate Australian research expertise to help developing countries to help themselves.

As well as commissioning research, ACIAR promotes project related training and conducts pilot development studies to enhance the application of research results. The centre is also responsible for Australia's contributions to international agricultural research centres such as the International Rice Research Institute. Funding provided to ACIAR in 1996-97 is \$40m.

Australian representation overseas

As at 30 June 1996, Australia maintained the following diplomatic and consular representation overseas (full details of these missions are available from the Department of Foreign Affairs and Trade, Canberra, ACT 2600).

3.2 DIPLOMATIC AND CONSULAR REPRESENTATION OVERSEAS

Country	Post
Argentina	Buenos Aires
Austria	Vienna
Bangladesh	Dhaka
Belgium	Brussels
Barbados	Bridgetown
Brazil	Brasilia
Brunei	Bandar Seri Begawan
Burma	Rangoon
Cambodia	Phnom Penh
Canada	Ottawa
Chile	Santiago
China	Beijing, (a)Guangzhou, (a)Shanghai
Cyprus	Nicosia
Denmark	Copenhagen
Egypt	Cairo
Fiji	Suva

For footnotes see end of table.

...continued

3.2 DIPLOMATIC AND CONSULAR REPRESENTATION OVERSEAS — *continued*

Country	Post
France	Paris
Germany	Bonn, Berlin(a)
Greece	Athens
Hong Kong	Hong Kong(a)
Hungary	Budapest
India	New Delhi
Indonesia	Jakarta, Bali(b)
Iran	Tehran
Ireland	Dublin
Israel	Tel Aviv
Italy	Rome
Japan	Tokyo
Jordan	Amman
Kazakstan	Almaty
Kenya	Nairobi
Kiribati	Tarawa
Korea, Republic of	Seoul
Laos	Vientiane
Lebanon	Beirut
Malaysia	Kuala Lumpur
Malta	Valletta
Mauritius	Port Louis
Mexico	Mexico City
Micronesia, Federated States of	Pohnpei
Nauru	Nauru
Nepal	Kathmandu
Netherlands	The Hague
New Caledonia	(a)Noumea
New Zealand	Wellington
Nigeria	Lagos
Pakistan	Islamabad
Papua New Guinea	Port Moresby
Philippines	Manila
Poland	Warsaw
Russia	Moscow
Saudi Arabia	Riyadh
Singapore	Singapore
Solomon Islands	Honiara
South Africa	Pretoria/Capetown
Spain	Madrid
Sri Lanka	Colombo
Sweden	Stockholm
Syria	Damascus
Thailand	Bangkok
Tonga	Nuku'alofa
Turkey	Ankara
United Kingdom	London
United States	(a)Washington, Honolulu, (a)New York
Vanuatu	Port Vila
Vatican	Holy See
Venezuela	Caracas
Vietnam	(a)Hanoi, Ho Chi Minh City
Western Samoa	Apia
Yugoslavia	Belgrade
Zimbabwe	Harare

(a) Consulate-General. (b) Consulate.

Source: Department of Foreign Affairs and Trade.

Permanent missions

Australia also maintained five separate missions in:

New York	UN
Geneva	UN
Geneva	Disarmament
Geneva	WTO
Paris	OECD

Trade missions

Austrade maintained trade missions with diplomatic or consular status in the following cities:

Atlanta	Consulate-General
Auckland	Consulate-General
Bombay	Consulate-General
Dubai	Consulate-General
Frankfurt	Consulate-General
Fukuoka	Consulate
Houston	Consulate-General
Istanbul	Consulate-General
Los Angeles	Consulate-General
Milan	Consulate-General
Nagoya	Consulate
Osaka	Consulate-General
San Francisco	Consulate-General
Sao Paulo	Consulate-General
Sapporo	Consulate
Sendai	Consulate
Toronto	Consulate-General

Other consulates

The Department of Immigration and Cultural Affairs maintained offices with consular status in:

Berne	Consulate
Manchester	Consulate
Vancouver	Consulate

3.3 AUSTRALIAN HONORARY CONSULS — 30 June 1996

City	Country	Responsible Office
Barcelona	Spain	Madrid
Bogota	Colombia	Caracas
Boston	United States of America	New York
Bucharest	Romania	Belgrade
Denver	United States of America	Los Angeles
Edinburgh	United Kingdom	London
Guadalajara	Mexico	Mexico City
Guayaquil	Ecuador	Caracas
Helsinki	Finland	Stockholm
Kota Kinabalu	Malaysia	Kuala Lumpur
Kuching	Malaysia	Kuala Lumpur
Kyiv	Ukraine	Moscow
Lae	Papua New Guinea	Port Moresby
La Paz	Bolivia	Santiago de Chile
Lima	Peru	Santiago de Chile
Lisbon	Portugal	Paris
Ljubljana	Slovenia	Vienna
Monterrey	Mexico	Mexico City
Montevideo	Uruguay	Buenos Aires
Oslo	Norway	Copenhagen
Papeete	French Polynesia	Noumea
Penang	Malaysia	Kuala Lumpur
Port of Spain	Trinidad and Tobago	Bridgetown
Prague	Czech Republic	Warsaw
Pusan	Korea, Republic of	Seoul
Rio de Janeiro	Brazil	Brasilia
Seville	Spain	Madrid
Sofia	Bulgaria	Athens
Tallinn	Estonia	Stockholm
Vladivostok	Pacific Russia	Moscow
Zagreb	Croatia	Vienna

Source: Department of Foreign Affairs and Trade.

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Introduction	65
Defence policy	65
The Defence Organisation	66
Planning and evaluation	66
Changing directions	66
Defence programs	67
Forces executive	67
Navy	67
Army	67
Air Force	67
Strategy and intelligence	67
Acquisition	68
Budget and management	68
Science and technology	68
Resources	68
Budget and expenditure	68
Personnel numbers	69
Bibliography	70

Introduction

This chapter outlines Australia's defence policy. It also presents an overview of the Defence Organisation, its functions and how it operates.

Defence policy

Australia's defence policy is part of an integrated national effort that seeks to guarantee the nation's future security and prosperity. It contributes to this objective in two related ways — by developing and maintaining the capacity to defend Australia and its interests from armed attack; and promoting a regional and global security environment which enhances Australia's security by reducing the likelihood of armed force being used against Australia.

Australia is faced with numerous political, economic and social challenges, stemming both from changes in the Australian community and economy, and from changes in the international strategic, political and economic situations. Australia needs an imaginative and forward looking approach if it is to secure its place in the changing pattern of relationships in the Asia-Pacific region.

The self-reliant defence of Australia remains the most important and demanding aim of Australia's defence policy. Hence the first objective is to build, maintain and support an Australian Defence force which is capable, without combat assistance from other countries, of defeating any attack which could be credibly mounted against Australia. A focus on the defence of Australia provides a clear basis for planning and a rationale for Australia's forces which has been understood and accepted both domestically and within the region.

Given the relatively small size of Australia's armed forces, limits on resources and the formidable geographical and environmental challenges that the defence of Australia presents, the development of more effective strategic and operational level planning and command and control is a high priority.

The successful pursuit of Australia's defence policy depends also on timely warning of significant developments in Australia's strategic and operational environment. The capacity of the Australian Defence Force (ADF) to respond

appropriately to the changing security environment and to undertake its tasks successfully requires accurate, reliable and timely information about activities and developments within the region.

To ensure the most efficient and effective support for Australia's combat capabilities, it is part of defence policy to harness the skills and expertise of Australian industry and the private sector and to apply leading edge technology in the application and support of military force.

Australian defence and security policy has to be responsive to developments in Australia's strategic environment. To this end, Australia's strategic outlook is kept under continuous review, and plans and programs are developed for the strategic posture, disposition, activities and development of the Defence Force. Current decisions in relation to force structure requirements and the estimations of the capabilities likely to be available within the region provide the underpinning for materiel and technology acquisitions and thus Australia's combat capabilities well into the future.

Australia does not, however, rely solely upon its capacity to develop and maintain an effective Defence Force in order to secure Australia's future. Australia cannot be defended adequately only by guarding its territory and looking on at the changes in Asia. Australia's defence policy is also to manage its security environment in such a way that conflicts of interest can be resolved without the use of military options. Australia seeks to ensure that armed force against it is less likely, through the promotion of effective strategic relationships with regional countries, the maintenance of strong alliance relationships which strengthen Australia's defence, and support for the United Nations and other international endeavours which promote Australia's security.

Australia's international defence relationships are an important adjunct and complement to its diplomatic efforts to shape the regional security environment. The United States is Australia's most important alliance partner and the two countries continue to share many common security interests. Australia's relationship with the United States makes a very significant contribution to the quality and development of Australia's defence capabilities, through close

consultations, training and exercises, and access to equipment, technology and intelligence.

Efforts to enhance Australia's relationship with the United States will not, however, be at the expense of relationships or activities with the region. The priority attached to developing Australia's relationships with its regional neighbours, and the increasing importance attached to regional engagement, will continue. Australia's objectives in regional engagement are to promote regional security and stability, and to develop the capacity to work with regional countries to confront future security challenges, either diplomatically or militarily.

Working with other regional forces, through bilateral, multilateral and alliance arrangements, Australia will reinforce the expanding web of relations that has emerged between it and other countries in the region. The aim is to ensure that Australia's relations with its neighbours are robust enough to deal with the uncertainties that arise in the normal course of defence and wider relations. The region's collective interests clearly lie in the promotion of stable yet flexible relations within the region and the peaceful resolution of issues arising out of conflicting viewpoints or claims.

Australia will also continue to contribute to international peacekeeping, providing forces as determined by the Government to support multinational security efforts, and to provide technical and policy support for non-proliferation initiatives

The Defence Organisation

Australia's defence policy is implemented through an integrated civil-military Defence Organisation. Resources and activities are managed through eight major programs: Forces Executive, Navy, Army, Air Force, Strategy and Intelligence, Acquisition, Budget and Management, and Science and Technology. The four service programs, the Royal Australian Navy (RAN), the Australian Army, the Royal Australian Air Force (RAAF) and Headquarters ADF (Forces Executive), comprise the ADF. The remaining four programs in Defence provide policy advice to Government as well as procurement, scientific, logistical, financial and other support services to the ADF, and a range of services to government agencies and industry.

Planning and evaluation

To provide a management framework for its activities, the Defence Organisation works to a 10 year capability planning horizon and a five year financial programming horizon. Proposals for capability development and other policy initiatives are examined in detail prior to submission to the Government for consideration, generally in the context of the annual Defence Budget. Other key planning documents include the *Defence Corporate Plan* and the classified *Five Year Defence Program*.

Evaluation of activities in Defence falls into three broad categories. Self-evaluations are conducted by the managers of program elements, either as specific evaluation activities or as part of ongoing program arrangements. Corporate evaluations affect the overall management of Defence and the business of all or many of the eight programs. Independent evaluations comprise the more extensive and formal evaluations undertaken outside of the normal management framework. Reviews by the Inspector-General, as well as external reviews by the Australian National Audit Office and Parliamentary Committees, are included in this category.

Changing directions

The challenge for the Defence Organisation is to find processes and systems that keep Defence business focused on key outcomes, in ways that conform to broader Government practices and requirements. Further reducing duplication between Service and civilian structures and between the Services will be important, as will streamlining the processes associated with policy development, personnel administration and acquisition. As an aid to achieving these goals, the Government recently appointed a panel of eminent figures from the public and private sector to review Defence management and financial practices. This initiative, the *Defence Efficiency Review*, will report back to the Minister of Defence in March 1997.

The Government has already instituted measures to achieve savings in Defence administration. Over the next three years, Defence will achieve reductions in running costs of \$125m per year, including a reduction of 1,200, or some 6%, in the average funded strength for civilian staff over two years. These savings will be directed to enhancing the combat effectiveness of the ADF. New expenditure initiatives will focus on command,

control and communications, intelligence, surveillance, control of the air–sea gap, strategic strike, mobility, supply and support, and the recruitment and retention of skilled personnel.

The Army will be reshaped in accordance with another Government initiative called *Restructuring the Australian Army*. This plan intends to make the Army more responsive, more mobile, better trained and better equipped to handle a wide range of military contingencies — from the defence of Australia to offshore operations.

Defence programs

The objectives and functions of the eight programs identified above are described below.

Forces executive

The objective of this program is to provide for the higher command and control of the ADF, and to provide corporate support to joint service units and elements within the program.

The program supports the Chief of the Defence Force (CDF) in his role as the Commander of the ADF, and the principal military adviser to Government. It seeks to enhance ADF corporate planning and to facilitate better command and control, information management and logistic arrangements for joint and combined operations. The program develops guidance for planning to develop the capability of the ADF, options for investment in capability, concomitant military and personnel policies and for management of corporate communications.

Navy

The objective of the Royal Australian Navy is to provide maritime forces capable of effective maritime operations in the pursuit of Australia's security interests, using both regular and reserve forces and expanding in a timely manner against warning of more substantial conflict.

The Navy provides forces for maritime operations, including patrol and response, interdiction and strike, and peacetime activities. The total force includes both regular and reserve personnel who operate surface ships, submarines and rotary wing aircraft in Australia's maritime environment. They are supported from a number of operational, training and support bases around the country, but principally in Sydney, Darwin and Perth.

Army

The objective of the Army is to provide land forces capable of conducting effective land operations in the pursuit of Australia's security interests, using both regular and reserve forces, and expanding in a timely manner in response to warning of more substantial conflict.

Australia's strategic environment and geography dictate the need for highly mobile land forces capable of rapid deployment across considerable distances and able to conduct protracted and dispersed operations in harsh terrain where the existing infrastructure and resources are sparse. Army comprises regular, reserve and civilian employees and is capable of undertaking operations in concert with the other two services or with overseas forces.

Air Force

The objective of the RAAF is to provide air forces capable of conducting effective air operations in pursuit of Australia's security interests using both regular and reserve forces, and capable of expanding in a timely manner against warning of a more substantial conflict.

Air Power plays a major role in surveillance and intelligence gathering in Australia's sea and air approaches, denying those approaches to an adversary and defeating incursions into Australia's territory. The RAAF emphasises joint operations with Army and Navy, contributing to enhanced regional security and supporting the civilian community.

Strategy and intelligence

The objective of the Strategy and Intelligence Program is to advise the Government on strategic policy, the management of international defence relationships and the development of defence capabilities. It also provides intelligence, especially on strategic and military issues, to Defence and other parts of the Government.

The Strategy and Intelligence Program guides and undertakes activities which are central to Australia's defence policy and international defence relationships and interests. These include coordination of medium and long term defence planning; analysis of force structure and capability; development of the new major capital equipment program; collection, assessment and distribution of intelligence information relevant to Australia's defence; and

support of defence cooperation activities consistent with the Government's defence policy.

Acquisition

The objective of the Acquisition Program is to realise the Government's priorities for the development of Australian defence capabilities through timely acquisition, and introduction into service, of capital equipment and systems that meet endorsed operational requirements, achieve value for money and are supportable; and to develop policies to enhance the capability of Australian Industry in support of defence self-reliance.

Activity is continuing on a program of major defence acquisitions including some 175 approved projects at a cost of more than \$34b.

Budget and management

The objective of the program is, through the development of portfolio management policies and the provision of corporate services, to support the achievement of the Government's defence objectives and the Defence Mission and to meet the performance requirements and needs of clients.

The Budget and Management Program develops policy on, and provides corporate services in, resource and personnel management; program evaluation and management audit; facilities and property management; physical, personnel, computing and project security; ministerial support and parliamentary liaison; ADF superannuation; information management; and legal services.

Science and technology

This program is the research and development arm of the Department of Defence, and is the second largest R&D organisation in Australia. The role of the Defence Science and Technology Organisation (DSTO) is to give advice that is professional, impartial and informed on the application of science and technology that is best suited to Australia's defence and security needs.

The Science and Technology Program provides the core of Australia's skills in defence research and its applications. There are four principal supporting objectives to position Australia to exploit future developments in technology which show promise for defence application; to

ensure that Australia is an informed buyer of equipment; to develop new capabilities where Australia's circumstances require this; and to support existing capabilities by increasing operational performance and reducing the costs of ownership.

Resources

Budget and expenditure

The 1996–97 Defence budget of \$10,027m will enable Defence to maintain its capital investment programs, exercises, deployments and training activities.

The Defence share of GDP for 1996–97 is estimated to be 1.9%. Defence outlays are estimated to be 7.7% of 1996–97 Commonwealth outlays, compared with an estimated 2.0% of GDP and 8.1% of Commonwealth outlays in 1995–96.

The proportion of Defence expenditure spent in Australia continues at a high level, reflecting local industry involvement and increased self-reliance. It is estimated that some 87% of total Defence expenditure will be spent in Australia during 1996–97, including over 54% of capital equipment expenditure. This compares with the 1995–96 actual achievement of 87% of total Defence Budget outlays and 59% of major capital equipment expenditure.

Table 4.1 shows the actual outlay by each program of the Department of Defence in 1995–96.

Program	Outlay	
	\$	%
Forces executive	619 218	6.2
Navy	1 700 635	17.0
Army	2 306 974	23.0
Air Force	1 875 402	18.7
Strategy and intelligence	211 482	2.1
Acquisition	2 232 624	23.0
Budget and management	829 106	8.3
Science and technology	235 169	2.3
Total	10 010 610	100.0

Source: Department of Defence.

Personnel numbers

Although the Defence Organisation has its policy and administrative centre in Canberra, most of its personnel are located in some 600 units and establishments throughout Australia.

The ADF has some 58,000 Regular personnel and 28,000 Reserves, while the Department of Defence has some 20,000 civilians.

Of the civilian employees in the Defence Organisation, some 12,000 work directly for the ADF, some 2,500 are in the Defence Science and Technology Organisation, over 1,100 are in regional offices, and some 4,800 are in the central office.

Women represent 12.9% of the ADF. Some 90% of ADF positions are now available to women.

Table 4.2 shows details of Defence personnel.

4.2 DEFENCE SERVICE AND CIVILIAN PERSONNEL — 30 June 1996

	Males		Females	
	no.	%	no.	%
NAVY				
Trained Force				
Officers	1 967	13.7	310	2.1
Other ranks	8 691	60.3	1 434	10.0
Training force				
Officers	539	3.7	217	1.5
Other ranks	1 035	7.2	211	1.5
Apprentices	—	—	—	—
Total	12 232	84.9	2 172	15.1
ARMY				
Trained Force				
Officers	3 844	14.8	509	1.9
Other ranks	17 544	67.6	1 888	7.3
Training force				
Officers	604	2.3	135	0.5
Other ranks	1 233	4.8	207	0.8
Apprentices	—	—	—	—
Total	23 225	89.5	2 739	10.5
AIR FORCE				
Trained Force				
Officers	2 822	16.4	436	2.5
Other ranks	10 653	61.9	2 123	12.4
Training force				
Officers	576	3.3	104	0.6
Other ranks	374	2.2	124	0.7
Apprentices	—	—	—	—
Total	14 425	83.8	2 787	16.2
AUSTRALIAN DEFENCE FORCE				
Trained Force				
Officers	8 633	15.0	1 255	2.2
Other ranks	36 888	64.0	5 445	9.5
Training force				
Officers	1 719	3.0	456	0.8
Other ranks	2 642	4.6	542	0.9
Apprentices	—	—	—	—
Total	49 882	86.6	7 698	13.4
CIVILIANS				
Senior Executive Staff	95	0.5	9	—
Other Staff	13 799	67.7	6 469	31.8
Total	13 894	68.2	6 478	31.8
RESERVES				
Navy	1 282	4.5	223	0.9
Army	21 036	73.8	4 354	15.2
Air Force	1 347	4.7	266	0.9
Total	23 665	83.0	4 843	17.0

Source: Department of Defence.

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Department of Defence, *Strategic Review 1993*. A key government planning document released in its unclassified version in February 1994. It marks the first major step in the adaptation of our defence and strategic policies to the major changes now underway in the regional and global security environment following the end of the Cold War.

Department of Defence, *The Defence Corporate Plan*. An annual document providing guidance to programs for program planning.

Department of Defence, *Portfolio Budget Statements 1996–97*. A Budget related paper which provides details of estimated outlays for Defence programs and forecasts performance towards meeting specified outcomes.

Introduction	73
Population structure	73
Introduction	73
Population size	73
Growth	75
Distribution	76
Age and sex of the population	79
Births, deaths and marriages	81
Households and families	82
Marriages	82
De facto marriages	83
Divorce	84
Births	85
Deaths	86
Australia's cultures	88
The Aboriginal and Torres Strait Islander population	88
Migration	91
Country of origin	94
Citizenship	94
Religion	96
Languages	98
Bibliography	100

Introduction

Population statistics are not themselves indicators of well-being, whether of individuals, groups or the population as a whole. However, they underpin the discussion of a wide range of issues relating to the population, including immigration, multiculturalism, ageing and population sustainability.

The changing nature and distribution of Australia's population has implications for service provision and delivery in areas such as health, education, housing and the labour market. Population trends underlie many social changes and assist in the planning of all areas of social and economic policy.

Population structure

Introduction

Changes in the composition and structure of the population underpin changes in society, the environment and the economy.

This section examines the structure of the population: its size, age profile and distribution. There is an emphasis on changes in the structure over time, especially changes in the growth rate of the population.

For example, with baby boomers (people born in the baby boom following World War II) starting to reach retirement age, recent projections of the Australian population show the number of people aged 65 years or over growing by 86% between 1995 and 2021. On current trends, it is also projected that by 2021 Sydney will have a population of around 4.5 million compared with 3.8 million in 1995.

Population size

Until 1961 population estimates in Australia excluded full blooded Aboriginal people. The non-Indigenous population grew very rapidly last century. In the first half of the century, it grew from 6,000 to 400,000. In the second half it increased 900%, to 3.8 million by 1900. This growth was fuelled by a very high level of immigration and a very high fertility rate.

In the first half of the twentieth century, the growth rate slowed significantly, the population growing 120% in 50 years. In the second half of the century, the population growth rate has

increased. High levels of immigration in the period following World War II and a 20 year baby boom have meant that the growth in the 50 years is expected to be around 142%.

The population growth rates in the first half of the twenty-first century are expected to be much slower than any experienced since European settlement. The population is projected to grow by 37% in 50 years.

The ABS publishes projections of the population of Australia and the States and Territories to 2051. It publishes four different sets of projections based on different assumptions. Series A, which assumes a medium level of fertility, low level of overseas migration and a medium level of interstate migration, has been used throughout this chapter.

Graph 5.1 sets out the growth in Australia's non-Indigenous population since 1788, and the projected population numbers to the year 2048.

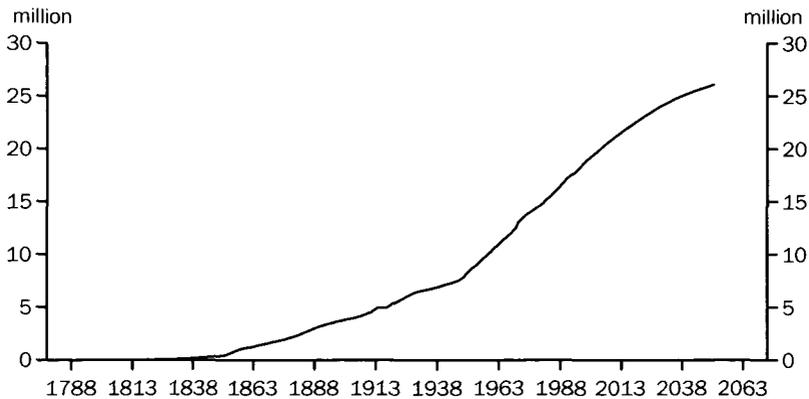
The growth in population has not been evenly distributed across the States and Territories. At Federation in 1901, South Australia had nearly twice the population of Western Australia, which in turn had only marginally more people than Tasmania. However, in 1982 Western Australia surpassed South Australia as the fourth most populous State. In 1995 Western Australia had 3.7 times as many people as Tasmania.

Queensland is projected to replace Victoria as the second largest State by 2026, and the Australian Capital Territory is projected to grow to be larger than Tasmania by 2044.

Australian women, on average, have less than two children, which is expected to continue for the near future. If there were no net migration, Australia's population would peak at 20.7 million in 2033. On the assumption of net overseas migration of 70,000 a year, population growth rates are projected to slow to the extent that the populations of Tasmania, South Australia and Victoria would peak within the next 50 years.

On those assumptions, Tasmania's population is projected to peak first, around the year 2020, with a population of about 500,000, 6% higher than the 1995 population. The South Australian population is projected to peak in 2033 at 1.6 million, 12% larger than the population in 1995. The Victorian population would peak

5.1 POPULATION OF AUSTRALIA, Actual and Projected, 1788–2051



Note: Excludes full blooded Aboriginal people before 1961.

Source: *Australian Demographic Trends* (3102.0).

around 2038 when it would reach 5.3 million, a level 18% higher than its 1995 level.

Although low fertility and the ageing of the population are also expected to reduce the growth rates of Queensland and Western

Australia, the populations of these States are projected to grow by 94% and 77% respectively by 2045, when Queensland is projected to be home to 6.2 million people.

These projections are summarised in table 5.2.

5.2 POPULATION, Australia's States and Territories — 1905–2045(a)(b)

Year	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT '000	ACT '000	Aust. '000
1905	1 470	1 205	529	359	248	183	4	—	3 999
1915	1 889	1 432	696	445	321	195	4	3	4 986
1925	2 293	1 671	841	539	373	214	4	5	5 939
1935	2 645	1 837	968	585	447	229	5	10	6 726
1945	2 918	2 007	1 077	627	488	249	11	15	7 392
1955	3 491	2 517	1 350	820	657	314	18	33	9 200
1965	4 175	3 164	1 645	1 068	826	368	54	88	11 388
1975	4 932	3 787	2 051	1 265	1 155	410	93	199	13 893
1985	5 465	4 120	2 571	1 371	1 419	443	149	251	15 788
1995	6 115	4 502	3 277	1 474	1 732	473	174	304	18 054
2005	6 751	4 830	3 959	1 547	2 028	490	202	345	20 154
2015	7 263	5 051	4 578	1 600	2 303	499	226	385	21 909
2025	7 717	5 209	5 167	1 636	2 560	500	248	419	23 459
2035	8 084	5 291	5 705	1 645	2 786	487	267	448	24 716
2045	8 340	5 278	6 176	1 625	2 983	463	284	472	25 623

(a) There is a break in series before 1961 (see p1 1966 Demog bulletin) and before 1971 (ERP). All data up to 1995 is at 31 December. All projections are at 30 June. (b) Until 1955, data exclude full-blooded Aboriginal people.

Source: *Australian Demographic Trends* (3101.0).

Growth

Population growth results from natural increase (the difference between births and deaths) and net overseas migration (the difference between immigration and emigration).

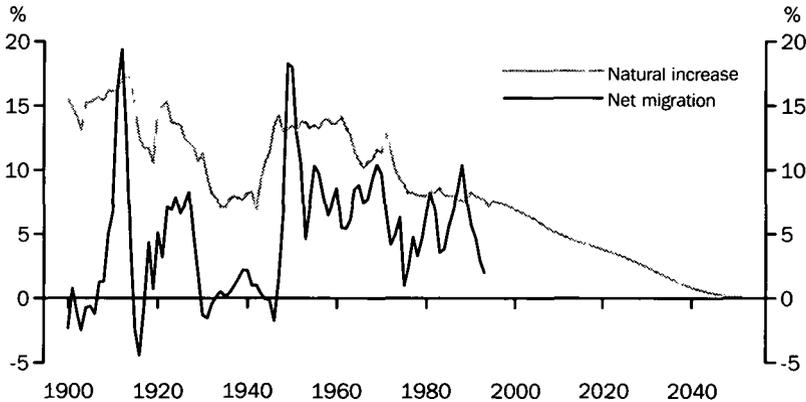
Australia's population grew from 3.8 million at the turn of the century to 18.1 million in June 1995. The second half of the century has seen higher rates of growth than the first, due to strong natural increase, with the post World War II baby boom and falling death rates, and increased net overseas migration. Natural increase has been the main source of the

growth since the turn of the century, contributing two-thirds of the total increase between 1901 and 1994.

Net overseas migration, while a significant source of growth, is much more volatile, fluctuating under the influence of government policy as well as political, economic and social conditions in Australia and the rest of the world.

The growth rates due to natural increase and net migration from 1900 to the present, and projections to the year 2051, are shown in graph 5.3.

5.3 COMPONENTS OF POPULATION GROWTH 1900–2051, Australia



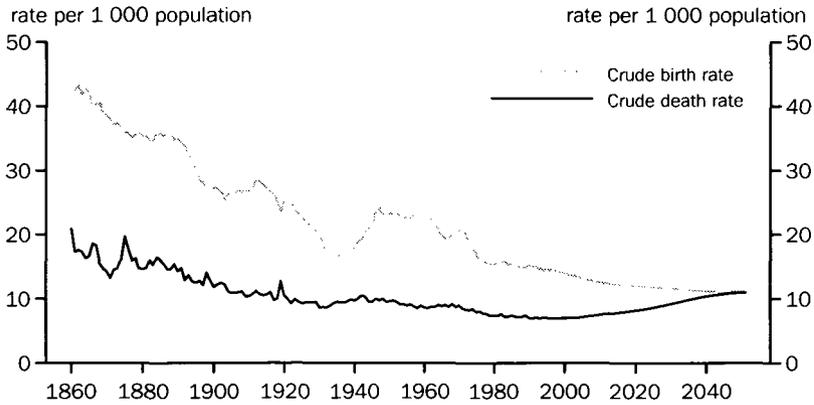
Source: *Australian Demographic Trends* (3102.0).

In the 1860s, the average annual rate of natural increase was 24 per 1,000 population. It fell rapidly over the next 80 years, and by the mid 1930s the rate was 7.1 per 1,000. In the post war years the baby boom, and the immigration of many young people who then had children in Australia, increased Australia's birth rate and the rate of natural increase. Natural increase was over 13 per 1,000 population every year from 1946 to 1961.

Since 1961 falling fertility has led to a fall in the rate of natural increase, which is projected to fall below 7 per 1,000 for the first time shortly.

Since 1860, the crude death rate has fallen from 21 deaths per 1,000 population to 7 in 1994. Improvements in medical technology and healthier lifestyles are projected to continue, increasing people's life expectancy. Despite this, the ageing of the population is projected to lead to an increase in the crude death rate. The rate of natural increase is projected to fall to zero around the middle of next century. If there were no net migration to boost the population of childbearing age, natural increase would be negative by 2033. Crude birth and death rates from 1860 to the present, and projections to the year 2051, are shown in graph 5.4.

5.4 COMPONENTS OF NATURAL INCREASE



Source: *Australian Demographic Trends* (3102.0).

Distribution

Most of Australia's population is concentrated in two widely separated coastal regions. By far the largest of these, in terms of area and population, lies in the south-east and east. The smaller of the two regions is in the south-west of the continent. In both coastal regions the population is concentrated into urban centres, particularly the State/Territory capital cities. Half the area of the continent contains only 0.3% of the population, and the most densely populated 1% of the continent contains 84% of the population. The distribution of Australia's population is shown in map 5.5.

Between 1986 and 1993 Australia experienced an average population growth of 1.4% a year. However, the statistical local areas (SLAs) which experienced population growth covered less than half the area of the country.

There was very rapid growth along the east coast. Almost all SLAs there experienced population growth. Most SLAs along the New South Wales and southern Queensland coasts increased their population density by more than 1 person per km².

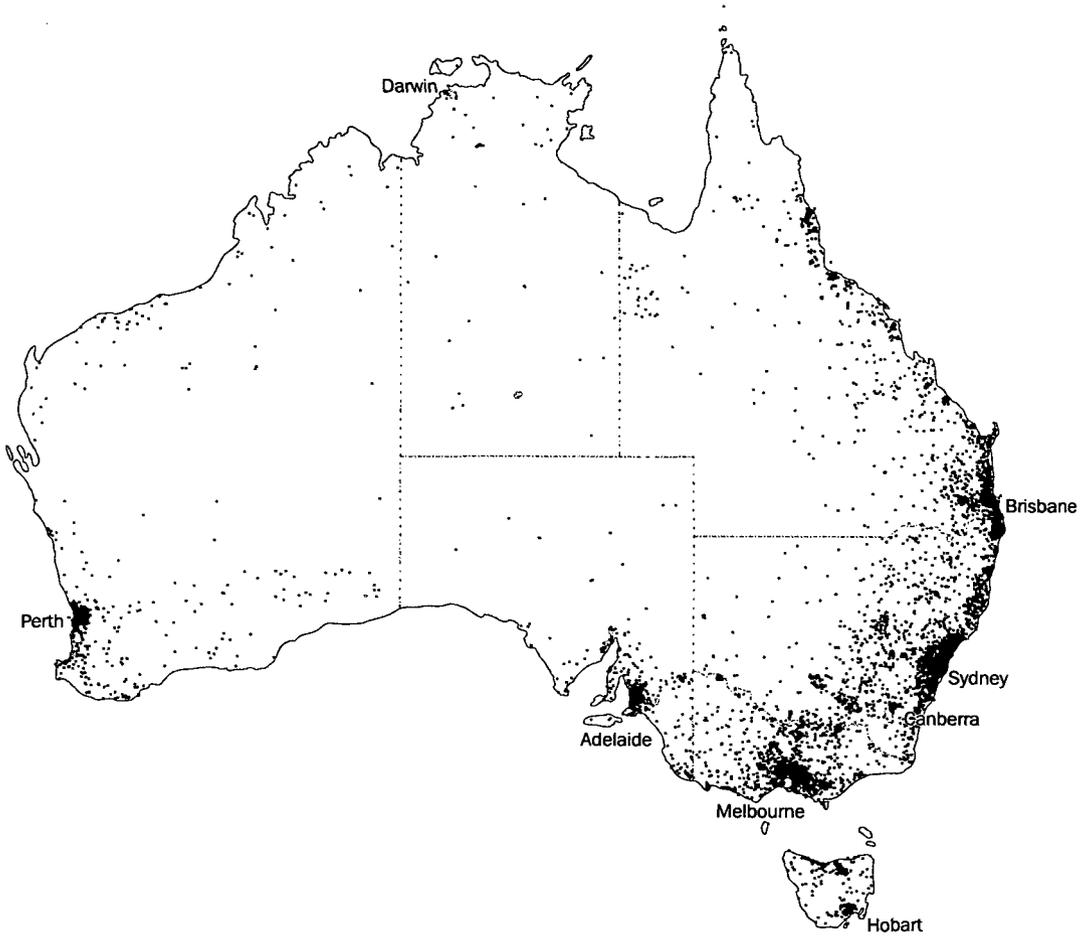
The areas with the most significant population increase were those on the outskirts of capital cities. These areas grew very rapidly over the period. As they were absorbed into the growing cities their population density changed from a low rural level to a much higher urban level.

There were also areas with significant population decline. The inner city areas experienced population decline primarily because residential areas have been redeveloped for commercial uses. In some areas this decline has been slowed, or even reversed, by the influx of young people.

Surrounding the inner city areas are suburbs which developed in the post war period. These areas have declining population, primarily because most children in their twenties leave their parents' home (though later than 15 years ago).

There are also areas outside the capital cities with rapid population decline as local industries restructure. A notable example is Whyalla in South Australia. These changes in the distribution of the population are illustrated in map 5.6.

5.5 POPULATION(a) DISTRIBUTION, AUSTRALIA — 1993

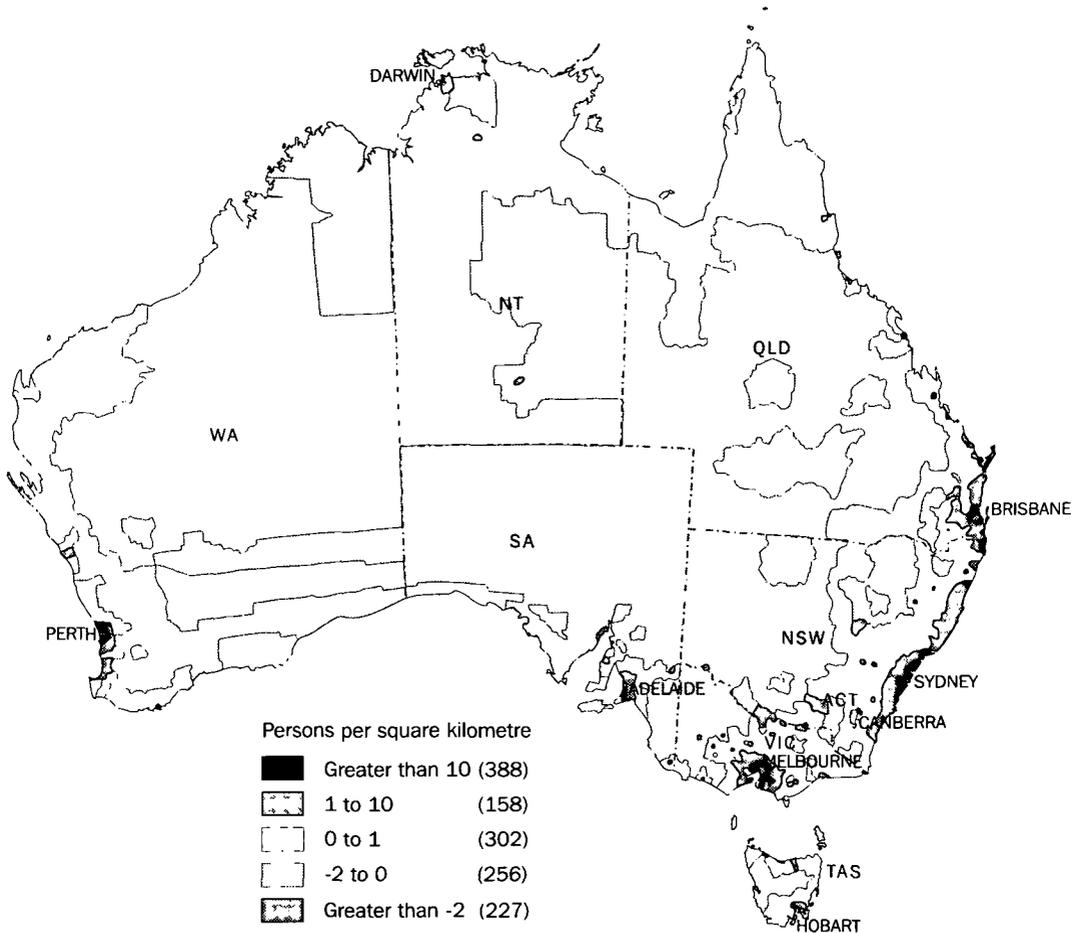


Based on Statistical Local Area boundaries. 1 dot = 1 000 people.

(a) Estimated resident population.

Source: ABS 1993 (3227.0).

5.6 CHANGE IN POPULATION(a) DENSITY — 1988-93



Based on Statistical Local Area boundaries.

(a) Estimated resident population.

Source: ABS 1993 (3227.0)

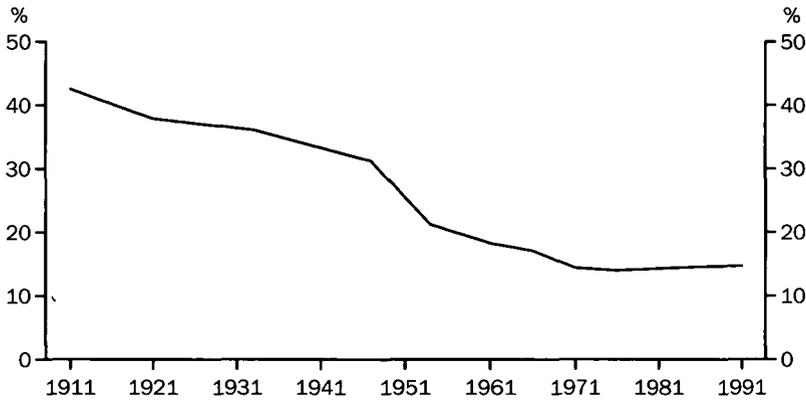
In 1911, 43% of Australians lived in rural areas. Since then this proportion fell steadily. By 1976, 14% of the population lived in rural areas. However, since 1976, this trend has been reversed, and the proportion of people living in rural areas has increased slightly (see graph 5.7). This is mainly due to people moving to rural areas surrounding the cities, especially Melbourne and Sydney, but still working, shopping etc in the city.

The main factor changing the distribution of Australia's population is internal migration. In 1994-95, Queensland's population grew by

about 78,000 people. About 58% of this growth was due to internal migration. However, Tasmania's population grew by only 400 people, as the natural increase in the State was largely offset by the net movement to the other States (see table 5.8).

There are large flows of people from Sydney to the rest of New South Wales and to other States. Migration from Sydney is largely balanced by migration to Sydney, though there are variations from year to year, depending largely on the size of net overseas migration. The growth of Sydney is primarily due to births of people living there.

5.7 RURAL POPULATION



Source: Population census data.

5.8 PATTERN OF INTERNAL AND OVERSEAS MIGRATION — 1994–95

State/ Territory	Internal migration			Overseas migration			Total net migration '000	Natural increase '000	Total growth '000
	Arrivals '000	Departures '000	Net migration '000	Arrivals '000	Departures '000	Net migration '000			
NSW	87 051	102 030	-14 979	38 056	10 123	27 933	12 954	43 739	56 693
Vic.	53 445	78 393	-24 948	19 968	5 598	14 370	-10 578	31 368	20 790
Qld	114 873	70 099	44 774	13 179	5 246	7 933	52 707	25 453	78 160
SA	24 704	31 233	-6 529	3 782	1 328	2 454	-4 075	8 022	3 947
WA	31 737	26 815	4 922	10 379	3 585	6 794	11 716	14 780	26 496
Tas.	10 142	12 857	-2 715	552	368	184	-2 531	2 897	366
NT	18 002	18 350	-348	496	270	226	-122	2 686	2 564
ACT	19 079	19 256	-177	1 001	424	577	400	3 173	3 573
Aust.	359 033	359 033	0	87 428	26 948	60 480	60 480	131 954	192 434

Source: Australian Demographic Statistics (3101.0).

Of the 87,000 permanent and long term overseas arrivals to Australia in 1994–95, 44% intended to settle in New South Wales.

However, due to high levels of internal migration, both among previous immigrants and among the Australian born population, total net migration to New South Wales was only 13,000.

Age and sex of the population

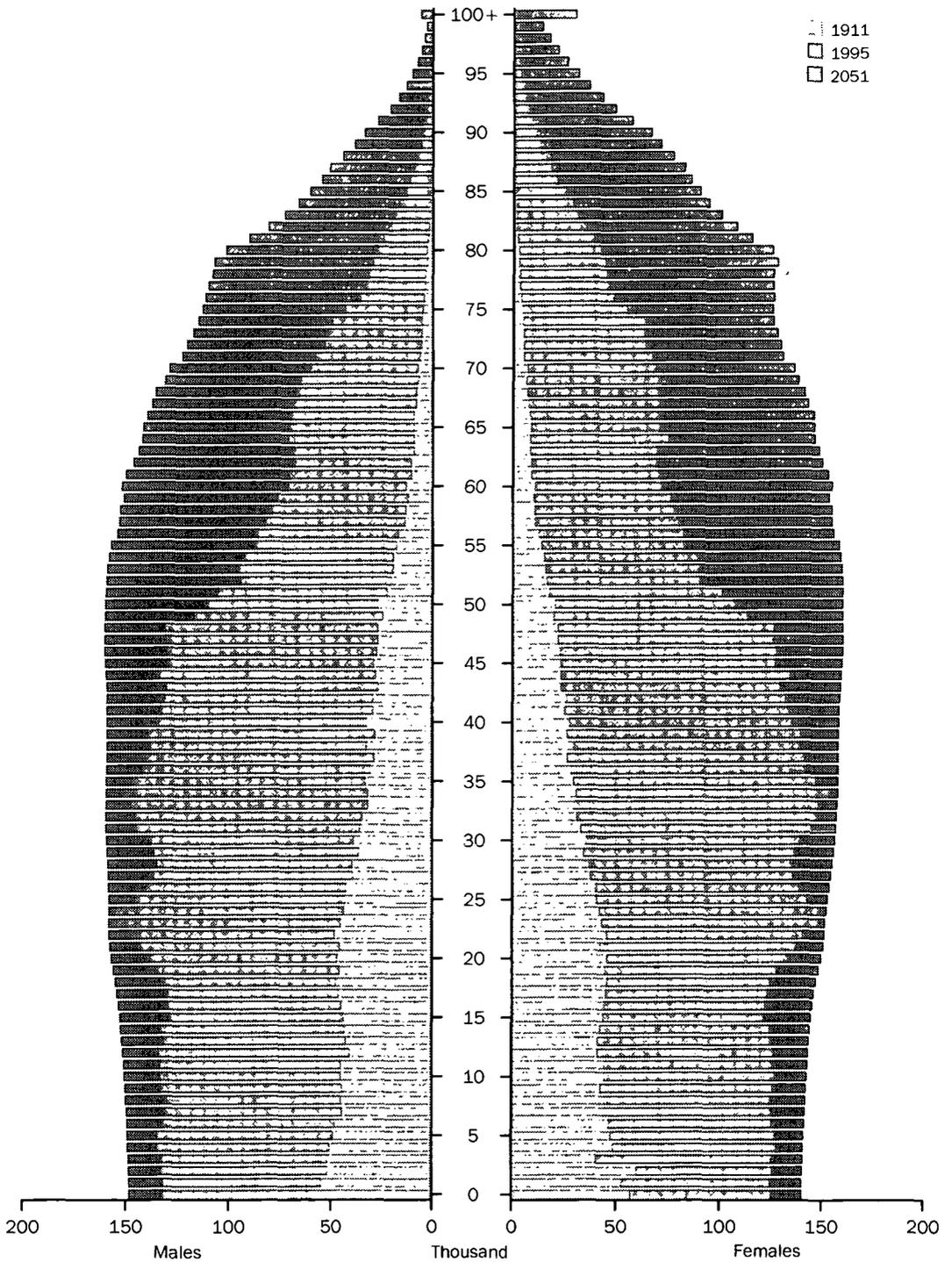
Since 1911 the population has grown significantly, but it has also aged. With Australians having smaller families, there has been a fall in the proportion of children.

In 1911, about a quarter of the population were aged under 15. By 1995, this had fallen to

around 18% and by 2051, this is projected to fall to around 14%.

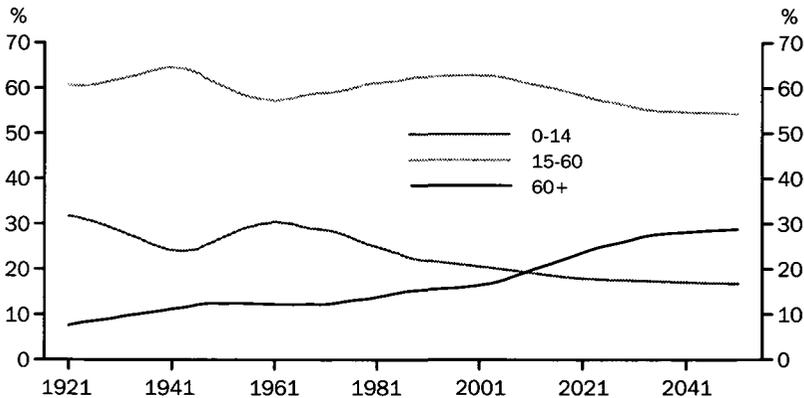
With improved health, life expectancy has increased, and so the proportion of the population over 60 has increased markedly. In 1911, 6% of the population were aged 60 or over. By 1995 this had increased to 16% and it is projected to reach around 28% by the middle of next century. The proportion of the population aged 85 and over is projected to increase from 1.0% in 1995 to 4.4% in 2051 (from 190,000 to 1.2 million people). These features are illustrated in graphs 5.9 and 5.10.

5.9 PROFILE OF AUSTRALIA'S POPULATION, 1911-2051



Source: Australian Demography (A CBS&S publication); Australian Demographic Statistics (3101.0); Projections of the Populations of Australia, States and Territories, 1993 to 2041 (3222.0).

5.10 PROPORTION OF POPULATION IN AGE GROUPS



Source: Projections of the populations of Australian States and Territories 1995-2051 (3222.0)

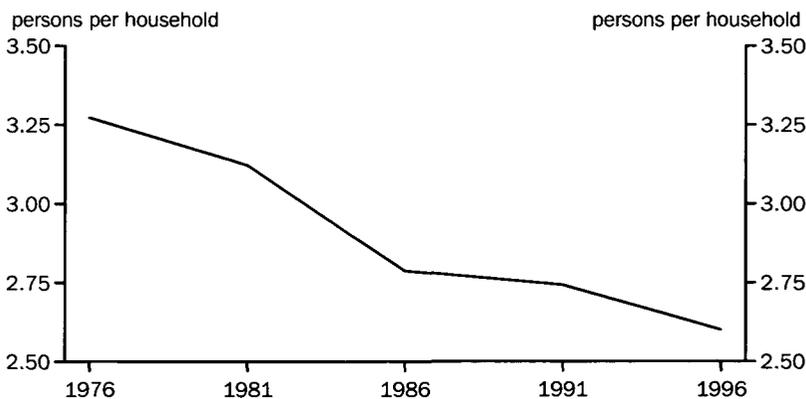
Births, deaths and marriages

This section explores the issues of family formation and dissolution. It examines the structure of Australian families and the factors that change them, in particular births, deaths, marriages and divorces.

Families are central elements of society. In 1995 the Parliamentary paper *An Agenda for Families* stated 'Families are the basic building blocks of our national life. They provide care like no

government or other agency ever can. They are the most important providers of education, health, welfare and personal development. Families nourish our potential, and nurture our individual and collective aspirations. They shape our character and pass on our values. They create a sense of belonging and continuity. They tell us who we are and what we might be. They teach us how to live with one another.'

5.11 AVERAGE HOUSEHOLD SIZE



Source: 2443.0; 3101.0; Unpublished ABS data.

Households and families

Over the past 20 years the average size of households has fallen dramatically (see graph 5.11). The number of one person households has grown, due largely to the ageing of the population, as has the number of one parent families. Couples having smaller families have also contributed to the fall in household size.

In 1976, 60% of families were couples with children. By 1996, this had fallen to 51% (table 5.12). Part of this change can be attributed to the increase in one parent families

with dependent children, but most of the change is due to the increase in the proportion of couple-only families. People are having children later in life, and are living longer. Therefore they are spending more time living in couple-only families, both before they have children and after their children have left home.

However, children are leaving home later. In 1981, 34% of children aged 20–24 lived with their parents. By 1991 this had increased to 40%. This increase has, to some extent, countered the fall in the couples with non-dependent children only.

5.12 FAMILY TYPE — 1976–96

Family type	1976	1981	1986	1991	1996
	%	%	%	%	%
One parent family with dependent children	6.5	8.6	7.8	8.8	9.4
Couple only	28.0	28.7	30.3	31.4	33.9
Couple with dependent children	48.4	46.6	44.8	44.4	40.8
Couple with non-dependent children only	11.1	10.0	10.9	9.5	9.9
Other families	5.9	6.0	6.2	5.9	6.1
Total	100.0	100.0	100.0	100.0	100.0

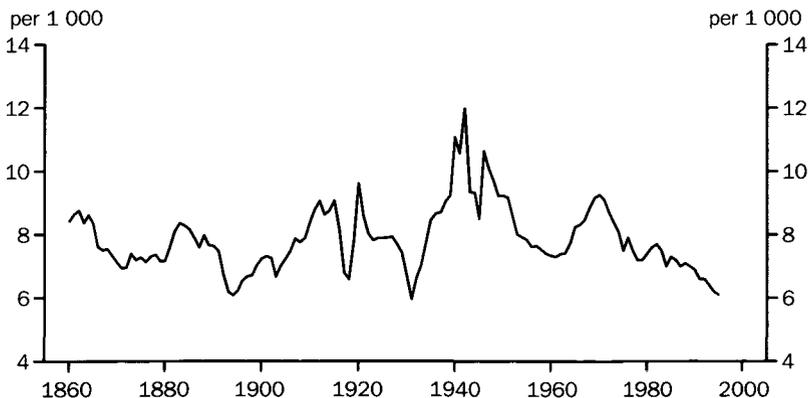
Source: 1976–91: *Australian Social Trends* (4102.0), 1994; 1996: *Labour Force Australia* (6203.0).

Marriages

The crude marriage rate (the number of registered marriages or weddings per 1,000 population) in Australia has fluctuated since it was first recorded in the 1860s. Broadly, the crude marriage rate has followed the pattern of prevailing economic and social conditions. It

has fallen in times of depression or recession, e.g. in the 1890s and 1930s, and increased in times of prosperity such as the gold rush in the 1860s and the immediate post-war years of the early 1920s and late 1940s. Marriage rates have also generally increased during times of war.

5.13 CRUDE MARRIAGE RATES



Source: *Australian Social Trends* (4102.0).

The highest recorded crude marriage rate was 12 per 1,000 of the population in 1942, while the lowest was 6 per 1,000 of the population in 1931.

Since 1970 the crude marriage rate has declined, although by 1995 it had not quite reached the record low of 1931. This decline in the marriage rate can mostly be attributed to changes in attitudes to marriage and living arrangements that have occurred since 1970.

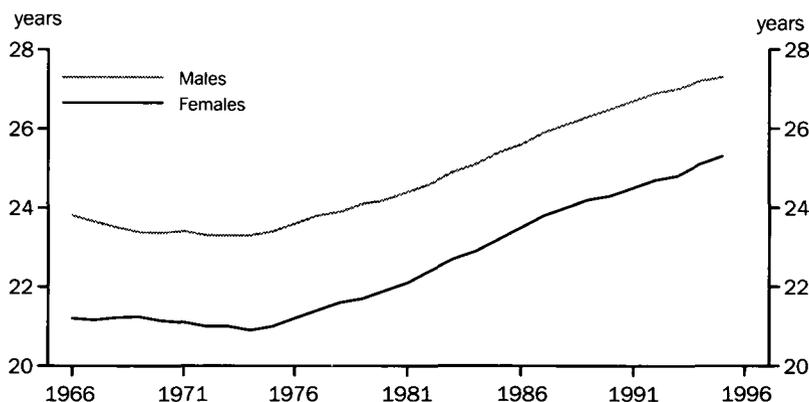
The fluctuations in the crude marriage rate between 1860 and 1995 are shown in graph 5.13.

Between 1975 and 1995, the median age of brides entering their first marriage increased

from 21.0 to 25.3 years, while for grooms the median age at first marriage increased from 23.4 years to 27.3 (graph 5.14). Part of this increase can be attributed to the increasing incidence of de facto relationships. Another factor is that young people are staying in education longer.

Traditionally, grooms have been older than their brides. However the difference between the median ages at marriage is slowly narrowing. In 1993 the difference between the median ages of brides and grooms was 2.4 years, compared to 2.7 years in 1966 and 3.1 years in the period 1921–25.

5.14 MEDIAN AGE AT FIRST MARRIAGE



Source: Australian Social Trends 1995 (4102.0)

In 73% of all marriages in 1995 the groom was older than the bride. However, there is a strong tendency for couples to be about the same age, with 38% of couples being within two years of each other, and only 9% being more than 10 years apart in age (graph 5.15). This tendency is much stronger for first marriages than for remarriages. In 45% of first marriages, the couple are within two years of each other. For remarriages the proportion is only 23%.

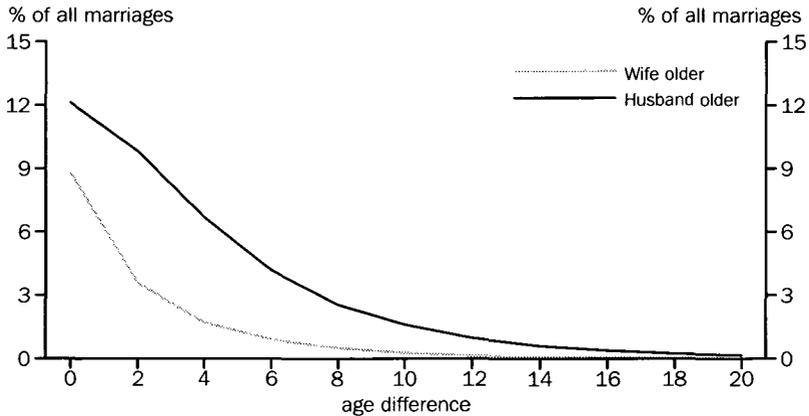
De facto marriages

Most of the decrease in the crude marriage rate since 1970 can be attributed to the increasing incidence of de facto marriages. In 1992, 8% of all couples were in de facto marriages. The proportion was much higher among younger

age groups; 40% of 20–24 year olds in a couple were in a de facto relationship (see graph 5.16).

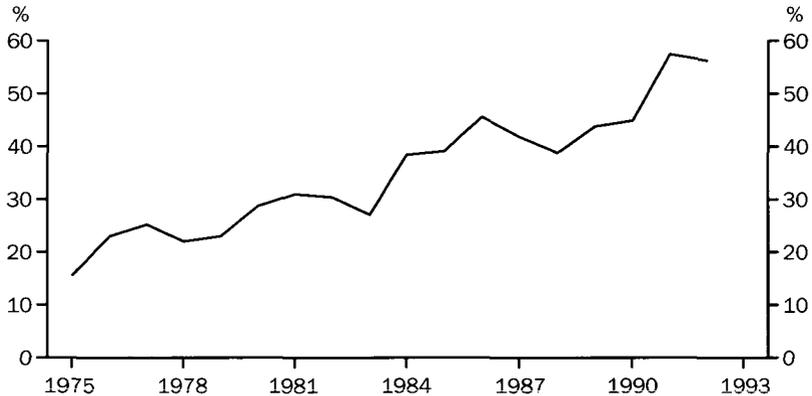
De facto marriages take many forms. They may be a prelude to a registered marriage or an alternative. Over half (56%) of the couples who married in 1992 lived together before their marriage. With 27% of babies born outside a registered marriage in 1995 (graph 5.17), many people seem to be choosing to form long term relationships and have children with no intention of marrying. There are other relationships that have very little permanence or stability, which are also classified as de facto relationships.

5.15 AGE DIFFERENCE BETWEEN MARRYING COUPLES — 1995



Source: Unpublished ABS data.

5.16 COUPLES COHABITING BEFORE MARRIAGE



Source: *Australia's families — Selected findings from the Survey of Families in Australia (4418.0)*.

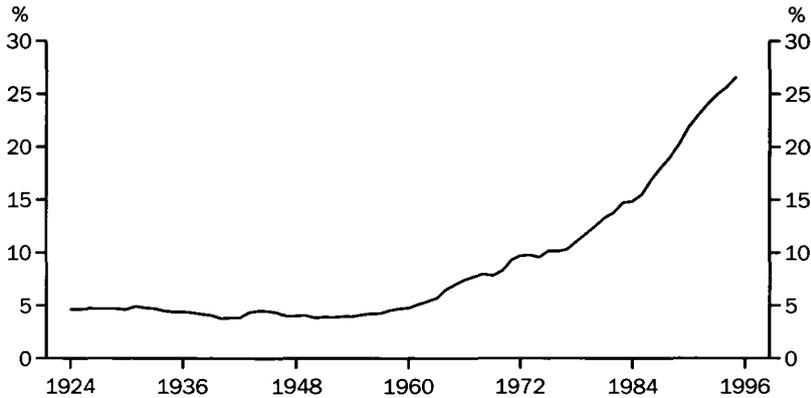
Divorce

The *Family Law Act 1975* allows only one ground for divorce: irremediable breakdown of the marriage, measured as the separation of the spouses for at least one year. The implementation of this law resulted in a large increase in the divorce rate in 1976. The rate then declined until 1979 as the backlog of applications was cleared. Since then the crude divorce rate has fluctuated between 2.4 and 2.9 divorces per 1,000 population (see graph 5.18). The pattern of divorces per

1,000 married couples is very similar, although data are not available before 1981. In 1995 there were 12.3 divorces per 1,000 married couples. About 40% of first marriages end in divorce.

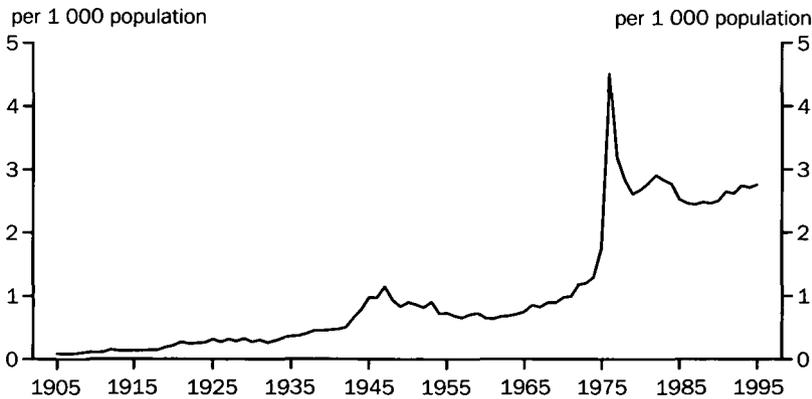
Couples are having children later in their marriage, and divorcing sooner. Therefore since 1975 the probability of divorce before the birth of the first child has increased, and the proportion of divorces involving children has decreased.

5.17 PROPORTION OF BIRTHS OUTSIDE MARRIAGE



Source: *Births, Australia* (3301.0).

5.18 CRUDE DIVORCE RATE



Source: *Australian Demographic Trends* (3102.0).

Births

In 1903, when the crude birth rate was lower than it had ever been before, the Royal Commission On the Decline in the Birth-rate and On the Mortality of Infants in New South Wales was appointed. It reported in 1904 and concluded that '...the cause or causes of the Decline of the Birth rate must be a force or forces over which the people themselves have control...'. In other words, couples were limiting the size of their families.

At the turn of the century there were 117 births per 1,000 women of child bearing age (15–44 years). This approximates a total fertility

rate of 3.5 babies per woman. By 1924 the total fertility rate was 3.0 and falling.

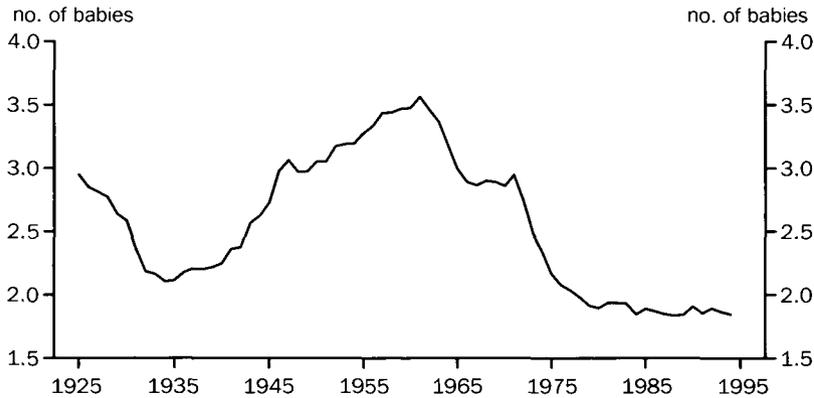
In 1934, in the middle of the Great Depression, the total fertility rate fell to 2.1 babies per woman. It then increased during the second half of the Depression, as women who had deferred childbearing in the early years of the Depression began to have children. Fertility increased through World War II and the 1950s, and peaked in 1961 when the total fertility rate reached 3.6 babies per woman. This period of high fertility is known as the baby boom (see graph 5.19).

After the 1961 peak, the total fertility rate fell rapidly, to 2.9 babies per woman by 1966. This fall can be attributed to the contraceptive pill becoming available and to changing social attitudes, in particular a change in people's perception of desired family size.

During the 1970s the total fertility rate dropped again, falling to below replacement level in 1976

where it has remained since. This fall was more marked than the fall in the early 1960s, but has not been attributed to further improvements in contraceptive methods. Rather it has been linked to the increasing participation of women in the labour force, coupled with changing attitudes to family size, standard of living and lifestyle choices.

5.19 TOTAL FERTILITY RATE



Source: Australian Demographic Trends (3102.0).

Women are starting childbearing later in life, and are having fewer children. In 1964, peak fertility was among 24 year old women, with 23% having babies. By 1994, peak fertility was among 29 year old women, but only 13% had babies.

In the last 30 years there has been a decrease in the proportion of births to teenage mothers, falling from 10% of all births in 1964 to 5% in 1994.

Primarily because fewer women are having large families, the proportion of women having babies after they turn 40 has fallen. In 1994, only 1.8% of babies had a mother over 40, compared with 3.8% in 1964. (See graph 5.20.)

Deaths

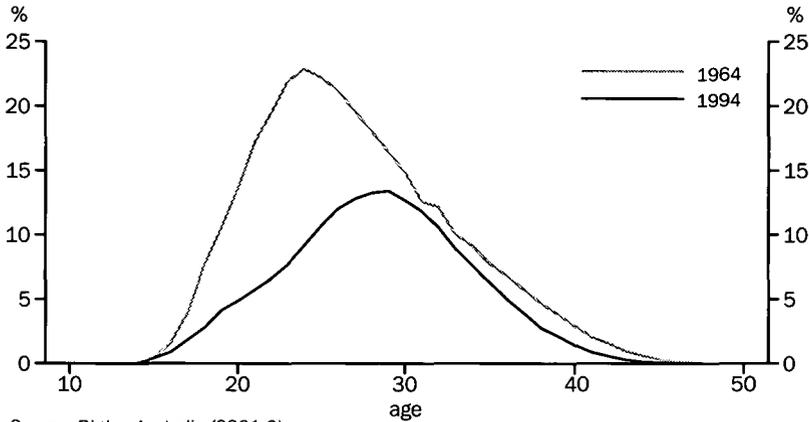
In the period 1901-10 the average life expectancy of a new-born boy was 55 years and that of a new-born girl 59 years. By 1995, a new-born boy had a life expectancy of 75 years and a new-born girl 81 years. This represented an increase of 20 years for boys and 22 years for

girls. Graph 5.21 shows the changes in life expectancy for males and females between 1905 and 1995.

The increase in life expectancy is mainly due to fewer deaths of young children, particularly in the first year of life (infant mortality). The high mortality rates among infants during the period 1901-10 (about 1 in 10 died in the first year of life) kept the average life expectancy at birth low. Children who survived these early years then had life expectancies nearer to those currently experienced. For example, the life expectancy of a five year old boy improved by 13 years between 1901-10 and 1995 compared to 20 years improvement for a new-born boy.

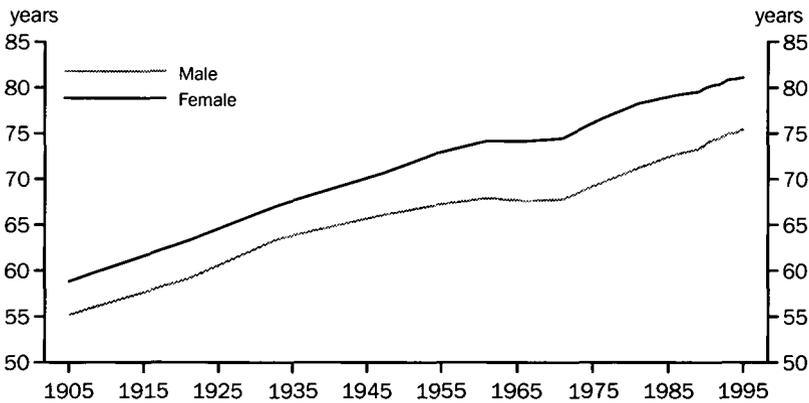
The reduction in mortality in the early part of this century is attributed to improvements in living conditions, such as better water supplies, sewage systems, food quality and health education. The continuing reduction in mortality in the latter half of the century is attributed to improving social conditions and advances in medical technology such as mass immunisation and antibiotics.

5.20 PROPORTION OF WOMEN HAVING BABIES



Source: Births, Australia (3301.0).

5.21 LIFE EXPECTANCY AT BIRTH



Source: Australian Social Trends 1995 (4102.0), Deaths Australia (3302.0).

The past two decades in particular have seen further increases in life expectancy. These increases are due in part to lower infant mortality, fewer deaths among young adults from motor vehicle accidents and fewer deaths among older men from heart disease. The reduction in the number of deaths from heart disease is related to behavioural changes, such as dietary improvements, reduced smoking and increased fitness.

Australians have an average life expectancy that compares well with that experienced in other

developed nations. Among the countries shown in table 5.22, the life expectancy at birth of Australian males and females (75 and 81 years respectively) was exceeded by that in France, Hong Kong, Japan and Sweden. Life expectancy in Australia was greater than that in Canada, Italy, New Zealand, the United Kingdom and the United States. Life expectancy in Australia was also greater than that experienced in developing nations.

5.22 LIFE EXPECTANCY AT BIRTH, Selected Countries

Country	year	Males years	Females years
Australia	1995	75.4	81.1
Canada	1985-87	73.0	79.8
China(a)	1990-95	66.7	70.4
France	1991	72.9	81.1
Hong Kong	1992	74.8	80.5
Indonesia(a)	1990-95	61.0	64.5
Italy	1989	73.5	80.0
Japan	1992	76.1	82.2
Korea (Republic of)	1989	66.9	75.0
Malaysia(a)	1990-95	68.7	73.0
New Zealand	1990-92	72.9	78.7
PNG(a)	1990-95	55.2	56.7
Singapore	1992	73.7	78.3
Sweden	1992	75.4	80.8
United Kingdom	1992	73.5	79.0
USA	1991	72.0	78.9

(a) Estimated by the Population Division of the United Nations.

Source: *United Nations Demographic Yearbook, 1993; Deaths, Australia (3302.0)*.

The standardised death rate removes the effect of different age structures from the crude death rate. Over the last 20 years, the standardised death rate in Australia has fallen from 10 to 7 deaths per 1,000 population (see table 5.23).

The Northern Territory has had the highest standardised (and crude) death rate in the country for the last two decades. This can largely be attributed to high death rates among the Aboriginal population. In 1994 the Indigenous population made up 27% of the Northern Territory population, but accounted for 48% of its deaths.

Of the other States, in 1994 only Tasmania had a standardised death rate outside the relatively narrow range of 6.3 to 6.8 deaths per 1,000 population. In 1974 Tasmania had a lower standardised death rate than New South Wales and Queensland. However, since 1974 Tasmania's death rate has not fallen as fast as the death rates in the rest of the country.

5.23 STANDARDISED DEATH RATES

State/Territory	1974			1984			1994		
	Males %	Females %	Persons %	Males %	Females %	Persons %	Males %	Females %	Persons %
NSW	14.2	8.6	10.7	10.7	6.3	8.2	8.8	5.2	6.8
Vic.	13.2	8.1	10.1	10.2	6.0	7.8	8.5	5.1	6.6
Qld	14.0	8.6	10.8	10.0	6.0	7.8	8.7	5.1	6.7
SA	13.1	7.5	9.7	10.0	5.7	7.5	8.8	5.0	6.7
WA	12.8	7.3	9.4	9.9	5.8	7.6	8.2	4.9	6.4
Tas.	14.0	8.5	10.6	11.3	6.8	8.8	10.0	5.7	7.6
NT	17.9	11.5	14.6	11.7	9.5	10.4	12.0	9.2	10.8
ACT	13.2	8.7	10.1	9.4	6.0	7.4	7.8	5.1	6.3
Aust.	13.7	8.2	10.4	10.3	6.1	7.9	8.7	5.2	6.7

Source: *Deaths, Australia (3302.0)*.

Australia's cultures

Australia has a rich cultural diversity. *Chapter 11, Culture and recreation* discusses the range of cultural activities in Australia.

At the 1991 Census 3.8 million people had been born overseas in one of over 200 countries. A further 3.3 million had one or both parents born overseas. There were 2.5 million people who spoke a language other than English at home. The 1996 Census will classify 282 major languages, including 170 Aboriginal and Torres Strait Islander languages, and 92 religious denominations.

The Aboriginal and Torres Strait Islander population

There are no accurate estimates of the population of Australia before European settlement. Many estimates were based on post-1788 observations of a population already reduced by introduced diseases and other factors. In 1930, the anthropologist Radcliffe-Brown postulated a minimum figure of 300,000. In 1980, L.R. Smith estimated the absolute minimum pre-1788 population at 315,000. Other estimates have put the figure at over 1 million, while recent archaeological finds suggest that a population of 750,000 could have been sustained.

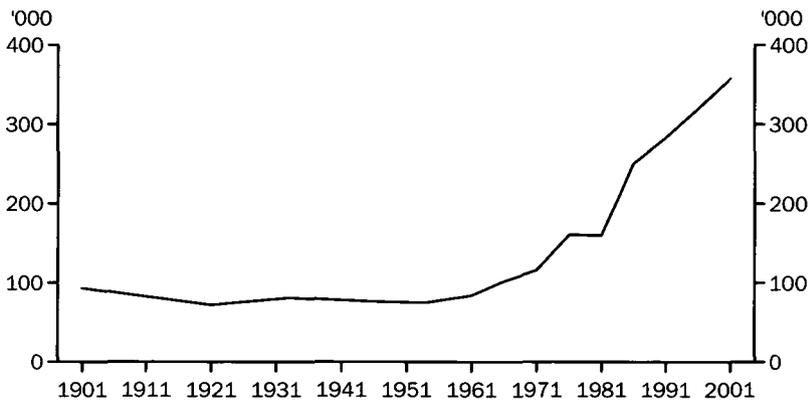
Whatever the size of the Indigenous population before European settlement, it declined dramatically under the impact of new diseases, repressive and often brutal treatment, dispossession, and social and cultural disruption and disintegration (*Year Book Australia, 1994*). The decline of the Indigenous population continued well into the twentieth century.

Poor quality data on births and deaths make it difficult to monitor the dynamics of the

Indigenous population, so that estimates of this population since 1991 are projections based primarily on data from the 1991 Census. On the basis of these projections, the 1997 Indigenous population will probably be about 327,000.

The estimated and projected Indigenous population between 1901 and 2001 is shown in graph 5.24.

5.24 AUSTRALIA'S INDIGENOUS POPULATION



Note: The 1981 Census is generally regarded as significantly under-reporting the Indigenous population.

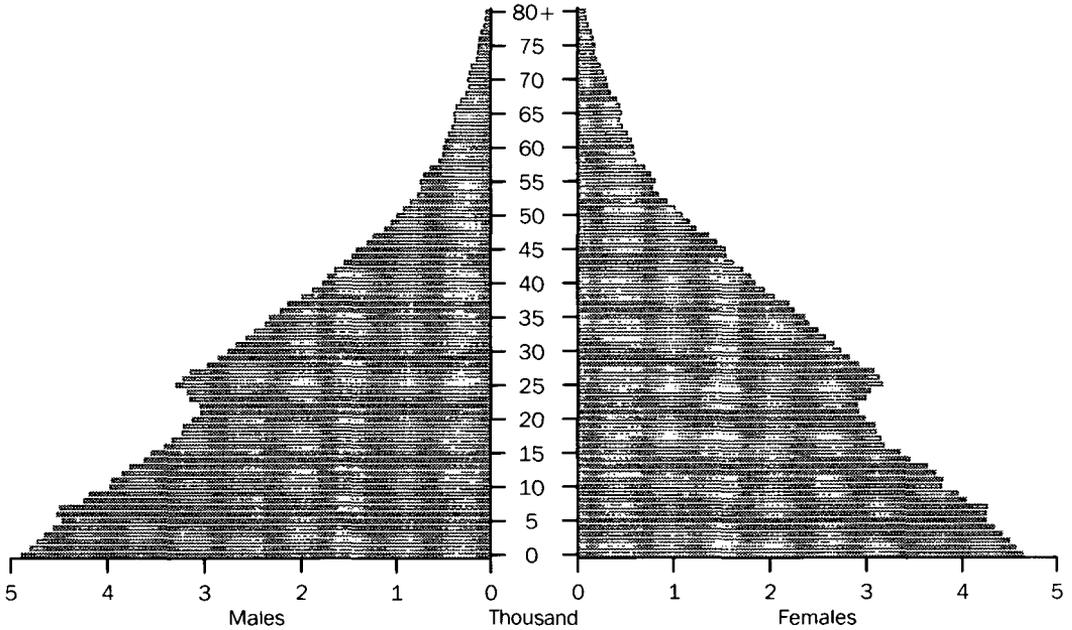
Source: *Year book Australia 1994, Experimental estimates of the Aboriginal and Torres Strait Islander Population (3230.0) Experimental projections of the Aboriginal and Torres Strait Islander Population (3231.0)*.

The Indigenous population has a very young age structure (graph 5.25). With 38% of the population aged under 15, and 4% aged over 60, it has a younger age structure than that of the total Australian population at the beginning of this century.

This age structure is largely a product of high fertility rates. During the 1960s Indigenous women had, on average, about six children each. By the 1980s this had fallen to about three children each, compared to 1.9 for all Australian women.

The age structure also reflects high death rates. Life expectancy of Aboriginal and Torres Strait Islander people at birth in 1991 was about 57 years for males and 64 years for females.

5.25 1997 PROJECTED AGE STRUCTURE OF THE INDIGENOUS POPULATION



Source: *Experimental projections of the Aboriginal and Torres Strait Islander Population*

While most of the Australian population is concentrated along the east and (to a lesser extent) the south west coasts, the Indigenous population is much more widely spread. About 90% of the total population are contained within the most densely settled 2.8% of the continent. About 90% of the Indigenous population live in areas covering 28% of the continent. This partly reflects the higher level of urbanisation among the non-Indigenous population than the Indigenous population. However, Indigenous people are also much more likely to live in very remote areas than the rest of the population.

Just over half (56%) of the continent contains 0.3% of the total population, and 3.9% of the Indigenous population (see map 5.26).

While areas with a high density of Indigenous population also tend to have a high total population density, it is important to recognise that the areas with the highest concentrations are not necessarily the same areas. The area with the highest concentration of Indigenous people is in Darwin, while the areas with the highest total population density are in Sydney and Melbourne.

5.26 DISTRIBUTION OF AUSTRALIA'S INDIGENOUS POPULATION — 1991



One dot = 100 indigenous people.

Map is based on 1991 Statistical Subdivision boundaries

Source: Unpublished ABS data from the 1991 Census of Population and Housing.

Migration

Until 1971 the population was defined as anyone in the country at a specified time. However, largely because of the growth in tourism and business travel, the population has been defined since 1971 as those people who live in Australia for at least a year.

Overseas migration plays an important role in changes in the population. Between 1991 and 1995, 1.1 million people arrived in Australia intending to stay for one year or more (table 5.27). This includes permanent (settler) arrivals, Australian residents returning from an overseas

trip of 12 months or more, and overseas visitors intending to stay 12 months or more in Australia. About 700,000 people left Australia for overseas on a permanent or long term basis, including Australian residents emigrating or going overseas for 12 months or more, and overseas visitors leaving Australia after staying for 12 months or more.

Because population estimates include permanent and long-term movers and exclude short-term movers, adjustments for the net effect of changes in travel intention from short-term to permanent/long-term and vice

versa are required. For example, an Australian resident may state on departure an intention to stay abroad for less than 12 months (a short term movement). If this resident remains overseas for 12 months or more, he or she has

changed their travel category to long-term and is regarded as a category jumper. Estimates for category jumping ensure that the estimated population truly reflects the usual resident population at any point in time.

5.27 PERMANENT AND LONG-TERM MIGRATION

	1976-80 no.	1981-85 no.	1986-90 no.	1991-95 no.	Total no.
Arrivals					
Permanent (settlers)	369 100	459 360	635 820	451 440	1 915 720
Long-term					
Australian residents	295 730	268 200	273 710	357 670	1 195 310
Overseas visitors	143 640	159 950	234 830	322 290	860 710
Permanent and long-term arrivals	808 460	887 540	1 144 330	1 131 480	3 971 810
Departures					
Permanent departures	118 770	109 070	114 800	140 950	483 590
Long-term					
Australian residents	296 200	243 620	278 000	332 880	1 150 700
Overseas visitors	99 230	115 540	159 790	244 940	619 500
Permanent and long-term departures	514 040	468 220	552 530	718 800	2 253 590
Category jumping	24 585	10 584	54 326	-76 743	12 752
Net overseas migration	319 005	429 904	646 126	335 937	1 730 972

Source: *Migration, Australia* (3412.0).

5.28 BIRTHPLACE OF SETTLER ARRIVALS

Country	'000	%
1961-65		
United Kingdom and Ireland	267.3	46.4
Italy	67.3	11.7
Greece	65.6	11.4
Yugoslavia	25.6	4.4
Malta	19.5	3.4
Germany	17.8	3.1
1971-75		
United Kingdom and Ireland	227.2	41.4
Yugoslavia	39.2	7.2
Greece	21.2	3.9
USA	20.0	3.7
Italy	18.5	3.4
New Zealand	18.5	3.4
1981-85		
United Kingdom and Ireland	116.8	25.4
New Zealand	48.6	10.6
Viet Nam	47.2	10.3
Philippines	15.4	3.4
Poland	14.8	3.2
South Africa	12.2	2.7
1991-95		
United Kingdom and Ireland	59.4	13.2
New Zealand	41.3	9.1
Hong Kong	36.3	8.0
Viet Nam	33.7	7.5
Philippines	23.0	5.1
India	20.8	4.6

Source: *Overseas Arrivals and Departures, Australia* (3401.0).

Over the last 30 years there has been a significant change in the source countries of settlers. In the early 1960s the top six countries of birth represented 80% of all settler arrivals to Australia, including 46% born in the United Kingdom or Ireland. In the early 1990s 48% came from the top six countries, with 13% from the United Kingdom and Ireland (table 5.28).

In 1994-95, 87,000 people arrived in Australia intending to settle. The vast majority (82%) held permanent visas. Another 16% were eligible to settle in Australia because of their New Zealand citizenship. The remaining 3% were in other categories, such as overseas-born children of Australian citizens.

The number of visas issued to prospective settlers varies significantly from year to year, depending largely on the economic and political climate in Australia. So too does the balance between the types of visas issued. Skilled migration is a very volatile component of the migration intake. In times of high unemployment, fewer skilled migration visas are issued. However, there can be lengthy delays between the issuing of the visas and the actual migration. Based on table 5.29, in the six years to 1994-95, the skilled migration category ranged from 40% of settler arrivals in 1990-91,

to 18% three years later. In 1994–95, 33% of skilled immigrants came from Europe, especially the United Kingdom and Ireland. North East, and Southern Asia also contributed a high proportion of skilled immigrants to Australia, with 20% and 19% of the total intake respectively. Sub-Saharan Africa contributed about 10% of skilled immigrants to Australia, representing 41% of all immigrants from the region.

In 1994–95, 42% of settlers came as part of the family component of Australia's immigration

program. The birthplaces of these immigrants partly reflect past migration patterns. About 29% were born in Europe, with another 26% born in South East Asia.

Of settlers arriving as part of the humanitarian program, 46% come from Europe, almost exclusively from the Former Yugoslav Republics. Nearly a quarter of immigrants on humanitarian visas had been born in North Africa and the Middle East.

5.29 SETTLER ARRIVALS, By Eligibility Category

	1989–90 no.	1990–91 no.	1991–92 no.	1992–93 no.	1993–94 no.	1994–95 no.
Family	49 941	53 934	48 621	32 102	33 580	37 078
Skilled	42 836	48 421	40 334	22 137	12 794	20 210
Humanitarian	11 948	7 745	7 157	10 939	11 350	13 632
Other visaed	1 223	976	1 403	1 157	709	517
New Zealand	13 345	8 338	8 201	8 355	9 616	13 618
Other non visaed	1 934	2 274	1 675	1 640	1 719	2 373
Total	121 227	121 688	107 391	76 330	69 768	87 428

Source: Bureau of Immigration, Multicultural and Population Research.

Permanent migrants tend to have higher level occupations than the Australian population. This is true for both immigrants and emigrants. In 1994–95, 14% of the employed population were professionals, as against 29% of emigrants who stated an occupation (table 5.30). This appears

to reflect a 'brain drain' of skilled workers out of the country. However, settler arrivals had a similar range of occupations to emigrants, and there were eight times as many settler arrivals as emigrants who stated an occupation in 1994–95.

5.30 OCCUPATION OF PERMANENT MIGRANTS(a) — 1994–95

Occupation	Permanent departures			Settler arrivals %	Australian population %
	Australian born %	Overseas born %	Total %		
Managers and administrators	19.0	15.5	16.7	11.4	10.9
Professionals	36.0	25.3	29.0	34.0	13.7
Para-professionals	9.6	7.6	8.3	8.1	5.7
Tradespersons	8.4	16.8	13.9	18.5	14.6
Clerks	10.6	11.1	11.0	10.3	16.5
Salespersons and personal service workers	10.9	9.5	10.0	8.5	16.5
Plant and machine operators	1.9	4.7	3.7	3.8	7.1
Labourers and related workers	3.6	9.5	7.4	5.5	15.0
Total	100.0	100.0	100.0	100.0	100.0

(a) Migrants who stated an occupation.

Source: Bureau of Immigration, Multicultural and Population Research, and Labour Force, Australia (6203.0).

Country of origin

Since the end of World War II, due to high levels of migration the population has increased rapidly, and the proportion of the population born overseas has increased from 10% in 1947 to 23% in 1995 (based on table 5.31). As well as this increase, there has been a diversification of the population. In 1947, 81% of the overseas born population came from the main English speaking countries (the United Kingdom, Ireland, New Zealand, South Africa, Canada and the United States), mainly from the United Kingdom and Ireland. By 1995, only 40% of the overseas born population had been born in the main English speaking countries.

For the last few decades, the Italian, Greek and Dutch born populations in Australia have been declining. There were large flows of people from these countries after World War II, and relatively little migration more recently. Therefore these populations are ageing, and so experience high death rates. There are also significant numbers of people returning to their countries of birth in their retirement.

The 1991 census identified 23% of the population as overseas born. A further 19% of Australians had been born in Australia and had at least one overseas born parent, that is, they

5.31 MAIN COUNTRIES OF BIRTH OF THE POPULATION

Country	1947 '000	1954 '000	1961 '000	1971 '000	1981 '000	1991 '000	1995 '000
United Kingdom	502.0	626.0	718.3	1,046.4	1,175.7	1,244.3	1,210.9
United Kingdom and Ireland	541.3	664.2	755.4	1 088.3	1 175.7	1 244.3	1 210.9
New Zealand	43.6	43.4	47.0	80.5	175.7	286.4	290.1
Italy	33.6	119.9	228.3	289.5	285.3	272.0	261.4
Yugoslavia	5.9	22.9	49.8	129.8	156.1	168.0	179.8
Greece	12.3	25.9	77.3	160.2	153.2	147.4	144.7
Viet Nam	—	—	—	0.7	43.4	124.8	146.6
Germany	14.6	65.4	109.3	110.8	115.2	120.4	118.7
Netherlands	2.2	52.0	102.1	99.3	100.5	100.9	97.7
China	6.4	10.3	14.5	17.6	26.8	84.6	92.7
Philippines	0.1	0.2	0.4	2.6	15.8	79.1	91.8
Malaysia	—	—	—	—	—	—	91.5
Hong Kong	—	—	—	—	—	—	91.3
Ireland	39.3	38.2	37.1	41.9	—	—	—
Total overseas	744.2	1 286.5	1 778.8	2 579.3	3 111.0	3 965.2	4 122.3
Australia	6 835.2	7 700.1	8 729.4	10 176.3	11 812.3	13 318.8	13 931.7
Total population	7 579.4	8 986.5	10 508.2	12 755.6	14 923.3	17 284.0	18 054.0

Source: *Australia in Profile* (2821.0) Estimated resident population by country of birth, age and sex, Australia (3221.0).

were second generation Australians. The variety and size of second generation populations reflect past migration and intermarriage patterns. In long established migration groups, such as those from the United Kingdom and Ireland, and from northern and southern Europe, second generation Australians form more than half the total birthplace group. In more recently arrived groups, such as those born in Viet Nam, second generation Australians form a smaller part of the birthplace group. This is illustrated in table 5.32.

Citizenship

The concept of Australian citizenship is less than 50 years old. Prior to the *Nationality and*

Citizenship Act 1948 (since renamed the *Australian Citizenship Act 1948*) coming into effect on Australia Day 1949, Australians were simply British subjects. Between that day and 31 December 1995, 2.8 million grants of citizenship were made.

In 1994 the Joint Standing Committee on Migration stated 'Citizenship is the cornerstone of national identity. It defines an individual's legal relationship with Australia, and signals an individual's membership of the Australian community... citizenship represents an individual's commitment to Australia, including the principles on which Australian society is based.'

5.32 FIRST AND SECOND GENERATION AUSTRALIANS

Country	1991 '000	Overseas born(a) '000	Second generation Australians '000	Total '000
United Kingdom and Ireland	1 244.3	1 121.5	1 460.6	2 582.1
Italy	272.0	254.8	327.3	582.1
New Zealand	286.4	254.8	167.6	422.4
Greece	147.4	136.3	151.2	287.5
Former Yugoslavia	168.0	161.1	120.7	281.8
Germany	120.4	114.9	137.7	252.6
Netherlands	100.9	95.8	139.7	235.5
Viet Nam	124.8	122.3	25.2	147.5
China	84.6	78.8	28.7	107.5
Total population	—	3 756.5	3 139.3	6 895.8

(a) The population identified in this table is based on Census counts, and not the Estimated resident population, it therefore has slightly lower estimates than that in table 5.31.

Source: *Australian Social Trends (1995)*.

Generally, older people, and those who have lived in Australia a long time, tend to have a higher citizenship rates than younger, more recently arrived migrants. For example, 94% of the Greek born population, which is relatively old and has been in Australia for a comparatively long time, had taken out Australian citizenship in 1991.

Standardising for these factors gives the citizenship rates that would be expected if a given overseas born population had the same profile of age and period of residence as the total overseas born population (see table 5.33).

The standardised citizenship rate for the Greek born population was 81%.

People born in the main English speaking countries, such as the United Kingdom and New Zealand, have a very low standardised citizenship rate. This may be because '...the shared language, and strongly similar legal, political, and industrial relations arrangements of Australia and the other Anglo-American countries lead these immigrants to feel less need to make a choice of national identity' (Evans, M. 1988).

5.33 CITIZENSHIP RATES, By Country of Birth — 1991

Country	Persons '000	Citizenship rate %	Standardised citizenship rate(a) %
Greece	136.3	93.9	81.3
Former Yugoslavia	161.1	89.2	80.0
Viet Nam	122.3	71.4	78.0
China	78.8	49.0	75.8
Germany	114.9	73.2	58.6
Netherlands	95.8	75.3	55.8
Italy	254.8	76.9	54.5
United Kingdom	1 121.5	50.4	46.5
New Zealand	276.1	23.9	34.4
Total overseas born	3 756.5	60.3	60.3

(a) The rates of citizenship that would be expected if the population had the same age and period of residence profile as the total overseas born population.

Source: *Australian Social Trends 1996 (4102.0)*.

5.34 FORMER NATIONALITY, People Granted Australian Citizenship — 1994–95

Citizenship	no.	%
British and Irish	38 016	33
New Zealander	9 033	8
Vietnamese	7 772	7
Chinese	5 971	5
Filipino	5 408	5
Other Former Yugoslav	3 283	3
Indian	3 107	3
Russian	2 329	2
Fiji (citizen of)	2 204	2
USA (citizen of)	1 912	2
Sri Lankan	1 730	2
Iraqi	1 719	1
Polish	1 707	1
Turkish	1 468	1
Lebanese	1 392	1
South African	1 324	1
Italian	1 079	1
Salvadorian	1 077	1
Portuguese	1 018	1
Maltese	1 017	1
Canadian	938	1
Korean	905	1
Iranian	895	1
Egyptian	892	1
Malaysian	838	1
Afghan	669	1
Thailand	665	1
Chilean	658	1
Romanian	584	1
Greek	570	—
Ukrainian	561	—
Jordanian	504	—
German	489	—
Pakistani	489	—
Bangladeshi	488	—
Argentinian	484	—
Croatian	251	—
Other countries	34 570	30
Stateless	1 152	1
All other countries	10 159	9
Total	114 757	100

Source: Bureau of Immigration, *Multicultural and Population Research: Australian Immigration: Consolidated Statistics and Immigration Update*.

The United Kingdom and Ireland have consistently been the largest source of new Australian citizens since the early 1970s, with about one-third of all citizenship grants since 1970. This reflects the large numbers of migrants that have come from the United Kingdom and Ireland over this period (see table 5.34).

However, this was not always the case. In 1949–65, only 4% of citizenship grants were made to former citizens of the United Kingdom and Ireland. Former Italian citizens made up

21% of new citizens in that period, followed by former citizens of the Netherlands (13%), the then USSR and Poland (both 12%). In the late 1960s former citizens of the United Kingdom and Ireland increased their take-up of Australian citizenship and represented 10% of grants of citizenship in 1965–70, third after former Italian citizens (21%) and former Greek citizens (13%).

Religion

In 1983 the High Court of Australia defined religion as 'a complex of beliefs and practices which point to a set of values and an understanding of the meaning of existence'.

At the time of European settlement, the Aboriginal inhabitants followed their own religions which were animistic in nature, involving belief in spirits behind the forces of nature and the influence of ancestral spirit beings.

During the 1800s, European settlement brought the traditional churches to Australia. These included the Church of England (now the Anglican Church), and the Methodist, Roman Catholic, Presbyterian, Congregationalist and Baptist churches. In 1838 German Lutherans arrived in South Australia. From the 1840s onwards, groups arrived such as Mormons, Swedenborgians, Spiritualists, Christadelphians, Seventh-day Adventists, Christian Scientists, and Jehovah's Witnesses.

With the exception of a small but significant Lutheran element, Australian society in 1901 was predominantly Anglo-Celtic, with 74% of the population being Protestant, 23% Roman Catholic and about 50,000 professing a non-Christian faith. In 1950, with over twice the population, the profile was similar with 67% Protestant, 22% Roman Catholic, 0.5% Eastern Orthodox, and a non-Christian figure of less than 50,000 persons.

Immigration to Australia has reshaped the religious profile. The impact of migration from Europe in the aftermath of World War II led to an increase of the Eastern Orthodox Churches, the forming of Reformed bodies, and the growth of Roman Catholicism — particularly from Italian migration, as well as the formation of ethnic parishes in many other denominations. More recently immigration from South East Asia and the Middle East has expanded Buddhist and Muslim numbers considerably, while also adding to the ethnic dimension in Christian groups. As the year 2000 approaches, Australia is nominally

43% Protestant, 27% Roman Catholic, 3% Eastern Orthodox and 3% non-Christian, with some 23% uncommitted or professing no religion.

In every national census taken in Australia, a voluntary question on religious affiliation has been asked. Since 1933, the voluntary nature of

the religion question has been specifically stated. In 1971, the instruction 'if no religion, write *none*' was introduced. Table 5.35 provides a summary of the major religious affiliations at each census since 1911. At the 1991 Census, 74% of the population stated a Christian religion compared with 95.9% in 1911.

5.35 MAJOR RELIGIOUS AFFILIATIONS

Census year	Christian				Religion not stated				Total '000
	Anglican %	Catholic %	Other %	Total %	Non-Christian %	No religion %	Religion not stated %	Other(a) %	
1911	38.4	22.4	35.1	95.9	0.8	0.4	(b)2.7	0.2	4 455.0
1921	43.7	21.7	31.6	96.9	0.7	0.5	(b)1.7	0.2	5 435.7
1933	38.7	19.6	28.1	86.4	0.4	0.2	12.8	0.1	6 629.8
1947	39.0	20.9	28.1	88.0	0.5	0.3	10.9	0.2	7 579.4
1954	37.9	22.9	28.5	89.4	0.6	0.3	9.5	0.2	8 986.5
1961	34.9	24.9	28.4	88.3	0.7	0.4	10.5	0.2	10 508.2
1966	33.5	26.2	28.5	88.2	0.7	0.8	10.0	0.3	11 599.5
1971	31.0	27.0	28.2	86.2	0.8	6.7	6.0	0.2	12 755.6
1976	27.7	25.7	25.2	78.6	1.0	8.3	11.0	0.4	13 548.4
1981	26.1	26.0	24.3	76.4	1.4	10.8	10.9	0.5	14 576.3
1986	23.9	26.0	23.0	73.0	2.0	12.7	11.9	0.4	15 602.2
1991	23.8	27.3	22.9	74.0	2.6	12.9	10.2	0.3	16 850.3

(a) Comprises non-theistic affiliation and religion inadequately described. (b) Includes 'object to state'.

Source: *Census 86 — Religion in Australia (2510.0) and Census 1991*.

Australia's population grew by 15.6% in the decade to 1991. For the same period, many religions grew at a rate greater than the national population.

Of the Christian groups, the Pentecostal and Baptist faiths experienced the greatest increase in support. Only the Churches of Christ and the Salvation Army demonstrated declining or static adherence. Buddhism and Islam showed the most significant increase in allegiance within the non-Christian religion group.

Catholics have recently replaced Anglicans as the largest religious group in Australia. A small part of this growth can be attributed to recent overseas migration. According to the 1991 Census, over 320,000 Catholics had arrived in Australia since 1981. The majority originated from Europe and the former USSR (34%) and South East Asia (28%).

Non-Christian religions, while comprising only 2.6% of the population in 1991, have grown from 1.4% in 1981. The number claiming such allegiances have increased by 24,500 (125.3%). Part of this growth is attributable to recent immigration. For example, 23,560 Muslims (16% of all Australian adherents) migrated from the Middle East and North Africa, 69,593 Buddhists (49.8%) from South East Asia and 14,215 Hindus (32.6%) from Southern Asia, during the 1981–91 period.

During the period 1981–91, the majority of migrants without a religious affiliation came from the United Kingdom and Ireland (35,237), Hong Kong (25,854) and Vietnam (20,740).

Table 5.36 shows the breakdown of religious groupings by the number and percentage of affiliates within each at the 1981 and 1991 Censuses, and the growth which occurred during that 10 year period.

5.36 RELIGIOUS AFFILIATION — 1981-91

Census year	1981		1991		Growth %
	No. '000	Proportion %	No. '000	Proportion %	
Christian					
Anglican	3 810.5	26.1	4 018.8	23.8	5.7
Baptist	190.3	1.3	279.8	1.7	47.0
Catholic	3 786.5	26.0	4 606.0	27.3	21.7
Churches of Christ	89.4	0.6	78.3	0.5	-12.5
Jehovah's Witnesses	51.8	0.4	74.8	0.4	44.4
Lutheran	199.8	1.4	250.9	1.5	25.6
Orthodox	421.3	2.9	474.8	2.8	12.7
Pentecostal	72.1	0.5	150.6	0.9	108.8
Presbyterian and Reformed	637.8	4.4	732.0	4.3	14.8
Salvation Army	71.6	0.5	72.4	0.4	1.1
Uniting Church	1 203.4	8.2	1 387.7	8.2	15.3
Other	598.8	4.1	339.6	2.0	-43.3
Non-Christian					
Buddhism	35.1	0.2	139.8	0.8	298.3
Islam	76.8	0.5	147.5	0.9	92.1
Judaism	62.1	0.4	74.3	0.4	19.5
Other	23.6	0.2	83.6	0.5	254.4
No religion	1 576.7	10.8	2 176.6	12.9	38.0
Not stated/inadequately described	1 668.8	11.4	1 762.2	10.5	5.6
Total	14 576.3	100.0	16 850.3	100.0	15.6

Source: Census 1981 and 1991.

Languages

English is the national language. At the same time, Australia's cultural vitality is also a product of other languages spoken in the community. These include the indigenous languages of the Aboriginal and Torres Strait Islander peoples, as well as European and Asian languages.

In the 1991 Population Census, people were asked whether they spoke a language other than English at home. Among those who stated that they did, 408,200 spoke Italian (13.8% overseas born, 24% Australian born), and a further 274,200 spoke Greek (8.7% overseas born, 17.5% Australian born). These were the two most prevalent responses, with other responses each representing less than 10%. Altogether

over 2.4 million people, most of whom were born overseas, spoke a non-English language at home (see table 5.37).

Within the group who spoke a language other than English at home, proficiency in English varied according to age and birthplace. Almost 91% of 5 to 24 year olds spoke English well or very well, compared with 60% of those aged 65 years and over. The influence of birthplace was evident in the consistently higher level of proficiency in English among those born in Australia. Of this group, 95% spoke English well or very well, compared with 81% overall.

5.37 PERSONS(a) WHO SPOKE A LANGUAGE OTHER THAN ENGLISH AT HOME — 1991

Language spoken at home	Overseas born				Australian born			
	Males '000	Females '000	Persons '000	Persons %	Males '000	Females '000	Persons '000	Persons %
Aboriginal language	0.1	0.1	0.2	—	20.2	20.5	40.7	5.8
Arabic/Lebanese	50.5	46.0	96.5	5.5	25.2	24.4	49.6	7.1
Chinese(b)	114.2	114.3	228.5	13.1	10.9	9.5	20.4	2.9
Dutch	19.5	22.2	41.7	2.4	2.6	3.1	5.7	0.8
French	17.6	18.5	36.1	2.1	4.3	5.0	9.4	1.3
- German	45.5	47.4	92.9	5.3	10.4	10.9	21.4	3.1
- Greek	76.4	75.0	151.4	8.7	62.3	60.5	122.8	17.5
Hungarian	11.7	12.5	24.2	1.4	2.3	2.4	4.7	0.7
- Italian	123.5	116.6	240.1	13.8	83.2	84.9	168.1	24.0
Macedonian	20.9	19.8	40.7	2.3	10.4	10.1	20.5	2.9
- Maltese	18.8	18.3	37.1	2.1	7.5	7.2	14.8	2.1
- Polish	26.0	29.0	55.0	3.2	4.8	4.9	9.6	1.4
Russian	8.6	10.8	19.4	1.1	2.1	2.1	4.2	0.6
Serbian/Croatian	31.1	29.2	60.2	3.5	14.2	13.7	27.9	4.0
- Other Yugoslavian	14.4	13.7	28.1	1.6	4.7	4.7	9.3	1.3
Spanish	35.8	37.3	73.1	4.2	6.5	6.4	12.8	1.8
Turkish	14.7	13.7	28.3	1.6	4.8	4.7	9.6	1.4
- Vietnamese	49.4	43.8	93.2	5.3	4.1	4.0	8.1	1.2
Other	175.9	191.3	367.2	21.1	27.0	25.1	52.1	7.4
Total(c)	869.8	873.9	1 743.7	100.0	350.9	349.8	700.7	100.0

(a) Excludes children aged under 5 years and persons who did not state their birthplace. (b) Includes 'Chinese as stated', 'Cantonese', 'Mandarin', 'Chinese languages n.e.i.'. (c) Includes language not stated responses.

Source: Census 1991.

5.38 PROFICIENCY IN ENGLISH, Persons Who Spoke a Language Other than English at Home — 1991

Proficiency in English	Unit	Age group (years)				Total
		5-24	25-44	45-64	>64	
Total population speaks English						
Well/very well	%	90.6	82.9	72.5	59.9	80.6
Not well	%	8.1	15.3	23.5	27.0	16.1
Not at all	%	1.3	1.7	4.0	13.1	3.3
Total	%	100.0	100.0	100.0	100.0	100.0
Total	no.	742 205	835 234	557 854	235 129	2 370 422
Total who speak a language other than English(a)	no.	748 157	841 466	561 665	237 517	2 388 805
Australian born speaks English						
Well/very well	%	95.2	95.9	89.1	85.4	94.9
Not well	%	4.0	3.2	8.5	10.0	4.1
Not at all	%	0.8	0.8	2.4	4.7	1.0
Total	%	100.0	100.0	100.0	100.0	100.0
Total	no.	416 852	174 020	29 817	11 587	632 276
Total who speak a language other than English(a)	no.	420 435	176 122	30 498	11 991	639 046

(a) Includes persons who stated that they speak a language other than English at home, but did not state how well they speak English.

Source: Census 1991.

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Introduction	103
The labour force	103
Characteristics of the labour force	105
Employment	107
Labour mobility	111
Persons employed at home	112
Underemployed workers	114
Unemployment	115
Job search experience	118
Job vacancies	119
Persons not in the labour force	120
Persons who re-entered the labour force	121
Wage rates, earnings, costs of labour and hours of work	122
Award rates of pay indexes	122
Average weekly earnings	123
Composition and distribution of earnings	124
Standard non-wage benefits	128
Superannuation	129
Labour costs	132
Hours of work and work patterns	134
Working arrangements	135
Industrial relations	138
Industrial disputes	138
Trade unions	140
Training	141
Training expenditure	141
Who received training?	142
Length of training course	142
Reasons for training employees	142
Training practices	143
Government employment programs	143
Transition to the new Employment Placement Market	145
Employer incentives	145
JobStart	145
Entry-level training incentives	145
Special Employer Support	145

Enterprise and Adjustment	145
Labour Adjustment Packages (LAPs)	145
Training and Skills (TASK) Program	146
New Enterprise Incentive Scheme (NEIS)	146
Training for Employment Program (TEP)	146
Advanced English for Migrants Program (AEMP)	146
Bridging courses for overseas-born Australian residents	147
Job Seeker Preparation and Support	147
Training for Aboriginals and Torres Strait Islanders Program (TAP)	147
Employment Strategies	147
Direct Assistance	147
SkillShare	147
Case management services	148
Bibliography	149

Introduction

The information relating to labour presented in this chapter covers a wide range of aspects. Labour statistics are important economic indicators — changes in measures of employment, unemployment, earnings, overtime, job vacancies and industrial disputes provide insights into the performance of the economy and the effects of economic policy settings. But labour statistics are also very much about people — their entry to the labour force, participation in it, whether they are employed or not, how much they earn, what other benefits they receive, how many hours they work, their mobility between jobs, the training they receive, and their retirement from employment.

This chapter looks first at the size and composition of the labour force, including age, sex, labour force status and birthplace.

It goes on to cover employed persons' demographic characteristics, occupation, industry, whether they are in the private or public sector, their hours worked and other characteristics of their working lives. Next come statistics on unemployment and unemployment rates, demographic characteristics of the unemployed, their job search experience and job vacancies.

The section on persons not in the labour force provides information about those persons who are marginally attached to the labour force, and therefore are potential participants in it. These include discouraged jobseekers.

Next, the chapter looks at those persons who have re-entered the labour force after spending at least a year away from it.

The section dealing with earnings presents increases in award rates and average weekly earnings, along with details of award coverage and the distribution and composition of earnings.

As well as wages and salaries, employees receive and employers pay for a range of additional benefits. Leave entitlements are widespread. Superannuation is an area that has seen marked change in recent years. Other employee benefits, and costs to employers of employing labour, are set out in detail.

The chapter examines hours worked, including overtime. Statistics are presented about the extent, cause and duration of disputes, followed by details of trade union size and membership.

This is followed by statistics on training provided by employers. The chapter concludes with information on the range of Commonwealth government training programs presently available.

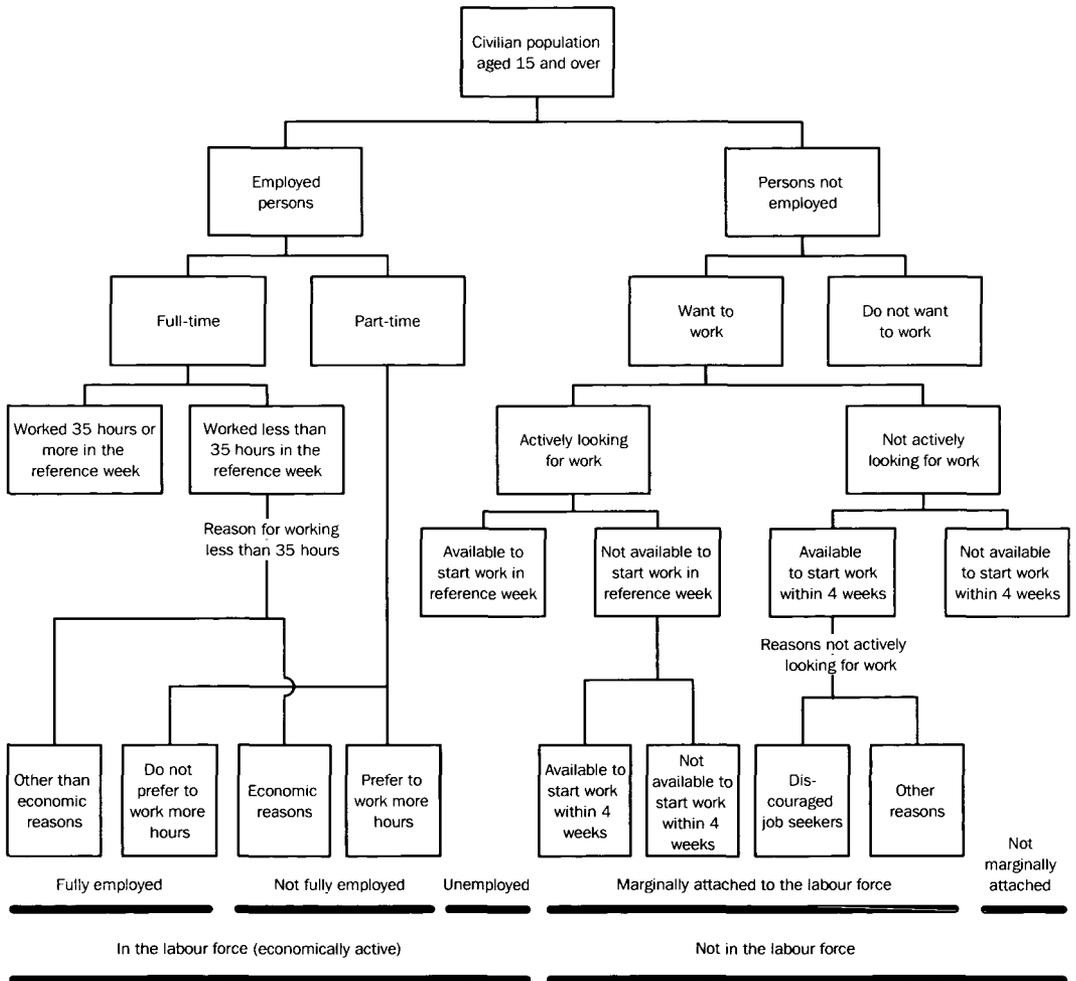
The labour force

Labour force statistics are collected in a monthly population survey of a large sample of dwellings across Australia. The survey provides timely estimates of the labour force status of the Australian population, together with basic demographic data to enable various characteristics of the employed and unemployed to be analysed.

Fundamental to the measurement of employment and unemployment is the statistical concept of the labour force. The labour force is defined as those persons aged 15 and over who during a particular week are either employed or unemployed. The labour force represents the official measure of the total supply of labour available to the labour market during a given week.

The conceptual framework for the Australian labour force is set out schematically in diagram 6.1.

6.1 THE AUSTRALIAN LABOUR FORCE FRAMEWORK



This section presents summary statistics on the civilian labour force drawn from the ABS monthly Labour Force Survey and associated supplementary surveys. The data present a range of characteristics such as whether persons are employed, unemployed or not in the labour force, together with demographic information

(age, sex, marital status, etc.). Further details concerning the scope, coverage and survey methods (as well as more detailed statistics) of the labour force and supplementary surveys can be found in the publications listed at the end of this chapter.

Characteristics of the labour force

The size and composition of the labour force are not static over time. Changes in the size of the labour force are caused by changes in labour force participation as well as changes in the population aged 15 and over.

The contribution to labour force growth from population increase remained steady between

1992–93 and 1994–95, whereas the contribution due to labour force participation is more variable. In 1991–92 and 1992–93, labour force participation had a negative impact on the growth of the labour force, but has since increased to 0.5% of labour force growth in 1995–96 (table 6.2).

6.2 LABOUR FORCE, Components of change

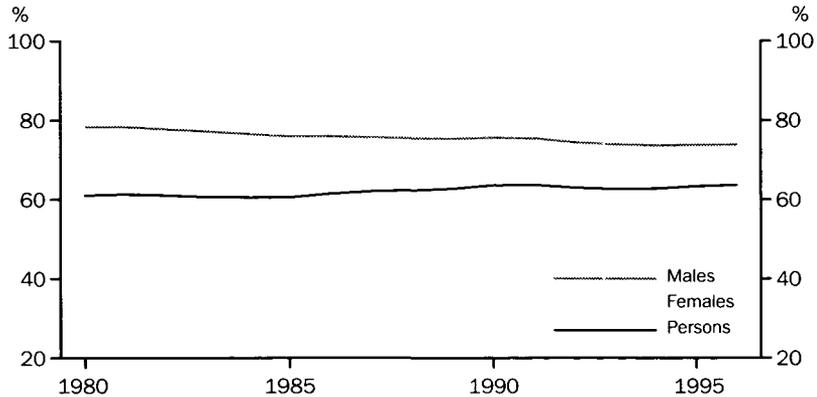
	Annual average					
	1990–91 %	1991–92 %	1992–93 %	1993–94 %	1994–95 %	1995–96 %
MALES						
Percentage change in labour force	1.3	—	0.5	0.9	1.5	1.6
Percentage points change due to						
Population growth	1.5	1.3	1.2	1.2	1.3	1.5
Labour force participation	-0.2	-1.3	-0.7	-0.3	0.2	0.1
FEMALES						
Percentage change in labour force	2.4	0.7	0.9	2.2	3.2	2.6
Percentage points change due to						
Population growth	1.6	1.4	1.2	1.2	1.3	1.4
Labour force participation	0.8	-0.7	-0.4	1.0	1.9	1.1
PERSONS						
Percentage change in labour force	1.8	0.3	0.7	1.4	2.2	2.0
Percentage points change due to						
Population growth	1.6	1.4	1.2	1.2	1.3	1.5
Labour force participation	0.2	-1.1	-0.5	0.2	0.9	0.5

Source: *Labour Force, Australia* (6203.0).

The participation rate is one of the most important descriptions of the labour force. It represents the proportion of the population aged 15 and over who are in the labour force. Analysis of participation rates provides the basis for monitoring changes in the size and composition of labour supply, particularly in terms of age, sex and marital status. The annual

average participation rate for males declined from 75.4% in 1990–91 to 73.6% in 1993–94 and has since risen to 73.9% in 1995–96. For females, the participation rate decreased from 52.3% in 1990–91 to 51.7% in 1992–93. Over the next three years the female participation rate increased, to 53.8% in 1995–96 (graph 6.3).

6.3 PARTICIPATION RATES, Annual Average



Source: *Labour Force, Australia* (6203.0).

Table 6.4 shows changes in labour force status over time for both males and females. Notable features include steady increases in employment for females from 1993–94 to 1995–96, compared with less marked rises for males over the same

period; marked increases in unemployment, particularly in 1991–92 and 1992–93; and steady decreases in the unemployment rates for males and females, after peaking at 11.7% and 10.0% respectively in 1992–93.

6.4 CIVILIAN POPULATION AGED 15 AND OVER, Labour Force Status

	Unit	Annual average					
		1990–91	1991–92	1992–93	1993–94	1994–95	1995–96
MALES							
Employed	'000	4 534.3	4 417.2	4 396.9	4 472.3	4 630.1	4 721.5
Unemployed							
Looking for full-time work	'000	373.4	491.5	531.3	500.0	415.1	401.9
Looking for part-time work	'000	43.9	44.2	50.2	49.0	51.1	53.4
Total unemployed	'000	417.3	535.7	581.5	549.0	466.2	455.3
Labour force	'000	4 951.6	4 952.9	4 978.4	5 021.3	5 096.3	5 176.8
Not in the labour force	'000	1 619.9	1 706.1	1 760.0	1 797.0	1 810.4	1 832.2
Civilian population	'000	6 571.5	6 659.1	6 738.3	6 818.3	6 906.7	7 009.0
Unemployment rate	%	8.4	10.8	11.7	10.9	9.2	8.8
Participation rate	%	75.4	74.4	73.9	73.6	73.8	73.9
FEMALES							
Employed	'000	3 248.2	3 219.5	3 237.0	3 308.3	3 463.0	3 578.2
Unemployed							
Looking for full-time work	'000	201.2	252.5	259.8	262.3	225.0	211.4
Looking for part-time work	'000	90.5	93.4	99.3	104.2	103.4	100.0
Total unemployed	'000	291.7	345.9	359.0	366.4	328.4	311.4
Labour force	'000	3 539.9	3 565.5	3 596.0	3 674.7	3 791.4	3 889.6
Not in the labour force	'000	3 232.0	3 303.0	3 356.7	3 360.5	3 333.1	3 337.7
Civilian population	'000	6 771.9	6 868.5	6 952.7	7 035.3	7 124.5	7 227.3
Unemployment rate	%	8.2	9.7	10.0	10.0	8.7	8.0
Participation rate	%	52.3	51.9	51.7	52.2	53.2	53.8

Source: *Labour Force, Australia* (6203.0).

The labour force participation rate for persons born overseas was 59.2% in June 1996 compared with a participation rate of 66.5% for persons born in Australia (table 6.5). The participation rate for persons born overseas in other than

main English-speaking countries was 55.5%. Of all overseas born persons, those born in the Oceania region, which includes New Zealand, had the highest participation rate (72.5%).

6.5 CIVILIAN LABOUR FORCE, By Birthplace — June 1996

	Employed		Unemployed		Total labour force '000	Unemployment rate %	Participation rate %
	Full-time workers '000	Total '000	Looking for full-time work '000	Total '000			
Born in Australia	4 651.6	6 317.8	400.8	515.7	6 833.4	7.5	66.5
Born outside Australia							
English speaking countries	700.5	908.5	49.8	63.5	972.0	6.5	64.9
Other countries	891.4	1 127.7	124.6	151.4	1 279.2	11.8	55.5
Oceania	190.1	242.9	16.8	22.8	265.7	8.6	72.5
Europe and the former USSR	896.4	1 151.3	75.8	90.7	1 242.0	7.3	56.0
The Middle East and North Africa	65.3	87.5	20.2	23.0	110.5	20.8	53.9
South-East Asia	176.8	219.1	31.1	37.7	256.8	14.7	62.0
North-East Asia	80.3	103.7	9.3	12.0	115.7	10.4	52.9
The Americas	128.9	166.1	11.9	18.9	184.9	10.2	66.8
Other	203.6	258.5	26.6	33.2	291.8	11.4	70.4
Total born outside Australia	1 591.9	2 036.3	174.4	214.9	2 251.2	9.5	59.2
Total	6 243.5	8 354.1	575.2	730.5	9 084.6	8.0	64.5

Source: *Labour Force, Australia* (6203.0).

Statistics on labour force status according to level of educational attainment are contained in *Chapter 9, Education*.

Employment

Broadly, persons are considered to be employed if they are doing any work at all, regardless of the number of hours worked. Employment statistics are presented according to the demographic characteristics of employed persons, their occupation and industry, hours worked and whether they are full-time or part-time workers. Data for employed wage and salary earners, by whether they work in the private or government sector, and estimates for apprentices and qualified tradespersons, are also included in this section.

By relating employment levels to population levels, the magnitude of job growth in the

economy can be evaluated. The measure relating these two levels is the employment/population ratio. Its usefulness lies in the fact that while movements in the employment level reflect net changes in the levels of persons holding jobs, movements in the ratio reflect net changes in the number of jobholders relative to changes in the size of the population. In recent years the greatest change in employment/population ratios has been for the 15–19 age group. The employment/population ratio for 15–19 year olds declined from 46.9% in 1990–91 (while school retention rates have increased) to stand at 41.6% in 1992–93, but the ratio has risen over the last three years to 47.0% in 1995–96. Overall, the employment/population ratio has increased to 58.3% in 1995–96, reflecting rises in the ratio for most age groups (table 6.6).

6.6 EMPLOYED PERSONS, Employment/Population Ratios(a)

Annual average	Age group (years)								Total
	15-19 %	20-24 %	25-34 %	35-44 %	45-54 %	55-59 %	60-64 %	>64 %	
MALES									
1990-91	47.4	77.4	86.7	89.4	85.8	70.4	45.9	8.9	69.0
1991-92	42.6	73.1	84.3	86.8	83.5	65.9	43.7	8.9	66.3
1992-93	41.0	72.2	83.0	85.9	82.8	64.4	41.2	8.4	65.3
1993-94	42.8	72.9	83.6	85.9	82.3	64.6	41.2	8.8	65.6
1994-95	45.9	76.2	84.8	86.3	83.6	66.1	43.1	9.5	67.0
1995-96	46.2	76.1	86.0	87.0	83.5	66.0	42.7	9.4	67.4
FEMALES									
1990-91	46.3	69.7	60.8	67.5	59.1	34.2	15.7	2.6	48.0
1991-92	42.4	66.6	59.9	66.8	59.2	34.0	14.5	2.4	46.9
1992-93	42.3	65.6	59.1	65.5	60.8	34.6	14.2	2.1	46.6
1993-94	42.3	66.8	60.4	64.7	61.4	35.3	15.4	2.6	47.0
1994-95	47.2	68.8	62.3	66.4	62.7	36.6	15.7	2.4	48.6
1995-96	47.8	69.8	62.9	67.6	64.0	39.0	17.1	2.7	49.5
PERSONS									
1990-91	46.9	73.6	73.7	78.5	72.8	52.5	30.7	5.3	58.3
1991-92	42.5	69.8	72.1	76.8	71.6	50.1	29.1	5.2	56.5
1992-93	41.6	69.0	71.0	75.7	72.0	49.7	27.6	4.8	55.8
1993-94	42.5	72.5	71.9	75.2	72.1	50.2	28.3	5.2	56.2
1994-95	46.5	72.5	73.4	76.3	73.4	51.6	29.4	5.5	57.7
1995-96	47.0	73.0	74.4	77.2	73.9	52.7	29.9	5.6	58.3

(a) Employment/population ratio for any group is the number of employed persons expressed as a percentage of the civilian population aged 15 and over in the same group.

Source: Labour Force, Australia (6203.0).

Employed persons (i.e. employers, own-account workers, employees and contributing family workers) are those who, during the reference week, worked for one hour or more for pay, profit, commission or payment in kind in a job or a business, or on a farm. Estimates of

own-account workers increased steadily, except for a small decline in 1994-95, to stand at 849,100 in 1995-96. Estimates for employees decreased from 6,564,800 in 1990-91 to 6,363,100 in 1992-93, before rising to 6,998,900 in 1995-96 (table 6.7).

6.7 EMPLOYED PERSONS, Status in Employment

Annual average	Employers '000	Own-account workers '000	Employees '000	Contributing family workers '000
1990-91	368.1	761.9	6 564.8	67.1
1991-92	347.9	796.5	6 405.9	73.0
1992-93	339.3	816.8	6 363.1	81.9
1993-94	348.3	829.0	6 500.3	77.8
1994-95	355.6	822.9	6 802.1	77.3
1995-96	363.9	849.1	6 998.9	75.4

Source: Labour Force, Australia (6203.0).

Tables 6.8 and 6.9 provide information on the number of employed persons and the proportion employed, by industry and occupation. A measure of the relative importance of an industry is the proportion of persons employed in it. Manufacturing and Retail trade have the highest proportion of persons employed, followed by Property and

business services and Health and community services. The number of persons employed by occupation is highest for Clerks and Salespersons and personal service workers, which is reflected in the proportion of females employed in these occupations, accounting for over half the total females employed.

6.8 EMPLOYED PERSONS BY INDUSTRY, Annual Average — 1995–96

Industry	Males		Females		Persons	
	No. '000	Proportion employed %	No. '000	Proportion employed %	No. '000	Proportion employed %
Agriculture, forestry and fishing	293.9	6.2	128.0	3.6	421.9	5.1
Mining	76.0	1.6	9.4	0.3	85.3	1.0
Manufacturing	811.7	17.2	299.6	8.4	1 111.4	13.4
Electricity, gas and water supply	66.9	1.4	14.0	0.4	80.8	1.0
Construction	519.3	11.0	81.1	2.3	600.3	7.2
Wholesale trade	345.3	7.3	153.8	4.3	499.1	6.0
Retail trade	598.1	12.7	628.7	17.6	1 226.8	14.8
Accommodation, cafes and restaurants	165.5	3.5	215.1	6.0	380.6	4.6
Transport and storage	304.2	6.4	84.1	2.4	388.3	4.7
Communication services	105.6	2.2	52.8	1.5	158.4	1.9
Finance and insurance	140.0	3.0	175.7	4.9	315.6	3.8
Property and business services	442.2	9.4	353.6	9.9	795.8	9.6
Government administration and defence	219.8	4.7	158.8	4.4	378.7	4.6
Education	193.8	4.1	390.9	10.9	584.7	7.1
Health and community services	178.7	3.8	578.4	16.2	757.0	9.1
Cultural and recreational services	96.7	2.0	91.0	2.5	187.6	2.3
Personal and other services	158.6	3.4	156.4	4.4	314.9	3.8
All industries	4 716.3	100.0	3 571.2	100.0	8 287.2	100.0

Source: Labour Force, Australia (6203.0).

6.9 EMPLOYED PERSONS BY OCCUPATION, Annual Average — 1995–96

Occupation(a)	Males '000	Proportion males employed by occupation %		Proportion females employed by occupation %		Persons '000	Proportion persons employed by occupation %
		Proportion males employed by occupation %	Females '000	Proportion females employed by occupation %	Persons '000		
Managers and administrators	662.3	14.0	216.5	6.1	878.8	10.6	
Professionals	661.0	14.0	511.2	14.3	1 172.2	14.1	
Para-professionals	244.5	5.2	231.3	6.5	475.8	5.7	
Tradespersons	1 068.2	22.6	125.4	3.5	1 193.6	14.4	
Clerks	291.1	6.2	1 067.8	29.9	1 358.8	16.4	
Salespersons and personal service workers	487.9	10.3	908.6	25.4	1 396.5	16.9	
Plant and machine operators, and drivers	506.3	10.7	73.0	2.0	579.3	7.0	
Labourers and related workers	794.9	16.9	437.4	12.2	1 232.4	14.9	
All occupations	4 716.2	100.0	3 571.2	100.0	8 287.2	100.0	

(a) Classified according to the Australian Standard Classification of Occupations (ASCO), 1986.

Source: Labour Force, Australia (6203.0).

Full-time workers are those who usually work 35 hours or more a week or who worked 35 hours or more during the reference week of the Labour Force Survey. Part-time workers are those who usually work less than 35 hours a week and who did so during the reference week. In 1995–96, there were 4,201,400 males employed full-time (89.0% of male

employment), whereas the number of females employed full-time stood at 2,059,100 (57.5% of female employment). For males, part-time work is concentrated among younger (aged 15–24) and older (aged 55 and over) males, while for females, part-time work is common across all age groups (table 6.10).

6.10 EMPLOYED PERSONS, Full-time and Part-time Workers by Age, Annual Average — 1995–96

	Age group (years)								Total '000
	15–19 '000	20–24 '000	25–34 '000	35–44 '000	45–54 '000	55–59 '000	60–64 '000	>64 '000	
MALES									
Full-time workers	154.6	458.9	1 135.7	1 124.0	906.6	248.2	121.0	52.5	4 201.4
Part-time workers	146.4	86.4	74.0	66.1	56.2	26.8	28.0	36.2	520.1
Total	301.0	545.2	1 209.7	1 190.1	962.8	275.0	149.0	88.6	4 721.5
FEMALES									
Full-time workers	84.8	339.4	572.5	511.4	430.7	82.6	26.9	10.8	2 059.1
Part-time workers	210.6	147.6	321.2	424.3	285.9	74.3	33.3	21.9	1 519.1
Total	295.4	486.9	893.7	935.7	716.6	156.9	60.2	32.7	3 578.2

Source: Labour Force, Australia (6203.0).

Tables 6.11, 6.12 and graph 6.13 provide various views of the distribution of employed wage and salary earners between industries, the private and public sectors, and States and Territories. It should be noted that these statistics are obtained from the Survey of Employment and Earnings conducted among employers and as such are complementary to, but not compatible with, those from the household-based Labour Force Survey. While the latter provides better estimates of overall employment movements at Australia and State/Territory levels, the former provides dissections by industry and public/private sector.

The number of employed wage and salary earners in Australia in the private and public sectors is shown in graph 6.13. The number of employed wage and salary earners in the private sector grew steadily for a number of years to 4,591,900 in December 1989. Since then there has been a fall of 9.5% in the level of employment in the private sector to 4,156,900 in May 1994.

The number of employees in the public sector has also fallen over this time period, from 1,729,900 in December 1989 to 1,588,300 in May 1994 (by 8.2%).

6.11 EMPLOYED WAGE AND SALARY EARNERS, Industry by Sector

Industry	Private sector			Public sector		
	May 1992 '000	May 1993 '000	May 1994 '000	May 1992 '000	May 1993 '000	May 1994 '000
Agriculture, forestry, fishing and hunting(a)	..	..	..	5.9	4.7	5.0
Mining	73.2	65.4	59.6	4.9	4.3	1.7
Manufacturing	887.2	876.2	841.4	25.2	22.2	14.0
Electricity, gas and water	3.1	2.9	2.6	100.0	92.3	80.4
Construction	212.2	221.4	211.9	42.2	42.2	33.2
Wholesale and retail trade	1 182.3	1 184.8	1 208.0	2.5	2.4	1.8
Transport and storage	152.5	144.9	167.4	115.4	105.6	99.1
Communication	*0.7	1.1	1.9	118.9	108.3	103.1
Finance, property and business services	655.4	656.9	653.6	104.7	100.3	81.1
Public administration and defence(b)	..	..	..	325.3	334.8	328.8
Community services						
Health	257.5	270.6	259.6	286.4	282.7	286.2
Education, museums and library services	117.0	108.5	134.2	406.9	405.6	397.8
Other	167.5	187.9	200.4	137.2	148.0	132.9
Total	541.9	567.0	594.1	830.5	836.3	816.9
Recreation, personal and other services	422.9	416.2	416.4	22.6	21.7	23.0
Total all industries	4 131.5	4 136.8	4 156.9	1 698.0	1 675.1	1 588.3

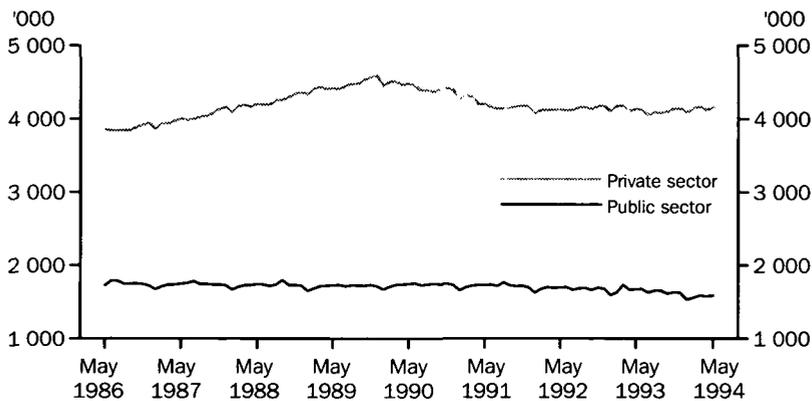
(a) Out of scope of survey for private sector. (b) Excludes members of permanent defence forces and employees of overseas embassies, consulates etc.

Source: Employed Wage and Salary Earners, Australia (6248.0).

6.12 EMPLOYED WAGE AND SALARY EARNERS, By Sector — May 1994

Sector	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT '000	ACT '000	Aust. '000
Private	1 471.9	1 098.6	682.9	331.6	383.6	96.1	36.0	56.3	4 156.9
Public									
Commonwealth	115.1	87.1	44.7	24.8	22.1	7.6	3.8	54.5	359.8
State	344.7	242.3	191.3	103.8	117.3	34.0	15.9	20.0	1 069.3
Local	53.1	44.8	33.8	9.1	13.3	3.9	1.2	—	159.2
Total	513.0	374.2	269.8	137.7	152.7	45.5	20.9	74.5	1 588.3
Total	1 984.9	1 472.8	952.7	469.3	536.2	141.6	56.9	130.8	5 745.2

Source: *Employed Wage and Salary Earners, Australia* (6248.0).

6.13 EMPLOYED WAGE AND SALARY EARNERS, By Sector

Source: *Employed Wage and Salary Earners, Australia* (6248.0).

Labour mobility

Labour mobility refers to a change of employer/business or a change of locality in a specific 12 month period. Labour mobility data are an important source of information on the dynamic nature of the labour force.

Table 6.14 shows that in the 12 months ending February 1996 there were an estimated 9,141,900 persons aged 15–69 years who had worked at some time during the year. Of these, 91% were working at February 1996, with the balance either looking for work (4%) or not in the labour force (5%).

Of persons who worked at some time during the year ending February 1996, 24% were classified as being 'job mobile', that is, they had changed their job/business or locality of work. The majority of those who were job mobile changed their employer/business (85%), while 13% changed their location of work only and

2% changed both employer/business and location of work at different times during the year. Job mobility levels have slightly increased (by 2.2 percentage points) from the previous survey conducted in February 1994.

Labour mobility was greatest for persons aged 20–24 years (35%, up from 31% in February 1994) and least for those aged 55–69 years (13%, up from 9% in February 1994). The level of job mobility was similar for males and females (24.2% and 24.5% respectively).

Labour mobility for persons with post-school qualifications (27%) was higher than for persons without post-school qualifications (23%) and persons still at school (17%).

Of the 7,489,100 persons who were working both in February 1995 and in February 1996, 85% had been in the same job for the entire

year. Of the remainder who changed jobs, 57% changed to another job in the same industry and 43% changed to a job in a different industry. Persons working in the Agriculture, forestry and fishing industry group had the highest proportion of persons staying in their current job for the full year (90%), while the Accommodation, cafes and restaurants industry had the lowest proportion (74%).

Some 2,104,200 (23%) persons who had worked at some time during the year, ceased a job during the year. Of these, 65% were job leavers and 35% were job losers. Over half (57%) of job losers were retrenched and, of those retrenched, 51% had been in their last job for less than one year.

6.14 LABOUR MOBILITY — February 1990 to February 1996

Characteristics	Unit	Survey conducted in February				
		1990	1991	1992	1994	1996
MALES						
Changed employer/business	%	18.3	18.6	16.1	18.3	20.8
Changed locality but not employer/business	%	3.7	3.3	3.3	3.4	3.4
Changed employer/business or locality	%	22.0	21.9	19.4	21.7	24.2
Did not change employer/business or locality	%	78.0	78.1	80.6	78.3	75.8
Total labour force	%	100.0	100.0	100.0	100.0	100.0
Total	'000	4 927.6	4 946.0	4 880.1	4 842.1	5 112.1
FEMALES						
Changed employer/business	%	19.0	19.2	17.3	19.6	21.7
Changed locality but not employer/business	%	3.0	2.7	2.9	2.9	2.8
Changed employer/business or locality	%	22.0	21.9	20.1	22.5	24.5
Did not change employer/business or locality	%	78.0	78.1	79.9	77.5	75.5
Total labour force	%	100.0	100.0	100.0	100.0	100.0
Total	'000	3 700.4	3 719.5	3 684.0	3 760.3	4 029.8
PERSONS						
Changed employer/business	%	18.6	18.8	16.6	18.9	21.2
Changed locality but not employer/business	%	3.4	3.1	3.1	3.2	3.1
Changed employer/business or locality	%	22.0	21.9	(19.7)	(22.1)	(24.3)
Did not change employer/business or locality	%	78.0	78.1	80.3	77.9	75.7
Total labour force	%	100.0	100.0	100.0	100.0	100.0
Total	'000	8 628.0	8 665.5	8 564.1	8 602.3	9 141.9

Source: Multiple Jobholding, Australia (6216.0).

Persons employed at home

The ABS survey of persons employed at home collects information on the size and characteristics of that part of the labour force which is engaged in home-based employment. Structural change in the economy and rapid technological change suggest that the incidence and variety of home-based employment is increasing.

Table 6.15 shows that in September 1995, 343,300 persons aged 15 and over were employed at home, that is, they worked more hours at home than elsewhere in their main or second job. This group represents 4.1% of all employed persons, compared with 4.0% in March 1992 and 3.5% in April 1989.

The most common reason for commencing work at home, given by 27% of persons employed at home, was 'to open/operate own/family business' (based on table 6.17). Other common reasons were 'wanted office at home/no overheads/no rent' (18%) and 'children too young/preferred to look after children' (17%).

Almost two-thirds (225,500) of persons employed at home usually worked less than 35 hours a week at home, while 97,500 persons (28%) worked 40 hours and over. Some 49% of men employed at home worked 40 hours and over compared with 18% of women.

As graph 6.16 shows, the largest occupation group (39%) of persons at home was clerks. Almost all clerks employed at home were women (96% or 127,400).

Almost 37% of all persons employed at home were employees. Of this group:

- 35% usually worked 35 hours or more at home (compared with 64% of all employees);
- 69% were temporary employees (compared with 24% of all employees);

- 72% were not provided with paid sick leave and 71% were not provided with paid holiday leave (compared with 26% for each type of leave for all employees);
- 58% were covered by superannuation provided by their current employer (compared with 78% of all employees); and
- 3.7% were members of a trade union (compared with 33% for all employees).

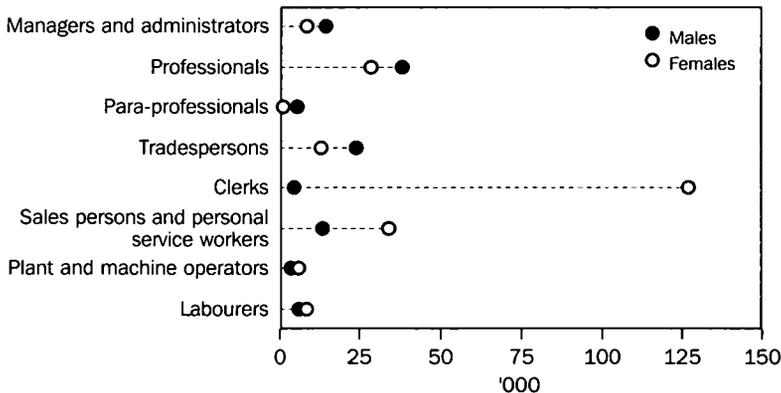
6.15 EMPLOYED PERSONS, Whether Employed at Home

	April 1989			March 1992			September 1995		
	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000
Worked no hours at home	3 475.5	2 457.6	5 933.0	3 232.3	2 434.8	5 667.1	3 465.2	2 726.4	6 191.5
Worked some hours at home(a)	1 088.2	662.0	1 750.2	1 226.9	810.5	2 037.4	1 269.0	880.1	2 149.0
Usually worked less hours at home than elsewhere	849.6	398.5	1 248.1	971.3	515.6	1 486.8	1 022.2	568.3	1 590.5
Persons employed at home	80.3	186.2	266.6	101.2	206.7	307.9	112.6	230.7	343.3
Total	4 563.7	3 119.6	7 683.3	4 459.2	3 245.3	7 704.4	4 734.2	3 606.4	8 340.6

(a) Includes persons comprising farmers who worked more hours at home than away and persons who worked less than one hour at home.

Source: *Persons Employed at Home, Australia (6275.0)*.

6.16 PERSONS EMPLOYED AT HOME, Occupation — September 1995



Source: *Persons Employed at Home, Australia (6275.0)*.

6.17 PERSONS EMPLOYED AT HOME — September 1995

Main reason began working at home	Born in main	English	Born in other	Total	Total persons
	Australia	speaking	countries		
	'000	countries	'000	'000	'000
Wanted office at home/no overheads/no rent	45.0	11.5	6.4	17.9	62.9
Did not want to travel to work	*4.3	*1.3	*1.2	*2.5	6.8
Flexible working hours	18.2	*4.2	*2.5	6.6	24.9
Children too young/preferred to look after children	44.5	7.5	5.3	12.8	57.3
Reached retirement age	6.1	*1.5	*1.0	*2.5	8.6
No other work available	8.4	*3.2	*3.3	6.5	14.9
To help spouse	24.3	*2.4	*2.2	*4.5	28.8
To open/operate own/family business (with spouse)	70.7	11.2	10.7	22.0	92.7
Other(a)	33.4	4.7	8.2	12.9	46.4
Total	255.0	47.5	40.8	88.3	343.3

(a) Includes 'Unable to find suitable childcare' and 'Family trust company'.

Source: *Persons Employed at Home, Australia (6275.0)*.

Underemployed workers

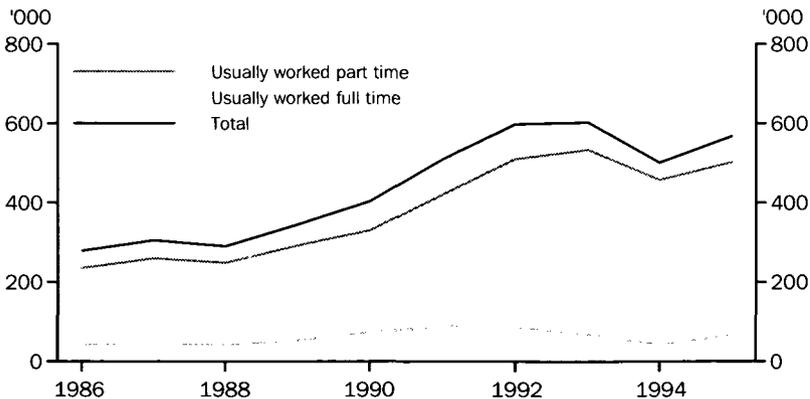
Underemployment refers to part-time workers who indicate that they would prefer to work more hours, and full-time workers who did not work full-time hours in the reference period for economic reasons (e.g. because of insufficient work).

In September 1995 there were 8,340,600 employed persons aged 15 and over, of whom 7,772,800 (93%) were fully employed. Of the remaining 567,800 employed persons who would prefer to work more hours, 88% were part-time workers, and 12% were full-time

workers who worked less than 35 hours in the reference week. Graph 6.18 shows a 10 year time series.

The number of persons who would prefer to work more hours increased by 12% from September 1994 to September 1995, while total employment increased by only 3% over the same period. This followed a drop of 20% in the number of persons who would prefer to work more hours over the 12 months to September 1994.

6.18 EMPLOYED PERSONS WHO WORKED PART-TIME BUT WOULD PREFER TO WORK MORE HOURS, September 1986 to September 1995



Source: *Labour Force Australia (6203.0)*.

The 404,600 workers who had either been looking for work with more hours or were available to start such work in the survey reference week reported a preference for 17 extra hours of work per worker on average.

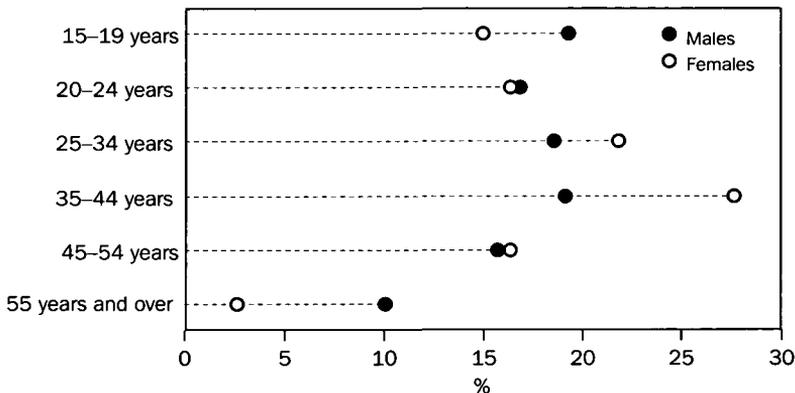
Employed persons who want to work more hours (6.2% of the labour force) may be grouped with unemployed persons (8.4% of the labour force) to represent all persons not fully employed. These two groups are not strictly comparable, however, because more stringent criteria (active job search and availability) are applied to classify persons as unemployed. When similar criteria are applied to the former group, only 2.5% of the labour force can be strictly classified as underemployed.

Of the 499,300 part-time workers who would prefer to work more hours, 42% indicated that they wanted to work an extra 10–19 hours per week, with a further 23% wanting an extra 20–29 hours of work. Most part-time workers who would prefer to work more hours would like full-time work (63%). Males were more likely to prefer full-time work (77%) than females (55%).

Persons who would prefer to work more hours were more highly represented in the younger age groups. Of the 567,800 employed persons who wanted to work more hours:

- 33% were aged 15–24 years;
- 45% were aged 25–44 years;
- 22% were aged 45 years and over.

6.19 PROPORTION OF EMPLOYED PERSONS WHO WOULD PREFER TO WORK MORE HOURS, By Age — September 1995



Source: *Underemployed Workers, Australia* (6265.0).

Unemployment

Broadly, persons are considered to be unemployed if they satisfy three criteria: not employed, available for work, and taking active steps to find work.

The two most important unemployment measures are the number of persons unemployed and the unemployment rate.

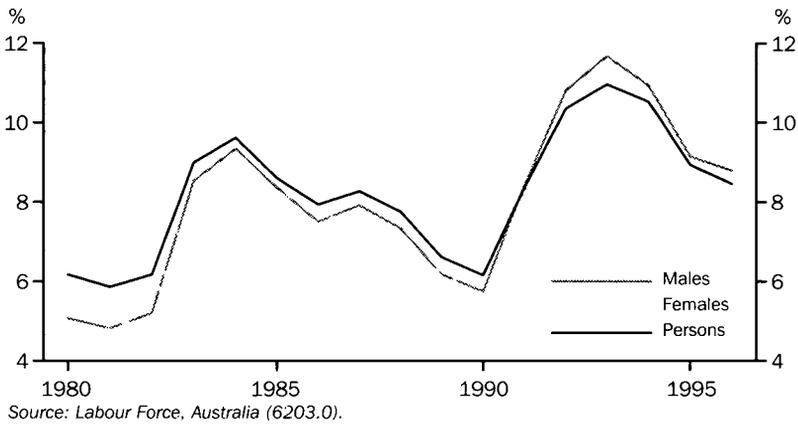
The number of unemployed persons increased from an average of 709,000 in 1990–91 to peak at 940,500 in 1992–93. In 1995–96, the average number of unemployed persons fell to 766,700.

The unemployment rate is defined as the number of unemployed expressed as a percentage of the labour force. The annual average unemployment rate for males rose significantly from 8.4% in 1990–91 to 11.7% in 1992–93. By 1995–96, the average unemployment rate for males had fallen to 8.8%. For females, the unemployment rate rose from 8.2% in 1990–91 to 10.0% in 1992–93 and 1993–94 and has since declined to 8.0% in 1995–96.

After reaching a peak of 11.9% in late 1992, the seasonally adjusted estimate of the unemployment rate for males generally declined from July 1993, then remained relatively steady from 1995, to stand at 8.6% in June 1996. For females, the seasonally adjusted unemployment rate rose to a peak of 10.5% in November 1993, before falling steadily to a low of 7.6% in July 1995. The unemployment rate for females has gradually risen to 8.0% in June 1996.

By examining particular groups and characteristics of the unemployed, various economic and social aspects of unemployment can be analysed. While the above aggregate unemployment rates are important overall indicators, full-time and part-time unemployment levels and rates for different age groups by sex and marital status, shown in table 6.21, provide additional perspectives.

6.20 UNEMPLOYMENT RATE, Annual Average



6.21 UNEMPLOYED PERSONS, Age and Whether Looking for Full-time or Part-time Work, Annual Average — 1995–96

	No. unemployed			Unemployment rate		
	Males '000	Females '000	Persons '000	Males %	Females %	Persons %
LOOKING FOR FULL-TIME WORK						
Aged 15–19	53.7	38.6	92.4	25.7	31.2	27.8
Looking for first job	29.8	23.6	53.4	n.a.	n.a.	n.a.
Attending school/tertiary educational institution	5.3	5.4	10.7	n.a.	n.a.	n.a.
Not attending school/tertiary educational institution	48.5	33.2	81.7	24.6	29.3	26.3
Aged 20–24	73.9	48.4	122.3	13.9	12.5	13.3
Looking for first job	15.2	16.2	31.4	n.a.	n.a.	n.a.
Attending a tertiary educational institution	3.7	2.8	6.5	36.1	34.0	34.9
Not attending a tertiary educational institution full-time	70.2	45.6	115.8	13.5	12.0	12.9
Aged 25–34	99.4	51.0	150.4	8.1	8.2	8.1
Aged 35–44	76.8	39.0	115.8	6.4	7.1	6.6
Aged 45–54	58.6	27.4	85.9	6.1	6.0	6.0
Aged 55 and over	39.5	7.1	46.6	8.6	5.5	7.9
Total	401.9	211.4	613.4	8.7	9.3	8.9
LOOKING FOR PART-TIME WORK						
Aged 15–19	28.7	35.1	63.8	16.3	14.3	15.1
Attending school/tertiary educational institution part-time	26.6	30.8	57.4	36.5	31.0	33.2
Not attending school/tertiary educational institution part-time	2.1	4.3	6.4	5.7	7.6	6.9
Aged 20–24	8.8	12.0	20.8	9.2	7.5	8.2
Attending a tertiary educational institution part-time	5.9	5.4	11.3	13.5	9.9	11.5
Not attending a tertiary educational institution part-time	2.9	6.6	9.5	5.6	6.3	6.1
Aged 25–34	4.4	19.8	24.2	5.6	5.8	5.8
Aged 35–44	3.9	18.5	22.4	5.5	4.2	4.4
Aged 45–54	3.0	10.3	13.2	5.1	3.5	3.7
Aged 55 and over	4.6	4.3	9.0	4.8	3.2	3.9
Total	53.4	100.0	153.3	9.3	6.2	7.0

Source: Labour Force, Australia (6203.0).

The number of persons unemployed for 52 weeks or more doubled between 1990–91 and 1992–93, increasing from 149,500 to 336,300. However from 1992–93 the number of persons unemployed for 52 weeks or more fell

to stand at 226,500 in 1995–96 (table 6.22). Some 29.5% of all unemployed persons in 1995–96 had been unemployed for 52 weeks or more compared with 35.6% in 1992–93.

6.22 UNEMPLOYED PERSONS, Duration of Unemployment

Annual average	Duration of unemployment (weeks)					Total '000
	Under 4 '000	4 and under 13 '000	13 and under 26 '000	26 and under 52 '000	52 and over '000	
1990–91	131.8	184.5	127.0	116.3	149.5	709.0
1991–92	122.9	179.6	143.3	180.2	255.7	881.7
1992–93	121.7	173.0	134.0	175.4	336.3	940.5
1993–94	124.5	169.6	127.2	159.3	334.8	915.5
1994–95	123.3	159.4	110.6	127.7	273.6	794.6
1995–96	129.2	167.7	116.7	126.6	226.5	766.7

Source: Labour Force, Australia (6203.0).

Job search experience

An estimated 87% of unemployed persons looking for full-time work in July 1995 were registered with the Commonwealth Employment Service (CES) compared with 37% of those looking for part-time work (based on table 6.23).

In July 1995, 79% of unemployed persons were registered with the CES. This is a decrease from the highest percentage (83%) recorded for the survey in July 1993.

6.23 UNEMPLOYED PERSONS, Active Steps Taken to Find Full-time or Part-time Work — July 1995

Active steps taken to find work	Looking for full-time work			Looking for part-time work			Total		
	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000
Registered with the CES and									
Took no other active steps	*4.0	*1.2	5.2	*0.5	*1.4	*1.9	*4.5	*2.6	7.1
Contacted prospective employers	330.9	140.6	471.5	14.8	20.0	34.8	345.7	160.7	506.3
Took other active steps	12.3	6.1	18.4	*2.1	*3.9	6.0	14.4	10.0	24.3
Total	347.3	147.9	495.1	17.3	25.3	42.6	364.6	173.2	537.8
Not registered with the CES and									
Contacted prospective employers	29.0	42.2	71.2	21.6	45.3	66.9	50.6	87.5	138.1
Took other active steps	*0.1	*3.1	*3.2	*1.9	*2.9	4.8	*2.0	6.1	8.1
Total	29.1	45.4	74.4	23.5	48.2	71.7	52.6	93.6	146.1
Total	376.4	193.2	569.6	40.8	73.5	114.3	417.2	266.8	683.9

Source: Job Search Experience of Unemployed Persons, Australia (6222.0).

As table 6.24 shows, in July 1995 the most commonly reported main difficulty in finding work was 'considered too young or too old by employers' which was nominated by 105,400 persons or 15% of the unemployed. For the 132,900 unemployed persons aged 45 and over, 47% reported age-related reasons as their main difficulty in finding work.

The proportion of unemployed persons who reported their main difficulty in finding work was 'no vacancies at all' fell from a high of 33% recorded in June 1991 to 11% in July 1995.

Other common difficulties reported were 'insufficient work experience' (12%), 'too many applicants for available jobs' (12%), 'no vacancies in line of work' (11%) and 'lacked necessary skills or education' (11%).

There were 236,500 persons (35% of total unemployed) whose current period of unemployment, as at July 1995, was one year or more. For this group the most frequently reported main difficulties in finding work were 'age' (23%) and 'lacked necessary skills or education' (13%).

Of all the persons reporting 'language difficulties' as the main difficulty in finding work, 60% had been unemployed for one year or more. Similarly, 52% of the 105,400 persons whose reported main difficulty was age-related had been unemployed for one year or more.

Unemployed persons without post-school qualifications had, on average, been unemployed for 13 weeks more than those with post-school qualifications (66 weeks compared to 53 weeks).

6.24 UNEMPLOYED PERSONS(a), Main Difficulty in Finding Work and Duration of Current Period of Unemployment — July 1995

Main difficulty in finding work	Duration of current period of unemployment (weeks)					Total '000	Average duration weeks
	Under 4 '000	4 and under 13 '000	13 and under 26 '000	26 and under 52 '000	52 and over '000		
Considered too young or too old by employers	7.6	12.8	14.0	16.7	54.4	105.4	94.0
No vacancies at all	9.6	13.2	14.5	16.3	20.7	74.4	48.3
No vacancies in line of work	10.1	19.4	16.2	13.2	13.7	72.5	38.0
Insufficient work experience	7.2	16.7	8.4	25.2	26.5	84.1	54.0
Too many applicants for available jobs	5.5	15.8	12.6	17.2	28.2	79.2	51.7
Lacked necessary skills or education	6.6	14.3	9.7	14.7	29.6	74.9	63.8
Too far to travel, transport problems	5.6	9.7	10.1	10.0	14.0	49.3	52.1
Own ill health or disability	*2.8	5.5	*2.9	*3.9	19.1	34.3	107.2
Language difficulties	*0.5	*4.0	*2.8	*4.2	16.9	28.4	85.2
Unsuitable hours	*3.7	*2.9	*2.3	4.9	*4.0	17.8	29.2
Difficulties with child-care, other family responsibilities	*1.4	*1.9	*0.4	*1.3	*2.0	7.1	*76.6
Other difficulties(b)	*1.9	*2.6	*2.7	*4.4	4.9	16.4	69.2
No difficulties reported	19.2	10.9	*3.9	*3.8	*2.6	40.2	12.5
Total	81.7	129.4	100.5	135.7	236.5	683.9	60.0

(a) Excludes persons who had been stood down. (b) Includes persons who reported difficulties with ethnic background.

Source: Job Search Experience of Unemployed Persons, Australia (6222.0).

Job vacancies

Job vacancy statistics, taken together with unemployment statistics, help in assessing the demand for labour.

A job vacancy is a job available for immediate filling and for which recruitment action has been taken by the employer.

The estimated number of job vacancies in Australia peaked at 73,100 in May 1989 and then

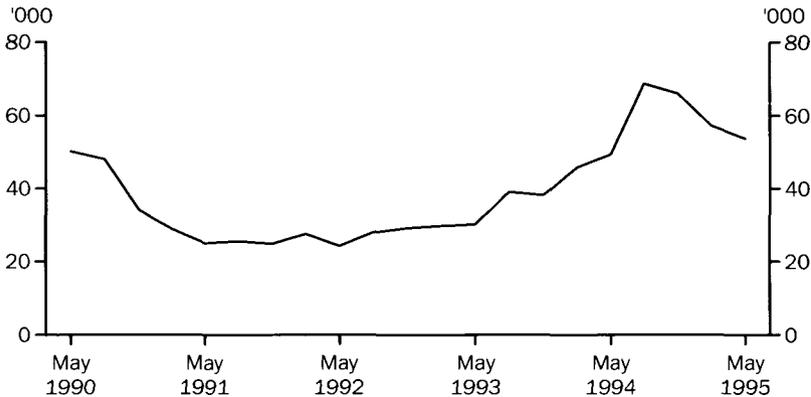
fell rapidly to a low of 24,300 in May 1992. The number of job vacancies increased to its latest peak of 68,700 in August 1994, and in May 1996 the job vacancies level was 53,600 (see table 6.25 and graph 6.26). Table 6.27 shows a time series for job vacancy rates (job vacancies as a percentage of the number of employees plus vacancies) by State/Territory.

6.25 JOB VACANCIES

Month	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT '000	ACT '000	Aust. '000
May 1991	10.5	3.8	4.4	*1.5	2.1	0.7	0.3	1.8	25.1
May 1992	6.5	5.8	5.1	1.4	3.2	0.6	0.4	1.3	24.3
May 1993	12.9	5.4	4.9	*1.8	*2.5	0.4	*0.6	*1.6	30.2
May 1994	17.7	15.3	6.1	*2.4	4.4	0.8	0.7	*1.9	49.4
May 1995	23.9	10.2	6.1	3.3	6.2	*1.7	1.0	1.3	53.7
May 1996	24.5	11.6	7.3	*2.4	5.4	*0.8	0.9	0.8	53.6

Source: Job Vacancies and Overtime, Australia (6354.0).

6.26 JOB VACANCIES



Source: *Job Vacancies and Overtime, Australia (6354.0)*.

6.27 JOB VACANCY RATES(a)

Month	NSW %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	ACT %	Aust. %
May 1991	0.51	0.24	0.52	*0.30	0.43	0.44	0.46	1.43	0.43
May 1992	0.33	0.36	0.56	0.30	0.61	0.41	0.65	1.03	0.42
May 1993	0.64	0.34	0.49	*0.40	*0.47	0.29	*0.81	*1.24	0.51
May 1994	0.85	1.03	0.64	*0.54	0.79	0.54	1.08	*1.39	0.84
May 1995	1.06	0.60	0.62	0.75	1.08	*1.08	1.65	0.91	0.85
May 1996	1.07	0.68	0.62	*0.51	0.87	*0.48	1.13	0.59	0.81

(a) Job vacancy rate is calculated by expressing the number of job vacancies as a percentage of the number of employees plus vacancies.

Source: *Job Vacancies and Overtime, Australia (6354.0)*.

Persons not in the labour force

Persons not in the labour force represent that group of the population who, during the reference week of a labour survey, are neither employed nor unemployed — see diagram 6.1. Interest in this group centres primarily around their potential to participate in the labour force and the reasons for their non-participation.

Of the 3.6 million persons aged 15–69 years not in the labour force at September 1995, 24% reported marginal attachment to the labour force and therefore were potential participants in it (based on table 6.28). An estimated 70% of these potential labour force participants were female.

Marginal attachment to the labour force includes discouraged jobseekers. These are persons who wanted to work and were available to start work but were not looking for work

because they believed they would not be able to find a job. This was either because they believed that jobs were not available, or that they would not be acceptable to employers because of their age, their lack of skills/education, or difficulties with language or ethnic background.

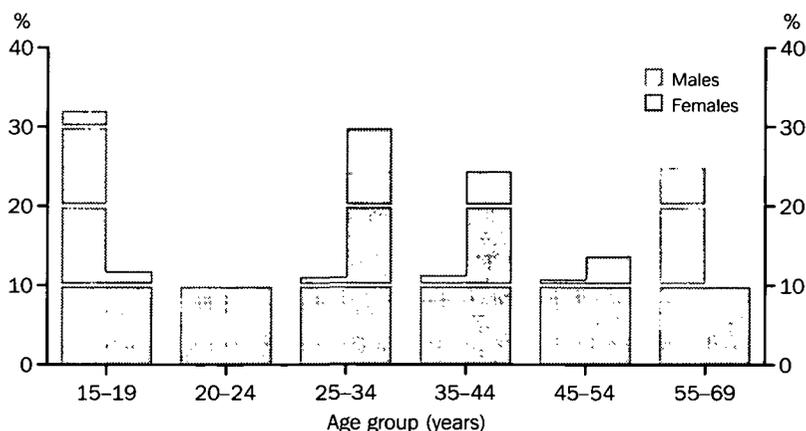
In September 1995 there were 111,900 discouraged jobseekers, up from 106,500 discouraged jobseekers in September 1994, an increase of 5%. In September 1993 there were 147,400 discouraged jobseekers (table 6.28). Graph 6.29 shows the proportion of males and females with marginal attachment to the labour force, by age group, at September 1995. It shows that for the age groups 25–34 and 35–44 the proportion of females was significantly higher than for males.

6.28 CIVILIAN POPULATION AGED 15–69, Labour Force Status

	September				
	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000
Persons in the labour force	8 591.5	8 647.5	8 744.6	8 875.5	9 057.0
Persons not in the labour force with marginal attachment to the labour force					
Wanted to work and were actively looking for work					
Were available to start work within four weeks	24.1	33.8	34.8	38.4	32.8
Were not available to start work within four weeks	22.5	25.3	23.5	22.9	31.0
Total	46.7	59.1	58.3	61.4	63.8
Wanted to work but not actively looking for work and available to start work within four weeks					
Discouraged jobseekers	138.2	145.6	147.4	106.5	111.9
Other	634.5	641.7	702.0	605.5	687.1
Total	772.7	787.3	849.5	712.0	799.0
Total with marginal attachment to the labour force	819.3	846.4	907.8	773.3	862.8
Without marginal attachment to the labour force	2 824.6	2 891.7	2 848.7	2 895.5	2 778.1
Total persons not in the labour force	3 643.9	3 738.1	3 756.4	3 668.8	3 640.9
Civilian population aged 15–69	12 235.4	12 385.7	12 501.0	12 544.3	12 697.9

Source: *Persons Not in the Labour Force, Australia (6220.0)*.

6.29 PERSONS NOT IN THE LABOUR FORCE WITH MARGINAL ATTACHMENT TO LABOUR FORCE, Age and Sex — September 1995



Source: *Persons Not in the Labour Force, Australia (6220.0)*.

Persons who re-entered the labour force

In the 12 months to July 1995, 105,700 persons (or 1.2% of the labour force) re-entered the labour force after spending at least a year away from it. These 're-entrants' had worked continuously for a period of 12 months or more at some earlier time. Some 76% of re-entrants were working in July 1995, while the other 24% were looking for work.

There were some 7.6% fewer re-entrants in 1995 than in 1993 when the survey was last conducted. Over the same period, the

proportion of re-entrants who were looking for work declined from 40% in 1993 to 24% in 1995.

In July 1995, 81% of re-entrants were females, 84% of whom indicated that their main activity while out of the labour force had been home duties/childcare. For male re-entrants, 30% reported that their main activity had been attending an educational institution.

For all re-entrants 'Financial reasons' was the most frequently reported main reason for wanting to work again (given by 54% of female

re-entrants and 52% of male re-entrants). For females, other frequently reported reasons for wanting to work again were 'Boredom/needs another interest' (16%) and 'Children gone to school/no longer needed to look after children' (10%).

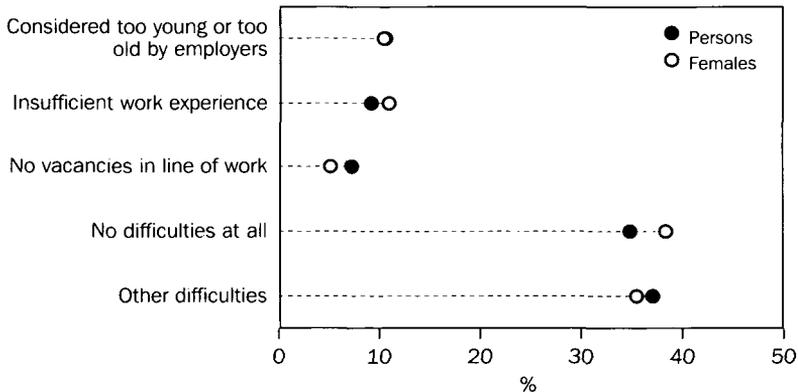
Of the 80,600 re-entrants who were working in July 1995, 57,400 (71%) were part-time workers (down from 73% in May 1993). Of re-entrants who were working in July 1995, 36% were aged 35-44 years, 33% were aged 25-34 years and 17% were aged 45-54 years.

An estimated 62,900 re-entrants were working as employees. Of these, 31% had not had a job for

5 to 9 years, while 27% had been out of work for 1 to 2 years. About 40% of re-entrants who were working as employees earned a gross weekly wage of \$160 or less.

As graph 6.30 shows, in July 1995 35% of re-entrants who had looked for work in the last 12 months reported 'No difficulties at all' in finding work (compared with 26% in May 1993). Some 11% of re-entrants reported that they were 'Considered too young or too old by employers', 9% of re-entrants reported that they were considered to have 'Insufficient work experience'.

6.30 RE-ENTRANTS WHO HAD LOOKED FOR WORK IN THE LAST 12 MONTHS, Main Difficulty in Finding Work — July 1995



Source: *Persons Who Had Re-entered the Labour Force, Australia (6264.0)*.

Wage rates, earnings, costs of labour and hours of work

Award rates of pay indexes

The award rates of pay indexes are based on a representative sample of award classifications, designed to measure trends in rates payable under awards, determinations and collective agreements. The indexes are based on the industry and occupation structures existing in May 1985. Estimates of award rates of pay for each component of the series are expressed as index numbers based on June 1985 = 100.0.

Wage variations from enterprise bargaining awards and agreements are generally excluded from award rates of pay indexes.

Table 6.31 shows the index for full-time adult males and females by industry for June 1994, 1995 and 1996. In the 12 months to June 1996, the index rose by 1.0% for full-time adult males and 1.2% for full-time adult females.

6.31 WEEKLY AWARD RATES OF PAY INDEXES, Full-time Adult Employees — By Industry(a)

Industry	Males			Females		
	June 1994	June 1995	June 1996	June 1994	June 1995	June 1996
Mining	142.2	143.7	145.3	..	..	—
Manufacturing						
Food, beverages, tobacco	141.1	143.1	144.4	141.3	143.4	145.3
Textiles; Clothing, and footwear	154.8	158.2	159.3	156.2	160.1	161.5
Metal products, machinery and equipment						
Basic metal products	139.8	140.5	141.4	..	..	—
Fabricated metal products; other machinery and equipment	145.9	148.6	151.2	..	..	—
All metal products, machinery and equipment	143.3	145.1	147.0	146.0	148.7	151.0
Transport equipment	142.3	143.9	145.5	..	..	—
Other manufacturing(b)	147.4	149.9	152.0	149.0	151.8	153.9
Total manufacturing	143.7	145.7	147.5	147.9	150.8	152.6
Construction	139.4	141.7	143.5	..	..	—
Wholesale and retail trade						
Wholesale trade	144.9	147.7	149.3	144.2	147.2	149.1
Retail trade	150.9	153.8	155.6	148.6	151.1	152.5
Total wholesale and retail trade	148.1	150.9	152.6	147.1	149.8	151.3
Finance, property and business services	138.9	141.8	142.5	139.6	142.6	143.4
Community services	139.7	141.7	142.7	144.2	146.7	148.2
All industries(c)	141.2	143.3	144.7	144.1	146.8	148.5

(a) Reference base year June 1985 = 100.0. (b) Includes Wood, wood products and furniture; Non-metallic mineral products; and Miscellaneous manufacturing. (c) Excludes employees in the Defence forces; Agriculture; Services to agriculture; and employees in private households employing staff.

Source: Award Rates of Pay Indexes, Australia (6312.0).

6.32 AVERAGE WEEKLY EARNINGS OF EMPLOYEES

	Pay period ending on or before					
	17 May 1991	15 May 1992	21 May 1993	20 May 1994	19 May 1995	17 May 1996
	\$	\$	\$	\$	\$	\$
MALES						
Full-time adult employees						
Average weekly ordinary time earnings	592.00	624.80	632.90	654.00	687.80	715.80
Average weekly total earnings	632.70	665.50	679.60	705.90	743.00	774.20
All male employees						
Average weekly total earnings	569.90	597.40	612.50	625.10	652.70	671.50
FEMALES						
Full-time adult employees						
Average weekly ordinary time earnings	500.50	519.70	533.00	552.10	575.50	594.10
Average weekly total earnings	512.40	531.20	545.60	566.70	589.80	607.90
All female employees						
Average weekly total earnings	378.90	397.00	406.30	422.80	429.90	441.10
PERSONS						
Full-time adult employees						
Average weekly ordinary time earnings	560.80	587.30	597.80	617.50	647.30	672.60
Average weekly total earnings	591.70	617.60	632.60	656.10	687.80	715.20
All employees						
Average weekly total earnings	484.30	504.50	517.50	531.80	548.10	564.40

Source: Average Weekly Earnings, States and Australia (6302.0).

Average weekly earnings

Weekly total earnings include award, over-award and overtime pay while weekly ordinary time earnings relate only to that part of total earnings

attributable to award, standard or agreed hours of work.

Table 6 32 shows the average weekly ordinary time earnings (AWOTE) of both males and female employed wage and salary earners over the six years ending May 1991 to May 1996. For males the AWOTE increased by 20.9% from \$592.00 to \$715.80 over this period, and for females by 18.7% from \$500.50 to \$594.10.

Composition and distribution of earnings

Statistics on the composition and distribution of average weekly earnings and hours, for various categories of employees by occupation groups, industries and sectors, provide an additional perspective on earnings.

Table 6 33 shows the distribution of average weekly earnings across different occupations and categories of employees in May 1995. The highest weekly total earnings for full-time adult employees were recorded in the following major occupation groups: Managers and administrators (males \$978.70, females \$749.30); Professionals (males \$809.40, females \$613.80); and Para-professionals (males \$778.40, females \$574.00).

Table 6 34 presents the components of average weekly earnings and hours for full-time adult

non-managerial employees, by industry and sector.

In 1995, payment by measured result, over-award pay and overtime were more significant for full-time adult non-managerial males than females, as a percentage of total weekly earnings.

Payment by measured result was largest in the Mining industry (males \$117.30, females \$29.70). Male employees in the Finance and Insurance industry, and female employees in the Property and Business Services industry, received higher average over-award pay (\$29.90 and \$11.90, respectively) than employees in any other industries. Significant amounts of weekly overtime earnings were recorded for full-time adult non-managerial males in the Mining, Manufacturing, Construction and Transport and storage industries (\$133.30, \$106.00, \$122.60 and \$117.30 respectively).

In May 1995, females in the private sector earned 80.2%, on average, of their male counterparts' total weekly earnings. In the public sector, female employees received 89.0% of total male earnings.

**6.33 AVERAGE WEEKLY TOTAL EARNINGS, Major Occupation Groups by Category of Employee
— May 1995**

Occupation	Full-time employees							Part-time employees \$	All employees \$
	Managerial		Non-managerial			Total			
	Adult \$	Adult \$	Junior \$	Total \$	Adult \$	Total \$			
MALES									
Managers and administrators	992.90	823.10	—	823.10	990.90	990.90	299.10	978.70	
Professionals	915.10	876.10	352.10	874.60	881.40	880.10	337.80	809.40	
Para-professionals	1 164.80	801.60	317.80	796.80	821.30	816.60	286.20	778.40	
Tradespersons	519.30	676.60	306.60	628.80	667.50	623.20	302.80	609.10	
Clerks	553.00	627.60	312.80	618.60	626.50	617.60	236.70	572.60	
Salespersons and personal service workers	547.60	635.30	334.90	620.50	630.40	616.60	174.70	468.60	
Plant and machine operators, and drivers	429.20	719.40	311.90	716.30	713.70	710.70	226.20	658.60	
Labourers and related workers	431.40	573.70	293.30	562.70	572.80	561.90	190.40	462.50	
Total	934.30	697.70	308.80	678.90	740.60	723.40	222.90	654.00	
FEMALES									
Managers and administrators	802.90	546.00	—	546.00	798.20	798.20	323.60	749.30	
Professionals	663.00	757.50	n.p.	757.50	755.60	755.60	321.60	613.80	
Para-professionals	799.70	703.20	336.20	698.20	704.60	699.70	414.40	574.00	
Tradespersons	315.40	498.50	297.00	454.90	484.80	446.60	248.00	375.70	
Clerks	446.50	541.10	307.40	529.70	536.90	526.10	268.40	443.50	
Salespersons and personal service workers	432.40	514.10	308.20	493.20	512.20	492.00	198.70	299.60	
Plant and machine operators, and drivers	370.70	513.20	339.00	508.10	511.50	506.60	226.40	437.40	
Labourers and related workers	294.50	466.00	293.90	460.60	464.20	458.90	205.20	291.00	
Total	707.90	587.10	306.60	573.40	599.00	586.10	247.30	434.10	
PERSONS									
Managers and administrators	950.60	737.10	—	737.10	947.70	947.70	315.00	923.60	
Professionals	889.10	820.30	352.10	819.60	826.20	825.50	326.20	711.20	
Para-professionals	1 118.60	766.90	325.70	762.00	781.30	776.40	394.20	683.30	
Tradespersons	500.70	664.00	305.40	615.20	654.30	609.30	274.90	582.70	
Clerks	458.90	566.70	308.40	555.60	562.80	552.30	265.20	474.00	
Salespersons and personal service workers	515.50	575.00	316.70	555.40	572.60	553.90	193.80	356.70	
Plant and machine operators and drivers	425.60	698.30	320.40	694.60	693.10	689.60	226.20	632.00	
Labourers and related workers	384.70	548.70	293.40	539.10	547.50	538.10	199.60	394.80	
Total	881.30	655.50	308.00	638.60	689.70	673.90	241.00	551.00	

Source: *Distribution and Composition of Employee Earnings and Hours, Australia (6306.0)*.

**6.34 COMPOSITION OF AVERAGE WEEKLY EARNINGS, Full-time Adult Non-managerial Employees
— May 1994**

	Average weekly total earnings					Average weekly total hours paid for			
	Average weekly ordinary time earnings					Total \$	Ordinary time hours	Overtime hours	Total hours
	Base pay(a) \$	Payment by measured result \$	Overaward and over-agreement pay \$	Total ordinary time \$	Overtime \$				
MALES									
Industry(b)									
Mining	845.50	117.30	11.20	974.00	133.30	1 107.30	40 00	4.80	44 80
Manufacturing	551.30	7 00	17.60	575 90	106.00	681 90	38 00	4 50	42 40
Electricity, gas and water	692 90	0 10	1.30	694 30	61.60	755 90	37 00	2 20	39 20
Construction	604 00	3.10	11.90	619 00	122.60	741 60	38 10	5 00	43 20
Wholesale trade	543 60	10.50	16.00	570 10	42.70	612 80	38 40	2 00	40 40
Retail trade	473 90	21.70	16.80	512 40	33.60	546 00	39.00	1 70	40 70
Accommodation, cafes and restaurants	504 10	0 20	6.20	510 50	12.40	522 90	38.60	0 70	39 30
Transport and storage	608 90	17 50	3.80	630 10	117.30	747 40	38.80	4 90	43 70
Communication services	651.10	2 50	0.20	653 70	96.20	749.90	36 90	3 60	40 50
Finance and insurance	660.10	23 80	29.90	713 80	18.70	732.40	38 00	0 80	38 80
Property and business services	648 70	8 90	8.30	665.80	39.70	705.50	38 30	1 80	40 20
Government administration and defence(c)	616 70	n.p.	n.p.	618.90	31.60	650 50	37 20	1 40	38 60
Education	772 50	0 10	0.80	773.40	4.20	777 60	36 80	0 20	37 00
Health and community services	660 90	n.p.	n.p.	662.50	50.70	713.10	38 10	1 60	39.70
Cultural and recreational services	646 30	6 50	6.00	658.80	42.80	701.60	38 10	1 70	39.80
Personal and other services	684 60	0 60	0.80	686.00	35.70	721.70	38 30	1 40	39.70
Sector									
Private	574 50	14 80	14.90	604.20	77.60	681.90	38.40	3.30	41.70
Public	682.70	0 50	1.00	684.20	48.10	732.30	37.40	1 80	39 10
Total	608.50	10.30	10.60	629.30	68.40	697.70	38.10	2.90	40.90

For footnotes see end of table.

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6.34 COMPOSITION OF AVERAGE WEEKLY EARNINGS, Full-time Adult Non-managerial Employees
— May 1994 — continued

	Average weekly total earnings					Average weekly total hours paid for			
	Average weekly ordinary time earnings					Total \$	Ordinary time hours	Overtime hours	Total hours
	Base pay(a) \$	Payment by measured result \$	Overaward and over- agreement pay \$	Total ordinary time \$	Overtime \$				
FEMALES									
Industry(b)									
Mining	744.10	29.70	1.70	775.50	14.20	789.70	41.40	0.60	42.00
Manufacturing	493.50	6.90	8.40	508.80	29.90	538.60	37.90	1.50	39.40
Electricity, gas and water	629.40	0.30	2.50	632.30	29.20	661.50	36.40	0.90	37.30
Construction	517.50	n.p.	n.p.	518.30	46.60	564.90	38.30	2.20	40.50
Wholesale trade	513.10	3.50	11.20	527.80	12.50	540.30	38.20	0.60	38.80
Retail trade	446.70	2.60	5.70	455.00	14.20	469.20	38.30	0.70	39.00
Accommodation, cafes and restaurants	478.50	0.60	3.70	482.70	13.20	495.90	38.50	0.60	39.10
Transport and storage	574.10	6.10	3.00	583.10	29.80	612.90	38.30	1.20	39.50
Communication services	608.40	2.00	0.20	610.60	29.70	640.40	36.10	1.30	37.40
Finance and insurance	543.00	1.50	9.80	554.30	12.90	567.20	37.80	0.60	38.40
Property and business services	547.90	9.30	11.90	569.20	9.90	579.10	37.70	0.50	38.20
Public administration and defence(c)	603.20	0.50	1.30	605.00	9.00	613.90	36.70	0.40	37.00
Education	678.00	3.10	0.80	681.90	2.40	684.20	36.40	0.10	36.50
Health and community services	595.30	0.10	1.10	596.40	12.60	609.00	37.90	0.40	38.40
Cultural and recreational services	588.60	2.70	3.70	594.90	14.20	609.10	37.20	0.60	37.80
Personal and other services	522.80	5.70	5.90	534.30	16.50	550.80	37.60	0.70	38.40
Sector									
Private	518.60	5.50	7.90	532.00	15.00	547.00	38.00	0.70	38.70
Public	638.60	0.30	0.40	639.20	12.90	652.10	36.90	0.50	37.40
Total	564.40	3.50	5.00	572.90	14.20	587.10	37.60	0.60	38.20

For footnotes see end of table.

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**6.34 COMPOSITION OF AVERAGE WEEKLY EARNINGS, Full-time Adult Non-managerial Employees
— May 1994 — continued**

	Average weekly total earnings						Average weekly total hours paid for			
	Average weekly ordinary time earnings					Overtime	Total	Ordinary time hours	Overtime hours	Total hours
	Base pay(a)	Payment by measured result	Overaward and over-agreement pay	Total ordinary time						
\$	\$	\$	\$	\$	\$	\$	hours	hours	hours	
PERSONS										
Industry(b)										
Mining	834.50	107.90	10.20	952.50	120.40	1 072.90	40.20	4.30	44.50	
Manufacturing	538.90	7.00	15.60	561.50	89.60	651.10	37.90	3.80	41.80	
Electricity, gas and water	685.30	0.10	1.40	686.90	57.80	744.70	37.00	2.00	39.00	
Construction	593.90	2.70	10.60	607.30	113.80	721.00	38.10	4.70	42.90	
Wholesale trade	534.40	8.40	14.50	557.30	33.50	590.80	38.30	1.60	39.90	
Retail trade	462.70	13.90	12.20	488.80	25.60	514.40	38.70	1.30	40.00	
Accommodation, cafes and restaurants	491.70	0.40	5.00	497.10	12.80	509.90	38.60	0.70	39.20	
Transport and storage	602.30	15.30	3.60	621.30	100.80	722.10	38.70	4.20	42.90	
Communication services	637.40	2.30	0.20	639.90	74.90	714.80	36.60	2.80	39.50	
Finance and insurance	593.10	11.10	18.40	622.50	15.40	637.90	37.90	0.70	38.60	
Property and business services	601.40	9.10	10.00	620.40	25.70	646.10	38.00	1.20	39.20	
Public administration and defence(c)	611.60	0.2	1.90	613.70	23.10	636.80	37.00	1.00	38.00	
Education	715.40	1.90	0.80	718.10	3.10	721.20	36.60	0.10	36.70	
Health and community services	614.20	0.00	1.20	615.40	23.50	639.00	38.00	0.80	38.70	
Cultural and recreational services	620.70	4.80	5.00	630.40	30.10	660.50	37.70	1.20	38.90	
Personal and other services	624.80	2.50	2.70	629.90	28.60	658.60	38.10	1.10	39.20	
Sector										
Private	554.50	11.50	12.40	578.40	55.20	633.60	38.20	2.40	40.70	
Public	663.80	0.40	0.80	664.90	33.00	697.90	37.20	1.20	38.40	
Total	591.60	7.70	8.50	607.80	47.70	655.50	37.90	2.00	39.90	

(a) Includes payments from enterprise bargaining awards and agreements. (b) Industry classified according to Australian and New Zealand Standard Industry Classification (ANZSIC). (c) Excludes permanent defence forces.

Source: *Distribution and Composition of Employee Earnings and Hours, Australia (6306.0)*.

Standard non-wage benefits

In addition to wages and salaries, a majority of employees receive leave (sick, holiday and long service) and superannuation benefits. By their nature, it is difficult to collect data on the value of most non-wage benefits. The statistics presented in this section therefore relate to the incidence of standard non-wage benefits, and not to their value.

In August 1995, 97% of the 5,104,600 full-time employees received one or more of the 'standard' employment benefits of superannuation, sick leave, holiday leave or long service leave in their main job. In comparison, 69% of the 1,777,700 part-time employees received one or more 'standard' employment benefits.

Table 6.35 shows the proportion of employees receiving one or more of the 'standard' employment benefits. The proportion receiving a superannuation benefit (i.e. belonging to a superannuation scheme or fund arranged by their employer) has increased steadily in recent years (from 55% in 1989 to 95% in 1995 for full-time employees). Details of coverage by industry, occupation and status of worker are shown in the following section on superannuation.

Public sector employees had a higher incidence of receipt of standard benefits than private sector employees. Of the 1,677,600 public sector employees, 93% received superannuation, 88% received holiday leave, 89% received sick leave

and 86% received long service leave. In comparison, for the 5,204,600 private sector employees, the proportions were 85%, 70%, 70% and 57% respectively (based on table 6.36).

Persons who worked for larger employers also had a higher incidence of receipt of standard

benefits. The proportion of employees receiving one or more benefits was 83% where number of employees was less than 10, 88% where there were 10 to 19 employees, 93% where there were 20 to 99 and 97% where there were 100 or more employees.

6.35 EMPLOYEES IN MAIN JOB(a), Type of Standard Benefit Received

Type of benefit	Working full-time		Working part-time		Total employees	
	August 1989 %	August 1995 %	August 1989 %	August 1995 %	August 1989 %	August 1995 %
Superannuation	55.1	94.6	17.8	65.4	48.1	87.0
Holiday leave	92.1	89.3	32.0	32.0	80.8	74.5
Sick leave	91.5	89.1	31.8	32.6	80.3	74.5
Long-service leave	75.3	76.9	26.2	27.4	66.0	64.1

(a) Excluding those attending school.

Source: *Employment Benefits, Australia* (6334.0.40.001).

6.36 EMPLOYEES, Selected Characteristics and Standard Benefits — August 1995

Type of benefit received	Type of standard benefit received						Per cent who received a benefit %
	No standard benefits received '000	Superannuation '000	Holiday leave '000	Sick leave '000	Long-service leave '000	Total '000	
Full-time and part-time employees							
Full-time	130.8	4 827.2	4 556.2	4 546.5	3 925.5	5 104.6	97.4
Part-time	555.3	1 162.7	568.0	579.6	487.6	1 777.7	68.8
Permanent or casual employees							
Permanent	..	5 034.9	5 124.2	5 126.0	4 304.2	5 229.0	100.0
Casual	686.1	955.0	..	..	108.9	1 653.3	58.5
Sector							
Public	64.2	1 567.4	1 483.2	1 499.9	1 438.2	1 677.6	96.2
Private	621.9	4 422.4	3 641.0	3 626.2	2 974.9	5 204.6	88.1
Size of location							
Less than 10 employees	318.7	1 421.9	1 080.8	1 066.5	747.2	1 819.6	82.5
10–19 employees	113.0	784.0	666.7	671.6	534.9	932.5	87.9
20–99 employees	137.9	1 668.8	1 453.5	1 465.3	1 321.6	1 850.1	92.5
100 or more employees	68.6	1 952.7	1 792.1	1 792.7	1 710.2	2 059.0	96.7
Don't know	47.9	162.4	131.2	130.0	99.3	221.0	78.4
Total	686.1	5 989.9	5 124.2	5 126.0	4 413.1	6 882.2	90.0

Source: *Employment Benefits, Australia* (6334.0.40.001).

Superannuation

Over recent years superannuation has assumed a major role in Australian industrial relations and government policy on labour and social welfare. Less than a decade ago superannuation was available as an employment benefit only to a select group of occupations and industries. Most workers had to rely on personal savings and the age pension for income in their retirement. In response to the expected increase in age pension liabilities as the

Australian population ages, moves were made by the Government for workers to be more reliant on superannuation in retirement.

In the 1986 National Wage Case a 3% productivity-linked pay rise was awarded, payment of which was deferred through superannuation. As a consequence the number of employees covered by superannuation increased dramatically over subsequent years. In 1992 the Superannuation Guarantee Charge was

introduced, which aimed to extend superannuation coverage to all employees and progressively increase the level of superannuation contributions.

This section incorporates statistics on superannuation from two ABS surveys. One is an annual survey of businesses regarding labour costs (a biennial survey from 1991–92), in which data are collected on employer superannuation costs. The other is a supplementary survey to the Labour Force Survey which provides data on

the characteristics of workers in relation to superannuation. Due to the different sources and methods, the level of coverage differs slightly in the two surveys, affecting the compatibility of the resulting statistics.

Table 6.37 shows details of superannuation costs in the private sector by industry. These costs increased 68% over the period 1989–90 to 1993–94, to an average of \$1,480 per employee in 1993–94.

6.37 SUPERANNUATION, Cost to Employers — Private Sector

Industry	1990-91	1991-92	1993-94
TOTAL SUPERANNUATION COST (\$m)			
Mining	155	177	206
Manufacturing	1 063	1 082	1 407
Electricity, gas and water supply	8	8	10
Construction	327	349	412
Wholesale trade	577	533	754
Retail trade	338	401	630
Accommodation, cafes and restaurants	103	*170	259
Transport and storage	169	208	273
Communication services	2	*3	11
Finance and insurance	521	535	517
Property and business services	668	843	984
Government administration and defence	—	—	—
Education	78	115	143
Health and community services	284	296	509
Cultural and recreational services	*84	*96	103
Personal and other services	78	99	*223
Total industry	4 455	4 915	6 440
SUPERANNUATION COST PER EMPLOYEE (\$)			
Mining	2 235	2 861	3 430
Manufacturing	1 155	1 281	1 605
Electricity, gas and water supply	2 954	3 073	3 726
Construction	1 533	1 709	1 785
Wholesale trade	1 311	1 358	1 917
Retail trade	461	516	756
Accommodation, cafes and restaurants	379	*659	801
Transport and storage	981	1 143	1 780
Communication services	1 430	*1 389	1 646
Finance and insurance	2 306	2 715	2 399
Property and business services	1 444	1 610	1 798
Government administration and defence	—	—	—
Education	1 085	1 286	1 332
Health and community services	969	911	1 527
Cultural and recreational services	*1 033	*725	832
Personal and other services	897	1 035	*1 548
Total industry	1 101	1 203	1 480

Source: Labour Costs, Australia (6348.0).

6.38 SUPERANNUATION, Employees Covered — Private and Public Sectors

Industry	1990-91	1991-92	1993-94
	%	%	%
Mining	86.5	93.2	96.6
Manufacturing	83.3	87.1	96.1
Electricity, gas and water supply	95.2	98.4	98.1
Construction	71.1	73.5	92.5
Wholesale trade	75.2	79.7	93.2
Retail trade	51.3	55.0	81.8
Accommodation, cafes and restaurants	47.7	48.2	87.6
Transport and storage	77.8	81.8	96.4
Communication services	99.3	98.9	97.8
Finance and insurance	86.0	87.1	88.0
Property and business services	64.4	69.8	90.9
Government administration and defence	93.9	95.1	96.9
Education	87.0	86.0	94.2
Health and community services	84.2	83.3	91.6
Cultural and recreational services	52.9	67.0	84.3
Personal and other services	75.1	78.8	92.3
Total industry	75.3	77.6	91.5

Source: *Labour Costs, Australia* (6348.0).

Table 6.38 shows the growth in the percentage of employees covered by superannuation in each industry up to 1993-94. The Superannuation Guarantee Legislation introduced in July 1992 provided superannuation cover for all employees who earned more than the tax free threshold (currently \$5,400 per year \$450 per month). For the 1993-94 financial year this became compulsory and has contributed to the large increase in superannuation coverage in Australia.

Table 6.39 shows that, of those persons employed in November 1995, 6,545,100 (or 81%) were covered by superannuation, that is, belonged to a superannuation scheme to which contributions were being made either by an employer or personally. The percentage of employees covered by superannuation was 89%, compared with 51% of employers and 31% of self-employed persons.

6.39 SUPERANNUATION, Coverage of Employed Persons Aged 15-74 — November 1995

	Covered			Not covered			Total		
	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000
Status of worker									
Employees	3 442.1	2 666.4	6 108.5	336.1	390.8	726.8	3 778.2	3 057.2	6 835.3
Employers	118.7	43.2	161.9	93.9	61.1	155.0	212.6	104.3	316.9
Self-employed	213.0	54.0	267.0	379.2	225.8	605.0	592.2	279.8	872.0
Payment in kind/unpaid family helpers	*2.0	5.6	7.6	21.4	38.6	60.0	23.4	44.2	67.6
Occupation									
Managers and administrators	491.6	136.4	628.0	165.1	83.2	248.2	656.7	219.6	876.2
Professionals	590.3	453.8	1 044.1	84.4	66.0	150.4	674.7	519.8	1 194.5
Para-professionals	217.4	219.7	437.1	20.5	16.0	36.6	237.9	235.7	473.7
Tradespersons	854.6	80.2	934.7	199.4	42.0	241.6	1 054.0	122.2	1 176.3
Clerks	274.8	897.1	1 171.9	18.6	160.1	178.7	293.4	1 057.2	1 350.6
Salespersons and personal service workers	354.0	606.0	960.1	85.0	211.0	296.0	439.0	817.0	1 256.1
Plant and machine operators, and drivers	421.8	56.7	478.5	90.2	18.0	108.2	512.0	74.7	586.7
Labourers and related workers	571.4	319.4	890.8	167.2	119.8	287.0	738.6	439.2	1 177.8
Total	3 775.8	2 769.3	6 545.1	830.6	716.2	1 546.7	4 606.4	3 485.5	8 091.8

Source: *Superannuation, Australia* (6319.0).

The Para-professionals occupation group had the highest level of coverage (92%), followed by Professionals (87%). The occupation groups with the lowest levels of superannuation coverage were Labourers and related workers (76%) and Managers and administrators (72%). Males recorded higher levels of superannuation coverage than females across most occupation groups.

Based on table 6.40, for those employees covered by a superannuation scheme, superannuation was expected to be the main source of income after retirement for 31% of the

1,706,500 employees aged 45–74. A further 18% expected a government pension to be their main source of income. Of those covered by a superannuation scheme, a smaller proportion of female employees (17%) than male employees (41%) expected superannuation to be their main source of income after retirement.

Superannuation was less likely to be the main source of income for lower income earners. Of employees earning less than \$200 per week, 4% nominated superannuation as their expected main income compared with 49% of employees earning \$600 or more per week.

6.40 EMPLOYEES AGED 45–74 COVERED BY SUPERANNUATION, Weekly Pay and Expected Source of Income after Ceasing Work — November 1995

	Expected main source of income after ceasing full-time work							Total '000
	Super- annuation '000	Invalid, age, sole parent's widow's pension '000	Investments, interest, stocks, debentures, etc. '000	Dependent on someone else's income, pension, super- annuation '000	Other/ Did not know '000	Will never cease full- time work '000	Other(a) '000	
Usual gross weekly pay in all jobs								
Under \$200	*4.1	7.6	*2.8	*3.2	8.7	*2.3	68.7	97.4
\$200 and under \$400	20.0	56.3	9.9	19.3	35.6	8.5	130.3	279.8
\$400 and under \$600	124.3	148.0	27.7	47.9	103.7	18.5	52.6	522.6
\$600 and under \$800	132.5	66.6	34.2	17.8	67.8	7.1	13.1	339.2
\$800 and under \$1 000	103.9	21.8	18.3	8.0	36.4	5.8	*2.0	196.1
\$1 000 and over	129.4	8.3	32.8	*4.2	30.1	10.4	*1.9	216.9
Income not reported	16.5	6.5	6.5	*1.5	12.8	*2.8	7.7	54.4
Sex								
Males	409.1	198.2	92.7	17.4	192.0	43.8	35.9	989.2
Females	121.6	116.9	39.5	84.5	103.1	11.5	240.3	717.3
Total	530.6	315.1	132.2	101.9	295.1	55.3	276.2	1 706.5
Average usual gross weekly pay in (all) job(s)(b)	861.0	540.0	876.0	557.0	710.0	840.0	332.0	671.0

(a) Includes categories 'Had ceased full-time work', 'Had never worked full-time', 'Had not decided whether ceased full-time work' and 'Not determined'. (b) Excludes category 'Income not reported'.

Source: *Superannuation, Australia* (6319.0).

Labour costs

Labour costs are those costs incurred by employers in the employment of labour. Labour costs can be split into payments for time actually worked by employees and additional labour costs incurred by employers.

Table 6.41 details labour costs per employee by industry for 1990–91, 1991–92 and 1993–94. The Mining industry continued to incur the highest costs per employee, with the Accommodation, cafes and restaurants industry incurring the lowest

6.41 LABOUR COSTS PER EMPLOYEE, By Industry

Industry	Total labour costs \$	Earnings \$	Other labour costs \$	Super-annuation \$	Payroll tax \$	Workers' compensation \$	Fringe benefits tax \$
Mining							
1993-94	67 140	57 763	9 377	3 596	3 123	1 683	975
1991-92	61 978	53 811	8 167	2 974	3 038	1 404	751
1990-91	55 966	48 813	7 153	2 346	2 696	1 401	711
Manufacturing							
1993-94	36 570	32 059	4 511	1 613	1 623	1 068	208
1991-92	35 171	31 036	4 135	1 318	1 576	1 030	211
1990-91	32 579	28 712	3 867	1 194	1 410	1 072	192
Electricity, gas and water supply							
1993-94	51 588	43 351	8 237	4 397	2 399	1 188	253
1991-92	44 166	36 557	7 609	3 992	2 254	1 176	188
1990-91	43 278	34 373	8 906	5 501	2 108	1 133	163
Construction							
1993-94	35 357	30 990	4 368	1 977	1 106	1 090	195
1991-92	33 749	29 516	4 233	2 012	930	1 086	206
1990-91	32 147	28 237	3 910	1 710	988	987	225
Wholesale trade							
1993-94	37 504	33 158	4 346	1 922	1 362	558	505
1991-92	33 950	30 315	3 636	1 368	1 302	511	455
1990-91	31 982	28 492	3 490	1 318	1 251	593	327
Retail trade							
1993-94	19 435	17 565	1 870	756	713	318	83
1991-92	17 493	16 077	1 416	516	538	305	57
1990-91	17 914	16 531	1 383	462	540	319	63
Accommodation, cafes and restaurants							
1993-94	18 560	16 883	1 677	802	523	292	59
1991-92	16 656	15 231	1 425	*660	424	288	52
1990-91	16 770	15 564	1 206	381	452	323	50
Transport and storage							
1993-94	44 253	37 182	7 070	3 698	1 909	1 222	241
1991-92	38 724	32 929	5 795	3 065	1 557	1 001	172
1990-91	35 118	30 225	4 893	2 245	1 458	1 031	159
Communication services							
1993-94	49 503	42 234	7 269	3 970	2 472	618	209
1991-92	41 628	34 632	6 995	4 105	2 144	629	118
1990-91	36 351	30 654	5 696	3 078	1 834	638	146
Finance and insurance							
1993-94	43 584	37 502	6 082	2 454	2 116	213	1 299
1991-92	41 757	35 695	6 063	2 519	2 079	170	1 294
1990-91	37 592	32 409	5 183	2 154	1 774	194	1 061
Property and business services							
1993-94	32 429	29 057	3 372	1 904	892	278	*298
1991-92	32 825	29 287	3 538	1 773	1 080	362	323
1990-91	31 453	28 205	3 248	1 501	1 053	392	302
Government administration and defence							
1993-94	36 183	32 089	4 094	2 560	665	652	217
1991-92	32 445	29 453	2 993	1 782	497	606	108
1990-91	31 424	28 691	2 733	1 543	467	637	86
Education							
1993-94	34 935	31 128	3 806	1 928	1 455	345	78
1991-92	31 984	28 817	3 167	1 439	1 378	299	52
1990-91	30 980	28 071	2 910	1 263	1 308	305	34

...continued

6.41 LABOUR COSTS PER EMPLOYEE, By Industry — continued

Industry	Total labour costs \$	Earnings \$	Other labour costs \$	Super-annuation \$	Payroll tax \$	Workers' compensation \$	Fringe benefits tax \$
Health and community services							
1993-94	28 847	26 521	2 326	1 551	202	550	23
1991-92	26 947	25 232	1 715	938	210	553	14
1990-91	25 890	24 254	1 636	876	176	568	16
Cultural and recreational services							
1993-94	20 075	18 097	1 978	1 034	552	269	*123
1991-92	19 536	17 692	1 844	972	523	237	*112
1990-91	23 854	21 476	2 377	1 252	625	352	*148
Personal and other services							
1993-94	32 860	29 190	3 670	1 798	1 113	612	147
1991-92	30 905	27 748	3 158	1 343	1 105	570	*139
1990-91	28 011	25 223	2 789	1 155	948	574	113
Total all industries							
1993-94	32 755	28 958	3 797	1 829	1 131	598	240
1991-92	30 805	27 404	3 401	1 521	1 079	582	219
1990-91	29 578	26 373	3 205	1 357	1 029	618	201

Source: Australian Bureau of Statistics, Labour Costs Survey.

Hours of work and work patterns

Statistics of hours and patterns of work are essential for the study of economic activity, productivity, working conditions, living standards and the quality of life of working people. In this section, a range of data has been brought together on work patterns and hours of work.

The average weekly hours worked in 1995-96 by various categories of employed persons, and in different industries, are shown in tables 6.42 and 6.43.

6.42 EMPLOYED PERSONS, Aggregate and Average Weekly Hours Worked(a), Annual Average(b) — 1995-96

	Unit	Females			Persons	
		Males	Married	Not married		
Aggregate weekly hours worked by						
All workers	mill. hours	184.1	60.3	39.9	100.2	284.3
Full-time workers	mill. hours	176.3	44.5	32.5	77.0	253.3
Part-time workers	mill. hours	7.8	15.8	7.4	23.2	31.0
Average weekly hours worked by						
All workers	hours	39.0	27.6	28.7	28.0	34.3
Full-time workers	hours	42.0	37.5	37.2	37.4	40.5
Part-time workers	hours	14.9	15.8	14.3	15.3	15.2
Wage and salary earners	hours	38.0	27.5	28.6	28.0	33.5
Other than wage and salary earners	hours	43.9	27.8	30.3	28.2	38.6
All workers who worked one hour or more in the reference week	hours	41.8	30.2	30.8	30.5	37.0
Full-time workers who worked one hour or more in the reference week	hours	45.0	41.1	39.9	40.6	43.6
Part-time workers who worked one hour or more in the reference week	hours	16.1	17.4	15.3	16.7	16.5

(a) The estimates refer to actual hours worked not hours paid for. (b) Averages calculated on quarterly estimates.

Source: Labour Force, Australia (6203.0).

6.43 EMPLOYED PERSONS, Average Weekly Hours Worked(a) by Industry, Annual Average(b) — 1995–96

Industry	Males hours	Females		Persons hours
		Married hours	Total hours	
Agriculture, forestry, fishing and hunting	48.1	29.3	29.2	42.4
Mining	44.3	34.8	38.2	43.6
Manufacturing	40.9	32.1	32.8	38.7
Electricity, gas and water supply	37.7	31.1	33.3	36.9
Construction	40.6	19.0	21.1	37.9
Wholesale trade	42.7	31.2	32.7	39.6
Retail trade	38.4	29.4	25.6	31.8
Accommodation, cafes and restaurants	39.9	30.3	27.4	32.9
Transport and storage	43.0	29.2	31.6	40.5
Communication services	39.2	29.1	31.3	36.6
Finance and insurance	41.9	30.8	32.5	36.7
Property and business services	42.1	28.3	30.6	37.0
Government administration and defence	37.0	30.3	32.0	34.9
Education	39.0	31.4	32.3	34.5
Health and community services	38.8	27.5	28.7	31.1
Cultural and recreational services	36.5	27.6	27.8	32.3
Personal and other services	37.9	28.2	29.4	33.7
All industries	40.8	29.3	29.5	35.9

(a) The estimates refer to actual hours worked, not hours paid for. (b) Averages calculated on quarterly estimates.

Source: *Labour Force, Australia* (6203.0).

Working arrangements

In August 1995, two-thirds of employees (4.2 million) had little flexibility in when they started and finished work, as their start and finish times were fixed. Of these employees, 3.3 million had no say in setting these fixed times (table 6.44).

An estimated 2.4 million employees did not have fixed start and finish times, and 1.5 million of these had the flexibility of being able to choose their start and finish times on a day-to-day basis. More male employees had this flexibility than female employees (25% and 20%, respectively).

6.44 ALL EMPLOYEES, Working Arrangements — August 1995

	Permanent			Casual			Total		
	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000
Start and finish times not fixed									
Daily variation is available	757.3	397.6	1 154.9	175.2	186.6	361.8	932.5	584.2	1 516.7
Daily variation is not available	411.1	194.2	605.4	138.4	181.2	319.6	549.5	375.4	924.9
Total start and finish times not fixed	1 168.4	591.9	1 760.3	313.6	367.7	681.3	1 482.0	959.6	2 441.6
Start and finish times are fixed									
Times were negotiated with employer	349.2	352.0	701.3	64.5	139.5	204.0	413.8	491.5	905.3
Times were not negotiated with employer	1 558.9	1 200.4	2 759.3	239.9	343.9	583.7	1 798.8	1 544.3	3 343.1
Total start and finish times are fixed	1 908.1	1 552.5	3 460.6	304.4	483.3	787.7	2 212.6	2 035.8	4 248.3
Total	3 076.6	2 144.4	5 220.9	618.0	851.0	1 469.1	3 694.6	2 995.4	6 690.0

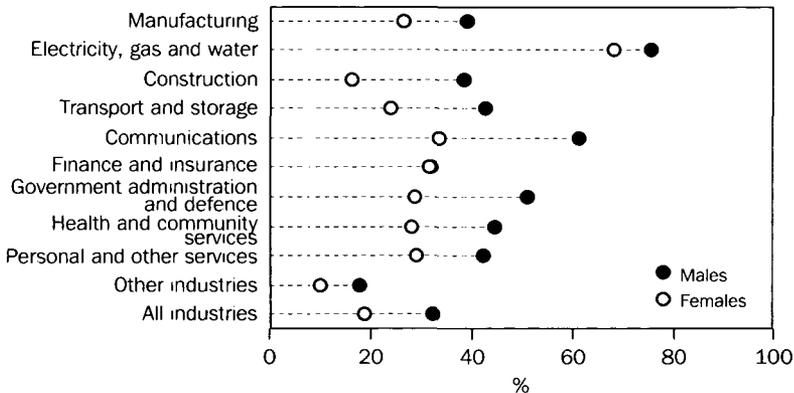
Source: *Working Arrangements, Australia, August 1995* (6345.0).

Rostered days off were a feature of the working conditions for 27% of employees (1.8 million). Rostered days off were most common among permanent full-time employees (36%), with a higher proportion of males than females in this category reporting that they were entitled to a rostered day off (38% of males and 30% of females).

Graph 6.45 shows that 76% of males and 68% of females in the Electricity, gas and water industry

were entitled to a rostered day off, followed by the Communications industry where the proportion for males (62%) was considerably higher than for females (34%). The occupation groups with the highest proportion of employees entitled to a rostered day off were Para-professionals (44% of males and 33% of females) followed by Tradespersons (43% of males and 33% of females).

6.45 EMPLOYEES ENTITLED TO A ROSTERED DAY OFF — August 1995



Source: Working Arrangements, Australia, August 1995 (6342.0).

Of the 5.1 million full-time employees, 43% worked overtime on a regular basis, with a higher proportion of males working overtime regularly (46%) than females (36%) (table 6.46). A lower proportion of part-time employees worked overtime regularly (10% of males and 12% of females).

Those full-time employees most likely to work overtime regularly were employees in the occupations Managers and administrators (64% of males and 62% of females) and Professionals (60% of males and 66% of females).

6.46 OVERTIME AND SHIFTWORK — August 1995

	Permanent			Casual			Total		
	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000	Males '000	Females '000	Persons '000
FULL-TIME EMPLOYEES IN MAIN JOB									
Overtime regularly worked	1 422.3	615.4	2 037.7	123.4	35.4	158.9	1 545.7	650.9	2 196.6
Overtime not regularly worked	1 574.3	1 009.9	2 584.2	215.6	107.5	323.1	1 789.9	1 117.4	2 907.2
On shift work in last 4 weeks	474.7	187.3	662.1	33.2	16.4	49.6	507.9	203.8	711.7
No shift work in last 4 weeks	2 521.9	1 438.0	3 959.8	305.9	126.5	432.4	2 827.7	1 564.5	4 392.2
Total	2 996.6	1 625.3	4 621.9	339.0	142.9	482.0	3 335.6	1 768.3	5 103.8
PART-TIME EMPLOYEES IN MAIN JOB									
Overtime regularly worked	13.5	100.6	114.1	23.1	52.4	75.5	36.6	153.0	189.4
Overtime not regularly worked	66.5	418.4	485.0	255.9	655.7	911.6	322.4	1 074.1	1 396.5
On shift work in last 4 weeks	16.3	105.9	112.3	47.2	96.2	143.5	63.6	202.1	265.7
No shift work in last 4 weeks	63.7	413.1	476.8	231.7	611.9	843.6	295.4	1 025.0	1 320.4
Total	80.0	519.1	599.1	279.0	708.1	987.1	359.0	1 227.2	1 586.2
TOTAL									
Overtime regularly worked	1 435.8	716.1	2 151.8	146.5	87.9	234.4	1 582.3	803.9	2 386.2
Overtime not regularly worked	1 640.8	1 428.3	3 069.1	471.5	763.2	1 234.7	2 112.3	2 191.5	4 303.8
On shift work in last 4 weeks	491.1	293.3	784.3	80.4	112.6	193.0	571.5	405.9	977.4
No shift work in last 4 weeks	2 585.5	1 851.1	4 436.6	537.6	738.4	1 276.0	3 123.1	2 589.5	5 712.6
Total	3 076.6	2 144.4	5 220.9	618.0	851.0	1 469.1	3 694.6	2 995.4	6 690.0

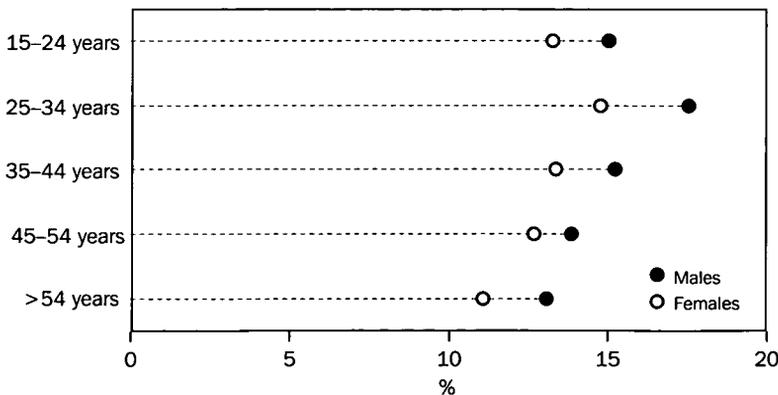
Source: Working Arrangements, Australia, August 1995 (6342.0).

In August 1995, some 977,400 employees had worked shift work in the previous four weeks (table 6.46). This represented 15% of employees (15% of males and 14% of females).

Of the 571,500 male shift workers, 507,900 (89%) were full-time employees. Of the 405,900 female shift workers, 203,800 (50%) were full-time employees.

As graph 6.47 shows, male employees aged 25 to 34 were the group most likely to have worked shift work in the previous four weeks (18%), while employees aged 55 or more were the least likely to have worked shift work in the previous four weeks (13% of males and 11% of females).

6.47 EMPLOYEES WORKING SHIFT WORK IN THE PREVIOUS FOUR WEEKS — August 1995



Source: Working Arrangements, Australia, August 1995 (6342.0).

Industrial relations

Industrial disputes

This section presents statistics of industrial disputes involving the loss of 10 working days or more at the establishments where stoppages occurred. Working days lost refer to working days lost by workers directly or indirectly involved in disputes at the establishments where the stoppages occurred. In the tables which follow, except for table 6.48, the statistics relate to industrial disputes which occurred in

each year, irrespective of the year in which they may have started or ended.

Over the period 1970 to 1995, the reported number of working days lost in any one year varied between 6.3 million (in 1974) and 0.5 million (in 1995). The number has been consistently less than one million since 1992.

6.48 INDUSTRIAL DISPUTES

Year	Disputes(a)		Employees involved		Working days lost '000
	Commenced in year no.	Total(a) no.	Newly involved(b) '000	Total(a) '000	
1990	1 189	1 193	725.9	729.9	1 376.5
1991	1 032	1 036	1 178.9	1 181.6	1 610.6
1992	726	728	871.3	871.5	941.2
1993	607	610	489.2	489.6	635.8
1994	556	560	263.4	265.1	501.6
1995	635	643	335.4	344.3	547.6

(a) Prior to September 1991 disputes affecting more than one industry and/or State have been counted as separate disputes in each industry and State and in the Australian total.

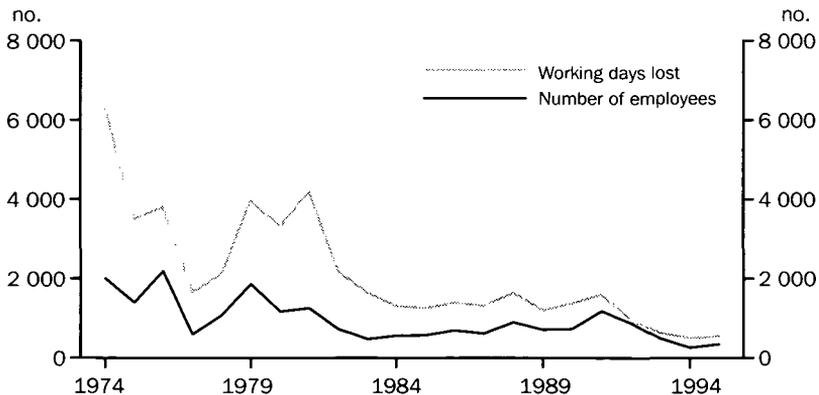
(b) Comprises workers involved in disputes which commenced during the year and additional workers involved in disputes which continued from the previous year.

Source: *Industrial Disputes, Australia* (6321.0).

In 1995 there were 643 disputes reported involving 344,300 employees and the loss of 547,600 working days (table 6.48). This is the

first increase in the number of disputes since 1984.

6.49 INDUSTRIAL DISPUTES



Source: *Industrial Disputes, Australia* (6321.0).

6.50 INDUSTRIAL DISPUTES, Working Days Lost by Industry

Industry(a)	1990 '000	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000
Mining						
Coal	150.5	129.6	76.8	78.6	151.0	111.1
Other	86.7	37.1	50.8	14.4	18.3	78.0
Manufacturing						
Metal product; Machinery and equipment	536.3	664.0	121.4	160.4	45.4	54.8
Other	133.4	169.3	154.6	77.7	78.3	105.1
Construction	62.2	120.7	38.4	13.1	20.2	42.7
Transport and storage; Communication services	129.9	98.1	82.4	15.6	59.4	38.7
Education; Health and community services	199.2	201.1	238.9	147.5	73.8	70.9
Other industries(b)	78.3	190.7	177.7	128.7	55.2	46.3
All industries	1 376.5	1 610.6	941.2	635.8	501.6	547.6

(a) Prior to January 1994, industry information was classified according to ASIC. From that time, industry data have been classified to ANZSIC. (b) Include: Agriculture, forestry and fishing; Electricity, gas and water supply; Wholesale trade; Retail trade; Accommodation, cafes and restaurants; Finance and insurance; Property and business services; Government administration and defence; Cultural and recreational services; Personal and other services.

Source: *Industrial Disputes, Australia (6321.0)*.

Working days lost per thousand employees increased from 76 in 1994 to 79 in 1995 (table 6.51). The Coal mining industry continued to

report the highest number of working days lost per thousand employees, 4,660 in 1995.

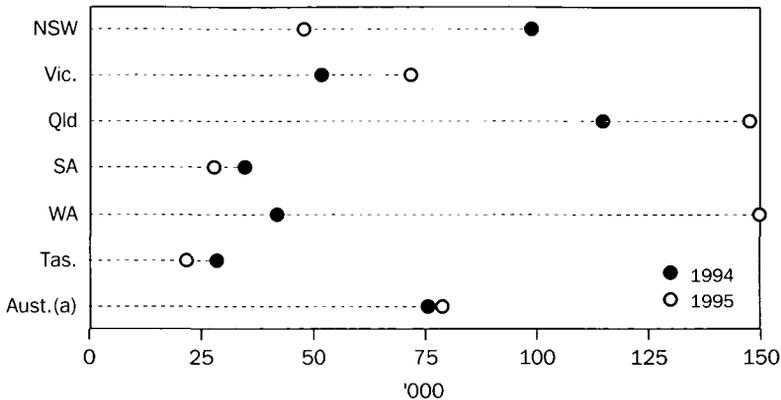
6.51 INDUSTRIAL DISPUTES, Working Days Lost per Thousand Employees(a)(b)

Industry	1990	1991	1992	1993	1994	1995
Mining						
Coal	4 966	4 465	3 078	2 915	5 964	4 660
Other	1 284	597	840	254	323	1 359
Manufacturing						
Metal product; Machinery and equipment	1 181	1 555	309	426	117	142
Other	197	268	243	121	123	160
Construction	161	349	126	41	59	115
Transport and storage; Communication services	279	214	192	37	137	84
Education; Health and community services	149	147	172	106	63	57
Other industries(c)	24	60	57	41	16	12
All industries	207	248	147	100	76	79

(a) The basis for the calculation of working days lost per thousand employees was changed in January 1995 to use estimates of employees taken from the Labour Force Survey only. Estimates have been recalculated on this basis for each 12 monthly period back to December 1990. (b) Prior to January 1994, industry information was classified according to ASIC. From that time, industry data have been classified to ANZSIC. (c) Include: Agriculture, forestry and fishing; Electricity, gas and water supply; Wholesale trade; Retail trade; Accommodation, cafes and restaurants; Finance, and insurance; Government administration and defence; Cultural and recreational services; Personal and other services.

Source: *Industrial Disputes, Australia (6321.0)*.

6.52 INDUSTRIAL DISPUTES, Working Days Lost Per '000 Employees



(a) Includes the Northern Territory and the Australian Capital Territory.

Source: *Industrial Disputes, Australia (6321.0)*.

Industrial disputes which lasted over two and less than five days accounted for 28% of all time lost in 1995. The major reported cause of disputes that ended in 1995 was Managerial policy (including award restructuring). This cause accounted for 207,300 working days lost (37%). Resumption without negotiation was the main reported method of settlement of disputes that ended in 1995 (54%).

Trade unions

In recent years a number of union amalgamations has seen the total number of unions decrease and a trend towards larger unions. The number of trade unions with less than 1,000 members has decreased from 76 in 1994 to 69 in 1995. Unions with membership of 50,000 or more have increased their percentage of total union membership from 75.7% in 1993 to 78.3% in 1995 (table 6.53).

6.53 NUMBER OF UNIONS AND MEMBERSHIP, By Size of Union

Size of union (number of members)	30 June 1993			30 June 1994			30 June 1995		
	No. of unions	No. of members '000	Cumulative % of total members	No. of unions	No. of members '000	Cumulative % of total members	No. of unions	No. of members '000	Cumulative % of total members
Under 1 000	89	27.2	1.0	76	21.7	0.8	69	22.2	0.8
1 000-4 999	44	109.5	4.6	33	76.0	3.3	33	84.1	3.9
5 000-19 999	22	201.5	11.3	20	200.2	10.3	16	187.2	10.6
20 000-49 999	12	391.8	24.3	11	360.5	22.8	9	304.9	21.7
50 000 and over	21	2 269.9	100.0	17	2 231.8	100.0	15	2 158.1	100.0
Total	188	3 000.1	..	157	2 890.2	..	142	2 756.3	..

Source: *Trade Union Statistics, Australia (6323.0)*.

A survey conducted in August 1995 found that of the 6,882,200 employees aged 15 and over, 33% were trade union members (in connection with their main job). Trade union membership has declined from 46% in 1986.

The Communication services, and Electricity, gas and water supply industry groups were the

most unionised with 66% and 65% of employees respectively being trade union members, while the Agriculture, forestry and fishing industry group, with 10%, was the least unionised (table 6.54).

6.54 PROPORTION OF EMPLOYEES WHO WERE TRADE UNION MEMBERS — August 1995

Industry	Males			Females			Persons		
	Permanent employees %	Casual employees %	Total %	Permanent employees %	Casual employees %	Total %	Permanent employees %	Casual employees %	Total %
Agriculture, forestry and fishing	14.9	9.4	12.7	3.0	2.9	2.9	12.9	6.8	9.9
Mining	52.7	16.4	49.9	18.6	23.9	19.5	48.8	18.2	46.1
Manufacturing	45.3	23.4	43.0	35.1	11.1	28.8	43.1	17.8	39.4
Electricity, gas and water supply	67.4	79.9	67.7	55.5	29.1	50.3	65.9	49.1	65.1
Construction	41.0	14.4	33.8	11.3	2.4	7.9	38.0	12.5	30.6
Wholesale trade	18.3	12.9	17.6	9.0	9.8	9.2	15.7	11.4	15.0
Retail trade	20.4	13.8	18.1	34.9	19.4	26.6	26.9	17.4	22.7
Accommodation, cafes and restaurants	21.4	11.2	17.3	25.3	15.9	19.3	23.2	14.4	18.5
Transport and storage	61.9	25.5	54.7	37.2	10.1	31.9	56.4	22.1	49.6
Communication services	77.5	16.2	73.8	56.4	9.9	48.1	71.8	12.7	66.1
Finance and insurance	38.4	5.8	35.8	40.6	11.6	38.1	39.7	9.3	37.2
Property and business services	21.3	11.1	18.9	16.1	4.9	13.1	18.7	7.7	16.0
Government administration and defence	57.2	16.6	55.1	46.5	15.8	42.4	53.1	16.1	50.0
Education	56.0	14.9	50.9	56.8	13.8	48.5	56.5	14.1	49.3
Health and community services	40.2	6.1	34.7	40.3	14.2	35.0	40.3	12.7	35.0
Cultural and recreational services	43.5	12.0	32.2	24.6	17.1	20.7	35.8	14.9	26.8
Personal and other services	41.9	12.1	38.8	16.6	3.7	12.4	30.8	5.6	25.3
Total	40.5	14.8	35.7	35.8	13.8	29.1	38.6	14.2	32.7

Source: *Weekly Earnings of Employees (Distributions)* (6310.0).

Training

Training continues to be a major element of labour market reform in Australia. To provide the information necessary for the analysis of training issues and the development and evaluation of training policies and programs, the ABS has conducted a number of training surveys.

Training expenditure

Estimates of the expenditure by employers on the formal training of their employees, and of the paid time employees spent receiving formal

training, were collected in the 1993 Employer Training Expenditure survey, which covered the September quarter 1993. The survey defined formal training as all training activities which have a structured plan and format designed to develop job related skills and competence. Total expenditure on formal training over the three months July to September 1993 by Australian employers was estimated at \$1,109m (table 6.55). More detailed information on this survey was presented in *Year Book Australia, 1995*.

6.55 TRAINING EXPENDITURE, By Employer Size — July to September 1993

	Unit	Number of employees			
		1-19	20-99	>99	Total
Total training expenditure	% of gross wages and salaries	1.7	2.7	3.2	2.9
Average training expenditure per employee	\$	86	180	236	192
Average training hours per employee	hours	4.11	5.3	6.17	5.55
Employers reporting training expenditure	% of all employers	18.0	80.3	97.9	24.6
Total training expenditure	\$m	112.3	177.8	818.8	1 109

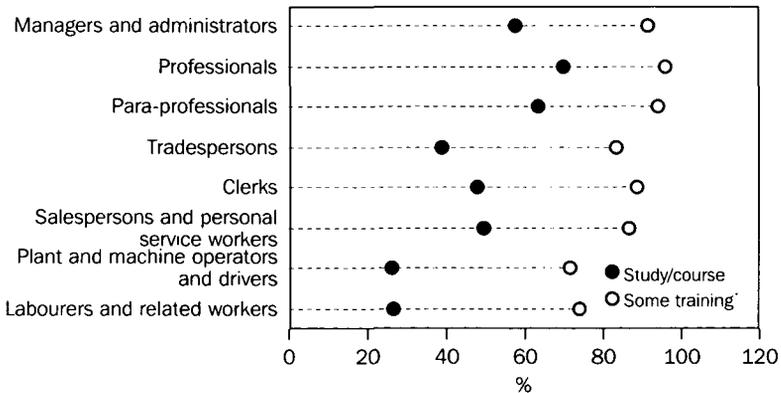
Source: *Employer Training Expenditure, Australia* (6353.0).

Who received training?

The 1993 Survey of Training and Education found that in the 12 months prior to that survey, an estimated 86% of those who had a wage or salary job in that 12 months undertook some form of training. The greatest proportion of wage or salary earners by occupation who undertook training in 1993 were professionals.

An estimated 96% of professionals received some form of training in the 12 month period and 70% undertook study or training courses. Plant and machine operators, and drivers, had the lowest proportion receiving some form of training (72%) (see graph 6.56).

6.56 TRAINING UNDERTAKEN BY WAGE OR SALARY EARNERS — 1993



Source: *Training and Education Experience, Australia (6278.0)*.

Length of training course

Of the in-house courses attended by the 5,581,900 wage and salary earners in the 12 months prior to the 1993 survey, 35% lasted 40 hours or more. Male participants had more attendances at these longer courses than did female participants (42% compared with 27%).

Reasons for training employees

The 1994 Training Practices Survey found that 32% of Australian employers provided some formal training for their employees during the 12 month period ending February 1994. Improved work performance was reported by 80% of employers as a reason for training employees. The next two most common reasons for training were to enable employees to move to other positions within the organisation, and to multi-skill employees (reported by 41% and 40% of employers respectively) (table 6.57). Almost half the employers who reported

training (44%) also reported that their training expenditure increased during the previous 12 months. Technological change was the factor most often reported as having increased training expenditure (30% of employers), followed by quality assurance (26% of employers). Time constraints and cost constraints were reported as the most common limitations to the amount of training provided by employers for their employees (56% and 41% of employers respectively).

Almost all employers who formally trained employees used external training providers to meet part, or all of their training needs (92%). A smaller proportion (62%) reported providing in-house training for their employees during the reference period. In February 1994, it was estimated that employers in Australia employed 15,800 full-time trainers to provide training for their employees. There was on average one full-time trainer for every 350 employees.

6.57 REASONS FOR TRAINING EMPLOYEES(a) DURING THE LAST 12 MONTHS — February 1994

Reasons for training	1-19 employees	20-99 employees	100 or more employees	Total
Total employers				
Improve work performance of employees	75.6	87.2	95.8	79.8
Enable movement to other positions within organisation(b)	35.2	47.9	68.5	40.6
Multi-skill employees	32.9	51.2	69.3	39.9
Meet Training Guarantee requirements	23.8	46.0	30.7	29.5

(a) Employers may have more than one reason for training employees. (b) Includes employees being trained to move to more highly skilled or responsible positions within the organisation, or to fill identified vacant positions from within the organisation.

Source: *Employer Training Practices, Australia (6356.0)*.

Training practices

Of those employers who used external training providers, about one-third (32%) used a technical and further education (TAFE) institution as the provider of most of their training. Another 23% used private training providers for most of their training, and a further 12% used industry associations. Professional associations and equipment manufacturers/suppliers were also often used; around 9% of employers reported using these providers most often (table 6.58).

Small companies (fewer than 20 employees) used TAFE most often (38%), while medium-sized employers (20-99 employees) and large employers (100 or more employees) most often used private training providers to train their staff (28% and 42%, respectively). Large employers used TAFE less frequently (15%) than small or medium-sized employees.

6.58 EXTERNAL PROVIDERS MOST OFTEN USED, February 1994

Training practices	1-19 employees %	20-99 employees %	100 or more employees %	Total %
TAFE	37.7	20.2	14.5	31.9
Private training provider	19.4	27.9	42.3	23.1
Industry association	9.5	18.2	16.7	12.0
Professional association	9.6	9.5	11.1	9.7
Equipment manufacturer/supplier	8.4	12.5	8.9	9.4
University	*2.9	*2.3	4.2	*2.9
Other	*	*1.3	*0.8	*
Total	90.0	91.9	98.4	91.7

Source: *Employer Training Practices, Australia (6356.0)*.

Government employment programs

The Commonwealth Government, in conjunction with State and Territory Governments, provides a range of assistance to facilitate the efficient functioning of the labour market, to encourage and assist individuals and industry to improve the productivity and skills of the work force, and to improve the skills and employment prospects of people disadvantaged in the labour market.

The Government's August 1996 Ministerial Statement *Reforming Employment Assistance — Helping Australians into Real Jobs*

announced major changes to arrangements for active labour market assistance in Australia.

The primary objective of the Government's reforms is to ensure that labour market assistance has a clear focus on final outcomes, defined as real and sustainable jobs. Under these reforms labour market assistance will be client driven, not program driven. A fundamental aspect of the Government's reforms is to maintain an individual focus to labour market assistance provided through case management, but with an emphasis away from placements into short-term programs and on to

placements into long-term jobs. Incentives and rewards to providers are to be based on performance in delivering these outcomes.

These labour market assistance reforms are to be fully implemented by 1 December 1997. During 1997, the Government will establish a new statutory authority within the Social Security portfolio to be the key point of public contact for people seeking access to Commonwealth services. The new agency will integrate the public contact services of the currently separate DSS and CES networks. From December 1997, a fully competitive market for employment placement services will replace existing arrangements for labour market assistance. A corporatised public provider will be established to assume many of the responsibilities currently exercised by the CES. The public provider will be required to operate on the same basis as its private and community sector competitors.

During the transition period to the new Employment Placement Market, the

Government announced a streamlined and simplified set of labour market programs to be implemented from 7 October 1996. The following section provides a description of assistance administered by the Department of Employment, Education, Training and Youth Affairs.

There is a degree of interrelationship between individual programs and with some of the provisions contained in *Chapter 7, Income and Welfare*.

Table 6.59 shows Commonwealth expenditure on training and labour market assistance, and the number of participants in each form of assistance, in 1995–96.

More detail on each of these programs and other training and labour market programs can be obtained from the Department of Employment, Education, Training and Youth Affairs.

6.59 EXPENDITURE ON TRAINING AND LABOUR MARKET ASSISTANCE — 1995–96

Program	Expenditure \$m	Participants no.
Industry based vocational education and training		
Support for Apprentices	90.6	53 800
Support for Traineeships	74.0	35 000
National Skills Shortages	4.4	1 900
Special Assistance Program	0.3	600
Skills Enhancement		
Workplace English Literacy	11.8	45 000
Australian Vocational Training System	6.6	n.a.
Pre-vocational training	53.2	20 100
Employment Participation		
Accredited Training for Youth	9.2	1 700
Job Clubs	30.1	45 800
JobSkills	273.1	27 400
JobStart	236.4	100 500
JobTrain	168.4	92 800
Landcare and Environment Action Program	88.8	13 500
Mobility Assistance Scheme	20.1	48 800
National Training Wage	62.5	33 500
New Work Opportunities	498.3	49 400
SkillShare	181.9	164 800
Special Intervention	193.7	90 000
Industry Adjustment Packages	19.4	5 800
Training and Skills Program (TASK)	9.2	n.a.
New Enterprise Incentive Scheme	104.1	12 100
Case Management Services	140.8	457 600
Aboriginal Employment and Training Assistance	73.2	11 900

Source: Department of Employment, Education, Training and Youth Affairs.

Transition to the new Employment Placement Market

In 1995, the Commonwealth Employment Service Advisory Committee (CESAC) reviewed labour market programs, in particular administrative arrangements, job seekers' travel related needs and the program structure to achieve maximum simplicity and effectiveness of programs. CESAC made 11 recommendations that would streamline program administration, make programs more flexible, provide a greater client focus and simplify the program structure.

The changes were implemented from 7 October 1996 with a streamlined and simplified set of four main labour market programs. The four programs are:

- Employer Incentives — incentives for employers to employ (and train) eligible job seekers and to arrange placements for more disadvantaged clients;
- Enterprise and Adjustment — assistance for individual job seekers, enterprises and regions;
- Training for Employment — to assist unemployed job seekers to gain employment through the provision or enhancement of vocational skills linked to specific opportunities; and
- Job seeker Preparation and Support — to help job seekers access employment and training and address barriers which may be preventing this.

These programs will complement the Training for Aboriginals and Torres Strait Islanders Program (TAP) and SkillShare (discussed later). Existing arrangements for case management will also remain in place, albeit with some enhancements.

Employer incentives

There are three elements of the Employer Incentives Program: Wage subsidy measures — JobStart; Entry-level training incentives; and Special Employer Support.

JobStart

JobStart is a wage subsidy program that provides access to employment for job seekers who have experienced long periods of unemployment or face other disadvantages in obtaining work. Under the program, employers receive subsidy payments for set periods of up to 20 weeks as an incentive to employ disadvantaged job seekers.

There is an expectation that the employer will continue to provide similar employment for at least three months after the expiration of the agreed subsidy period. JobStart includes the provision of wage subsidy payments for employers of apprentices and trainees as well as work experience for people with disabilities.

Entry-level training incentives

Financial payments to employers are made as an incentive to recruit and retain apprentices and trainees. The incentive payment arrangements have been revised in the 1996–97 Budget to provide better targeted assistance and to encourage progression to a higher skill level. From 1 January 1998 the incentives will be payable to small and medium enterprises only.

The Commonwealth also provides assistance to encourage employers to take on apprentices or trainees who are at a disadvantage in the labour market, including those with a disability, and pays allowances to assist apprentices and trainees to access training. These include a living away from home allowance so that trainees and apprentices are able to take up traineeships and apprenticeships which would require them to move from home, and special assistance so that unemployed apprentices and trainees can continue to access off-the-job training.

Special Employer Support

The Special Employer Support program was introduced in the 1996–97 Budget. The program provides a 20 week work experience and training placement for severely disadvantaged and rural and remote job seekers who are unlikely to secure employment through participation on a training program or through assistance of a wage subsidy.

Enterprise and Adjustment

Labour Adjustment Packages (LAPs)

Labour Adjustment Packages have been developed for workers retrenched from industries that have been adversely affected by tariff reductions and industry restructuring. LAPs provides a range of assistance including:

- formal vocational training;
- preparatory training (English language, literacy and numeracy training as required);
- wage subsidies; and

- relocation assistance to commence a new job, search for employment or undertake formal training.

LAPs that operated in 1995–96 included:

- The Forestry Industry LAP (FILAP), developed for workers retrenched as a result of restructuring within the native forest industry;
- the Australian National LAP (AN) for rail workers made redundant by Australian National;
- the Textile, Clothing and Footwear (TCF) LAP for workers retrenched as a result of restructuring within the TCF industry; and
- Passenger Motor Vehicle (PMV) LAP for workers retrenched as a result of restructuring within the PMV manufacturing industry.

The AN LAP ceased on 30 June 1996 and TCF and PMV LAPs ceased to exist on 31 August 1996.

Training and Skills (TASK) Program

The TASK program provides Commonwealth assistance to enterprises facing the possibility of retrenching staff or moving to a shortened working week, due to either an economic downturn, or industry or enterprise restructuring.

TASK aims to help employers in this position to retain and increase the skills of their workforce by providing funds towards:

- establishing and operating an in-house consultative committee;
- investigating the human resource implications of restructuring;
- developing training packages; and
- delivering training.

Funding assistance is provided in a modular arrangement. Modules have differing amounts available for activities and some modules do not allow for all activities.

New Enterprise Incentive Scheme (NEIS)

This scheme helps job seekers receiving a DSS benefit/pension/allowance to become self-employed in viable new businesses through a comprehensive package of assistance. The Commonwealth contracts Managing Agents to deliver NEIS training and support nationally.

The program is designed to provide participants with the skills and support to establish and operate businesses successfully. The Commonwealth provides income support to participants, broadly equivalent to the adult rate of the Newstart Allowance, for up to 52 weeks. In addition, funds are supplied to Managing Agents to provide training, business development support and mentor support.

Training for Employment Program (TEP)

TEP has the objective of assisting job seekers gain employment through the provision or enhancement of vocational skills which are linked to specific employment opportunities in the labour market (e.g. a confirmed job offer, vacancies negotiated with an industry or employer group and specific employment opportunities identified through an analysis of the local labour market conditions). TEP assistance is available to job seekers who have been registered as unemployed with the Commonwealth Employment Service for 12 months or are in case management and have an agreed Case Management Activity Agreement.

TEP training is to be accredited wherever possible and must be linked to employment. A maximum of 26 weeks training can be undertaken by a job seeker in a 52 week period under TEP.

In addition, there are two specialised training programs:

Advanced English for Migrants Program (AEMP)

AEMP provides advanced English language assistance to a level which assists job seekers to gain employment or enter vocational courses in TAFE or other post-secondary institutions. AEMP also assists skilled migrants develop English language proficiency for occupational purposes or to gain recognition of their overseas qualifications. AEMP assistance is focused on providing English language assistance above level 2 on the Australian Second Language Proficiency Rating (ASLPR) scale. To receive AEMP assistance a job seeker must be registered as unemployed with the Commonwealth Employment Service and have an English language proficiency level of above ASLPR 2 in all four macro skills.

The maximum duration of assistance under AEMP is 52 weeks. In the majority of cases,

AEMP courses do not exceed one semester in duration.

Bridging courses for overseas-born Australian residents

The bridging courses are available to Australian residents preparing to meet recognition requirements for entry to their profession in Australia.

Job Seeker Preparation and Support

The aim of this program is to help job seekers access employment and training and to address barriers which may be preventing this. Assistance is available to unemployed job seekers who satisfy the conditions applying to the assistance they are seeking. Program provisions include:

- training in job search techniques and access to facilities for intensive supported job search;
- interpreters for job seekers with poor English language skills or hearing impairment so that they can communicate effectively with the CES or their case manager;
- external professional assessments for job seekers with special needs to help determine major barriers to participation in approved training or employment;
- training and other assistance to overcome significant job seeker barriers to participation in vocational training and employment (e.g. language, literacy and other essential training, counselling and post placement support); and
- help with the cost of:
 - travel associated with approved training, job search and related activity; and
 - entry to approved training and employment (e.g. relocating to a job; special equipment, items and workplace modifications for people with disabilities; and general costs related to training or entry to employment where there are financial barriers).

Training for Aboriginals and Torres Strait Islanders Program (TAP)

TAP aims to increase the skills and employment level of Aboriginal and Torres Strait Islander people by providing training and employment opportunities. Clients can combine different forms of TAP assistance and may also combine

assistance from other labour market programs. TAP has two components, Employment Strategies and Direct Assistance.

Employment Strategies

Employment strategies are administered through DEETYA's National and Area offices. These are packages of recruitment and career development assistance negotiated with major employers and representative groups. The strategies aim to:

- increase the number of Indigenous people in continuing employment; and
- improve the career prospects of Indigenous people.

Direct Assistance

TAP Direct Assistance is administered through the CES and includes:

Skills development — aims to increase the level of skills and development of Indigenous people by providing them with employment-based training placements. The training provided may be totally on-the-job or both on and off-the-job training.

Transition assistance — aims to help clients overcome immediate obstacles to participation in employment and training and make a successful transition to employment. Transition Assistance has two main parts: subsidised short-term work transition placements, and other assistance such as mentor support and vocational and career guidance.

Formal training — aims to provide clients with further skills they need for ongoing employment or participation in further training, especially industry-accredited training such as traineeships and apprenticeships. Formal training can be used to provide Skills Development participants with training that is directly related to their on-the-job placement.

SkillShare

SkillShare provides vocational skills training and other employment related assistance to help job seekers get jobs. The program is delivered by community organisations through a national network of locally-based projects. SkillShare assistance is targeted to long-term unemployed people, people between the ages of 15 and 20 years, and those at risk of becoming long-term unemployed.

Case management services

Full implementation of the Government's reforms of the delivery of employment services will take some time to achieve. In the meantime existing arrangements for case management will remain in place, albeit with some enhancements.

The objective of case management is to find jobs for people who are long-term unemployed or assessed as being at high risk of becoming long-term unemployed. Case managers work with job seekers on a one-to-one basis to identify their abilities and employment needs and any barriers which are preventing them from finding employment. The case management services are provided by Employment Assistance Australia, funded independently and drawn from the CES, in competition with contracted case managers drawn from the private and community sectors.

All job seekers are assessed for eligibility for case management services by the CES. Job seekers

eligible for case management are informed about the process, and given an information kit and a list of local case managers from whom to choose. The selected case manager negotiates with the job seeker a Case Management Activity Agreement which includes a return to work plan. This is supported by access to vocational training, relevant remedial courses in literacy, numeracy or English language skills and community based work experience or subsidised employment. Unemployed people on income support are required to satisfy an activity test and certain administrative procedures in return for the assistance they receive. Failure to meet the activity test usually means that the unemployed person has failed to accept a reasonable job offer, undertake training offered or reach an agreement with the case manager on a case management activity agreement. Failure to comply with their reciprocal obligation means that such people lose entitlement to income support for a period.

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Introduction	153
Household income and expenditure	153
Household income	153
Income distribution	154
Income units receiving government income support	155
Household expenditure	155
Levels of expenditure	156
Income support programs of the Department of Social Security	157
Payments for the retired	158
Payments for people with disabilities and the sick	159
Disability Support Pension	159
Carer Pension	160
Sickness Allowance	160
Child Disability Allowance	160
Payments for the unemployed	160
Job Search and Newstart Allowance	160
Youth Training Allowance	161
Mature Age Allowance	161
Partner Allowance	162
Payment for families with children	162
Family Payment	162
Family Tax Payment	162
Sole Parent Pension	163
Jobs, Education and Training Program (JET)	164
Child Support Scheme	164
Parenting Allowance	164
Maternity Allowance	165
Other payments	165
Special Benefit	165
Rent Assistance	165
Other services of the Department of Social Security	165
Customer Service	165
Community Service Officers	166
Youth Service Units	166
International agreements and payment of pensions abroad	166
Financial Information Service	166
Community Research Project	166

Community support programs of the Department of Health and Family Services	167
Child care	167
Children's Services Program	167
Use of child care	168
People's need for assistance because of age or disability	168
Voluntary work	169
Who are the volunteers?	170
Fields of voluntary work	170
How much time?	171
Activities performed	171
How and why do people become involved in volunteering?	171
People with a disability	172
Australian Hearing Services	173
Home and Community Care Program	173
Residential care for aged people	174
Aged Care Assessment Program	174
Community based care	175
Services provided by the Department of Veterans' Affairs	175
Compensation Program	176
Compensation Sub-program	176
Income Support Sub-program	178
Housing Sub-program (Defence Service Homes Scheme)	179
Health Program	180
Vietnam Veterans Counselling Service	181
The Office of Australian War Graves	181
Bibliography	183
Special Article — Government redistribution of income in Australia	184

Introduction

The economic well-being or standard of living of individuals and families is largely dependent on the economic and social resources available to provide for the consumption of goods and services and for participation in the life of society. Such resources may be in the form of cash income received from wages and salaries or investments, or as income support from government. Other factors can also contribute to economic resources, including personal resources such as savings, services from government and welfare organisations and assistance from family and friends.

Government programs aim to help the economically disadvantaged to achieve social and economic outcomes and to participate in society. Such programs include those of the Department of Social Security, which provides income security for the retired, people with disabilities, carers, unemployed and families with children. Other departments provide income support for other special groups, such as war veterans, war widows and their families, and students. In addition to cash income, government programs also help those with low incomes to meet payments for housing through rent assistance, and for a range of goods and services through pensioner concession and health cards and other services aimed at helping people in personal and social hardship. Other types of programs aim to encourage the participation of people with disabilities, such as those provided by the Disability Services Program in the Department of Health and Family Services which assist with employment and advocacy.

This chapter provides information on the levels and sources of income of Australia's population and on the levels and patterns of expenditure on consumer goods and services.

It then provides information about the main income support programs of the Commonwealth Government, describing the eligibility requirements, numbers of beneficiaries and government expenditure on these programs. It covers these in three sections: *Income support programs of the Department of Social Security; Community support programs of the Department of Health and Family Services; and Services provided by the Department of Veterans' Affairs.*

Short articles are included on the nature and extent of voluntary work in the provision of community services and the characteristics of volunteers, and on people's need for assistance because of age and disability. Both articles are based on ABS surveys, namely the 1995 Survey of Voluntary Work and the 1993 Survey of Disability Ageing and Carers.

The chapter concludes with an article presenting the results of an ABS study of the effects of government benefits and taxes on household income. The study indicates which household types benefit most from government income support and services in areas such as health, and which household types pay the most through personal and indirect taxes.

Household income and expenditure

Household income

Regular income is the means by which most individuals and families finance current consumption and make provision for the future through saving and investment. The level of cash income can be used as an indicator of the standard of living for most of the population. Information about the levels and sources of income is used to monitor shares of income going to labour, capital and transfers. From a social welfare perspective, analysis of cash income distribution indicates which groups in the population are most disadvantaged and provides information on the number and characteristics of those needing access to government services.

Since 1968 the ABS has conducted six income distribution surveys. These have provided information on the current and annual income of individuals and family units as well as on their characteristics such as age, education, labour force participation, source of income and size and composition of family units.

In addition, the ABS has conducted five household expenditure surveys. The main purpose of these surveys is to produce estimates of household expenditure on different commodities and services. Information on current income is collected to

explain variations in expenditure levels and to identify groups of special interest (e.g. government income support recipients and low income households).

The most recent information on current income distribution is available from the 1994–95 Survey of Income and Housing Costs. Income refers to gross receipts of recurring and usually regular cash flows at the time of interview. It comprises cash receipts from wages and salaries, profit or loss from own business, property income in the form of interest, rent and dividends, private transfers such as superannuation and child support, and cash transfers from government in the form of benefits and allowances.

While income is usually received by individuals, analyses of the distribution of income are traditionally based on incomes of families or groups of individuals, which reflects the sharing of income that takes place within families. The following analysis is based on the income of a restricted family grouping called an 'income unit', which assumes that income is shared between partners in couple families and between parents and dependent children. Other family members such as non-dependent children are treated as separate income units. Analyses of income distribution using different units such as families and households would provide different results. Generally, the larger the unit the more equal will be the distribution of income based on these units.

Income distribution

As table 7.1 shows, in 1994–95 the average gross weekly income for all income units was \$579. The median gross weekly income was considerably lower at \$434. This difference reflects the typically asymmetric distribution of income where a large number of units have nil or very low incomes and a smaller number have very high incomes

Income is distributed unequally across all income units. This reflects the wide variety of individuals and family types receiving income. These units range from young unemployed persons, couples with dependent children, through to elderly retired couples or single persons. Income units in the lowest quintile (i.e. the lowest 20% of units when ranked according to income) received an average gross weekly income of \$96 compared to \$1,407 received by those in the highest quintile.

Income units in the lowest quintile were mainly single people living on their own. Few people were employed and most relied on government pensions and allowances as their principal source of income.

In comparison, income units in the highest quintile were usually couples with and without dependent children, and most had two earners. Their principal source of income was mainly wages and salaries, with very few relying on government pensions and allowances.

7.1 ALL INCOME UNITS, SELECTED CHARACTERISTICS BY GROSS WEEKLY INCOME QUINTILE GROUPS — 1994–95

	Unit	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest 20%	All income units
Upper boundary of quintile group	\$	180	346	544	880	..	—
Mean income	\$	96	261	439	695	1 407	579
Median income	\$	145	264	434	685	1 215	434
Principal source of income (% of income units)							
Weekly employee income	%	10.8	25.7	69.6	87.6	87.6	56.2
Weekly own business income	%	2.2	3.8	5.9	7.3	9.3	5.7
Weekly government pensions and allowances	%	63.9	62.6	15.6	1.6	*0.2	28.8
Weekly income from other sources	%	10.7	8.0	8.9	3.5	3.0	6.8
Total(a)	%	100.0	100.0	100.0	100.0	100.0	100.0
Income unit type (% of income units)							
Couple with dependent children	%	3.6	7.0	14.5	33.6	48.1	21.3
Couple without dependent children	%	5.5	33.4	22.9	25.1	40.6	25.4
One parent	%	1.5	9.6	6.6	3.4	*0.7	4.3
One person	%	89.3	50.0	56.1	37.9	10.6	48.9
Total	%	100.0	100.0	100.0	100.0	100.0	100.0
Earners							
None	%	82.1	65.7	20.5	3.9	1.5	34.8
One	%	15.6	31.9	73.2	67.1	27.6	43.0
Two	%	2.2	2.4	6.3	29.0	70.9	22.2
Total	%	100.0	100.0	100.0	100.0	100.0	100.0
Tenure type (% of income units)							
Owners	%	30.3	42.5	28.3	28.2	35.3	32.9
Purchasers	%	5.1	7.2	13.8	32.0	45.3	20.7
Government renters	%	7.7	7.5	3.5	1.8	*0.6	4.2
Private	%	12.7	17.8	22.7	21.6	12.6	17.5
Resident relative and other	%	14.8	11.2	16.9	9.4	3.2	11.4
Total renters	%	35.2	37.5	43.2	32.8	16.4	33.0
Other, including rent free	%	28.4	12.5	13.0	6.4	2.3	12.6
Total(b)	%	100.0	100.0	100.0	100.0	100.0	100.0
Estimated number of income units							
Capital city	'000	1 156	1 060	1 197	1 213	1 287	5 913
Rest of State	'000	661	720	600	581	510	3 071
Total	'000	1 817	1 780	1 797	1 794	1 797	8 984

(a) Includes income units with nil or negative income from all sources. (b) Includes income units whose tenure type was not reported.

Source: 1994–95 Survey of Income and Housing Costs.

Income units receiving government income support

Based on table 7.2, in 1994–95, about 23% of all income units relied on government pensions and allowances for 90% or more of their income. Their average weekly income was \$208, which is considerably lower than the income received by the remaining income units who relied less heavily on government benefits and allowances. Almost two thirds of the income units receiving 90% or more of their average weekly income from government support were single people who were not working. A large

proportion of the income units owned their own dwelling, and many were age pensioners.

Household expenditure

Information about income provides one indicator of the standard of living. However it does not always accurately reflect command over goods and services, particularly where income is variable or where expenditure is financed through running down assets or acquisition of debts. In such cases the levels and patterns of household expenditure may provide an alternative measure of living standards.

7.2 ALL INCOME UNITS, EXTENT OF DEPENDENCE ON GOVERNMENT PENSIONS AND ALLOWANCES, By Selected Characteristics — 1994–95

	Unit	nil or less than 1%	1% to less than 20%	20% to less than 90%	90% and over	All income units
Mean income	\$	764	840	386	208	579
Median income	\$	588	801	347	176	434
Principal source of income (% of income units)						
Weekly employee income	%	84.5	84.8	25.4	..	56.2
Weekly own business income	%	7.3	10.6	5.7	..	5.7
Weekly government pensions and allowances	%	..	..	52.9	100.0	28.8
Weekly income from other sources	%	8.6	4.6	16.0	.	6.8
Total(a)	%	100.0	100.0	100.0	100.0	100.0
Income unit type (% of income units)						
Couple with dependent children	%	11.8	83.9	20.1	8.6	21.3
Couple without dependent children	%	31.0	6.8	31.0	23.7	25.4
One parent	%	0.6	6.1	14.7	7.2	4.3
One person	%	56.5	3.3	34.2	60.6	48.9
Total	%	100.0	100.0	100.0	100.0	100.0
Earnings						
None	%	6.8	3.9	52.5	98.6	34.8
One	%	63.7	48.2	40.7	1.1	43.0
Two	%	29.5	48.0	6.8	*0.3	22.2
Total	%	100.0	100.0	100.0	100.0	100.0
Tenure type (% of income units)						
Owners	%	26.5	32.3	50.9	41.4	32.9
Purchasers	%	22.7	47.5	12.9	5.8	20.7
Government renters	%	0.9	2.5	5.7	12.3	4.2
Private renters	%	19.6	11.8	17.0	16.8	17.5
Resident relatives and other	%	14.9	3.3	5.8	11.3	11.4
Total renters	%	34.6	17.5	28.4	40.3	33.0
Other, including rent free	%	14.4	2.7	6.7	12.1	12.6
Total(b)	%	100.0	100.0	100.0	100.0	100.0
Estimated number of income units	'000	4 493.9	1 197.0	914.5	2 103.0	8 984.3

(a) Includes income units with nil or negative incomes. (b) Includes income units whose tenure type was not reported.

Source: 1994–95 Survey of Income and Housing Costs.

Household expenditure information can be used to examine the relative standards of living of different household types such as those with low incomes, large families, sole parent families and pensioner households.

The latest expenditure information is available from the 1993–94 Household Expenditure Survey. This is the fifth major survey of its kind undertaken by the ABS. It collected detailed information about expenditure, income and characteristics of households in Australia.

The household is used as the basic unit of analysis, because much of the expenditure covers household items. If smaller units are adopted, for example each person, then it is difficult to attribute to individual household members the use of shared items such as accommodation and household goods.

Levels of expenditure

In 1993–94, Australian households spent an average of \$602 per week on goods and services (table 7.3). The level of household expenditure is closely related to characteristics of the household, including income, household composition and household size. Households in the lowest income quintile had an average expenditure of \$303 compared to \$994 spent by those in the highest quintile. The proportion of total household expenditure spent on different goods and services also differs between low and high income households. For example, for households in the lowest quintile the proportion of expenditure on food and non-alcoholic beverages was 20%, compared with 17% in the highest quintile.

The level of household income is itself related to social and demographic characteristics of the household members. While 64% of households in the lowest quintile were lone person

households, in the highest quintile the households were predominantly couple households and had, on average, 3–4 members.

Household expenditure also varies in accordance with stages of the family life cycle, generally rising through the early stages of

family creation and, with increasing family size, reaching a peak as family children mature to adulthood. In subsequent stages of the life cycle, household expenditure declines as children leave home and household size declines. This trend follows very closely the trend in household income over the life cycle.

7.3 HOUSEHOLD EXPENDITURE AND CHARACTERISTICS, By Household Income Quintile(a) — 1993–94

	Unit	Lowest 20%	Second quintile	Third quintile	Fourth quintile	Highest quintile	All households
Upper boundary of income quintile group	\$	267	458	741	1 101	—	—
Mean gross weekly income	\$	152	354	592	909	1 609	723
Proportion of total income from government pensions and allowances	%	91.8	53.6	15.6	5.5	1.5	13.7
Household composition (% of households)							
Couple only	%	17.9	41.5	21.2	23.5	25.3	25.9
Couple with dependent children only	%	6.3	16.1	33.0	34.5	28.5	23.7
Couple other	%	2.2	5.0	10.1	16.7	28.0	12.4
One parent	%	7.3	12.1	8.0	3.5	2.0	6.6
Lone person	%	63.4	17.5	16.5	8.5	2.9	21.8
Other household types	%	2.9	7.8	11.2	13.3	13.2	9.7
Total	%	100.0	100.0	100.0	100.0	100.0	100.0
Expenditure (as % of total expenditure)							
Current housing costs (selected dwelling)	%	15.6	15.3	14.7	14.4	12.8	14.2
Fuel and power	%	4.0	3.5	3.0	2.6	2.2	2.8
Food and non alcoholic beverages	%	19.8	20.3	18.9	18.1	17.2	18.4
Alcoholic beverages	%	2.5	2.9	3.0	2.8	3.0	2.9
Tobacco	%	2.1	2.2	1.8	1.5	0.9	1.5
Clothing and footwear	%	4.5	4.4	5.3	5.8	6.5	5.6
Household furnishings and equipment	%	6.1	6.5	6.3	6.3	7.1	6.6
Household services and operation	%	6.6	6.1	5.4	5.0	4.6	5.2
Medical care and health expenses	%	4.9	4.3	4.2	4.5	4.6	4.5
Transport	%	13.3	15.3	15.6	16.3	15.8	15.5
Recreation	%	12.6	11.8	12.6	12.5	14.7	13.2
Personal care	%	1.8	1.9	1.9	1.9	1.9	1.9
Miscellaneous commodities and services	%	6.2	5.6	7.3	8.3	8.7	7.6
Total	%	100.0	100.0	100.0	100.0	100.0	100.0
Average weekly expenditure on all commodities and services	\$	303	426	573	714	994	602

(a) Quintile groups are 20% groupings of households ranked in ascending order according to each household's total gross weekly income.

Source: 1993–94 Household Expenditure Survey.

Income support programs of the Department of Social Security

On 1 July 1947, with the passage of the *Social Services Consolidation Act 1947*, all Acts providing social service benefits were amalgamated into the *Social Security Act 1947*. This Act was repealed and replaced with the *Social Security Act 1991* which commenced on 1 July 1991.

The main income support payments provided by the Commonwealth under the 1991 Act for 1995–96 and the date on which each payment came into effect are listed in table 7.4.

An outline, together with associated statistics, of the main social security payments in effect throughout the 1995–96 financial year is given below.

7.4 INCOME SUPPORT PAYMENTS — 1993-94 to 1995-96

Type of payment	1993-94 \$'000	1994-95 \$'000	1995-96 \$'000	Date of operation
The retired				
Age Pension(a)	11 734 222	11 884 066	12 383 929	1 July 1909
People with disabilities and the sick				
Invalid Pension(a)(b)	..	..	..	15 December 1910
Disability Support Pension(a)(b)	4 337 862	4 524 754	4 917 412	12 November 1991
Sheltered Employment Allowance(b)(c)	..	..	..	30 June 1967
Disability Wage Supplement(d)	..	81	556	—
Rehabilitation Allowance(e)	2 470	521	7	1 March 1983
Sickness Benefit(f)	..	..	..	1 July 1945
Sickness Allowance(f)	426 354	413 234	354 012	12 November 1991
Mobility Allowance	26 372	30 523	34 149	1 April 1983
Child Disability Allowance	159 924	185 066	213 658	15 November 1987
The unemployed				
Job Search Allowance	3 653 536	3 389 154	3 141 368	1 July 1991
Newstart Allowance	3 944 282	3 671 852	2 623 805	1 July 1991
Mature Age Allowance(g)	77 555	356 551	436 551	1 March 1994
Partner Allowance(h)	..	..	462 547	20 September 1994
Youth Training Allowance(i)	..	..	46 513	1 January 1995
Families with children				
Family Allowance(j)	..	..	..	15 June 1976
Basic Family Payment(j)(l)	2 051 179	2 016 804	1 013 184	1 January 1993
Family Allowance Supplement(k)	..	..	..	17 December 1987
Additional Family Payment(k)(l)	3 399 759	3 534 840	1 828 446	1 January 1993
Family Payment(l)	..	..	3 036 055	1 January 1996
Maternity Allowance(m)	..	..	65 165	1 February 1996
Home Childcare Allowance(n)	..	617 555	..	29 September 1994
Parenting Allowance(o)	..	..	2 091 321	1 July 1995
Sole Parent Pension	2 524 616	2 552 272	2 760 105	1 March 1989
Double Orphan Pension	1 547	1 595	1 654	26 September 1973
Provision for special circumstances				
Special Benefit	245 430	224 416	157 088	1 July 1945
Widow Class 'B' Pension	531 297	481 185	464 952	30 June 1942
Widow Allowance(p)	..	31 752	88 233	1 January 1995
Widowed Person Allowance(q)	1 132	1 117	..	1 March 1989
Bereavement Allowance(q)	..	..	1 296	1 January 1995
Disaster Relief Payment	671	..	..	1 August 1990
Total DSS income support	33 118 208	33 917 337	37 047 099	—

(a) Includes Wife and Carer Pensions. (b) Invalid Pension and Sheltered Employment Allowance were replaced by Disability Support Pension from 12 November 1991. (c) Includes Wife Pension. (d) Disability Wage Supplement commenced 1 July 1994. (e) There have been no new grants of Rehabilitation Allowance since 12 November 1991. (f) Sickness Benefit was replaced by Sickness Allowance from 12 November 1991. (g) Mature Age Allowance commenced from 20 March 1994. Includes Mature Age Partner Allowance. (h) Partner Allowance commenced from 20 September 1994. Expenditure was separately appropriated from 1 July 1995. (i) Youth Training Allowance was administered by DSS from 11 March 1996. Expenditure shown is expenditure from that date. (j) Family Allowance was replaced by Basic Family Payment from 1 January 1993. (k) Family Allowance Supplement was replaced by Additional Family Payment from 1 January 1993. (l) Basic and Additional Family Payment were replaced by Family Payment Allowance from 1 January 1996. (m) Maternity Allowance commenced from 1 February 1996. (n) Home Child Care Allowance commenced from 29 September 1994, and was absorbed into Parenting Allowance from 1 July 1995. (o) Parenting Allowance commenced from 1 July 1995. (p) Widow Allowance commenced from 1 January 1995. (q) Widowed Persons Allowance was replaced by Bereavement Allowance from January 1995.

Source: Department of Social Security.

Payments for the retired

Age Pension is payable to men who are over 65 years of age and women who are over 60 years and six months of age and is subject to residence qualifications. The minimum Age Pension age for women was raised to 60 years and six months from 1 July 1995. The minimum qualifying age will be increased by six months at

two year intervals from that date until 1 July 2013, when it will be 65 years. The number of age pensioners at June 1996 is shown in table 7.5.

Age Pension is means-tested based on pensioners' income and assets.

7.5 AGE PENSIONERS

	Unit	June			
		1993	1994	1995	1996
Age group (years)					
60–64	no.	202 606	210 482	211 685	193 988
65–69	no.	396 747	431 890	447 525	464 417
70–74	no.	308 299	322 984	319 538	335 197
> 74	no.	608 030	616 518	599 950	609 232
Males	no.	481 196	514 217	554 571	570 328
Females	no.	1 034 486	1 067 657	1 034 127	1 032 506
Persons	no.	1 515 682	1 581 874	1 578 698	1 602 834
Wife pensioners (Age)	no.	33 520	36 539	39 611	41 125
Carer pensioners (Age)	no.	6 507	7 441	8 324	9 500
Total payments financial year ending 30 June(a)	\$'000	10 545 924	11 734 222	11 884 066	12 383 929

(a) Includes allowances, Rent Assistance, and Wife Pension (Age) and Carer Pension (Age) where applicable.

Source: Department of Social Security.

Payments for people with disabilities and the sick

Disability Support Pension

Disability Support Pension is paid to a person aged 16 or over who has a physical, intellectual or psychiatric impairment of at least 20% and who is assessed as being unable to work for at least 30 hours a week at full award wages, or to be retrained for such work, for at least two years. Table 7.6 shows the number of disability support pensioners at June 1996.

Disability Support Pension for people aged 21 and over is paid at the same rate as Age Pension and is subject to the same income and assets tests, except for permanently blind

recipients, who are not subject to either the income or assets test. 'Junior' rates apply to those under 21. These are in line with the rates paid to Sickness Allowees, but with a supplement of \$72.60 a fortnight. Junior rates are not subject to parental income or assets tests.

Disability Support Pensioners and other people with disabilities can gain access to rehabilitation, training, labour market programs or labour force re-entry assistance.

7.6 DISABILITY SUPPORT PENSIONERS

	Unit	June			
		1993	1994	1995	1996
Age group (years)					
16–19	no.	8 622	9 402	10 295	11 039
20–39	no.	91 660	98 549	105 889	113 450
40–59	no.	214 588	234 355	254 258	277 901
> 59	no.	91 702	93 928	93 988	96 845
Males	no.	291 471	309 123	324 672	340 256
Females	no.	115 101	127 111	139 758	158 979
Persons	no.	406 572	436 234	464 430	499 235
Wife pensioners (DSP)	no.	108 327	116 036	121 839	107 803
Carer pensioners (DSP)	no.	15 045	9 450	10 633	13 483
Total payments financial year ending 30 June(a)	\$'000	3 952 391	4 337 862	4 524 754	4 917 412

(a) Includes allowances, Rent Assistance, and Wife Pension (DSP) and Carer Pension (DSP) where applicable.

Source: Department of Social Security.

Carer Pension

Carer Pension is paid to people who are without other means of support because they are providing constant care or supervision to a person with a physical, intellectual or psychiatric disability or a person who is frail aged, either permanently or for an extended period (six months or more). The carer must personally provide this level of care or supervision in the private home of the care recipient, but is not required to live in or adjacent to the care recipient's home. The carer must be residentially qualified, with income and assets below the levels where qualification ceases under the pension income and assets tests. The rate of Carer Pension is the same as for other pensions.

See also the discussion under *Home and Community Care Program* below.

Sickness Allowance

Sickness Allowance is paid to people over school leaving age but below Age Pension age who are temporarily unable to work or continue with their full-time studies due to illness or injury. To be eligible the person must have a job or study to which they can return. If they become temporarily incapacitated while unemployed, they receive Newstart Allowance instead (as a result of changes implemented in March 1996). People on full pay sick leave do not qualify.

7.7 SICKNESS ALLOWANCE(a)

	Unit	1993	1994	1995	1996
Age group (years)					
20 and under	no.	3 299	3 490	3 547	2 313
21-34	no.	16 261	16 342	16 340	11 920
35-54	no.	20 528	18 939	21 516	16 657
55-59	no.	3 190	3 421	3 400	2 706
>59	no.	1 948	1 555	1 247	922
Males	no.	30 878	30 422	30 317	22 251
Females	no.	14 348	15 426	15 733	12 267
Persons	no.	45 226	45 848	46 050	34 518
Total payments financial year ending 30 June(b)	\$'000	370 181	426 354	413 234	354 012

(a) Representing the mid-point of the June quarter. (b) Includes additional allowances where applicable. Partner Allowance is included in 1995.

Source: Department of Social Security.

Child Disability Allowance

Child Disability Allowance may be paid to a parent or guardian of a child under 16 years or a full-time student aged 16 to 21 who lives in the family home and, because of a physical, intellectual or psychiatric disability, requires substantially more care and attention than would a child of the same age who did not have a disability.

Child Disability Allowance is not payable for a student who receives a social security pension or allowance in their own right and is also not subject to income or assets tests.

Payments for the unemployed

Job Search and Newstart Allowance

Prior to September 1996 income support for unemployed adults consisted of two separate payments: Job Search Allowance (JSA) for those who had been unemployed for less than 12 months and Newstart Allowance (NSA) for those who had been unemployed for a year or more. From September 1996, JSA and NSA were amalgamated into a single payment called Newstart Allowance. Table 7.8 shows the number of customers of the two allowances at June 1996.

To be eligible for NSA, a person must be unemployed and be capable of and willing to undertake suitable paid work. NSA recipients must also be registered with the Commonwealth Employment Service (CES),

must be taking reasonable steps to obtain work and must not be unemployed due to industrial action. Recipients of NSA must be permanent residents of Australia. Eligibility is subject to income and assets tests.

Income support for the unemployed is linked to active job search and participation in labour market programs designed to encourage an

early return to the work force. Each fortnight Newstart allowees are required to complete a fortnightly income statement that requires them to list details any income obtained from employment and provide details of their job search. They also may be required to enter into an activity agreement which provides for an agreed course of action designed to improve the recipient's job prospects.

7.8 JOB SEARCH AND NEWSTART ALLOWANCE(a)

	Unit	1993	1994	1995	June 1996
Job Search Allowance					
Age group (years)					
20 and under	no.	124 116	113 578	86 261	78 535
21-34	no.	196 590	180 886	180 135	216 818
35-54	no.	114 456	104 148	102 076	132 935
55-59	no.	16 977	16 690	14 574	18 507
>59	no.	14 079	13 819	10 785	10 231
Males	no.	320 231	288 376	268 257	310 366
Females	no.	145 987	140 745	125 574	146 660
Persons	no.	466 218	429 121	393 831	457 026
Newstart Allowance					
Age group (years)					
20 and under	no.	51 571	49 164	42 545	37 153
21-34	no.	190 784	187 233	164 836	140 955
35-54	no.	134 900	200 112	139 316	125 022
55-59	no.	22 408	28 601	29 194	27 025
>59	no.	23 685	6 332	3 937	3 361
Males	no.	325 427	311 881	279 936	240 907
Females	no.	97 921	107 596	99 892	92 609
Persons	no.	423 348	419 477	379 828	333 516
Total payments financial year ending 30 June(b)	\$'000	7 491 410	7 597 818	7 061 006	5 765 174

(a) Representing the mid-point of the June quarter. (b) Includes additional allowances where applicable. Partner Allowance is not included in 1996.

Source: Department of Social Security.

Youth Training Allowance

Youth Training Allowance (YTA) is paid to unemployed people under the age of 18 years. YTA recipients participate in the Youth Training Initiative (YTI) which seeks to ensure that young people do not become long-term unemployed. It provides access to entry level training, labour market program places and case management through the Commonwealth Employment Services (CES), starting no later than 13 weeks after registration.

YTA is paid directly to young people at the three AUSTUDY basic rates of payment (at home, away from home, and independent/homeless). The at home and away from home rates are subject to parental income and assets tests.

Mature Age Allowance

From 1 July 1996, people granted Mature Age Allowance (MAA) are paid at pension rates, have access to the Pensioner Concession card and are subject to allowance income and assets tests. MAA is paid only to people who have been receiving income support and who have no recent workforce experience. Where people have formerly been receiving Job Search Allowance or Newstart Allowance they are required to have been receiving income support for nine months before they can qualify for MAA. These changes ensure ongoing income support free of activity testing for older men and women facing significant labour market disadvantage.

Table 7.9 shows the number of customers of the MAA by State.

7.9 MATURE AGE ALLOWANCE CUSTOMERS

State/Territory	Unit	1994	1995	June 1996
New South Wales	no.	9 420	13 244	15 293
Victoria	no.	7 192	10 664	12 606
Queensland	no.	4 179	6 543	7 814
South Australia	no.	2 980	3 796	4 542
Western Australia	no.	1 948	2 983	3 631
Tasmania	no.	1 068	1 482	1 749
Northern Territory	no.	100	147	179
Australian Capital Territory	no.	101	167	223
Total	no.	27 528	39 026	46 037
Total payments financial year ending 30 June(a)	\$'000	77 555	356 551	436 551

(a) Includes expenditure for Mature Age Partner Allowance.

Source: Department of Social Security.

Partner Allowance

Prior to the introduction of Partner Allowance allowees with a partner received a married rate of allowance which included an amount for the support of a dependent spouse. This married rate of payment was abolished, and Partner Allowance (at half the married rate) was paid directly to the dependent partner.

From 1 July 1995, Partner Allowance is payable to partners of persons in receipt of Job Search, Newstart, Sickness Allowance, Special Benefit, Rehabilitation Allowance, Age Pension, Disability Support Pension, Disability Wage Supplement, Mature Age Allowance or the Department of Veterans' Affairs Service Pension. From this time the payment has been limited to persons born on or before 1 July 1955, who have no dependent children and who have no recent workforce experience. Partner Allowance is a non-activity tested payment; partners who do not qualify for Partner Allowance need to qualify for another payment such as Parenting or Newstart Allowance.

Payment for families with children

Family Payment

Family Payment is payable for dependent children under 16 years and dependent full-time students aged 16 to 18 years who are not eligible for a Prescribed Education Scheme payment such as AUSTUDY.

Family Payment comprises a minimum rate of payment available to most families with children

(from January 1996, this is referred to as 'minimum rate Family Payment') and a higher rate of payment which is provided to low income families (referred to as 'more than minimum rate Family Payment'). Families on income support automatically receive the maximum rate of Family Payment. The rate of Family Payment depends on the family's income and assets, the number and ages of children in the family, whether the family is renting privately and whether the parent is single.

An additional allowance, also subject to income and assets tests, is payable in respect of multiple (three or more) births until the children turn six years.

Payments are made to the primary carer of the children. Family Payment can also be paid to approved charitable, religious or government institutions for children in their care.

Table 7.10 shows the numbers of customers receiving Family Payment and the number of children for which payment is made.

Family Tax Payment

The Commonwealth Government has announced that the family tax initiative will be introduced from 1 January 1997 to provide additional assistance to most families with children. The majority of eligible families will receive assistance through the taxation system. However, low income families will be able to get an equivalent level of assistance in the form of a fortnightly cash payment — to be known as the

7.10 FAMILY PAYMENT

	Unit	June 1994	June 1995	June 1996
Minimum rate of family payment				
Customers	no.	985 967	967 528	928 523
Children	no.	1 855 949	1 814 944	1 738 323
More than minimum rate of family payment				
Customers	no.	841 894	836 590	883 934
Children	no.	1 683 050	1 671 372	1 759 144
Total				
Customers	no.	1 827 861	1 804 118	1 812 457
Children	no.	3 538 999	3 486 316	3 497 467
Total payments financial year	\$'000	5 450 938	5 551 644	5 877 685

Source: Department of Social Security.

Family Tax Payment, through the Department of Social Security.

There are two components to the measure:

- Part A provides for an increase of \$1,000 in the tax free threshold for one parent in eligible families for each dependent child. This translates to an increase in disposable income for eligible families of \$200 per child per year (or around \$7.70 per fortnight).
- Part B provides for an increase of \$2,500 in the tax free threshold for one parent in eligible families with at least one child under the age of five. This translates to an increase in disposable income of \$500 per family per year (or around \$19.24 per fortnight).

Sole Parent Pension

To qualify for Sole Parent Pension, a person must

- be caring for at least one dependent child who is under 16 years of age or who qualifies the person for child disability allowance;
- not be a member of a couple;
- satisfy the residency qualification; and
- have taken reasonable action to obtain child support, if appropriate.

A member of a couple may qualify for payment if the member's partner has been in gaol for at least 14 days or if the couple are unable to live together as a result of long-term illness or infirmity in one of the partners.

Sole Parent Pension is subject to income and assets tests with the maximum rate payable being identical to the Age Pension.

Table 7.11 shows the number of Sole Parent pensioners, and total payments, at June 1996.

7.11 SOLE PARENT PENSIONERS

	Unit	1993	1994	1995	June 1996
Age group (years)					
Under 20	no.	9 903	9 957	10 205	10 265
20–29	no.	100 462	103 653	105 676	109 334
30–39	no.	12 588	132 517	137 141	144 205
40–49	no.	55 141	59 702	63 830	69 569
50–59	no.	6 849	7 386	7 864	8 606
>59	no.	208	222	225	311
Males	no.	17 529	18 897	19 913	21 964
Females	no.	280 915	294 540	305 028	320 326
Persons	no.	298 444	313 437	324 941	342 290
Total payments financial year ending 30 June(a)	\$'000	2 869 473	2 524 616	2 552 272	2 760 105

(a) Until January 1993 total expenditure included additional payments for children, Guardian Allowance and Rent Assistance. Since then, expenditure on these additional payments has been included with Family Payment expenditures.

Source: Department of Social Security.

Jobs, Education and Training Program (JET)

The JET Program is jointly administered by the Departments of Social Security; Employment, Education, Training and Youth Affairs; and Health and Family Services. It aims to improve the financial circumstances of eligible DSS customers by aiding their entry or re-entry into the workforce. JET provides an integrated program of assistance in the form of individual counselling and support, and access to training, education, assistance with job search and child care. Participation in the JET program is voluntary.

The JET Program is open to all sole parent, widow 'B' and carer pensioners, widow allowees, and recipients of Special Benefit who

would be eligible for Sole Parent Pension but for residency requirements. Three groups of sole parent pensioners are especially encouraged to take advantage of JET assistance: teenage sole parent pensioners; those who have been on Sole Parent Pension for more than 12 months and whose youngest child is at least six years old; and those who will lose eligibility for the pension within two years due to their youngest child turning 16 years. The number of customers of the JET Program is shown in table 7.12.

JET participants who study full or part time in AUSTUDY-approved courses may receive the AUSTUDY Pensioner Education Supplement of \$60 per fortnight and an annual Education Entry Payment of \$200.

7.12 JET PROGRAM

	1992-93	1993-94	1994-95	1995-96
New customers entering JET program(a)	49 535	52 719	47 962	50 970
JET customers registered with the CES	30 721	38 349	34 738	33 263
JET customers undertaking education	11 574	14 537	13 976	13 143
Jobs taken up by JET customers	13 100	17 563	19 475	19 344

(a) New clients include Sole Parent Pensioners, Widow Class B Pensioners, Widow Allowees, Carer Pensioners and certain sole parent Special Beneficiaries.
Source: Department of Social Security.

Child Support Scheme

The Department of Social Security, the Child Support Agency (housed in the Australian Taxation Office) and the Attorney-General's Department jointly administer the Child Support Scheme.

The child's custodian can apply to the Child Support Agency which will assess the amount of child support payable using a formula set out in legislation.

The Agency can collect child support from liable parents and these payments are distributed to custodians by the Department of Social Security (DSS).

Alternatively, custodians can collect child support privately, provided that, where the custodian receives more than minimum rate of Family Payment from the DSS, it is at least the amount payable under the formula or court order. (Prior to 1 January 1993, DSS clients were required to have child maintenance payable under court orders or agreements collected by the Agency.)

The largest sub-group receiving more than the minimum rate of Family Payment are female sole parent pensioners. At June 1996 41.6% of

sole parent pensioners were declaring child support, compared with 26% at the beginning of the Scheme. The number of sole parent pensioners declaring child support has more than doubled, from 61,129 at January 1988 to 139,602 at June 1996.

Parenting Allowance

Parenting Allowance, which incorporates the former Home Child Care Allowance, was introduced from 1 July 1995 as a payment for partners of income support recipients (both allowees and pensioners), partners of low income earners and those with low personal income. To qualify for Parenting Allowance, a person must be a member of a couple, allowed to live in Australia permanently, and must have a dependent child under the age of 16 years.

The allowance has two parts:

- Basic (non-benefit) Parenting Allowance which is non-taxable, income tested on the income of the claimant only and not assets tested.
- Additional (benefit) Parenting Allowance which is taxable, income tested on the

income of both the claimant and the partner and assets tested.

The maximum rate of Parenting Allowance is the same as the married rate of other allowances.

At June 1996 there were 660,347 Parenting Allowees. Of these, 422,604 were receiving basic Parenting Allowance only. Expenditure on Parenting Allowance for 1995–96 was \$2,091m.

Maternity Allowance

Maternity Allowance was introduced from 1 February 1996. This payment assists families with the costs associated with a new baby (including forgone income as a result of the mother being unable to participate in the paid workforce around the time of the birth of the child). Maternity Allowance is a non-taxable, lump sum amount paid for each new child to families who meet the Family Payment residence, income and assets tests. It is equal to six times the weekly maximum rate of Parenting Allowance.

Other payments

Special Benefit

Special Benefit may be granted to people not qualified for any other payment but who are unable to earn a sufficient livelihood for themselves and their dependants and are in hardship. The rate at which Special Benefit is payable is discretionary, but cannot exceed the applicable Newstart Allowance rate. Payment of Special Benefit is subject to an income test, an assets test and available funds test. The assets test is identical to that applying to Newstart Allowance customers, but both the income test and the available funds test are specific to Special Benefit.

Rent Assistance

Rent Assistance is paid to social security recipients, including low income families in the workforce, who rent privately. Rent Assistance is not paid to public housing tenants. People who pay more than a minimum amount of rent, known as the threshold, receive rent assistance at a rate of 75 cents for each dollar of rent paid above the threshold up to a maximum rate of rent assistance. The threshold and the maximum rate of rent assistance vary according to a person's family circumstances, such as marital status and number of dependent children.

Eligible families receive Rent Assistance as part of the Family Payment. Social Security recipients without children are paid Rent Assistance as part of their pension or allowance.

Other services of the Department of Social Security

Customer Service

The Department of Social Security aims to ensure that all Australians, including people from non-English speaking backgrounds and Aboriginal and Torres Strait Islander peoples, have equal access to income security programs and services. Improved access and equity outcomes are achieved through mainstream services and a comprehensive range of specialist services designed to recognise cultural and language diversity and remove disadvantage caused by remoteness.

Services for customers from migrant communities include the Migrant Liaison Officers (MLO) program; the Multilingual Telephone Interpreter Service; interpreters and translators and multilingual publications. Services for customers from Aboriginal and Torres Strait Islander communities include the Aboriginal and Torres Strait Islander Liaison Officers (AILO) program; the Support Network for Aboriginal Parents (SNAP) program; the Community Agent Program; remote visiting teams and the Aboriginal and Torres Strait Islander Interpreter Service.

The Department employs about 550 social workers. Social work services are available to customers of all DSS program types at regional offices and other DSS outlets with the objective of assisting vulnerable customers gain access to income support and community support services. Social workers undertake a professional assessment and provide advice to administrative staff where a client's personal or social circumstances, including concerns about a client's safety, need to be taken into account as part of the claim and review process. In addition, social workers provide a short term counselling and support service to clients who are experiencing a major financial or personal crisis, such as separation, family breakdown, homelessness, domestic violence, bereavement or inability to meet ongoing living expenses. This would usually involve the referral of the client to ongoing community support services.

Community Service Officers

Community Service Officers (CSOs) were introduced by DSS in January 1995 to improve DSS services to homeless people, who are particularly disadvantaged in accessing DSS services and maintaining income support. CSOs provide homeless people with easier access to DSS payments and services in a non-threatening environment, outside DSS regional offices in locations such as hostels, refuges and drop in centres where homeless clients gather and feel comfortable. DSS currently employs 33 CSOs in 21 locations. CSOs dealt with over 28,000 customers during 1995–96.

Youth Service Units

Youth Service Units (YSUs) were introduced in 1994 to improve access to, and increase the level of, DSS services received by young people, especially homeless young people and those with other personal, non-labour market related problems. YSUs operate in 10 locations around Australia. YSUs provide mainstream DSS services specifically for under 18 year olds, through trained staff, in youth focused environments, either at DSS offices or at refuges, hostels and other places where young people gather. The YSUs provide access to social workers to address non-labour market related issues that limit young people's ability to access available employment, education and training options. The YSUs also provide information on DSS programs and services to staff of community agencies and Government Departments or authorities.

International agreements and payment of pensions abroad

Under Australia's social security law, pensions for old age, severe disability and widowhood can usually be paid abroad permanently. Pensions for some other contingencies can be paid outside Australia for periods of up to 12 months.

As at June 1996, Australia was paying more than 47,000 pensions to residents and former residents who were absent from Australia for more than 12 months. Other countries' social security systems were making more than 275,000 similar payments to Australian pensioners.

Australia has social security agreements with Austria, Canada, Cyprus, Ireland, Italy, Malta, New Zealand, Portugal, Spain, the Netherlands, and the United Kingdom. The agreements form part of Australia's social security law. They

enhance people's access to social security benefits from the agreement partners and guarantee the payment of those benefits when people move between countries. Australia negotiates social security agreements based on a principle of shared responsibility so that countries in which individuals may have lived and worked contribute towards social security payments for those individuals.

Negotiations to extend Australia's agreement network are under way with Chile, Denmark, Norway, Finland, Germany, Greece, Switzerland and Turkey.

Financial Information Service

The Financial Information Service (FIS) was introduced in November 1989 and has been progressively extended since that date. At 30 June 1996 there were 209 FIS officers deployed nationally. Over 1995–96, an additional 73 FIS officers were located in regional offices with an emphasis on providing more retirement planning information to the rural community. The service plays an important role in the strategy of promoting greater self reliance among retirees. It provides information on approaches to investment and different types of investments. It explains how different investment products are treated under income and assets tests and assists clients with basic taxation questions. Although the principal focus of the Financial Information Service has been on assisting pensioners, information is also made available to the Department's other clients, to persons close to retirement age or considering their retirement strategies, to those being retrenched and to non-pensioner retirees. The service does not make recommendations on how people should invest.

During 1995–96, the Commonwealth Government has also established pilot one-stop outlets to assess whether aged people and retirees find it useful to be able to visit the one office to get information on social security, veterans affairs, tax and superannuation matters.

Community Research Project

DSS is currently undertaking a major research activity entitled the Community Research Project (CRP). The CRP is one of a number of projects being undertaken in the context of the Department's ongoing social policy research agenda.

It is anticipated that the CRP will provide additional insights into three particular areas of relevance to social security policy development:

- the understanding of dimensions which make up and contribute to living standards;
- the identification of possible service provision models; and
- the relationship between the welfare state and concepts such as community, social inclusion and citizenship.

Community support programs of the Department of Health and Family Services

Child care

Children's Services Program

The objective of the Children's Services Program is to assist families with dependent children to participate in the workforce and the general community by ensuring the affordability of child care and promoting adequate supply and the quality of child care.

The Program's objectives aim to improve the choice, affordability, supply and quality of child care. These aims are being achieved as follows.

The number of funded child care places has increased from 269,000 in June 1995 to 306,500 places in June 1996. These comprise 45,600 community Long Day Care places, 122,500 private Long Day Care places (including employer and non profit centres), 60,100 Family Day Care Places, 4,900 Occasional Care places, 1,600 Multifunctional Centre and Multifunctional Aboriginal Children's Service places and 71,800 Outside School Hours Care places.

In 1995–96 an estimated 37,500 additional places were funded, of which 30,000 were Long Day Care.

The Commonwealth Government assists low and middle income families with their child care costs through an income-related fee relief system. Childcare Assistance is a targeted payment for low to middle income families using approved, formal child care. It is available to eligible families using private and community-based services. The threshold for maximum Childcare Assistance is linked with

the cut-off point for more than the minimum level of Family Payment and is indexed annually.

At June 1996, an estimated 279,000 low and middle income families using long day care services received assistance with their child care costs through the Childcare Assistance system. It is estimated that 55% of these users receive maximum Childcare Assistance.

A Childcare Cash Rebate is also available for work-related child care expenses up to a current ceiling of \$115 per week for one child and \$230 per week for two or more children. At 30 June 1996 there were over 350,000 families and about 50,000 child care providers registered for the Commonwealth Childcare Cash Rebate.

To improve choice for families in how they receive their child care benefits, Childcare Assistance and Childcare Cash Rebate will be paid by a new Government Service Delivery Agency from 1 January 1998. Families will be able to elect to receive payments directly or have them paid to a child care service.

At June 1996, all 3,874 long day centres eligible to receive Childcare Assistance were participating in the Quality Improvement and Accreditation System (QIAS) and 44% were accredited. The remainder are progressing through the quality improvement process.

QIAS, administered by the National Childcare Accreditation Council, is underpinned by 52 principles of good quality child care practice. Accreditation decisions are made by the Council on the basis of a self-assessment by the centre of its standard of care in relation to these principles, an external review to validate the self-assessment, and moderation of the results to ensure national consistency.

The Government addresses access for families with additional needs through funding of Special Services and Supplementary Services (SUPS). The SUPS program was set up to assist all Commonwealth-funded children's services to include children with additional needs and provide culturally and developmentally appropriate care. The priority groups for the program are children of non-English speaking backgrounds, children with a disability, and children from an Aboriginal or Torres Strait Islander background. Funding for SUPS is limited to growth in child care places. In the 1996–97 Budget, the Government provided an additional \$10m per year, commencing on 1 July 1997, to enable children with additional needs,

particularly children with disabilities, to access appropriate care in mainstream child care services. This funding is targeted at children who would not otherwise be able to participate in child care programs.

Special Services funding supports alternatives to mainstream services for special needs groups in areas where services are inappropriate or non-existent. Many of these services are targeted to children from an Aboriginal or Torres Strait Islander background and children living in rural and remote areas.

From 1 July 1997, an operational subsidy will no longer be paid to community based long day care centres.

Removal of the subsidy will place community based long day care centres and private long day care centres on an equal footing. It will also encourage greater competition and efficiency.

The 1996-97 Budget directed resources to provide maximum benefits to those most in need, to assist community centres to adjust. These include:

- \$8.3m over two years to assist community based long day care centres to purchase financial and/or management advice;
- \$12.5m in supplementary funding over four years to assist services in severely disadvantaged areas to ensure that families in these areas are not further disadvantaged through loss of access to child care; and
- \$10.9m over four years to provide innovative services in rural and remote areas.

7.13 CHILDREN RECEIVING CHILDCARE SERVICES — 30 June 1996

Type of formal care	no.
Long day care community based	81 900
Private centres	208 200
Employer and other non-profit centres	20 900
Family day care	102 400
Occasional centres	13 800
Occasional care neighbourhood model	23 830
Multifunctional services	1 130
Multifunctional Aboriginal children's services	1 830
Mobile and toy libraries	3 730
Outside school hours care	112 600
Total(a)	570 320

(a) Totals are indicative only as children who attend more than one service type are counted in each.

Source: Estimated to June 1996 based on the 1993 and 1994 Census of Child Care Services by the Department of Human Services and Health.

Use of child care

In Australia at June 1993, 49% of children under 12 years used some form of child care. Formal child care arrangements now account for 40% of child care use, up from 33% in 1987.

People's need for assistance because of age or disability

An ABS survey in 1993 found that most people who lived at home and who needed assistance with common activities of daily living because of age or disability received some assistance. Assistance was generally much more likely to have been received from a friend or relative (an informal source) than from a government, voluntary or commercial organisation or business (a formal source).

Many people needed more care than family and friends could provide, and relied on help from formal services to enable them to remain in their own homes. Some of these people lived alone, and some with partners who were no longer able to provide all the assistance needed because of their own age or disability. Likewise, there were those caring for people with very high support needs who could only continue to look after a family member or friend at home in partnership with formal support services.

The extent to which people were more likely to receive assistance from an informal source than from a formal source varied according to the activity for which assistance was received.

People who need assistance with self care, mobility or communication are those who need assistance because of disability, with tasks such as eating, getting around a place away from home and being understood by a stranger. In 1993, 90% of people who needed such assistance, and who were still living in their own homes, received assistance with these activities. Of those who received assistance, 96% received it from at least one informal source and 14% received it from at least one formal source. Almost a third of those receiving formal services relied solely on this type of assistance.

People who lived in a household and who needed and received assistance with transport because of age or disability were also much more likely to have received informal assistance (94%) than formal assistance (10%) in 1993.

Activities that required the application of medical and technical knowledge were

associated with higher rates of receipt of formal assistance. In 1993, almost half (48%) of those who, because of their disability, needed ongoing help or supervision with taking medication or dressing wounds or help in caring for their feet

(health care) received formal assistance. Formal assistance was received by one-third of those who needed and received assistance because of age or disability, with household chores, home maintenance, gardening or meal preparation.

7.14 PEOPLE LIVING IN A HOUSEHOLD WHO REQUIRE ASSISTANCE BECAUSE OF AGE OR DISABILITY

Sources of assistance(b)	Tasks for which assistance is received because of age or disability(a)			
	Self care, mobility or communication(c)	Health care(c)	Home help/maintenance and gardening, meal preparation or financial management/letter writing(d)	Transport(d)
Informal source	534.1	250.6	1 041.6	805.6
Living in same household				
Spouse	442.5	217.9	794.6	541.3
Other relative	247.9	144.9	546.4	328.7
Friend	208.3	72.5	289.2	213.0
Friend	10.8	*4.4	27.6	17.2
Not living in same household				
Relative	143.9	36.5	357.4	321.8
Friend	101.6	28.2	262.4	238.8
Friend	53.8	9.0	117.1	105.1
Formal source	79.6	231.2	418.6	86.1
Home care/home help/council handyperson	11.8	*4.3	118.0	13.7
Community/home nursing	33.0	37.9	*6.5	10.1
Privately arranged help/commercially provided service	8.0	19.9	291.6	37.8
Meals on wheels	..	..	13.1	..
Physiotherapist	*0.4	*1.8	..	..
Chiroprapist/podiatrist	..	167.4	..	..
Speech therapist	*3.2	..	..	..
Other	32.0	10.7	40.5	27.7
Total receiving assistance	558.4	442.5	1 239.5	857.6
Assistance not received	61.7	36.3	132.8	54.4
Total	620.1	478.7	1 372.3	912.0

(a) Assistance may be needed with more than one activity. (b) Assistance may be received from one source, so totals and sub-totals may be less than sum of components. (c) Assistance needed because of disability only. (d) Assistance needed because of age or disability.

Source: *Survey of Disability, Ageing and Carers, 1993*.

Voluntary work

Community support is not undertaken only through government programs. A significant contribution is made by volunteers within the community. Volunteers undertake a wide range of activities and make a significant contribution to the work of a variety of organisations and groups. Voluntary work not only meets needs within the community, but can also provide the volunteers themselves with benefits.

A national survey of Voluntary Work, conducted in June 1995, has provided a picture of the characteristics and motivations of volunteers, the areas in which they are involved and the activities they perform. For the survey a volunteer is defined as someone who willingly gives unpaid help in the form of time, service or skills through an organisation or group. It does not include people who volunteer 'informally'.

Who are the volunteers?

In Australia, 2,639,500 people aged 15 years and over provided some form of voluntary work through an organisation or group in the 12 months ended June 1995 (table 7.15). These volunteers represented nearly one-fifth (19%) of the population. Women were more likely to be volunteers than men, with 21% of women and 17% of men undertaking some voluntary work.

People living in State capital cities were less likely to be involved in volunteer work than those people living in the other parts of the State. One-sixth (16%) of people in the capital cities were volunteers compared with nearly one-quarter (24%) of people in other parts of the State.

Age and life-cycle stage also had an impact on the pattern of volunteer involvement. People aged 35–44 years had the highest volunteer rate, with 27% of people in this age group

reporting some involvement. For volunteers in this age group, just over 80% worked for groups or organisations associated with education, training and youth development, and those supporting sport, recreation and hobbies.

The people in this age group are also likely to be married with children, and their higher than average involvement in volunteering reflects family commitments. This is further highlighted by the finding that women with dependent children had a volunteer rate of 30% compared with 19% for those without dependent children.

Employed people were more likely to be volunteers than people who were unemployed or those who were not in the labour force. People working part-time and those looking for part-time work had high rates of involvement, the highest rate being 30% for women employed part-time.

7.15 VOLUNTEERS, Age by Sex

Age	Males		Females		Persons	
	'000	Volunteer rate(a) %	'000	Volunteer rate(a) %	'000	Volunteer rate(a) %
15–24	127.8	9.4	171.1	13.0	298.9	11.2
25–34	188.7	13.6	267.8	19.0	456.5	15.3
35–44	320.9	23.8	423.2	30.9	744.0	27.4
45–54	236.6	21.0	261.9	24.0	498.6	22.5
55–64	129.0	17.1	164.2	22.1	293.2	19.6
65 and over	140.0	15.7	208.4	18.9	348.3	17.4
Total	1 142.9	16.7	1 496.6	21.3	2 639.5	19.0

(a) The volunteer rate is the number of volunteers expressed as a percentage of the population aged 15 years and over in the same group.

Source: Survey of Voluntary Work 1995.

Fields of voluntary work

Volunteers give their time to organisations and groups involved in a diverse range of activities. Sport, recreation and hobby organisations, and welfare and community organisations attracted the highest levels of volunteering. As table 7.16 shows, the volunteer rate was also high for education, training and youth development groups (25%) and religious groups (18%). The rate of involvement was much lower for all other types of organisations.

Men were most likely to be involved in the fields of sport, recreation and hobbies, with 42% of volunteers assisting these organisations. Welfare and community groups and education/training and youth development organisations attracted the most women, with 32% of volunteers giving time to each of these organisational groups.

7.16 VOLUNTEERS, Field of Voluntary Work

Field of voluntary work(a)	Males		Females		Persons	
	'000	%	'000	%	'000	%
Sport/recreation/hobby	475.6	41.7	351.7	23.5	828.2	31.4
Welfare/community	308.4	27.0	476.2	31.8	784.7	29.7
Health	49.9	4.4	131.9	8.8	181.7	6.9
Emergency services	96.7	8.5	31.9	2.1	128.6	4.9
Education/training/youth development	191.3	16.7	476.6	31.8	668.0	25.3
Religious	184.8	16.2	281.3	18.8	466.1	17.7
Environmental/animal/welfare	50.2	4.4	48.0	3.2	98.2	3.7
Business/professional/union	56.2	4.9	30.0	2.0	86.2	3.3
Law/justice/political	24.6	2.2	19.3	1.3	43.9	1.7
Arts/culture	41.1	3.6	66.9	4.5	108.0	4.1
Foreign/international	6.7	0.6	13.3	0.9	19.9	0.8
Total	1 142.9	100.0	1 496.6	100.0	2 639.5	100.0

(a) As a volunteer can work in more than one field of voluntary work, the figures for individual fields of voluntary work will not add to the total.

Source: *Survey of Voluntary Work 1995*.

How much time?

Volunteers worked an estimated 433.9 million hours in the 12 months to June 1995. People's time commitment to volunteering over the 12 month period varied from less than 20 hours to more than 300 hours. As table 7.17 shows, just over 18% of volunteers gave less than 20 hours and another 18% gave between 40 and 79 hours. About 14% gave more than 300 hours.

7.17 VOLUNTEERS, Hours Volunteered

Hours(a)	Males %	Females %	Persons %
Less than 20	19.8	17.4	18.5
20-39	14.7	14.4	14.6
40-79	17.1	19.4	18.4
80-139	16.0	16.8	16.5
140-299	17.6	17.8	17.8
300 or more	14.7	14.1	14.4
Total	100.0	100.0	100.2

Source: *Survey of Voluntary Work 1995*.

Activities performed

The types of activities that volunteers undertake are many and varied. Fundraising (47% of all volunteers) and management and committee work (41%) were the main activities. Nearly half the female volunteers

spent time in fundraising and 40% were involved in preparing and serving food. Men were more likely to be involved in management and committee work (46%) and fundraising (42%).

How and why do people become involved in volunteering?

Volunteering brings benefits to volunteers as well as to the organisations they volunteer for. While the reasons people initially become volunteers are diverse, 42% said that they had wanted to help others and the community. One-third of volunteers attributed their reasons to personal or family involvement and just over one-quarter cited personal satisfaction.

The major personal benefits that people gained through volunteering were personal satisfaction for 59% of volunteers and social contact for 38%.

People who were part of a family were slightly more likely to attribute their initial involvement to the fact that they were asked by someone (31%), than that they or their family were involved with the organisation (30%). However, people who were not part of a family were most likely to have been initially involved because they knew someone else who was involved.

People with a disability

The *Disability Services Act 1986* (DSA) was introduced to expand opportunities for the participation of people with disabilities in the Australian community. Under the Act, the Commonwealth Government provides grants for the provision of services to support people with disabilities, particularly in the labour market.

Until 1993 the Commonwealth, States and Territories were each involved in providing accommodation and support services and employment services for people with a disability. The Commonwealth/State Disability Agreement (CSDA) was introduced to clarify government responsibilities and rationalise the provision of services for people with a disability.

Under the CSDA, the Commonwealth is responsible for the administration of employment programs for people with a disability, while State and Territory Governments administer accommodation and other support services. Both levels of government fund advocacy services and support research and development activities. All States and Territories had implemented the CSDA and passed legislation complementary to the DSA by 1993.

The CSDA will end on 30 June 1997. An independent and external review of the Agreement was completed in July 1996 and will inform negotiations around future Commonwealth and State arrangements for the delivery of disability services.

The aim of the Disability Services Program (DSP) is to foster the development of environments and supports that promote participation and choice in work and community life for people with a disability.

In 1994-95 the DSP funded 851 community-based agencies to provide a range of employment services to people with a significant disability whose needs cannot be met solely through the Government's mainstream labour market programs. It is estimated that 30,000 people have received assistance from DSP employment programs this year.

DSP-funded employment support takes account of the differing circumstances, needs, aspirations and abilities of each person with a disability. Specialist job placement agencies and supported employment services provide

individualised on-the-job training and support until the person is able to continue in the job independently.

The Supported Wage System (SWS) came into operation from 1 July 1994. It was developed in recognition that a program of employment assistance was required for people whose disability impacted on their productivity levels such that their opportunities to access employment in the open workforce were severely curtailed. The SWS provides the means by which an employer can pay a worker with a disability a pro-rata of the full award wage, commensurate with their productivity levels compared with co-worker benchmarks. At 30 June 1996 some 700 people had been assisted in obtaining and retaining employment through the SWS.

The Commonwealth Disability Strategy is a framework for all Commonwealth agencies to fulfil their obligations under the *Disability Discrimination Act 1992* and sets out a ten-year plan of action to ensure that the needs of people with a disability are taken into account in planning, service delivery and employment within Commonwealth departments and agencies.

The Department of Health and Family Services administers the Commonwealth Rehabilitation Service (CRS) under Part III of the DSA. CRS provides vocational and social rehabilitation services for working-age people with disabilities. The major criterion for acceptance into a CRS program is the expectation that the rehabilitation will substantially increase the person's capacity to obtain or retain paid employment. Non-vocational programs can sometimes be provided, but only if an individual's personal circumstances and disability prevent a viable vocational goal.

Services are provided through a national network of 180 regional offices.

Programs are individually tailored to address client needs, but may include career counselling and planning, information about disability and how to manage its effects, improvement of job seeking skills, identifying suitable work, training in specific skills, modification of workplace or car where appropriate, assistance in job seeking and job placement, and linking to community support groups.

In 1995–96 CRS assisted 41,952 clients through the provision of rehabilitation programs. Of these, 14,485 were provided with services under cost recovery arrangements in relation to compensation cover for injuries. CRS also provides assessment services to employers and other agencies and occupational health and safety consultancies to industry on a cost recovery basis. Expenditure on rehabilitation services in 1995–96 was \$146m.

Australian Hearing Services

Australian Hearing Services (AHS) is a statutory authority within the portfolio of Health and Family Services. Its role is to assist people with a hearing impairment and to reduce the incidence of hearing problems within the community.

AHS provides hearing services to eligible people, who include holders of Pensioner Concession cards, those under 21 years of age, eligible veterans, Commonwealth rehabilitation clients and certain compensation claimants. Services are delivered through a national network of 57 full-time Hearing Centres, some 90 visiting centres in rural and remote areas, and over 120 approved private hearing aid businesses across Australia.

AHS staff also conduct noise and audiological research, evaluate new devices and techniques, advise on measures to prevent hearing loss and report on environmental and occupational noise problems.

Home and Community Care Program

The Home and Community Care Program (HACC) is jointly funded by the Commonwealth Government and the State and Territory Governments. HACC funds organisations and community groups which provide basic maintenance and support services for the frail aged and people with disabilities to enable them to remain living at home. Support is also provided to the carers of these people.

The program aims to enhance the independence, security and quality of life of frail aged and younger people with disabilities by avoiding their inappropriate admission to long-term residential care. It achieves this by facilitating and promoting the development of cost-effective community care alternatives which are appropriate and which can respond flexibly to individual needs.

Services funded under the program include home help and personal care, home maintenance and modification, food services, community-based care, transport services, community paramedical services, community nursing, assessment and referral, education and training for service providers and users, information and co-ordination.

Expenditure by the Commonwealth and the States/Territories under the HACC Program is shown in table 7.18. Over 3,300 projects are funded throughout Australia — some providing a specific focus on the needs of younger people with disabilities, those with a non-English speaking background, Aboriginal and Torres Strait Islander people, those with dementia, and the carers of the frail aged and of younger people with disabilities.

7.18 HOME AND COMMUNITY CARE (HACC) EXPENDITURE(a)

Year	Commonwealth \$m	States/ Territories(b) \$m	Total \$m
1989–90	242.1	165.8	407.9
1990–91	278.9	188.2	467.1
1991–92	315.8	205.7	521.5
1992–93	342.2	222.7	564.9
1993–94	371.0	240.8	611.8
1994–95	399.0	258.8	657.8
1995–96	423.6	274.5	698.1

(a) Includes unmatched money and planning and development but excludes running costs. (b) Estimated expenditure required for matching Commonwealth outlays and may vary from the actual cash expenditure due to the effect of recoupments in respect of previous years.

Source: Commonwealth Department of Health and Family Services.

Some community care services are aimed at specific client groups. The Commonwealth Respite for Carers Program funds respite services to support carers of frail, elderly people and younger people with disabilities. Expenditure in 1995–96 was \$14.5m.

Community Aged Care Packages provide personal care services for people in the community who would otherwise require entrance to hostels. Expenditure in 1995–96 was \$32.3m. In addition to the range of mainstream services provided in 1995–96, the HACC Program provided funding for specific projects for special needs groups such as Aboriginal and Torres Strait Islander people (\$12.8m), people from non-English speaking backgrounds (\$13.1m), carers (\$9.7m), and people with dementia (\$12.0m).

Residential care for aged people

The aim of the Commonwealth Government's Residential Aged Care Program is to ensure that frail aged people have access to residential support and care services appropriate to their needs.

Two key objectives of the residential aged care program are to provide a range of accommodation and care services to meet the assessed needs of aged people, and to promote their quality of life. Tables 7.19 and 7.20 provide information relating to the nature and scale of the project, by State/Territory.

7.19 COMMONWEALTH EXPENDITURE ON NURSING HOMES AND HOSTELS — 1995-96

	NSW \$m	Vic. \$m	Qld \$m	SA \$m	WA \$m	Tas. \$m	ACT \$m	NT \$m	Aust. \$m
Nursing homes for aged (recurrent)	803.7	490.3	278.2	188.6	157.7	63.8	13.4	6.1	2 001.7
Hostels (recurrent)	132.6	100.0	86.5	45.4	36.6	10.9	4.1	1.2	417.4
Nursing homes and hostels (capital)	19.3	18.4	7.7	7.3	11.0	2.5	2.0	1.1	69.3

Source: Commonwealth Department of Health and Family Services.

7.20 APPROVED NURSING HOMES, BEDS AND HOSTEL PLACES — 1 July 1996

	NSW no.	Vic. no.	Qld no.	SA no.	WA no.	Tas. no.	ACT no.	NT no.	Aust. no.
Approved nursing homes and beds									
Nursing homes	486	440	207	161	111	55	6	7	1 473
Beds	29 398	17 300	12 277	7 129	5 762	2 138	519	210	74 733
Approved hostels and places									
Hostels	464	368	272	153	173	47	16	9	1 502
Places	19 985	15 448	12 521	6 327	5 641	1 496	763	141	62 322

Source: Commonwealth Department of Health and Family Services.

Aged Care Assessment Program

The Aged Care Assessment Program (ACAP) is a joint Commonwealth-State program introduced in 1986. The aim of ACAP is to ensure that frail aged people have access to available residential care and community care services appropriate to their needs, through the operation of multi-disciplinary Aged Care Assessment Teams (ACATs).

Throughout Australia a network of 121 ACATs operates according to Commonwealth guidelines. In addition, each State has an evaluation unit which monitors and evaluates the performance of the program. The Commonwealth provides grant funding to State health authorities which manage the program on a day to day basis and which also contribute resources to the operation of ACATs and evaluation units. The Commonwealth Government contributed \$34m in 1994-95 and \$36m in 1995-96.

ACATs operate on a regional basis and their structure is influenced by the requirements of the community in which they function. All people over the age of 70 now have access to a regional ACAT. The team's responsibilities include holistic assessment of clients, determination of eligibility for nursing home and hostel entry, determination of eligibility for the Community Aged Care Package, acting as an interface between aged care services and the health care system, and the provision of advice to older people about aged care services in general.

The Commonwealth funds pilot projects under the Aged Care Assessment Program in areas such as transition care for people recovering from illness and accident and the provision of psychogeriatric services. A number of ACATs either hold Commonwealth budgets to deliver these pilot projects or work closely with the project managers to provide these services to their clients.

Community based care

While the Residential Aged Care program focuses mainly on long-term residential care, there are provisions under the program for assistance to those aged and disabled people who wish to stay in the community.

A number of pilot projects have illustrated the potential of such an approach in enabling those people with higher and more complex care needs and most at risk of needing residential care to remain in the community, through providing necessary care services in the home. Given the suitability of this service model, the Government announced its commitment to develop Community Aged Care Services Packages as a service alternative in the aged care program. In 1995–96, 4,196 places were available for this initiative, with provision for substantial growth in later years.

The Commonwealth has been developing ways to link housing more effectively to aged care, particularly for financially disadvantaged people in insecure housing who are at risk of premature entry to residential care. The aim is to ensure that they are able to get equitable access to the improved range of community-based care services developed in recent years.

The Assistance with Care and Housing for the Aged (ACHA) Program was established in the 1993–94 Budget to trial different approaches to more effectively link housing to care. There are 46 projects now operating across Australia. They employ support workers to assist in direct service delivery or to link clients to appropriate mainstream housing and care services.

An evaluation will assess the Program's effectiveness and identify the most successful service models. Initial feedback indicates that clients are receiving better access to appropriate housing and are being assisted to access mainstream health and care services.

In addition, short-term or respite care is available which not only allows carers a break from their responsibilities, but also provides support for frail aged people who are caring for themselves.

Services provided by the Department of Veterans' Affairs

Services to veterans are determined formally by the Repatriation Commission. The Department of Veterans' Affairs provides the administrative machinery through which the Commission operates. The Commission, comprising three full time members, has functions which include:

- granting pensions, allowances and other benefits in accordance with the provisions of the Act;
- arranging the provision of treatment and other services for eligible persons;
- advising the Minister, and providing the Minister with information on matters relating to the Act;
- performing other functions conferred on the Commission by the Act or other Acts; and
- administering the Act subject to the control of the Minister.

Repatriation benefits are provided under the *Veterans' Entitlements Act 1986* in respect of service with the Australian Defence Forces in World War I, World War II, Korean and Malayan operations, Australian contingent of the British Commonwealth Far East Strategic reserve, Vietnam and South East Asia conflict and for service in the Regular Defence Forces on or after 7 December 1972. Certain civilians may also be eligible for benefits, as are Australian members of certain designated peacekeeping, observing and monitoring forces who had peacekeeping service overseas and, from July 1994, Australian mariners of World War II. Under the *Papua New Guinea (Members of the Forces Benefits) Act 1957*, indigenous inhabitants of Papua New Guinea who served in the Australian forces in World War II, and members of the Royal Papuan Constabulary and New Guinea Police Force who served in that conflict, are eligible for compensatory type benefits. Members of other Commonwealth countries' forces and other allied veterans are not eligible for compensatory-type benefits in respect of their service, unless they were domiciled in Australia immediately before their enlistment. They may, however, qualify for income support payments such as the service pension.

Qualification for receiving subsidised housing loans, granted under the Defence Service Homes Act, generally depends on service with the Australian Defence Forces in World War I, World War II, or specified service in Korea, Malaya, South East Asia, Namibia, or the Middle East in respect of the Kuwaiti crisis, and for service in the Regular Defence forces on or after 7 December 1972 provided the person's first service in the Forces was before 15 May 1985. Certain civilians may also be eligible.

More detailed information on repatriation allowances, benefits and services is available from the Department.

Compensation Program

The principal objective of the Compensation Program is to compensate veterans and their dependants for the effects of war or defence service. Compensation is administered under four sub-programs — the Compensation Sub-program, the Income Support Sub-program, the Housing Sub-program and the Veterans' Review Board.

Compensation Sub-program

The main benefits provided under this sub-program are the disability pension and the war/defence widow's/widower's pension and ancillary benefits.

The disability pension is a compensatory payment for incapacity due to eligible war, defence or peacekeeping service. General rate disability pensions range from 10% up to and including 100%, depending on the degree of war-caused or defence-caused incapacity. Higher rates of pension (intermediate rate and special rate) are payable if the degree of incapacity suffered from war or defence-caused injury or disease is determined to be at least 70% and the veteran is totally and permanently incapacitated from accepted disabilities alone

which render him/her incapable of undertaking remunerative work for periods aggregating more than 20 hours per week for the intermediate rate or eight hours for the special rate.

An Extreme Disablement Adjustment, equal to 150% of the general rate, is payable to severely disabled veterans who are 65 years of age or over.

The war/defence widow's/widower's pension is payable to the widow or widower of a veteran:

- whose death has been accepted as war-caused or defence-caused;
- who at the time of his or her death was receiving or entitled to receive a special rate disability pension or the Extreme Disablement Adjustment; or
- who at the time of his/her death was receiving a pension which had been increased due to certain amputations, or amputations and blindness.

From 1 January 1993, war widow's/widower's pension also became available to the widows/widowers of former prisoners of war.

Orphan's pension is payable to the children of these veterans.

7.21 DISABILITY AND WAR WIDOWS' PENSIONS

Recipient	1995 no.	1996 no.
Veterans	157 298	159 178
Wives and widows	79 656	74 725
Children	6 181	5 176
War widows	88 980	93 456
Orphans	474	470
Other dependants	585	547
Total	333 174	333 552

Source: Department of Veterans' Affairs.

7.22 DISABILITY PENSIONERS — 30 June 1996

	World War I no.	World War II(a) no.	Korea, Malay and FESR(b) no.	Special overseas service no.	Peacetime forces no.	Miscellaneous no.	Total no.
General rate — from 10–100%	55	96 698	3 964	9 861	22 220	378	133 176
Intermediate rate	0	642	32	162	141	2	979
Special rate (TPI or equivalent)	9	12 787	1 026	3 939	2 046	18	19 825
Extreme Disablement Adjustment	3	5 011	97	16	34	37	5 198
Total	67	115 138	5 119	13 978	24 441	435	159 178

(a) Includes interim forces. (b) Far East Strategic Reserve.

Source: Department of Veterans' Affairs.

7.23 DISABILITY AND WAR WIDOWS' PENSIONS

Year	Number of disability pensions in force — 30 June				Annual expenditure(a) to 30 June \$'000
	Incapacitated veterans no.	Dependants of incapacitated veterans no.	Dependants of deceased veterans no.	Total no.	
1991	159 579	108 478	79 494	347 551	1 340 420
1992	157 790	102 953	81 125	341 868	1 396 192
1993	156 923	96 948	83 642	337 513	1 445 308
1994	156 565	91 722	86 224	334 511	1 508 446
1995	157 298	85 837	90 039	333 174	1 570 136
1996	159 178	79 901	94 473	333 552	1 720 239

(a) Includes associated allowances.

Source: Department of Veterans' Affairs.

The Veterans' Children Education Scheme provides assistance with education and training for the children of special rate disability pensioners and certain other incapacitated veterans and deceased veterans whose death

has been accepted as war-caused or defence-caused, or who were receiving special rate disability pension at the time of death. A similar scheme applies to eligible children of Australian mariners.

7.24 VETERANS' CHILDREN EDUCATION SCHEME, Cost of Education Beneficiaries

Year	NSW(a) \$'000	Vic. \$'000	Qld \$'000	SA(b) \$'000	WA \$'000	Tas. \$'000	Aust. \$'000
1990–91	1 470.3	975.6	1 015.4	459.6	290.4	308.7	4 520.0
1991–92	1 475.8	1 068.2	1 201.6	542.5	289.6	358.8	4 936.5
1992–93	1 612.4	1 092.7	1 198.1	310.1	644.8	413.6	5 271.7
1993–94	1 749.3	1 170.2	1 303.8	348.5	771.6	463.5	5 806.9
1994–95	1 905.7	1 163.9	1 601.4	371.7	791.8	491.8	6 326.3
1995–96	2 401.2	1 399.4	1 877.8	432.8	925.4	553.1	7 589.7

(a) Includes the Australian Capital Territory. (b) Includes the Northern Territory.

Source: Department of Veterans' Affairs.

7.25 VETERANS' CHILDREN EDUCATION SCHEME, Number Receiving Benefits at 30 June 1996

Type of training	NSW(a)	Vic.	Qld	SA(b)	WA	Tas.	Aust.
At school							
Primary(c)	262	111	262	74	140	76	925
Secondary	562	272	427	96	233	148	1 738
Total at school	824	383	689	170	373	224	2 663
Tertiary professional	146	146	130	35	88	19	564
Technical	59	—	56	14	—	5	134
Total	1 029	529	875	219	461	248	3 361

(a) Includes the Australian Capital Territory. (b) Includes the Northern Territory. (c) Not in receipt of an education allowance.

Source: *Department of Veterans' Affairs.*

Income Support Sub-program

The main form of income support paid under this sub-program is the service pension. This is an income and assets tested pension similar to the age and disability support pensions paid by the Department of Social Security. The pension is payable to veterans with qualifying service at age 60. Prior to 1 July 1995, the pension was payable to female veterans with qualifying service at age 55. The Government introduced changes to the minimum age at which a female veteran can be granted service pension (age). The earliest age at which a female veteran can be granted service pension (age) will be lifted from 55 to 60 years in six-monthly increments every two years over the period 1995–2013. This means that the qualifying age for service pension (age) at 1 July 1997 will be 56 years. The qualifying age on 1 July 2013 will be the same as for male veterans, that is, 60 years. Veterans with qualifying service may be paid the pension at any age if they are permanently incapacitated for work. Qualifying service generally means service in an area and at a time when danger from hostile enemy forces was incurred by the veteran.

Veterans of other Commonwealth and allied countries may also qualify for the service pension for service in wars or war-like conflicts in which Australia has engaged. Veterans of Commonwealth forces must have served outside the country of enlistment or be entitled

to the award of a campaign medal for service within that country. Allied veterans must have service in formally raised forces. The veteran must be an Australian resident with at least 10 years residency. Service pension is also available to Australian, other Commonwealth and allied mariners of World War II.

From 1 April 1993, all service pensioners became eligible for 'fringe benefits', provided by the Commonwealth Government, which include medical and hospital treatment, pharmaceutical benefits and the payment of a telephone allowance.

A number of supplementary benefits are also available under the sub-program. These include:

- rent assistance;
- additional pension in respect of dependent children;
- remote area allowance;
- carer's pension;
- guardian allowance;
- bereavement payment; and
- pharmaceutical allowance.

The following tables show the total number of pensions in force as at 30 June 1996, and the annual expenditure.

7.26 SERVICE PENSIONS — 30 June 1996

	World War I no.	World War II no.	Korea, Malay and FESR(a) no.	Special overseas service no.	British Commonwealth no.	Allied Forces no.	Other no.	Total no.
Veterans								
Old age	121	144 197	6 890	1 992	24 599	4 012	2 629	184 440
Permanently incapacitated	—	—	1 034	5 972	213	434	2	7 655
Tuberculosis(b)	1	236	6	1	3	—	—	247
Total	122	144 433	7 930	7 965	24 815	4 446	2 631	192 342
Wives and widows	323	108 031	5 615	5 645	20 233	3 765	1 869	145 481
Total	445	252 464	13 545	13 610	45 048	8 211	4 500	337 823

(a) Far East Strategic Reserve. (b) Eligibility on these grounds ceased on 2 November 1978.

Source: Department of Veterans' Affairs.

7.27 SERVICE PENSIONS, Number and Expenditure

Year	Pensions in force at 30 June			Annual expenditure(a) \$'000
	Veterans no.	Wives and widows no.	Total no.	
1991	218 398	159 511	377 909	2 325 077
1992	215 010	156 603	371 613	2 377 619
1993	210 406	152 742	363 148	2 389 886
1994	204 793	148 184	352 977	2 382 307
1995	198 793	148 974	347 713	2 426 579
1996	192 342	145 481	337 823	2 609 460

(a) Includes associated allowances.

Source: Department of Veterans' Affairs.

Housing Sub-program (Defence Service Homes Scheme)

The Defence Service Homes (DSH) Scheme provides financial benefits to recognise the contribution of certain men and women who have served Australia in either peacetime or wartime. The benefits include housing loan interest subsidies, comprehensive home owners' insurance cover at competitive rates, as well as home contents insurance.

The Scheme was established in 1918 as the War Service Homes Scheme. In 1972 its name was changed to the Defence Service Homes Scheme to recognise the extension of eligibility to those with qualifying peacetime service.

In 1985, the Commonwealth Government decided to sell the DSH mortgage portfolio, and the Westpac Banking Corporation became the Scheme's lender on 19 December 1988. Under the Agreement between the Commonwealth and Westpac, the Commonwealth subsidises Westpac for the low-interest loans provided. The subsidy is paid directly to Westpac and represents the difference between the fixed concessional interest rate paid by the borrower and the agreed benchmark interest rate.

Since 1918 the DSH Act has made provision for Defence Service Homes Insurance. Building insurance is available to all eligible persons, irrespective of whether they have or have had a DSH loan. This benefit is also available to those who obtain assistance under the Australian Defence Force Home Loans Assistance Scheme. On 1 July 1991 DSH contents insurance, a comprehensive insurance package underwritten by Mercantile Mutual Insurance (Australia) Ltd, become available to veterans and the service community.

The maximum loan available under the DSH Scheme is \$25,000 repayable over 25 years. The interest rate is fixed at 6.85% for the term of the loan, loans can be used to buy a home or strata unit, build or extend a home, buy a right of residence in a retirement village, refinance an existing mortgage, or repair or modify an existing home. Since 1 July 1995 a DSH loan is available to obtain granny flat accommodation on another person's property.

7.28 DEFENCE SERVICE HOMES SCHEME

	Unit	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Subsidised loans							
Loans granted	no.	9 316	9 043	9 158	7 639	7 171	6 861
Interest subsidy	\$m	140	89	54	38	45	53
Loan accounts at 30 June	no.	130 000	119 500	113 741	107 124	101 887	96 518
Building insurance							
Homes insured at 30 June	no.	169 294	163 316	157 510	147 853	140 508	137 012

Source: Department of Veterans' Affairs.

Health Program

Health care 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, health care treatment in Australia is provided for most non-service-related disabilities for: incapacitated veterans receiving disability pensions at or above the maximum (100%) general rate; World War II veterans and mariners receiving both service pension at any rate and disability pension at 50% rate or higher; veterans, mariners or nurses who served in World War I; veterans who were detained by the enemy; war widows and certain other dependants of deceased male veterans whose deaths have been accepted as service related, and of deceased special Rate pensioners; certain service pensioners, and returned servicewomen of World War II.

The needs of the veteran population are changing as veterans and their dependants and carers age. Planning for the delivery of health care services for the veteran community is greatly influenced by the fact that the average age of veterans is now almost 72 years. The health program aims to meet their changing needs through increased access to health and community services, especially in rural and remote locations, and strategies to support carers, health care providers and ex-service organisations. Examples of how the Department is addressing the commitment include:

- Health care — the Repatriation Comprehensive Care Scheme is a new initiative in veteran health care that was introduced on 1 January 1996. The scheme recognises the complex health needs of the ageing veteran community and the importance of better coordination of care through Local Medical Officers as case managers. The introduction of annual Health Care Plans is pivotal to the new arrangements. The aim of the plan is to ensure better coordination of care and improved health outcomes for those in greatest need in the veteran community.
- Community and Residential Support Programs — a range of grants programs assist ex-service organisations and community based organisations to provide assistance and support to the veteran community both in the community and in residential care settings.
- Research and development — health and medical research grants are provided in areas pertinent to the health and well being of the veteran community. Also, research is conducted aimed at providing quality information to support policy analysis.

Younger veterans, from post-World War II conflicts, have identified needs which are additional to those of their older counterparts. These needs have been addressed by recent initiatives which include integrated outpatient, inpatient and support services for the treatment and rehabilitation of veterans with post-traumatic stress disorder (PTSD). A National centre for War Related PTSD is established in Melbourne, at the former Repatriation Hospital, now the Austin and Repatriation Medical Centre. Intensive in-patient treatment programs are available in each State, supported by the Vietnam Veterans' counselling Service and individual providers.

- Health promotion initiatives — the Department has recognised that health promotion can play a significant part in improving the quality of life of members of the veteran community and help in maintaining their independence. Some initiatives involve links with ex-service organisations and with community organisations such as the Heart Foundation, Diabetes Australia, the Alzheimer's Association and the Australian Sports Commission.

Vocational Rehabilitation services are available, to support those at risk of losing employment, and those who wish to return to the workforce. Rehabilitation Allowance may be available to people whose pension entitlement is affected — the intention is that no financial loss should occur for individuals taking up paid employment. Safety-net arrangements enable return to former pension status in the event that employment cannot be sustained (this applies to pensioners receiving above general rate levels of disability pension or Service Pension through invalidity).

With the transfer of the Rehabilitation General Hospitals to the States, or their sale to the private sector, all acute hospital care is now provided through the Repatriation Private Patient Scheme. This means that entitled beneficiaries can obtain treatment at a public hospital as a Repatriation private patient, in shared accommodation with a doctor of their choice. According to medical need, if treatment cannot be provided within a reasonable time, the Department may approve admission to a private hospital. The former Repatriation hospitals will remain available for treatment if beneficiaries choose to go there. During 1995–96 there were 738,000 paid bed days for entitled persons in public hospitals, and 784,348 for private hospitals.

Under arrangements with State Governments, entitled persons requiring custodial psychiatric care for a service-related disability are treated at departmental expense in State psychiatric hospitals.

Entitled persons may also be provided with dental treatment through the Local Dental Officer (LDO) Scheme, which comprised 7,646 LDOs as at 1 August 1996. During 1995–1996, 605,836 dental services were undertaken.

Optometrical services, including the provision of spectacles, the services of allied health professionals, as well as a comprehensive range of aids, appliances and dressing, may be provided to entitled persons.

In addition, entitled persons may be provided with pharmaceuticals through the Repatriation Pharmaceutical Benefits Scheme.

Vietnam Veterans Counselling Service

The Vietnam Veterans Counselling Service (VVCS) provides counselling to veterans and their families, as well as working with the ex-service community to promote understanding and acceptance of veterans' problems.

The VVCS is staffed by psychologists and social workers who have specialised knowledge about military service, particularly in Vietnam, and its impact on veterans and their families, especially the impact of post-traumatic stress.

Access to counselling services for rural veterans and their families was greatly improved with the establishment of the Country Outreach Program (COP) in 1988, followed soon after by a toll-free 1800 telephone link to all VVCS centres. Recent service enhancement initiatives under the Younger Veterans' Program (YVP) include in most centres the recruitment of a COP coordinator, and the creation of programs aimed at promoting better health for veterans.

Table 7.29 shows usage of the VVCS.

7.29 VIETNAM VETERANS COUNSELLING SERVICE

Counselling	1993–94 no.	1994–95 no.	1995–96 no.
Consultations			
Face to face	38 492	33 996	33 411
Group sessions	308	356	724
Country outreach	16 861	20 398	20 723

Source: Department of Veterans' Affairs.

The Office of Australian War Graves

The Office of Australian War Graves has two main functions. Its major area of responsibility is the implementation of government policy for the perpetual commemoration of eligible Australian veterans whose postwar deaths are related to their war service.

It also maintains, on behalf of the Commonwealth War Graves Commission, War Cemeteries and other commemorations in Australia, Papua New Guinea, Solomon Islands (Guadalcanal) and Norfolk Island.

The Office maintains 19,520 war graves in 76 war cemeteries and 900 civil cemeteries. It also maintains 192,658 commemorations. In 1995–96 it commemorated 6,958 veterans who died of war-related causes.

The Office provides an information service to those wishing to visit any of the 102,000 Australian war dead who are buried or memorialised in Australia and overseas. The

Office has records relating to the Commonwealth dead of World War II, and to the Australian dead of World War I and the post-World War II conflicts.

Full details of the operations of the Office of Australian War Graves are contained in its Annual Report.

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Government redistribution of income in Australia

Introduction

Results from the study *The Effects of Government Benefits and Taxes on Household Income* (6537.0) show the impact on different households of a range of government indirect and direct benefits and taxes. These include cash pensions and allowances, government provided health and education services, personal income taxes and indirect taxes paid on goods and services purchased.

Main findings

The estimated values for government benefits and taxes vary according to household characteristics such as the number of household members, their ages and incomes.

In 1993-94:

- households which received the highest amounts of government direct benefits were those made up of people over 65 years living in a couple or alone, and single parents with dependent children;
- households with dependent children received the highest levels of indirect benefits, mainly as education benefits. People over 65 years also received high levels of indirect benefits, mainly from health services;
- households such as couples with non-dependants or dependants, and couples under 65, had high levels of income and paid the most direct and indirect taxes;
- overall, government benefits and taxes made household incomes more equal. Cash pensions and allowances had the greatest effect in decreasing income inequality while indirect taxes increased inequality.

Between 1984 and 1993-94:

- the distribution of household income from private sources became more unequal. This was in part compensated by an increase in the effects of government benefits and taxes.

This article discusses the effects of selected government benefits and taxes on different households classified by household types and by income quintile groups. It then explores the extent of income inequality before and after government benefits and taxes, and how this has changed since 1984.

Redistribution between household types, 1993-94

This section discusses the effects of selected government benefits and taxes on seven broad household types in 1993-94. It should be noted that household size and composition strongly affected the level of household income from employment and from other sources, including government direct and indirect benefits.

The discussion begins with a description of income prior to government intervention, which is followed by a discussion of the government benefits and taxes incident on the different household types. Finally it describes the overall effect of government benefits and taxes on the distribution of income between the seven household types.

Private income

Private income includes income from employment, self-employment, investments, superannuation, child support and other regular income excluding government cash pensions and allowances.

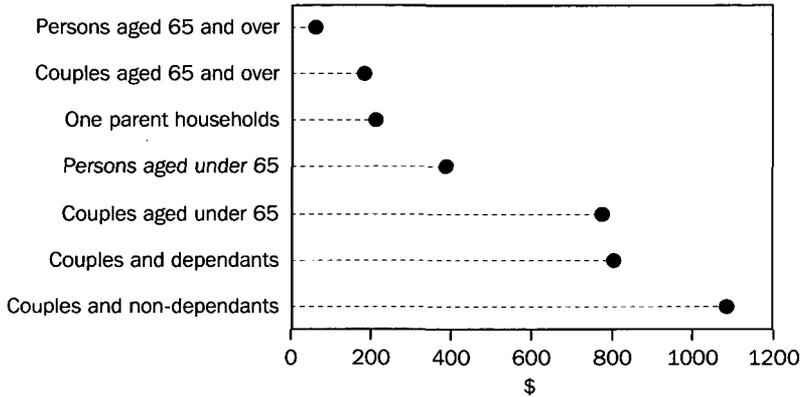
In 1993-94, private income was predominantly income from employment and self-employment, and there was a close relationship between the number of household members who were employed and the level of household private income.

People aged 65 years and over living in a couple or living on their own were rarely employed and, as shown in graph S1.1, had the lowest private incomes (\$186 and \$65 respectively) of all the seven household types. Persons aged

under 65 living alone and one parent households, which typically had only one or no person employed, had relatively lower weekly private incomes (\$392 and \$216 respectively) than the next three groups. Couples with dependants and couples under 65 years living on their own were more likely to have one or

both partners employed and had weekly private incomes of \$807 and \$780 respectively. Couples living with non-dependants, which usually included two or three employed persons, had the highest weekly private incomes (\$1,089) of the seven household types.

S1.1 ALL HOUSEHOLDS, Average Weekly Private Income by Household Composition - 1993-94



Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

Direct benefits

Direct benefits are government cash benefits and allowances such as the age pension, sole parent pension and unemployment allowances. Gross income is the sum of private income and direct benefits.

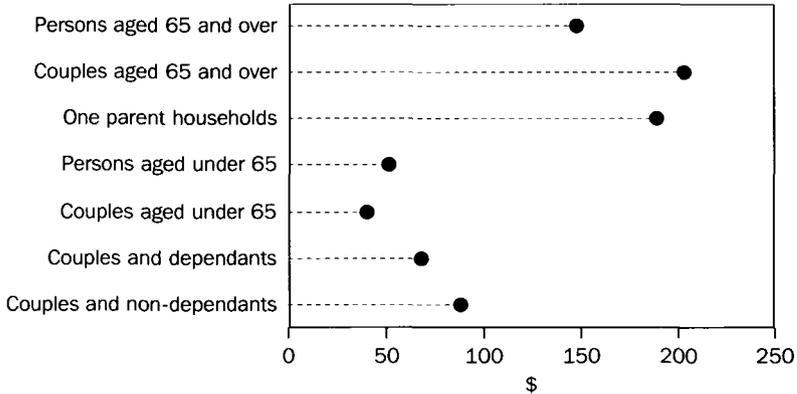
As shown in graph S1.2, couples over 65 years received the highest amounts of weekly direct benefits (\$204), the major components of which were age pension and Veterans' Affairs pensions. People over 65 who were living on

their own received similar direct benefits but at slightly lower levels because they were eligible for single rather than married pensions.

One parent households with dependants received the next highest amounts of weekly direct benefits (\$190); these benefits consisted mostly of sole parent pension and family payment.

Couples under 65 received the lowest amounts of weekly direct benefits (\$41).

S1.2 ALL HOUSEHOLDS, Average Weekly Direct Benefits by Household Composition — 1993-94



Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

Direct taxes

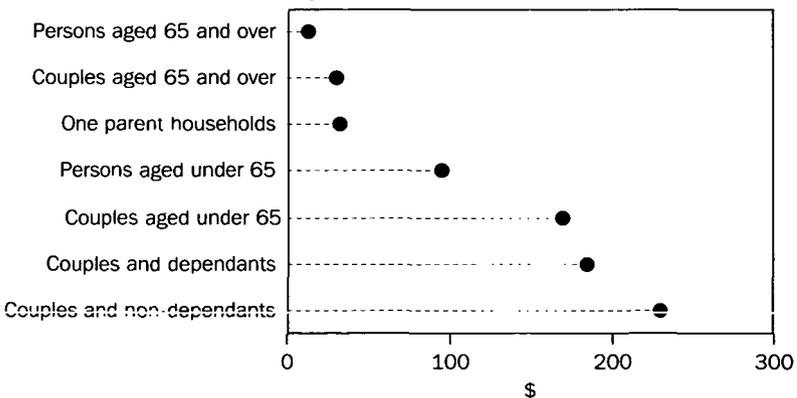
Direct taxes refer to personal income taxes and the Medicare levy.

As shown in graph S1.3, couples with non-dependants, couples with dependants and couples under 65 years paid the highest amounts of weekly direct tax (\$230, \$185 and \$170 respectively). This reflects the higher levels of gross income received by these households.

Couples with non-dependants paid 20% of their gross income in taxes, while couples with dependants and couples under 65 paid 21%.

People aged 65 years and over, living on their own or as a couple, paid the lowest weekly direct taxes (\$14 and \$31 respectively), reflecting their low levels of gross income and their eligibility for pensioner rebates. This represented 6% and 8% of their gross income.

S1.3 ALL HOUSEHOLDS, Average Weekly Direct Taxes by Household Composition — 1993-94



Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

Indirect benefits

Indirect benefits are non cash benefits received by households from health, education, housing and other social security and welfare services such as child care assistance.

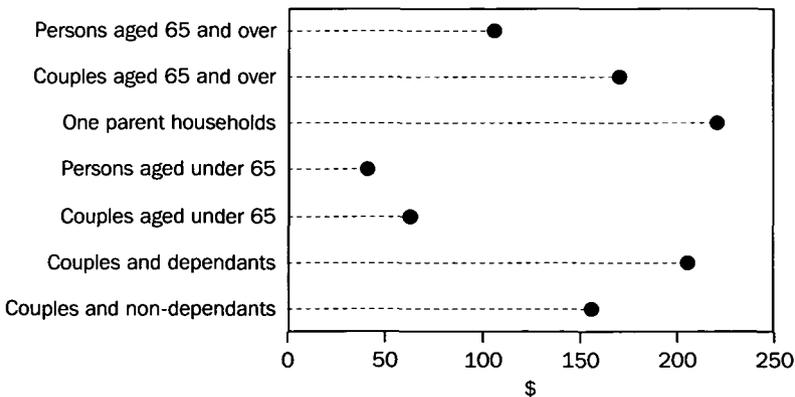
Figure S1.4 shows that households with children received the highest levels of indirect benefits. One parent households received slightly higher weekly indirect benefits (\$221) than couples with dependent children (\$207). For both household types, the main benefits were education benefits (most of which were school benefits). Although one parent households usually contained fewer children than couple households with dependants, the children were

more likely to attend public schools than private schools, so that the overall indirect benefits they received were slightly higher.

Indirect benefits were also high for people over 65 living as a couple or on their own. Couples received \$171 per week and lone persons received \$107 per week. Most of these benefits were in the form of health services (mainly hospital benefits).

People under 65 living alone or as couples were less likely to use educational or health services and received the least in indirect benefits (\$42 and \$64 respectively).

S1.4 ALL HOUSEHOLDS, Average Weekly Indirect Benefits by Household Composition — 1993-94



Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

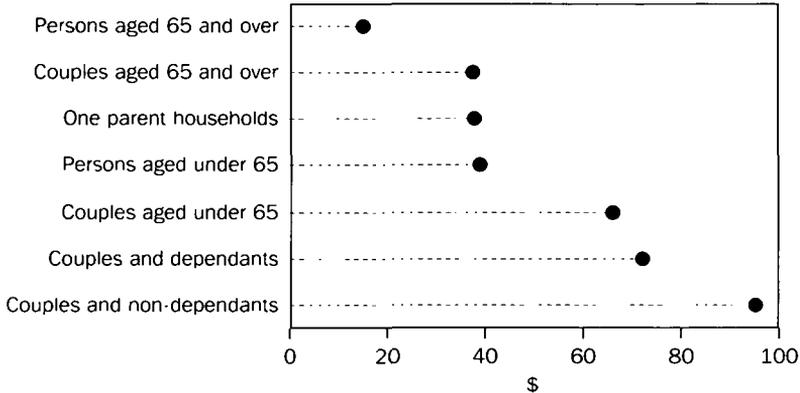
Indirect taxes

Indirect taxes are taxes paid on goods and services purchased by households.

On average, households with higher incomes spent more and hence paid more indirect taxes. Figure S1.5 shows that couples with non-

dependants had the highest gross weekly incomes (\$1,178) and paid the highest weekly indirect taxes (\$96). People over 65 living alone had the lowest gross incomes (\$213) and paid the least indirect tax (\$15).

S1.5 ALL HOUSEHOLDS, Average Weekly Indirect Taxes by Household Composition — 1993-94



Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

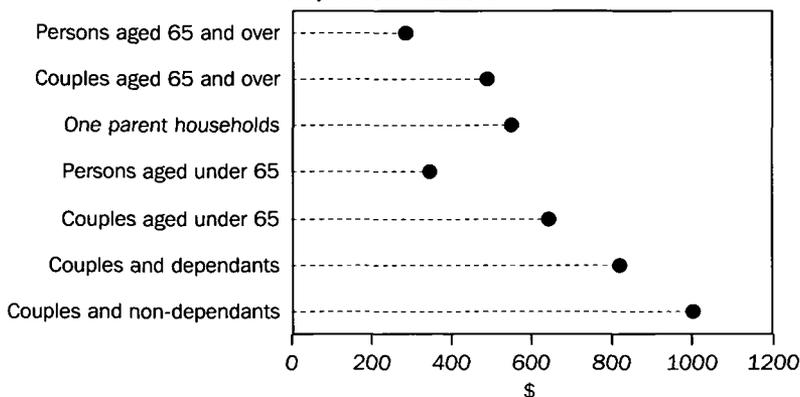
Final income

Final income is private income adjusted for the taxes and benefits covered by the study.

As shown in figure S1.6, the distribution of final incomes was more equal than of private

incomes (see figure S1.1). Households with high private incomes, such as couples with non-dependants and couples with dependants, had final incomes of about the same level. The

S1.6 ALL HOUSEHOLDS, Average Weekly Final Income by Household Composition —1993–94



Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

highest average final weekly income of the seven household types was \$1,009 for couples living with non-dependants, which was lower than their average weekly private income of \$1,089. The lowest average weekly final income was \$290 for people over 65 living alone, which was higher than their average weekly private income of \$65. Other households with low private incomes, such as one parent households and people over 65 living as couples, also had final incomes considerably higher than their private incomes.

As in the distribution of private income, couples with non-dependants had the highest final incomes, followed by couples with dependants and couples under 65. However, persons under 65 living on their own, who had private incomes higher than one parent households and households containing couples over 65, had lower weekly final incomes than these household types. People over 65 living on their own had the lowest private incomes and also the lowest final incomes.

Redistribution between income groups

Government generally provided greater benefits to low income households and imposed greater taxes on high income households in 1993–94. This can be seen more clearly in the analysis of quintile groups. Quintile groups are formed by ranking all households in terms of gross income

(defined as direct benefits plus private income) and then dividing the households into five groups each containing 20% of all households. The lowest quintile contains the 20% of households with the lowest incomes, the second lowest contains the 20% of households with the next lowest incomes and so on.

The net effect of benefits and taxes, as shown in table S1.7, was to increase the average value of income of households in the lower quintiles and decrease the average income of households in the higher quintiles. In the lowest quintile, average private income was \$13 per week and average final income was \$233 per week. In the highest quintile, private income was \$1,586 per week and final income was the lesser amount of \$1,231 per week.

Direct benefits increased with household size and decreased as levels of household income rose. Average weekly direct benefits increased from \$138 for the first quintile to \$186 in the second quintile and then decreased in the higher quintiles. The initial increase in direct benefits was due to increasing household size. Households in the first quintile had an average size of 1.6 persons and were likely to be receiving single pensions. In the second quintile, average household size was 2.4 persons and these households were more likely to receive pensions for two people. Higher quintiles had larger average household sizes but their higher incomes made them less eligible for direct benefits.

**S1.7 AVERAGE WEEKLY INCOME, BENEFITS AND TAXES, By Quintile Gross Income(a)
— 1993—94**

Gross income quintile	Private income \$	Benefits		Taxes		Final income \$
		Direct \$	Indirect \$	Direct \$	Indirect \$	
Lowest	13.48	138.17	112.53	2.06	28.90	233.22
Second	168.00	185.90	156.77	18.01	43.17	449.50
Third	503.51	88.76	140.62	80.33	58.96	593.59
Fourth	860.00	49.07	133.72	171.19	73.81	797.79
Highest	1 586.18	22.59	131.46	412.86	96.60	1 230.77
All households	626.43	96.79	134.96	136.99	60.28	660.91

(a) The quintiles used in the tables are formed by ranking all households according to the level of their gross income and then dividing the total distribution into five equal sized groups (or quintiles) each of which contains exactly one-fifth of all households.

Source: *The Effects of Government Benefits and Taxes on Household Income (6357.0)*.

Indirect benefits were spread more evenly across income quintile groups, with households in the first quintile receiving the lowest (\$113 per week) and those in the second quintile receiving the highest (\$157 per week). The receipt of indirect benefits tended to vary in relation to other household characteristics such as the number and ages of household members.

Direct taxes increased with income, with the lowest quintile paying an average of \$2 per week and the highest quintile \$413 per week. Indirect taxes also increased with income, as high income households spend more on goods and services. Households in the lowest quintile paid an average of \$29 per week and those in the highest quintile \$97 per week.

Income inequality in 1993—94

The degree of income inequality and the effectiveness of government fiscal measures in reducing inequalities can be examined using a summary statistic such as the Gini coefficient, which ranges between a value of one when one household receives all income and a value of zero when income is shared equally among all households.

In 1993—94, the Gini coefficient was 0.52 for private income, denoting a distribution roughly mid-way between complete income equality and the opposite extreme. The Gini coefficient for gross income was 0.40. Disposable income, defined as gross income less direct taxes, had a Gini coefficient of 0.36, and final income, which is disposable income plus indirect benefits minus indirect taxes, had a Gini coefficient 0.32. Overall, the effect of government benefits and taxes was to reduce the inequality in the distribution of income.

Relative effectiveness of fiscal measures

The study provides an assessment of the relative effects of government taxing and spending in reducing income inequality. In undertaking this assessment, Gini coefficients were calculated for private income and then for private income adjusted for each of direct benefits, indirect benefits, direct taxes and indirect taxes, as shown in table S1.8. The percentage difference between the Gini coefficient for private income and the subsequent income measures provides an indication of the relative effectiveness of each broad benefit and tax type.

The changes in the Gini coefficients indicate that direct benefits made the greatest contribution to increasing equality in 1993—94. Indirect benefits also made a relatively large contribution to increasing equality. Direct taxes made only a marginal contribution to increasing equality while indirect taxes decreased income equality. Direct taxes, which are paid at a higher rate by high income households, increased income equality marginally. Indirect taxes, which are levied on goods and services purchased by households, represent a higher proportion of incomes of low income households than high income households, and these decreased income equality marginally.

**S1.8 RELATIVE CONTRIBUTION OF BENEFITS AND TAXES TO
INCOME REDISTRIBUTION — 1993-94**

Gross income quintile	Gini coefficient	Relative contribution(a) %
Private income	0.524	—
plus direct benefits	0.391	-25.4
plus indirect benefits	0.422	-19.5
minus direct taxes	0.501	-4.4
minus indirect taxes	0.555	+5.5

(a) Percentage change in the coefficient from Gini coefficient for private income.

Source: *The Effects of Government Benefits and Taxes on Household Income* (6357.0).

Income redistribution in 1984, 1988-89 and 1993-94

Table S1.9 shows the Gini coefficients for each income concept in 1984, 1988-89 and 1993-94. The 1993-94 figures differ slightly from those given previously in this article as they have been modified to reflect more closely the methods used to produce the 1984 income estimates. See the appendix for details.

Between 1984 and 1993-94, the Gini coefficient for private income has increased by 9%, indicating greater inequality of income before taking into account government taxing and spending. After direct benefits are added to

private income to produce gross income, the percentage change in the Gini coefficient over time becomes smaller and equal to 6%. This indicates that direct benefits have had a greater redistributive effect in 1993-94 than a decade earlier.

The percentage change in the Gini coefficient over time is unchanged when direct taxes are deducted as in disposable income. In other words, direct taxes appear to have had a similar redistributive effect in 1984 and 1993-94.

**S1.9 INCOME DISTRIBUTION BY INCOME CONCEPT — 1984,
1988-89 and 1993-94(a)**

	Gini coefficients			Change in Gini from 1984 to 1993-94 (%)
	1984	1988-89	1993-94	
Private income	0.470	0.472	0.511	9
Gross income	0.370	0.381	0.393	6
Disposable income	0.326	0.341	0.347	6
Final income	0.298	0.300	0.307	3

(a) Gini coefficients for 1993-94 are based on a methodology more consistent with the 1984 estimate and different from those in table S1.8. See Appendix.

Source: *The Effects of Government Benefits and Taxes on Household Income* (6357.0).

When indirect benefits and taxes are taken into account (final income), the percentage change in the Gini coefficient over the decade is equal to 3%. This indicates that government indirect benefits and indirect taxes decreased income inequality and had a greater redistributive effect in 1993-94 than in 1984. More detailed estimates indicate that indirect benefits are responsible for the further increase in equality.

Overall, these results provide a broad indication of changes in income distribution. They indicate that government benefits are having a greater

redistributive effect than in previous years but that this has not completely compensated for the increasing inequality of private incomes.

However, the results of this study should be treated with caution. The study does not take into account many of the changes occurring over the decade, such as the decrease in average household size, the increase in the number of two income families and changes in other household characteristics. Additionally, the estimated values for the indirect benefits and taxes reflect the study methodology. Although

the methodology is similar to those used in other studies in Australia and overseas, there are other approaches which could have been taken and might have produced different results.

Appendix

Income concepts and definitions

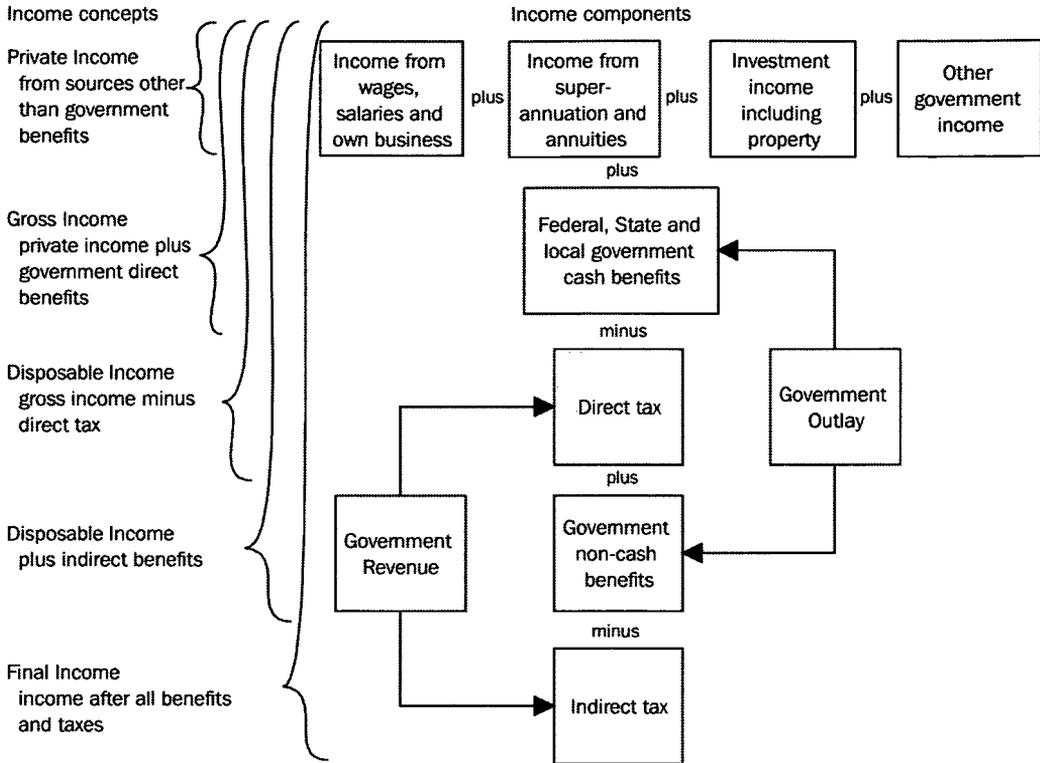
The starting point of the study was the adjustment of private income. Private income is the total current weekly income of all members of the household including income from employment, self-employment, superannuation, investments and other non-government sources before the deduction of taxes and excluding any government benefits. Government direct benefits to persons, such as pensions and unemployment benefits, were added to private income to obtain gross income. Direct taxes were deducted from gross income to obtain disposable income. Government indirect benefits for housing, education, health and social security and welfare were added to give disposable income plus indirect benefits. Finally, indirect taxes were deducted from disposable income plus indirect benefits to produce final income. The derivations for the successive income concepts are illustrated in figure S1.10.

The taxes and benefits used in the adjustment of income were as follows:

- *direct benefits* in the form of government cash pensions and benefits, such as age and sole parent pension, New Start or Job Search allowance and sickness benefits and family payments;
- *indirect benefits* received from government outlays on health, education, housing, and social security and welfare programs. Indirect benefits were allocated on the basis of household utilisation of the respective services;
- *direct taxes* such as imputed income tax and Medicare liabilities; and
- *indirect taxes* such as sales and payroll taxes which were imputed from household expenditures on goods and services.

Income of each member of the 1993-94 Household Expenditure Survey (HES) population was adjusted to calculate the income measures shown in figure S1.10. Comparisons of household private income with successive income concepts enabled changes in household income due to government benefits and taxes to be observed. Because adjustments were made to the individual household records, comparisons were made possible for the household population as a whole and for selected sub-groups.

S1.10 INCOME CONCEPTS AND COMPONENTS



Allocated and actual outlays

The aim of the study has been to allocate only those benefits and taxes relevant to households, and no attempt has been made to allocate the whole of government revenue and expenditure. Of the total Commonwealth, State and local government taxation revenue in 1993–94, the study allocates \$68,058m out of \$125,115m or 54% of total government revenue. Of total government spending of \$165,354m, the study allocates \$79,953m or 48% of total government expenditure. In comparison, the 1988–89 study allocated 52% of government revenue and 40% of government expenditure.

In many cases, the decision to allocate or not to allocate government spending or revenue was guided by the availability of data.

- *Direct benefits* were restricted to payments recorded by participants in the 1993–94 HES.

- *Direct taxes* not allocated included taxes not directly relevant to the household sector such as corporate taxes and those for which income information was unavailable from the 1993–94 HES such as capital gains tax.
- Many *indirect benefits* such as benefits from police services or public libraries were not allocated because there was no clear conceptual basis for allocation, target groups could not be identified or expenditure on target groups could not be isolated.
- *Indirect taxes* were calculated by applying intermediate and final tax rates derived from 1989–90 ABS Input-Output tables to household expenditure. Household expenditure does not account for the full amount of production and consumption recorded in the Input-Output tables, so only a proportion of indirect taxes was allocated to households.

More detailed definitions of the seven broad household types

Couples with non-dependants (about 10% of households)

Includes households containing couples living with non-dependants. Non-dependants are all persons aged 15 years and over who do not have a spouse or offspring of their own in the household, have a parent in the household and are not full-time students aged 15 to 20 years.

Couples with dependants (about 24% of households)

Include households containing a couple and dependent children only. Households containing dependent and non-dependent children are classified as couples with non-dependants.

Couples under 65 (about 18% of households)

Couples living on their own in which the reference person is under 65 years.

Persons under 65 (about 13% of households)

People under 65 years living alone.

One parent households (about 5% of households)

One parent households contain one parent and dependent children only. If other adults or

non-dependent children are present then these households are classified as mixed households.

Couples 65 and over (about 5% of households)

Couple living on their own in which the reference person is 65 or over.

Persons 65 and over (about 9% of households)

People aged 65 years and over living on their own.

Two versions of the 1993–94 study

One version of the 1993–94 study replicated the 1988–89 study as much as possible, but was updated according to changes in government policy (such as personal tax marginal rates and eligibility criteria for benefits). Results from this version were produced specifically to facilitate comparisons between the 1984, 1988–89 and 1993–94 studies. Such comparisons should nevertheless be treated with caution as some changes in study methods were inevitable. Table S1.9 of the paper is based on this version of the study.

The other version included various enhancements to methods and assumptions in allocating taxes and benefits, and data from this version were used for most of the analysis in this article.

Introduction	197
Health status	197
Healthy lifestyles and risk factors	197
Overweight and obesity	197
Physical activity	198
Use of tobacco and alcohol	198
Use of illicit drugs	198
Use of medication	199
Children's health	199
Children's immunisation	199
Children's health screening	200
Dental health	201
Disability	202
Congenital malformations	203
Communicable diseases	204
HIV and AIDS	204
Health of Indigenous Australians	207
Self-reported health status	207
Health-related actions	207
Access to services	207
Perceived health-related and substance use problems	208
Health risk factors	208
Relative weight	208
Smoking	208
Alcohol	208
Breastfeeding	208
Disability and handicap	209
Mortality	209
Causes of death	209
Perinatal deaths	210
External causes	212
Dementia deaths	213
Health care delivery	214
Medicare	214
Public hospitals	214
Private hospitals	215
Comparison of public and private hospitals	216

Health work force	216
Health programs	216
Aboriginal health	216
Programs for the aged and people with disabilities	217
Homeless youth	217
Mental health	217
National Diabetes Action Plan	217
Injury prevention and control	217
Diet and nutrition	217
Drugs	218
Organ and tissue donation	218
Family planning	218
Survivors of torture and trauma	218
Women's health	218
National Women's Health Program	218
Co-ordinated Care Trials	219
Health care financing	219
Total health expenditure	219
Medicare financing	220
Commonwealth Government funding of hospitals	220
Household expenditure on medical care and health	220
Pharmaceutical Benefits Scheme	221
Health insurance coverage	221
Health-related organisations	223
International	223
Australian Government	223
Australian non-government	228
Bibliography	229

Introduction

This chapter provides information on various aspects of the health of the Australian population and the activities of government and other bodies relating to health.

At the national level, health services in Australia are administered by the Commonwealth Government, through two ministers appointed to the Portfolio of Health and Family Services. The Minister for Health and Family Services takes an overview role for the whole portfolio and is responsible for most of the health services, including Medicare benefits, pharmaceutical benefits, hospitals, private health insurance and medical workforce issues, public health, and Aboriginal health issues. The Minister for Family Services is responsible for certain services, including family and children's services, aged and community care services, and disability programs.

The Minister for Veterans' Affairs also administers health services for ex-service personnel and their dependants.

The State and Territory Governments are heavily involved in the direct provision of health services. Each has a Minister who is responsible to the Government of the particular State or Territory for the administration of its health authorities. In some States/Territories, the responsibility for health services is shared by several authorities, while in others one authority is responsible for all these functions.

Local governments are also involved in the delivery of some health services. Private, non-governmental organisations (both non-profit and for profit) also provide health services. Most medical and dental care is provided by private, non-salaried practitioners.

The reform agenda of the Council of Australian Governments (COAG), agreed to at a meeting of Commonwealth and State/Territory Health and Community Services Ministers in June 1996, aims to shift the focus of health and community services from programs to people, through a partnership between the Commonwealth and the States/Territories. This process is likely to see a change in the role of the Commonwealth,

with direct service provision becoming more commonly the preserve of the States and Territories, while the Commonwealth's role will lie more in setting directions, approving methods to measure and report on outcomes and providing leadership in the sector as a whole.

The COAG reforms will be consistent with the principles of Medicare (Australia's universal system of health insurance), including universal coverage, bulk billing, free access to public hospital care, access to doctor of choice for out of hospital care, and (within the scope of accepted clinical practice) maintenance of the general professional freedom of medical practitioners to identify the appropriate treatment for their patients.

The Commonwealth will take a national leadership role in relation to public health standards and health research, with the States/Territories primarily responsible for managing and co-ordinating the provision of services and for maintaining direct relationships with most providers. Five National Health Priority Areas have been agreed between the Commonwealth and the States/Territories — cancer, diabetes, cardiovascular disease, injury prevention and mental health.

The chapter uses data from the most up-to-date sources available. For data from the 1989–90 National Health Survey, readers are referred to the *Health Chapter of Year Book Australia, 1995*. Data from the 1995 National Health Survey will be available from late 1996.

Health status

Healthy lifestyles and risk factors

Overweight and obesity

Overweight and obesity are risk factors for many health conditions, including coronary heart disease, stroke, cancer, high blood pressure, diabetes and respiratory and musculoskeletal problems.

8.1 PERSONS WHO WERE OVERWEIGHT OR OBESE, 18 Years and Over

	1989-90 %	1994-95 %
Sex		
Males	44.4	49.7
Females	30.9	33.5
Age		
18-34 years	27.1	32.1
35-54 years	43.9	46.9
55 years and over	45.0	49.2

Source: AIHW Australian Health Indicators No.4, June 1995.

Physical activity

Regular physical activity is important in the prevention of many health conditions, including coronary heart disease, hypertension, diabetes, osteoporosis and obesity. It also provides health benefits associated with improved self esteem.

In a 1994-95 survey, 64% of respondents aged 18 years and over reported that they exercised regularly. An estimated 36% or 4.5 million people did not currently exercise for sport or recreation. Among men, participation was fairly constant at 60% across all age groups. However, the proportion of women who exercised decreased with age from 71% of under-35-year-olds to 57% of those aged 55 years and over.

Over the five years between 1989-90 and 1994-95, there has been a statistically significant increase in the percentage of adult Australians who walk for exercise. In 1989-90, 41.1% of men and 49.2% of women walked for exercise. By 1994-95, 52.0% of men and 57.7% of women walked for exercise.

8.2 ADULTS WHO EXERCISE

	1989-90 %	1994-95 %
Sex		
Males	64.5	63.2
Females	64.0	65.9
Age		
18-34 years	70.9	67.7
35-54 years	60.9	65.4
55 years and over	59.1	58.9

Source: AIHW Australian Health Indicators No.4, June 1995.

Use of tobacco and alcohol

Tobacco smoking is a risk factor for heart disease, stroke, lung cancer and chronic lung disease.

In 1994-95, approximately 3.2 million adult Australians were smokers, compared with 3.5 million in 1989-90. In 1994-95, a higher proportion of men (27.3%) were smokers than women (22.7%). Twice as many young adults (aged 18-34 years) were smokers (31.2%) as adults aged 55 years and over (15.5%).

8.3 ADULTS WHO SMOKE

	1989-90 %	1994-95 %
Sex		
Males	31.6	27.3
Females	25.1	22.7
Age		
18-34 years	35.3	31.2
35-54 years	28.9	25.4
55 years and over	17.9	15.5

Source: AIHW Australian Health Indicators No.4, June 1995.

High levels of alcohol consumption have been linked to an increased risk of heart disease, stroke, brain and liver damage, and some cancers. Alcohol intoxication is also a leading cause of road traffic accidents.

In 1994-95, 8% of adult Australians drank alcohol at levels considered by the National Health and Medical Research Council to be dangerous to their health. This percentage has decreased since 1989-90, when 11% of adults drank at dangerous levels. In 1994-95, nearly twice as many men drank alcohol at risk levels (9.7%) as women (5.5%). The age group most likely to drink at risk levels was the 18-34 years age group (8.9%).

8.4 ADULTS WHO DRINK AT RISK LEVELS

	1989-90 %	1994-95 %
Sex		
Males	14.6	9.7
Females	7.5	5.5
Age		
18-34 years	13.0	8.9
35-54 years	11.7	7.9
55 years and over	7.7	5.3

Source: AIHW Australian Health Indicators No.4, June 1995.

Use of illicit drugs

The 1995 National Drug Strategy Household Survey found that, of persons aged 14 years and over, respondents were most likely to have ever tried marijuana/hash (31%). The next highest category was amphetamines (6%). About 13% of

respondents had used marijuana/hash in the 12 months prior to the Survey and 2% had used amphetamines. In the 12 months before the Survey each of the following drugs had been used by less than 1% of respondents: cocaine/crack, hallucinogens, inhalants, ecstasy/designer drugs and injected drugs.

The 1995 National Drug Strategy Household Survey asked respondents what drugs they thought of when people spoke about a drug problem. Heroin and marijuana were each mentioned by 28% and 31% respectively of respondents. 13% mentioned alcohol, 7% mentioned cocaine, 4% mentioned amphetamines and 5% mentioned tobacco.

Use of medication

The Drug Utilization Sub-Committee (DUSC), which maintains a database that estimates community use of prescription drugs in Australia, reports that 173 million prescriptions were dispensed in 1995. Of the 10 most commonly used prescription drugs in the community, two were antibiotics, two were pain relievers, and two were used in the management of high blood pressure. Other commonly prescribed types of medication were for the treatment of asthma, the management of duodenal and gastric ulcers, insomnia and a cholesterol-lowering drug.

8.5 MOST COMMONLY USED PRESCRIPTION DRUGS — 1995

Drug	Description	No. of prescriptions
Amoxicillin	Antibiotic	5 486 899
Paracetamol(a)	Pain relief	4 481 606
Salbutamol(b)	Used in the management of asthma	4 443 674
Codeine with paracetamol(a)	Pain relief	3 992 924
Amoxicillin with clavulanic acid	Antibiotic	3 406 177
Enalapril	Used in the management of high blood pressure	3 263 712
Ranitidine	Used in the treatment of duodenal and gastric ulcers	3 226 265
Temazepam	Sedative commonly used in the treatment of insomnia	3 166 052
Atenolol	Used primarily in the management of high blood pressure	2 821 407
Simvastatin	Cholesterol-lowering drug	2 756 541

(a) This drug is available without a prescription, therefore the number of prescriptions for this drug understates actual community use. (b) Includes an estimate of over the counter use in those States where it is an S3 recordable drug.

Source: Department of Health and Family Services, Drug Utilization Sub-Committee (DUSC) database, 1995.

Children's health

Children's immunisation

Immunisation coverage goals for Australia for the year 2000, recommended by the National Health and Medical Research Council (NH&MRC), call for 90% or more coverage of children at two years of age and near universal coverage of children at school-entry age against Diphtheria, Tetanus, Pertussis (Whooping cough), Poliomyelitis, Measles, Mumps, Rubella and Hib (*Haemophilus influenzae* type b).

A national survey conducted by the Australian Bureau of Statistics in April 1995 collected information about the coverage and practices associated with the immunisation of children against those diseases. Immunisation levels were calculated using the NH&MRC's current Standard Childhood Vaccination Schedule (August 1994). To be considered fully immunised against a particular condition, a child must have received the specified number of vaccinations against that disease appropriate for

his/her age. To be classified as fully immunised against all conditions, a child must have received the specified number of vaccinations against all conditions listed on the recommended vaccination schedule, appropriate for his/her age. The majority of information collected related to children aged three months to six years.

As shown in table 8.6, levels of fully immunised cover were generally similar for males and females but differed between conditions, in part reflecting the single or multiple dose vaccines involved. The relatively low proportions of children fully immunised against Hib may reflect its recent inclusion in the recommended schedule.

For most conditions, the proportion of children fully immunised declined sharply with age, from high levels at infancy. In part this reflects a

failure to obtain the follow-up/booster vaccinations as recommended in the schedule,

and in part it reflects changes to the schedule which have been introduced in recent years.

8.6 FULLY IMMUNISED CHILDREN, 3 Months–6 Years, Condition by Sex — April 1995

	Diphtheria/ Tetanus %	Pertussis %	Polio %	Measles %	Mumps %	Rubella %	Hib %
Males	67.9	59.5	81.8	91.2	88.6	71.0	49.9
Females	69.4	60.4	83.4	92.0	90.6	80.3	50.5
Total	68.6	59.9	82.6	91.6	89.6	75.5	50.2

Source: *Children's Immunisation, Australia (4352.0)*.

8.7 FULLY IMMUNISED CHILDREN, 3 Months–6 Years, Condition by Age — April 1995

Age	Diphtheria/ Tetanus %	Pertussis %	Polio %	Measles %	Mumps %	Rubella %	Hib %
3–6 months	92.5	92.0	92.0	..	..	..	76.3
Total less than 1 year	84.0	82.7	83.1	..	..	..	55.4
1 year	88.5	86.2	86.3	85.5	84.7	79.6	62.3
2 years	63.0	57.5	86.9	91.4	90.1	81.1	52.4
3 years	61.5	55.6	87.9	92.8	90.7	79.7	54.7
4 years	64.5	57.4	86.9	93.9	90.7	77.6	57.8
5 years	77.3	68.4	86.5	93.7	92.2	72.5	43.2
6 years	45.2	17.2	60.2	91.7	88.4	62.8	26.6

Source: *Children's Immunisation, Australia (4352.0)*.

Children of couple families with higher weekly income and who spoke English at home were more likely to be fully immunised than children of other families.

Children's health screening

Screening of children for particular disorders is important as early detection may enable preventive measures to be taken to stop or slow further development of a problem, or facilitate early intervention to minimise the effects of a

disorder. The national survey conducted by the Australian Bureau of Statistics in April 1995 also identified the levels and patterns of testing of sight and hearing, consultations with dental professionals and visits to baby health clinics.

As shown in table 8.8, 63% of children aged 0–14 years were reported as having had their sight tested, and 66% as having had their hearing tested at some time in their lives, and 75% of children 2–14 years had visited a dental professional.

8.8 CHILDREN AGED 0–14, Type of Test by Age — April 1995

	Less than 2 years %	2–4 years %	5–9 years %	10–14 years %	Total %
Whether has ever had sight and/or hearing tests					
Both sight and hearing tests	28.4	33.7	63.1	63.1	52.6
Sight tests only	4.9	4.7	9.1	16.2	10.0
Hearing tests only	17.3	22.6	12.0	7.5	13.3
Neither sight nor hearing	48.7	38.2	14.9	11.8	23.1
Other(a)	0.7	0.9	0.9	1.4	1.0
Whether has ever visited a dentist or dental professional(b)					
Has visited	..	22.5	85.1	96.6	75.0
Has not visited	..	77.3	14.7	3.3	24.8
Not known	..	*0.2	0.2	*0.1	0.2

(a) Includes not known if tested, and type of test not stated. (b) Data relating to dental visits refers to children aged 2–14 years.

Source: *Children's Health Screening, Australia (4337.0)*.

For children aged 0–3 years, a large proportion of health screening procedures is undertaken at baby health clinics (centres). The National Health and Medical Research Council recommends checks at 6–8 weeks, 4 months, 6 months and 12–18 months of age.

About 90% of children aged 0–3 years had visited a baby health clinic at some stage in their life, the majority (69%) had visited prior to age 4 weeks. 'Check-up' was the most commonly reported reason for visiting a baby health clinic (90%). For those children who had never visited a baby health clinic, the more commonly reported reasons for not doing so were 'no perceived need' (38.5%) and the 'use of other services' (30.4%).

Dental health

According to the 1996 National Dental Telephone Interview Survey, an estimated 9.7 million people aged five years and over had a dental consultation in the 12 months prior to survey interview. The most common types of treatment or service received were teeth cleaned and scaled (65.6%) and teeth filled (41.4%).

Males (44.2%) were more likely than females (38.9%) to have had teeth filled. The type of treatment or service provided varied with age. Those aged 5 to 4 years were less likely to have teeth filled than older age groups (table 8.9).

Edentulism (no natural teeth) is most prevalent among older adults. However, it has decreased markedly in all age cohorts, particularly among middle-aged adults. For example, for those aged 55–64 years, the prevalence of edentulism has decreased from 40.2% in 1979 to 19.9% in 1996 (table 8.10).

8.9 DENTAL CONSULTATION, Persons Aged 5 and Over(a) — 1996

	Unit	Treatment/service				Total who had a dental consultation(c)
		Tooth/teeth extracted(b)	Tooth/teeth filled(b)	Teeth cleaned and scaled(b)	Other treatment(b)	
Age group (years)						
5–14	%	8.4	27.1	50.9	19.7	81.8
15–24	%	14.1	28.5	68.3	23.6	55.5
25–44	%	14.1	48.0	72.2	22.1	53.6
45–64	%	12.5	52.2	70.3	27.9	58.0
65–74	%	12.0	50.8	61.3	27.6	47.4
>74	%	11.1	45.9	64.0	24.0	40.7
Males	%	13.2	44.2	63.7	22.5	55.2
Females	%	11.4	38.9	67.3	24.5	60.7
Persons						
Proportion	%	12.2	41.4	65.6	23.5	58.0
Number	'000	1 186.2	4 025.3	6 378.2	2 284.9	9 722.9

(a) In the 12 months prior to the interview. (b) Percentages of people receiving treatments or services among people who had a dental consultation in the 12 months prior to the interview. (c) Each person may have reported more than one type of treatment or service and therefore components do not add to totals.

Source: 1996 National Dental Telephone Interview Survey, Australian Institute of Health and Welfare, Dental Statistics and Research Unit.

8.10 PREVALENCE OF TOOTH LOSS

Year	Unit	Age group						
		15-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65-74 years	>74 years
Edentulous(a)								
1979	%	1.3	5.4	14.0	26.5	40.2	60.7	78.6
1989-90	%	0.6	1.4	5.7	14.9	28.9	43.2	63.4
1994	%	0.1	0.5	4.0	10.9	20.6	32.5	52.2
1996	%	0.1	0.6	2.0	8.1	19.9	32.7	48.7
Mean number of missing teeth(b)								
1994	no.	1.8	2.6	4.3	7.1	9.7	12.5	15.4
1996	no.	2.0	2.6	4.2	6.2	8.7	11.9	14.7

(a) Percentage of persons edentulous (i.e. having no natural teeth). (b) Mean number of missing teeth in dentate persons.

Source: 1979 Special Supplementary Survey; 1989-90 National Health Survey, Health Related Actions, Australia (4375.0); 1994 National Dental Telephone Interview Survey, Australian Institute of Health and Welfare, Dental Statistics and Research Unit; 1996 National Dental Telephone Interview Survey, Australian Institute of Health and Welfare, Dental Statistics and Research Unit.

In 1996, approximately 3.7 million people (27.9%) aged 18 years and over had dentures or false teeth, and 9.8% had full sets in both jaws.

Females (30.7%) were more likely than males (24.8%) to report having dentures or false teeth,

and the likelihood of having dentures or false teeth increased markedly with age, with 83.1% of persons aged 75 years and over having false teeth (table 8.11).

8.11 PERSONS WHO HAD DENTURES OR FALSE TEETH, Aged 18 years and Over — 1996

Age group (years)	Unit	Has dentures or false teeth			Does not have dentures or false teeth	Total
		Full sets in both jaws	Other(a)	Total with dentures or false teeth		
18-24	%	0.0	2.1	2.1	97.9	100.0
25-34	%	0.6	4.3	4.9	95.1	100.0
35-44	%	2.0	14.0	16.0	84.0	100.0
45-54	%	7.8	26.1	33.9	66.1	100.0
55-64	%	19.2	33.7	52.9	47.1	100.0
65-74	%	32.2	37.8	70.0	30.0	100.0
>74	%	45.9	37.2	83.1	16.9	100.0
Males	%	6.9	17.9	24.8	75.2	100.0
Females	%	12.5	18.2	30.7	69.3	100.0
Persons						
Proportion	%	9.8	18.1	27.9	72.1	100.0
Number	'000	1 316.5	2 431.5	3 748.0	9 685.7	13 433.7

(a) Includes those who have a full set in upper or lower jaw, and those who have partial sets in either or both jaws.

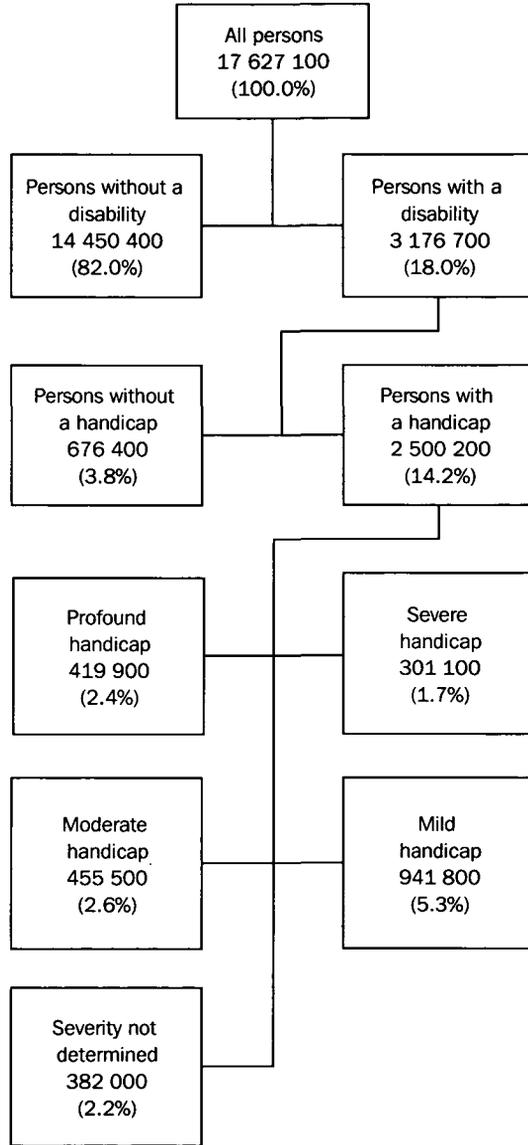
Source: 1996 National Dental Telephone Interview Survey, Australian Institute of Health and Welfare, Dental Statistics and Research Unit.

Disability

Based on the results of the Survey of Disability, Ageing and Carers conducted by the ABS in 1993, there were an estimated 3,176,700 persons, or 18.0% of the Australian population who had a disability and, of these, 2,500,200 or 78.7% were also classified as having a handicap (need for assistance, difficulty and/or use of aids

in the areas of self-care, mobility or verbal communication, or limitations in employment or schooling, because of disability). The distribution of the population according to disability, handicap and severity of handicap is illustrated in the diagram 8.12.

8.12 NUMBER OF PERSONS WITH A DISABILITY AND/OR HANDICAP — 1993



Source: Survey of Disability, Ageing and Carers, 1993.

It was estimated that 44.2% of the 2,762,900 persons aged 60 years and over had a disability, showing the high correlation of age to disability.

The survey also found that there were 577,500 persons aged 15 years and over (4.2% of the Australian population aged 15 years and over) who were principal carers.

Congenital malformations

Major congenital malformations include defects arising during embryonic development, such as spina bifida, congenital heart defects, cleft lip and palate, and also chromosomal abnormalities such as Down syndrome.

Among all births in Australia in 1993 and 1994, 4,331 and 4,298 infants respectively, 1.7% of the total in both years, were born with major congenital malformations detected at or soon after birth.

The most frequently notified groups of malformations were the musculoskeletal system,

congenital heart defects, genital malformations and chromosomal abnormalities (table 8.13). The most common specific malformations were hypospadias, congenital dislocation of the hip, ventricular septal defect, cleft lip and palate and Down syndrome.

8.13 MAJOR CONGENITAL MALFORMATIONS, By Anatomical System(a)

Anatomical system	No.		Rate per 10 000 births	
	1993	1994	1993	1994
Nervous system	377	338	14.5	13.0
Eye	78	76	3.0	2.9
Ear, face and neck	44	48	1.7	1.8
Heart	887	914	34.0	35.1
Circulatory system	318	286	12.2	11.0
Respiratory system	78	58	3.0	2.2
Cleft palate/lip	402	381	15.4	14.6
Digestive system	303	270	11.6	10.4
Genital organ	664	626	25.5	24.1
Urinary system	432	514	16.6	19.8
Limbs	415	380	15.9	14.6
Other musculoskeletal	902	802	34.6	30.8
Integument	29	66	1.1	2.5
Chromosomal	543	605	20.8	23.3
Other and unspecified	129	104	5.0	4.0
All fetuses and infants	4 331	4 298	166.2	165.2

(a) Infants may be included in more than one anatomical system category.

Source: Australian Institute of Health and Welfare, National Perinatal Statistics Unit.

Communicable diseases

Under the National Notifiable Diseases Surveillance System, State and Territory health authorities submit reports of communicable disease notifications for compilation by the Commonwealth Department of Health and Family Services. Case definitions for the diseases have varied from State to State and with time, as have the diseases included in the system. Since 1991, 42 diseases and disease groups have been included, as recommended by the National Health and Medical Research Council.

Campylobacteriosis, a bacterial disease transmitted by contaminated food or water, has been the most commonly reported disease in recent years (table 8.14).

HIV and AIDS

Human immunodeficiency virus (HIV) and acquired immunodeficiency syndrome (AIDS) surveillance is conducted by the National Centre in HIV Epidemiology and Clinical Research in collaboration with the State and Territory health authorities and the Commonwealth of Australia.

A total of 19,453 HIV diagnoses had been reported to 31 December 1995. Of these, 6,567 cases had been diagnosed as having AIDS and 4,723 of those had died (table 8.15). Of all persons who were diagnosed as having HIV, 12,776 reported the source of exposure to the virus. Of these, 80.5% reported male homosexual/bisexual contact as the exposure category (table 8.16). In the 12 month period from January to December 1995, there were 816 reports of HIV diagnosis, 648 reports of AIDS and 593 deaths from AIDS.

8.14 NOTIFIABLE DISEASES, Cases Notified

Disease	1989 no.	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.
Arbovirus infection						
Arbovirus infection n.e.c.	2 809	2 008	199	303	578	587
Dengue(b)	(c)	(c)	46	366	690	17
Ross River infection(b)	(c)	(c)	3 532	5 630	5 425	3 974
Botulism	(c)	(c)	(c)	—	—	—
Brucellosis	20	46	28	29	20	34
Campylobacteriosis	4 279	5 683	8 672	9 135	8 102	10 117
Chancroid	3	13	—	5	1	—
Cholera	—	1	—	3	6	3
Chlamydial infection(a)	504	5	4 044	6 293	6 493	6 519
Diphtheria	1	7	8	14	1	—
Donovanosis	99	91	72	78	67	117
Gonococcal infection	3 153	1 919	2 530	2 908	2 805	2 971
Haemophilus influenzae type b infection	(c)	(c)	549	501	397	169
Hepatitis A	460	530	2 195	2 109	2 002	1 894
Hepatitis B	3 017	2 970	3 652	5 219	2 254	970
Hepatitis C	(c)	(c)	4 116	8 812	7 573	8 941
Hepatitis(a)	43	707	338	70	72	42
HIV infection(d)	(c)	(c)	53	n.a.	470	933
Hydatid infection	15	16	44	38	32	56
Legionellosis	104	90	110	185	178	179
Leprosy	34	31	13	16	15	11
Leptospirosis	99	121	169	159	178	123
Listeriosis	(c)	(c)	44	38	53	34
Lymphogranuloma venereum	—	—	—	3	1	2
Malaria	770	882	790	712	684	703
Measles	169	880	1 380	1 425	4 536	4 895
Meningococcal infections	204	295	285	292	378	383
Mumps	(c)	(c)	(c)	23	28	94
Ornithosis	25	23	136	94	98	85
Pertussis	614	862	337	739	3 990	5 633
Plague	—	—	—	—	—	—
Poliomyelitis	—	—	—	—	—	—
Q fever	353	431	595	543	889	667
Rabies	—	—	—	—	—	—
Rubella(e)	—	2	620	3 810	3 812	3 315
Salmonellosis(a)	4 492	4 564	5 440	4 614	4 727	5 283
Shigellosis	779	610	902	694	706	724
Syphilis	2 099	1 643	2 053	2 695	2 293	2 324
Tetanus	11	6	7	14	10	15
Tuberculosis	1 351	684	590	970	1 073	1 024
Typhoid(f)	57	70	88	50	72	50
Viral haemorrhagic fever	—	—	—	—	—	—
Yellow fever	—	—	—	—	—	—
Yersiniosis(a)	241	433	515	567	459	414

(a) Not elsewhere classified. (b) Dengue and Ross River virus infection were included in 'Arbovirus infection' from 1988–90. (c) Not notifiable. (d) Data on diagnosis of HIV infections are included in tables 8.15 and 8.16.

(e) Notified only as Congenital Rubella Syndrome from 1988–90. (f) Includes paratyphoid in some States and Territories.

Source: National Notifiable Diseases Surveillance System of the Communicable Diseases Network of Australia and New Zealand.

8.15 DIAGNOSES OF HIV INFECTION AND AIDS AND DEATHS FROM AIDS — to 31 December 1995

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
HIV diagnoses									
Males	9 906	3 323	1 549	557	748	70	79	166	16 398
Females	550	164	94	44	69	4	3	15	943
Sex not reported	2 048	42	—	—	—	—	—	—	2 090
Persons(a)	12 511	3 537	1 648	601	819	74	82	181	19 453
AIDS diagnoses									
Males	3 708	1 307	626	260	270	32	25	71	6 299
Females	130	47	28	18	17	2	—	5	247
Persons(a)	3 848	1 361	656	278	289	34	25	76	6 567
AIDS deaths									
Males	2 610	1 024	432	177	199	21	20	50	4 533
Females	96	32	21	13	9	2	—	2	175
Persons(a)	2 712	1 062	455	190	209	23	20	52	4 723

(a) Includes persons whose sex was reported as transsexual.

Source: Australian HIV Surveillance Report, National Centre in HIV Epidemiology and Clinical Research.

8.16 DIAGNOSES OF HIV INFECTION — to 31 December 1995

	Males no.	Females no.	Persons(a) no.	%
Male homosexual/bisexual contact	10 279	n.a.	10 279	80.5
Male homosexual/bisexual contact and ID use	393	n.a.	393	3.1
ID use				
Heterosexual	119	53	175	1.4
Not further specified	346	97	461	3.6
Total	465	150	636	5.0
Heterosexual contact				
Sex with ID user	17	29	46	0.4
Sex with bisexual male	n.a.	26	26	0.2
From specified country	48	33	81	0.6
Sex with person from specified country	55	34	89	0.7
Sex with person with medically acquired HIV	4	6	10	0.1
Sex with HIV-infected person, exposure not specified	31	28	59	0.5
Not further specified	428	239	670	5.2
Total	583	395	981	7.7
Haemophilia/coagulation disorder	188	3	191	1.5
Receipt of blood transfusion, blood components or tissue	107	65	172	1.3
Health care setting(b)	3	7	10	0.1
Total adults/adolescents(a)	12 018	620	12 662	99.1
Children under 13 years at diagnosis of HIV				
Mother with/at risk for HIV infection	23	20	43	0.3
Haemophilia/coagulation disorder	54	0	54	0.4
Receipt of blood transfusion, blood components or tissue	12	5	17	0.1
Total children(a)	89	25	114	0.9
Total(a)	12 107	645	12 776	100.0
Other/undetermined(c)	4 291	298	6 677	—

(a) Total column includes cases for which sex was not reported. (b) The category 'Health care setting' includes five cases of occupationally acquired HIV infection and four cases of transmission in surgical rooms. (c) The 'Other/undetermined' category includes 6 659 adults/adolescents and 18 children. Twenty two people whose sex was reported as transsexual are included in the 'Other/undetermined' category. The 'Other/undetermined' category was excluded from the calculation of the percentage of cases attributed to each exposure category.

Source: Australian HIV Surveillance Report, National Centre in HIV Epidemiology and Clinical Research.

Health of Indigenous Australians

Selected results from the first National Aboriginal and Torres Strait Islander Survey (NATSIS) are described below. This survey, completed by the ABS in 1994, was the first national survey of Australia's Indigenous people. Among other topics, it has provided nation-wide Indigenous health information for the first time.

See also Aboriginal health, under *Health Programs* later in this chapter.

Self-reported health status

About 40% of males and 42% of females reported that they had experienced an illness, injury or disability in the two weeks before being interviewed. People aged 5–24 years were less likely to report recent illness (34%) than people aged 55 years and older (68%). Of those who said they had experienced a recent illness, 34% reported that they had been affected by respiratory disease, making it the most commonly reported illness overall and for all age groups up to 45 years of age, after which diseases of the circulatory system were more commonly reported.

The most commonly reported long-term conditions were asthma (13%) and ear or hearing problems (9%). Asthma was more commonly reported in capital cities than in rural areas, which may be due to differences in environmental factors or other exposures, or to different access to care and opportunity for diagnosis. Diabetes was reported by 4% of the Indigenous population overall and was more commonly reported by females than males. Over the age of 45, about one in five people said that they suffered from diabetes.

Although the health status of Indigenous people continues to be much worse than that of other Australians, some 88% of survey participants described themselves to be in good, very good or excellent health while another 10% described their health as fair and only 2% considered themselves to be in poor health. People who reported a long-term condition were more likely to say that their health was fair or poor than those without a long-term condition.

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Health-related actions

Almost half (44%) of survey participants reported taking a health-related action in the two weeks before the survey. Table 8.17 shows the types of actions people took, by part of State.

Consulting a doctor was more commonly reported in capital cities than in other urban or rural areas, while the opposite was true for consulting a nurse or an Aboriginal Health Worker. Females were more likely than males to report taking a health-related action and, after the age of five years, the reporting of health-related actions increased with age.

Access to services

Distance to services is an important potential barrier to Indigenous peoples' access to and use of health facilities, health services and health professionals. Nationally, a large proportion of the Indigenous population was estimated to live in close proximity to the services that they might require, but this varied according to place of residence.

In each State, fewer than 10% of people did not have a doctor, either permanent or visiting, within 25 km although only one in three people living in rural areas had a permanent doctor (i.e. available at least three days per week) within this range. Aboriginal Health Workers were located within 25 km of 83% of the population, but this varied from 53% in Tasmania to 93% in the Northern Territory.

8.17 REPORTED HEALTH RELATED ACTIONS, In the Two Weeks Prior to Interview(a)

	Capital city %	Other urban %	Rural %	Total %
Took an action	53.0	42.1	39.8	44.4
Type of action taken(a)				
Visited emergency/outpatients clinic	5.8	8.5	8.8	7.8
Admitted to hospital	1.8	2.4	3.1	2.5
Consulted doctor	26.3	17.9	13.1	18.8
Consulted Aboriginal Health Worker	2.7	4.8	10.6	6.0
Consulted nurse	3.5	4.1	8.6	5.3
Used medication	40.9	30.9	25.8	32.1
Used bush medicine	3.0	2.5	6.1	3.7
Reduced daily activities	16.8	12.2	9.2	12.6
Total ('000)	82.5	129.7	91.0	303.3

(a) Persons may have reported more than one type of action.

Source: Australian Bureau of Statistics National Aboriginal and Torres Strait Islander Survey 1994.

There were large differences in distance to hospitals across the country. While about 95% of Indigenous people in Victoria were reported to be living within 25 km of the nearest hospital, one in two Indigenous people in the Northern Territory had to travel over 100 km.

Close to 90% of Indigenous people were located within 25 km of the nearest community health centre, and about half lived within this distance of an Aboriginal Medical Service.

Perceived health-related and substance use problems

Nationally, alcohol was seen as the main health problem. About 58% of Indigenous people aged 13 years and older thought that alcohol was a health problem in their area. Drugs and diabetes were the next most commonly reported problems, followed by diet/nutrition, heart problems and skin problems. Alcohol was considered by 75% of respondents to be a substance use problem followed by marijuana (52%). In the Northern Territory, petrol sniffing was of similar concern to marijuana. The proportions varied according to place of residence.

Health risk factors

Relative weight

The results from the NATSIS indicate that overweight and obesity are far more common problems among Aboriginal and Torres Strait Islander people than among the Australian community in general. A body mass index (BMI) was calculated for the 78% of adult men and 71%

of adult women whose height and weight were measured. Of these people, 60% of men and 57% of women were overweight or obese. Substantially lower figures were recorded for all men (44%) and women (30%) in the 1989-90 National Health Survey.

Smoking

Rates of smoking varied considerably across the country from 29% in the Alice Springs ATSI region to 61% in the Jabiru ATSI region (both in the Northern Territory). Overall, smoking was reported by 54% of men and 46% of women aged 13 years and over, and 10% of children aged 13-14 years reported that they smoked. Smoking was most commonly reported for people aged 25-44 years.

Alcohol

Australia wide, about half of males and about one third of females aged 13 and over said they had consumed alcohol within a week of being interviewed. However, a large proportion of Indigenous people in all States reported that they had never drunk alcohol. This was highest in the Northern Territory where 30% of males and 62% of females said they had never drunk alcohol, and 38% of males and 19% of females reported drinking within a week of interview.

Breastfeeding

Breastfeeding was most commonly reported in the Northern Territory where some 90%

were currently being breastfed. In New South Wales, Victoria and South Australia, however, over one third of children had not been breastfed.

Disability and handicap

In the NATSIS, 1% of respondents aged 15–24 and 2.8% of those aged 25–44 reported a severe or profound handicap resulting from a disability or condition, increasing to 13% for those aged 55 and over.

Mortality

Studies conducted for the period from 1992 to 1994 showed that Indigenous Australians in Western Australia, South Australia and the Northern Territory experienced higher rates of death than did non-Indigenous Australians (the identification of Indigenous status in the death records of the other States was not of sufficient quality to permit adequate analysis). There were about 3.5 times more deaths than expected for males and about four times more deaths than expected for females, based on comparisons with non-Indigenous rates. Diseases of the circulatory system, injury and poisoning, respiratory diseases, neoplasms and endocrine diseases accounted for about three-quarters of all deaths of Indigenous people.

Life expectancy in the three States studied was 14–18 years lower for Indigenous males and

16–20 years lower for Indigenous females, compared with their non-Indigenous counterparts.

Over the ten-year period from 1985 to 1994, there was very little improvement in the mortality experience of Indigenous people in these three States. Overall death rates for Indigenous males declined by an estimated 1.5% per year, but this fall was not enough to reduce the gap between Indigenous and non-Indigenous males because the death rates for non-Indigenous males also fell by similar amounts. No decline in death rates for Indigenous females was evident.

Mortality rates did drop for some causes of death such as for infectious and parasitic disease, circulatory disease, and alcohol dependence syndrome in Indigenous males, and chronic rheumatic fever in Indigenous females. However, there were many times more deaths than expected for all these diseases and large gaps between Indigenous and non-Indigenous people still remain. For diabetes mellitus, there was a striking deterioration in the mortality experience over the ten years, death rates increasing by almost 10% per year for Indigenous males and by over 5% for Indigenous females.

Causes of death

Information relating to crude death rates and life expectancy is contained in *Chapter 5, Population*.

Causes of death in Australia are classified according to the ninth revision of the International Classification of Diseases (ICD) produced by the World Health Organization.

Two causes accounted for 70% of the 125,124 deaths in Australia in 1995. Diseases of the circulatory system were the underlying cause for 42.6% of deaths and neoplasms were the underlying cause for 27.5%. The third largest group of deaths was those due to diseases of the respiratory system (7.5%) and the fourth largest group was accidents, poisonings and violence

(5.9%), to which suicide (1.9% of all deaths) and motor vehicle accidents (1.6%) were the greatest contributors.

The relative importance of different causes of death varies with age. The majority of infant deaths (63% in 1995) occur within 28 days of birth and most are due to conditions present since birth. For those aged from 1 to 44 years, external causes (accidents, poisonings and violence) are the leading cause and neoplasms the second. For those aged 45 years and over, neoplasms and diseases of the circulatory system are the leading causes, with the latter more significant than neoplasms in those aged 65 years and over.

Perinatal deaths

In 1995 the perinatal death rate was 8.1 per 1,000 total births, little changed from the rate of 8.0 in 1994. The slight increase reflected a rise in the number of foetal deaths, which increased the foetal death rate from 4.7 to 5.0 deaths per 1,000 total births. The neonatal death rate fell from 3.4 to 3.2 deaths per 1,000 live births.

The three main causes of death in the foetus or infant were other conditions originating in the

perinatal period (31.7%), hypoxia, birth asphyxia and other respiratory conditions (27.7%) and congenital anomalies (20.4%). In 61% of perinatal deaths a maternal condition was reported. The most common maternal condition was complications of the placenta, cord and membranes, reported for 30.5% of perinatal deaths.

8.18 CAUSES OF DEATH — 1995

Cause of death	Age group (years)										Total
	<1	1-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	>84	
Number											
Infectious and parasitic diseases	13	24	16	44	62	58	97	195	308	252	1 069
Neoplasms	7	144	143	345	1 008	2 748	5 491	10 781	9 763	3 937	34 367
Endocrine, nutritional and metabolic diseases and immunity disorders	24	30	39	189	246	271	453	955	1 164	729	4 100
Diseases of the nervous system and sense organs	39	76	86	65	78	118	191	502	1 010	813	2 978
Diseases of the circulatory system	14	28	62	171	625	1 586	3 727	10 910	19 345	16 932	53 402
Diseases of the respiratory system	52	46	29	44	83	221	749	2 494	3 422	2 290	9 431
Diseases of the digestive system	3	6	6	46	143	269	478	791	1 171	958	3 871
Congenital anomalies	394	80	42	27	26	24	30	21	29	5	678
All other diseases(b)	663	18	121	282	203	174	267	806	2 176	2 559	7 282
Signs, symptoms and ill-defined conditions	205	10	12	26	44	18	23	30	58	120	533
Accidents, poisonings and violence	35	342	1 359	1 357	1 124	826	557	582	645	585	7 413
All causes	1 449	804	1 915	2 596	3 642	6 313	12 063	28 067	39 091	29 180	125 124
Rate(c)											
Infectious and parasitic diseases	5	1	1	2	2	3	6	15	45	133	6
Neoplasms	3	6	5	12	37	123	364	838	1 435	2 085	190
Endocrine, nutritional and metabolic diseases and immunity disorders	9	1	1	7	9	12	30	74	171	386	23
Diseases of the nervous system and sense organs	15	3	3	2	3	5	13	39	148	431	17
Diseases of the circulatory system	5	1	2	6	23	71	247	848	2 844	8 968	296
Diseases of the respiratory system	20	2	1	2	3	10	50	194	503	1 213	52
Diseases of the digestive system	1	—	—	2	5	12	32	61	172	507	21
Congenital anomalies	154	3	2	1	1	1	2	2	4	3	4
All other diseases(b)	259	1	4	10	7	8	18	63	310	1 355	40
Signs, symptoms and ill-defined conditions	80	—	—	1	2	1	2	2	9	64	3
Accidents, poisonings and violence	14	14	50	48	41	37	37	45	95	310	41
All causes	566	35	71	91	133	283	801	2 181	5 746	15 456	693

For footnotes see end of table.

...continued

8.18 CAUSES OF DEATH — 1995 — *continued*

Cause of death	Age group (years)										Total
	<1	1-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	>84	
Percentage(d)											
Infectious and parasitic diseases	0.9	3.0	0.8	1.7	1.7	0.9	0.8	0.7	0.8	0.9	0.9
Neoplasms	17.9	7.5	13.3	27.7	43.5	45.5	38.4	25.0	13.5	27.5	27.0
Endocrine, nutritional and metabolic diseases and immunity disorders	1.7	3.7	2.0	7.3	6.8	4.3	3.8	3.4	3.0	2.5	3.3
Diseases of the nervous system and sense organs	2.7	9.5	4.5	2.5	2.1	1.9	1.6	1.8	2.6	2.8	2.4
Diseases of the circulatory system	1.0	3.5	3.2	6.6	17.2	25.1	31.0	38.9	49.5	58.0	42.7
Diseases of the respiratory system	3.6	5.7	1.5	1.7	2.3	3.5	6.2	8.9	8.8	7.9	7.5
Diseases of the digestive system	0.2	0.8	0.3	1.8	3.9	4.3	4.0	2.8	3.0	3.3	3.1
Congenital anomalies	27.2	10.0	2.2	1.0	0.7	0.3	0.3	0.1	0.1	—	0.5
All other diseases(b)	45.8	2.2	6.3	10.9	5.6	2.8	2.2	2.9	5.6	8.8	5.8
Signs, symptoms and ill-defined conditions	14.2	1.2	0.6	1.0	1.2	0.3	0.2	0.1	0.2	0.4	0.4
Accidents, poisonings and violence	2.4	45.5	71.0	52.3	30.9	13.1	4.6	2.1	1.7	2.0	5.9
All causes	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Total includes 4 deaths where age is not known. (b) Includes 675 deaths from conditions originating in the perinatal period, 2 075 deaths from diseases of the genitourinary system, and 3 178 deaths due to mental disorders. (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.

Source: *Unpublished ABS Causes of Death data, 1995.*

8.19 CAUSES OF PERINATAL DEATHS — 1995

Cause of death	Number of deaths			Rate		
	Foetal	Neonatal	Perinatal	Foetal(a)	Neonatal(b)	Perinatal(a)
Conditions in foetus/infant						
Slow foetal growth, foetal malnutrition and immaturity	104	130	234	0.4	0.5	0.9
Birth trauma	1	43	44	—	0.2	0.2
Hypoxia, birth asphyxia and other respiratory conditions	431	149	580	1.7	0.6	2.3
Foetal and neonatal haemorrhage	20	52	72	0.1	0.2	0.3
Haemolytic disease of foetus or newborn	10	—	10	—	—	—
Other conditions originating in the perinatal period	560	104	664	2.2	0.4	2.6
Congenital anomalies	143	285	428	0.6	1.1	1.7
All other causes	12	48	60	0.1	0.2	0.2
Conditions in mother						
Maternal conditions which may be unrelated to present pregnancy	142	64	206	0.6	0.3	0.4
Maternal complications of pregnancy	128	220	348	0.5	0.9	1.4
Complications of placenta, cord and membranes	532	107	639	2.1	0.4	2.5
Other complications of labour and delivery	58	27	85	0.2	0.1	0.3
No maternal condition reported	423	393	816	1.6	1.5	3.2
All causes						
1995	1 283	811	2 094	5.0	3.2	8.1
1994	1 207	868	2 075	4.7	3.4	8.0
1993	1 245	886	2 131	4.8	3.4	8.2
1992	1 493	1 015	2 508	5.6	3.8	9.4
1991	1 478	1 012	2 490	5.7	3.9	9.6
1990	1 590	1 122	2 712	6.0	4.3	10.3

(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.

Source: Unpublished ABS Causes of Death data, 1995.

External causes

There were 7,413 deaths due to external causes in 1995, 3% higher than the number in 1994. This represents a death rate of 40.4 per 100,000 of the mid-year population after adjusting for changes in the age and sex structure of the population, which is 2% higher than the 1994 death rate.

External causes was the leading cause of death in younger age groups. In 1995 external causes accounted for 40.5% of all deaths of persons between the ages of 1 and 45 years. They contributed 15% of total 'years of potential life lost' — a measure of premature mortality, where a death before the age of 76 years is presumed to be premature. They were the second highest contributor to years of potential life lost, after cancer (30.5%).

Injury is more significant as a cause of death for males than for females — ranking as the fourth leading cause of death for males (of all ages) but as the fifth leading cause of death for females. Males made up 69.5% of all deaths due to external causes, and the standardised death rate for males was 58.9 per 100,000 compared with 22.6 for females.

The leading causes of injury deaths were suicide (31.9%) and motor vehicle accidents (27.4%). The crude rate of suicide deaths for males was almost four times that for females, and the crude death rate from motor vehicle accidents for males was twice that for females. Accidental falls were the only external cause with a higher rate for females.

8.20 EXTERNAL CAUSES OF DEATH — 1995

Cause of death	no.	%	Crude death rate(a)
MALES			
Suicide	1 872	36.3	20.8
Motor vehicle traffic accidents	1 398	27.1	15.6
Accidental falls	457	8.9	5.1
Homicide	204	4.0	2.3
Drowning and submersion	190	3.7	2.1
Poisoning by drugs/medications	201	3.9	2.2
Other	831	16.1	9.2
All external causes	5 153	100.0	57.3
FEMALES			
Suicide	495	21.9	5.5
Motor vehicle traffic accidents	631	27.9	7.0
Accidental falls	538	23.8	5.9
Homicide	129	5.7	1.4
Drowning and submersion	69	3.1	0.8
Poisoning by drugs/medications	97	4.3	1.1
Other	301	13.3	3.3
All external causes	2 260	100.0	24.9
PERSONS			
Suicide	2 367	31.9	13.1
Motor vehicle traffic accidents	2 029	27.4	11.2
Accidental falls	995	13.4	5.5
Homicide	333	4.5	1.8
Drowning and submersion	259	3.5	1.4
Poisoning by drugs/medications	298	4.0	1.7
Other	1 132	15.3	6.3
All external causes	7 413	100.0	41.1

(a) Deaths per 100 000 mid-year population.

Source: Derived from ABS Causes of Death data 1995.

Dementia deaths

The last 15 years have seen a rapid increase in the numbers of deaths of elderly people ascribed to dementia — a condition associated with various chronic organic brain disorders and characterised by loss of memory and intellectual faculties, reasoning power and will. Dementia can affect young adults but is much more common in the elderly, and its prevalence increases with age, affecting an estimated 2% of the population aged 65 to 70, increasing to 20% of the population aged above 80 years. In an ageing population and with average life spans increasing, dementia can be expected to become more significant as a cause of illness and death. The increase in the numbers of deaths ascribed to dementia, however, has occurred at a much faster rate than would be explained by the ageing of the population.

Between 1981 and 1995 there has been a 48% increase in the population aged 65 years and over but a six fold increase in the numbers of deaths ascribed to dementia in this age group, from 582 in 1981 to 3,313 in 1995. When

standardised to take account of the year to year changes in the age and sex structure within the elderly population, the death rate for 1995 was 140.3 deaths per 100,000 of those aged 65 years and over, more than three times higher than the 1981 rate of 43.7. Expert opinion suggests that this rapid rise in the rate is partly due to an increased tendency for dementia to be diagnosed as the underlying cause of death among elderly people.

The death rate from Alzheimer's disease has increased at a much faster rate than that from the other conditions causing dementia. Deaths from Alzheimer's disease increased as a proportion of total dementia deaths from 11% in 1981 to 33% in 1995.

As with other conditions, the number of dementia deaths increases rapidly with age, doubling every 5.1 years. As well as suggesting increased risk of dementia with age, this could also reflect the increased likelihood of dementia

being diagnosed in the elderly, due to the substantial time lag between onset and diagnosis.

The overall age-standardised death rate for males has generally been higher than the female rate. However, whereas age-specific death rates have been higher for males in the earlier age groups, they are higher for females in the upper age groups. The excess dementia mortality among females in the upper age groups could reflect the later onset (or slower progression) of dementia conditions in females.

The Australian population is ageing and this process will continue as the post-war 'baby boomers' reach age 65 from the year 2011 on. The total number of persons aged 65 years and over is estimated to almost double between 1989 and 2011, and to increase by 234% between 1989 and 2031. If the age-specific death rates remained stable at 1995 rates, the number of deaths due to dementia could be expected to increase in line with population changes. If the upward trend in diagnosis continues, even greater increases will occur.

8.21 DEMENTIA DEATH RATES(a) — 1995

Age group (years)	Males	Females	Persons
65-69	13.4	12.1	10.7
70-74	32.3	32.0	32.2
75-79	106.5	97.9	96.3
80-84	302.3	285.5	268.2
85-89	677.3	704.1	624.8
90-94	1 134.2	1 306.0	1 123.1
95+	1 864.5	2 389.3	2 037.0
Total 65+	115.9	183.0	133.6
Total 65+ SDR(b)	137.6	140.7	140.3

(a) Unless otherwise specified, dementia deaths per 100 000 mid-year population of the same age and sex. (b) Standardised death rate — direct standardisation based on the age structure of the 1991 total population.

Source: Unpublished ABS Causes of Death data, 1995.

Health care delivery

Medicare

The Health Insurance Act provides for a Medicare Benefits Schedule which lists a schedule fee applicable to each medical service. The Schedule covers services attracting Medicare benefits rendered by legally qualified medical practitioners, certain prescribed services rendered by approved dentists and optometrical consultations by optometrists. Medical services in Australia are generally delivered by either private medical practitioners on a fee-for-service basis, or medical practitioners employed in hospitals and community health centres. The Schedule is constantly reviewed through ongoing consultations with the medical profession and it is updated twice yearly to reflect current medical practice.

Medicare benefits are payable at the rate of 85% of the schedule fee for services. For private in-patients in hospitals, 75% of the schedule fee for services is payable.

Public hospitals

In 1993-94 there were an estimated 702 public acute care and Department of Veterans Affairs hospitals, 30 public psychiatric hospitals, 1,457 nursing homes and 1,365 hostels in Australia. A more important indicator of the supply of health care facilities is the number of beds per 1,000 population. Excluding beds in public psychiatric hospitals, there were 3.2 hospital beds available for acute care per 1,000 population in Australia in 1993-94. This followed a steady decline from 1985-86 to 1991-92, when the ratio of available beds fell by 4% a year, from 4.1 to 3.3 beds per 1,000 population.

The number of beds available in public psychiatric hospitals in Australia decreased from 2.3 per 1,000 population in 1970 to 0.3 in 1993-94. During the 1970s and early 1980s, the supply contracted by 6% per year. Between 1985-86 and 1987-88, the annual rate of decrease was almost 20%. This rapid reduction in beds resulted from moves to deinstitutionalise patients requiring acute or long-term psychiatric

care. Since 1987–88, the reduction in bed supply has continued at about 2% per year.

Use of hospitals

Rates of admission to acute hospitals have fluctuated over the last two decades. An increase during the 1970s was followed by a slight decline in the early 1980s. From 1982–83 to 1988–89, admissions per 1,000 persons fluctuated around 215, then increased substantially to 240 in 1991–92 and again to 261 in 1993–94.

The sustained reductions in length of hospital stay are reflected in falls in the number of bed-days used by patients in acute hospitals. Between 1982–83 and 1991–92, the number of bed-days per 1,000 population fell by 2.5% per year, from 1,490 to 1,207. Although the number of separations has increased substantially, the number of bed-days has remained fairly constant, increasing slightly to 1,209 per 1,000 population in 1993–94.

Same-day surgery

In recent years, the increasing use of same-day treatments has accelerated the decline in length of stay. The proportion of same-day patients in public acute hospitals increased from 20% in 1987–88 to 31% in 1992–93. In 1992–93, 39% of admissions to private hospitals were same-day patients.

Private hospitals

Information on facilities, patients, staffing and finances was collected from the 328 private

acute and psychiatric hospitals and 125 free-standing day hospital facilities which were in operation throughout Australia during 1994–95. Some of the findings were as follows:

- The average number of beds available for admitted patients increased by 7.2%, to 22,370, between 1992–93 and 1994–95.
- There were 1,536,600 admitted patients who left hospital during 1994–95, of which 87.6% were from private acute and psychiatric hospitals and 12.4% from free-standing day hospital facilities.
- Occupied-bed days for private acute and psychiatric hospitals totalled 5.4 million. The average length of stay per in-patient separation was 4.0 days.
- The number of full-time equivalent staff engaged at all private hospitals was 37,344 of whom 58.7% were nursing staff.
- Total operating expenditure for private acute and psychiatric hospitals during 1994–95 amounted to \$2,503m of which 59.1% was expended on salaries and wages (including on-costs). Revenue received during the year was \$2,763m, nearly all (94.7%) of which was received as payments from or in respect of patients.
- Total operating expenditure for free-standing day hospital facilities during 1994–95 amounted to \$70.0m and revenue received during the year was \$85.8m.

8.22 PUBLIC ACUTE AND PRIVATE ACUTE AND PSYCHIATRIC HOSPITALS AND FREE-STANDING DAY HOSPITAL FACILITIES — 1993–94

	Unit	Public	Private(a)	Total(a)
Bed supply				
Facilities	no.	702	440	1 142
Beds/chairs	no.	56 140	22 158	78 298
Activity				
Total separations	'000	3 387	1 433	4 821
Total occupied bed days	'000	16 289	5 355	21 644
Average length of stay	days	4.8	(b)4.1	(b)4.6
Average length of stay excluding free-standing day hospital facilities	days	4.8	4.1	4.6
Average length of stay excluding all same-day separations	days	6.8	5.8	6.6
Average occupancy rate	%	80	(b)67	(b)77
Average occupancy rate excluding free-standing day hospital facilities	%	80	67	77
Total non-admitted services	'000	30 562	903	31 465

(a) Includes free-standing day hospital facilities. (b) Excludes free-standing day hospital facilities.

Source: *Private Hospitals, Australia, 1993–94* (4390.0); *National Public Hospital Establishment Data Base, Australian Institute of Health and Welfare*; *Medicare Agreements Data* (Department of Health and Family Services unpublished data).

Comparison of public and private hospitals

There were 1,142 acute hospitals, psychiatric hospitals and free-standing day hospital facilities with 78,298 available beds in Australia in 1993–94. 72% of the beds were in public hospitals.

Total throughput in 1993–94 was 4.8 million separations, or 21.6 million bed days. The public sector accounted for 70% of the separations and 75% of the bed days.

Health work force

According to labour force estimates (table 8.23), in 1995–96 there were approximately 268,800 people employed in health occupations in Australia, comprising just over 3% of the total number of employed people. The largest component of the medical workforce was registered nurses (160,500 people), of whom 92.3% were women.

There were approximately 30,800 general medical practitioners in 1995–96 and 15,000 specialist medical practitioners. About 75% of general medical practitioners and 77.3% of specialist medical practitioners were male.

8.23 PERSONS EMPLOYED IN HEALTH OCCUPATIONS(a) — 1995–96

	Males '000	Females '000	Persons '000
General medical practitioners	23.1	7.7	30.8
Specialist medical practitioners	11.6	*3.4	15.0
Dental practitioners	6.7	*2.5	9.1
Pharmacists	7.2	5.8	12.9
Occupational therapists	*0.5	5.3	5.9
Optometrists	*1.3	*0.9	*2.2
Physiotherapists	*2.7	7.4	10.1
Speech pathologists	*0.2	*3.1	*3.3
Chiropractors and osteopaths	*2.5	*0.9	*3.3
Podiatrists	*1.0	*2.3	*3.2
Radiographers	*1.1	*3.9	5.0
Other health diagnosis and treatment practitioners	*1.2	6.4	7.5
Registered nurses	12.3	148.2	160.5
Total employed in health occupations	71.3	197.5	268.8
Total employed	4 716.0	3 571.2	8 287.2

(a) Averages calculated on quarterly estimates.

Source: *Labour Force, Australia* (6203.0).

Health programs

Aboriginal health

In July 1995 responsibility for Aboriginal and Torres Strait Islander health transferred from the Aboriginal and Torres Strait Islander Commission (ATSIC) to the then Department of Human Services and Health. The reason for the transfer was twofold: first, to improve the mainstream health sector's performance in providing services to Aboriginal and Torres Strait Islander people, and second, to facilitate better links between mainstream services and Aboriginal community health services.

By 1997 the Commonwealth will have signed Health Framework Agreements with all States

and Territories. The Agreements recognise the role of Aboriginal community controlled health services in the health system and the need to improve access of Aboriginal and Torres Strait Islander people to mainstream health services. The Agreements provide for a process of joint planning between the Commonwealth, States/Territories, ATSIC and the Aboriginal community controlled health sector. This will ensure better targeting and coordination of health services for Aboriginal and Torres Strait Islander people as well as the planning of new services. The Agreements also commit the

parties to data collection and evaluation, and to maintenance of financial effort.

Programs for the aged and people with disabilities

Details on these programs are contained in *Chapter 7, Income and welfare*.

Homeless youth

The Innovative Health Services for Homeless Youth Program was established in 1989 as part of the strategy, 'Towards Social Justice for Young Australians'. The Program develops and implements innovative primary health care services for homeless youth. A further \$8.8m over the period 1993–94 to 1996–97 was allocated in the 1993 Budget (\$17.6m when cost shared with States and Territories). Emphasis is being placed on community involvement in service delivery. The ultimate objective of the Program is to encourage a more positive attitude among homeless young people towards their personal health care.

Mental health

The emphasis has shifted from institutions for care of people with mental illness to mental health services provided in the general health sector, such as psychiatric units in general hospitals, and a range of community-based services across the health, housing and community service sectors.

Commonwealth funding of \$269m over six years to 30 June 1998 is being provided to assist in implementing the National Mental Health Strategy to accelerate the process of reform in the mental health sector. Of this, approximately \$189m is available directly to the States and Territories. About \$68m is directed towards national initiatives and \$5.4m is available for supporting mental health medical research.

The main objectives of the reform process include: expanding community-based mental health services; improving consumer rights; reforming mental health legislation; restructuring the mental health work force; and promoting mental health and community awareness of mental health problems and mental disorders.

National Diabetes Action Plan

In recognition of the high incidence of diabetes and its associated economic and social costs, the Government has developed a \$7.5m National

Diabetes Action Plan which identifies a number of priority areas for action. The Plan will be implemented over three years beginning in 1996–97.

As part of the Plan, Diabetes Mellitus has recently been endorsed by all Health Ministers as the fifth National Health Priority Area, under a new strategy for reporting on changes in the population's health. Governments have undertaken to collect information on the present incidence of diabetes and, as a result of this knowledge, to set up strategies to reduce both the onset of and the complications from this disease.

Injury prevention and control

Injury is a major public health issue and injury prevention is one of the five National Health Priority Areas. Each year, over 7,000 people die as a result of injury, and the annual direct medical costs of injury exceed \$1b. In 1996 the Commonwealth announced funding of \$0.9m over three years for the establishment of a body with the task of obtaining intersectoral cooperation and action to reduce preventable injuries.

Diet and nutrition

In the 1996–97 Budget, the Commonwealth Government allocated \$1m a year for two years for initiatives aimed at increasing the numbers of Australian women breastfeeding their babies. The funding will be spent on community education, improving support systems for breastfeeding and the monitoring of breastfeeding trends.

A further \$200,000 a year for two years has been provided to encourage women of childbearing age to increase their consumption of folate, either from foods or dietary supplements. The consumption of recommended intakes of folate, a B group vitamin, by women just prior to and in the early stages of pregnancy has been shown to prevent a significant number of babies being born with a defect of the neural tube, such as spina bifida.

The need for national information about diet and nutrition has been recognised in many forums. This need is being addressed through the National Nutrition Survey, which is a joint project between the ABS and the Department of Health and Family Services, in association with other health agencies. The survey results will contribute to the development and monitoring

of health goals and targets for nutrition and diet-related disease, as well as assist with the development of food policy and regulations associated with food safety and composition.

Drugs

The National Drug Strategy is a major national effort to minimise the harmful effects of drug use on Australian society, and has been in operation since 1985.

The broad range of strategies implemented under the National Drug Strategy (formerly the National Campaign Against Drug Abuse) has resulted in a number of significant achievements, particularly in relation to tobacco and alcohol, where the death rates per 100,000 population attributable to tobacco and alcohol have continued to decline.

Organ and tissue donation

Australia operates under an 'opting in' system for organ and tissue donation. In addition to the efforts of non-government organisations to increase the rate of donation, the Commonwealth and the States share the cost of the Australian Bone Marrow Donor Registry for recruiting and matching unrelated bone marrow donors, and the Australian Co-ordinating Committee on Organ Registries and Donation (ACCORD), a committee established by the Australian Health Ministers' Advisory Council to develop and implement strategies to overcome the low donation rates in Australia — currently about 10 donations per million of population.

ACCORD has facilitated public and professional research surveys to identify reasons for the low donor rate in Australia. From the results of these surveys, strategies to increase the organ donor rate have been developed. It aims to lift the Australian rate of organ donation to 15 donors per million population through concerted public and professional education and information programs.

Family planning

The Commonwealth Government provides direct ongoing funding through the Family Planning Program to selected non-government organisations with the aim of providing a comprehensive range of information, education, professional training, counselling and clinical services in sexual and reproductive health to the

Australian community. The allocation for 1996–97 is approximately \$14m.

Survivors of torture and trauma

The Program of Assistance for the Survivors of Torture and Trauma is designed to help people who have been subject to the kinds of debilitating trauma that can arise from living with war, terrorism, political and civil unrest, famine, widespread disease and economic collapse. Some of these people will have survived systematic torture, both mental and physical. The vast majority of these survivors will be from a non-English speaking background.

From 1994–95 to 1997–98, the Commonwealth Government will spend almost \$5m under this new Program to help refugees and migrants who have survived torture and trauma before coming to Australia. The Program is funding a service in each State and Territory except the Northern Territory, where a service is expected to begin in 1995–96. The funds will be used to provide free initial counselling and advocacy to survivors and help in accessing mainstream health and health-related services.

Women's health

National Women's Health Program

This Program, which commenced in 1989–90, aims to improve the health and well-being of all women in Australia with a focus on those most at risk, and to encourage the health system to be more responsive to the health needs of women. A new four-year phase of the Program with funding of \$30m was announced in the 1993 Budget. The Program is cost-shared with the States and Territories on a dollar-for-dollar basis. The Program provides funding for improvements in general health services for women and for the establishment of primary health care services specifically for women.

Cancer screening programs

The National Cancer Prevention and Control Unit was established in April 1996 to develop strategies for the management of preventable cancers and to minimise the adverse impact of cancers on the community. The Unit also has responsibility for the oversight of two national screening programs, BreastScreen Australia and the National Cervical Screening Program.

BreastScreen Australia

In 1990, BreastScreen Australia (formerly the National Program for the Early Detection of Breast Cancer) was established to reduce morbidity and mortality attributable to breast cancer. A network of dedicated and accredited screening and assessment services provides free access to breast screening services for women aged 50 to 69 years.

BreastScreen Australia is cost-shared with State and Territory governments.

National Cervical Screening Program

The National Cervical Screening Program was established in 1991 to further reduce the incidence of and mortality from cervical cancer by encouraging women to have regular biennial Pap smears, and to facilitate improvements in reliability and accessibility of screening services.

The National Cervical Screening Program is cost-shared with State and Territory governments.

In both screening programs, all States and Territories are contributing to the collection and analysis of agreed national minimum datasets to assist revision of policy, monitor program performance and aid the development of targeted strategies.

National Education Program on Female Genital Mutilation

This program was established in response to increasing numbers of people migrating to Australia, mainly as refugees, from countries where female genital mutilation is traditionally practised, and to concern that the practice does not become established here. It commenced in 1995–96 with funding of approximately \$3m over five years. The program aims to prevent the practice of female genital mutilation in Australia and to assist women and girls who have already undergone this harmful practice primarily through providing financial assistance to the States and Territories to implement culturally sensitive education programs for both affected communities and professionals providing services to these communities.

Alternative Birthing Services Program

In recognition of increased community desire for greater choice in birthing services, the Commonwealth introduced a \$6.4m four-year

incentive package in 1989–90 to assist States and Territories to provide a range of alternative birthing services. A further \$8.9m over four years was allocated in the 1993 Budget.

Co-ordinated Care Trials

The Co-ordinated Care Trials, which are being funded by the Commonwealth Government, will set about testing innovative reforms to health and community services in a variety of community settings throughout Australia. Following an initial 12 month development phase, they will be implemented over two years to July 1999.

The primary aim of the Co-ordinated Care Trials is to test whether co-ordinating care for people with complex needs through individual care plans, and the pooling of funds from existing Commonwealth, State/Territory and joint programs, will result in improved client health and well-being within current resource levels. They will explore ways of: overcoming the barriers that exist between the various funding programs; promoting more choices in services; promoting continuity of care; facilitating better management of clients' needs; and planning services as close to the delivery level as possible.

The Trials are an important part of the overall strategic planning for the future of health and community services in Australia and reflect the commitment of State/Territory governments and the Commonwealth Government to working co-operatively to deliver better outcomes for health and community services consumers.

Health care financing

Total health expenditure

Total health expenditure (both public and private sectors) in 1994–95 was \$38,500m or \$2,145 per person. Health expenditure per person increased at an average annual rate of 2.8% in real terms between 1982–83 and 1994–95. Health expenditure as a proportion of gross domestic product (GDP) was estimated to be 8.4% in 1994–95.

The average annual growth rate in real health expenditure for the period after the introduction of Medicare from 1984–85 to 1994–95 was 4.4%.

Health expenditure by Australian governments in 1994–95 was \$26,339m or \$1,468 per person.

8.24 TOTAL HEALTH EXPENDITURE(a) AND RATE OF GROWTH

Year	Expenditure		Rate of growth	
	Current prices \$m	Constant 1989-90 prices(a) \$m	Current prices %	Constant 1989-90 prices(a) %
1982-83	13 239	20 673	..	..
1983-84	14 958	21 960	13.0	6.2
1984-85	16 546	22 862	10.6	4.1
1985-86	18 586	24 180	12.3	5.8
1986-87	21 115	25 341	13.6	4.8
1987-88	23 333	26 287	10.5	3.7
1988-89	26 127	27 719	12.0	5.4
1989-90	28 795	28 795	10.2	3.9
1990-91	31 223	29 435	8.4	2.2
1991-92	33 134	30 316	6.1	3.0
1992-93	34 910	31 489	5.4	3.9
1993-94	36 495	32 602	4.5	3.5
1994-95(b)	38 479	33 905	5.4	4.0

(a) Health expenditure for 1982-83 to 1994-95 is deflated to constant prices using specific health deflators. (b) Based on preliminary AIHW and ABS estimates.

Source: Australian Institute of Health and Welfare, Health Expenditure Data Base.

Medicare financing

Details of the health financing arrangements under the Medicare program introduced by the Commonwealth Government in February 1984 are available in *Year Book Australia, 1984*.

The Medicare levy was increased from 1% to 1.25% of taxable income on 1 December 1986, increased to 1.4% on 1 July 1993 and again increased to 1.5% on 1 July 1995.

The Medicare levy was increased from 1.5% to 1.7% of taxable income for 1996-97 to fund the guns buy back scheme. This one-off measure was expected to raise \$500m to fund the National Firearms Program under which firearm owners, dealers and collectors will receive compensation for surrender of designated guns.

For 1996-97, no levy is payable by single people with income less than \$13,127 per year and by couples and sole parents with income less than \$22,152 per year, with a further \$2,100 per year allowed for each child.

In 1995-96, taxation revenue from the Medicare levy was \$3.4b.

A Medicare levy surcharge of one percentage point is to be introduced from 1 July 1997 for single individuals with taxable incomes in excess of \$50,000 per year, and couples and families with combined taxable incomes in excess of \$100,000, who do not have private hospital cover through private health insurance.

Commonwealth Government funding of hospitals

In 1995-96, hospital funding grants by the Commonwealth Government to the States and Territories totalled \$4,718m. Other expenditure included \$53.6m on mental health, \$12.3m for the expansion of palliative care and \$72.0m for the treatment of AIDS patients in public hospitals.

Under revised bonus funding arrangements implemented in 1995-96, \$169m of the bonus funds were linked to the achievement of agreed performance targets relating to hospital throughput and waiting times for access to elective surgery and to accident and emergency treatment.

In addition, the Commonwealth outlayed a further \$11m under the terms of the Medicare Agreements with the States on direct expenditure relating to the Casemix Development Program, mental health payments and other incentive programs.

The Commonwealth also outlayed funding to hospitals of \$758.8m to provide hospital services to veterans and their dependants in 1995-96.

Household expenditure on medical care and health

The 1993-94 Household Expenditure Survey provides estimates of expenditure on medical care and health by households across Australia. Expenditure is net of any refunds and rebates

received from Medicare, private health insurance companies and employers.

Household expenditure on medical care and health expenses varies according to the life cycle stage of a household (table 8.25). These changes are associated with changes in household size, the amount of income earned and the age of household members. For the first group, which consists of lone persons under 35 years, for whom household size and income are relatively low, expenditure is the lowest (\$10.56 per week). As the cycle progresses and household size and income generally increase, expenditure also generally increases, reaching its highest at the stage when the household consists of a couple with non-dependent children (\$43.42 per week). By the time a household comprises one person only, aged 65 and over, expenditure has decreased to \$12.81 per week.

Pharmaceutical Benefits Scheme

The Scheme was established under the provisions of the *National Health Act 1953*. It provides to the Australian community a large range of necessary medicines prescribed by medical and dental practitioners. The medicines can be dispensed by an approved pharmacist upon presentation of a prescription.

Depending on the circumstances, the patient may pay as little as \$2.70 and need pay no more than \$17.40 for any prescription listed on the Pharmaceutical Benefits Schedule (PBS). The Government pays the remainder of the cost for the patient.

There is a safety net whereby high users of medicines receive financial protection.

The expenditure threshold for the safety net varies according to the patient's circumstances, but for most families it is \$600 each calendar year. Once the patient or their immediate family

has spent \$600 on PBS medicines in a year, they need only pay \$2.70 of the full cost for additional PBS items for the rest of the calendar year.

If the patient holds a special concession card, the safety net limit is \$140.40 per calendar year. When the patient has spent \$140.40 on PBS medicines for self and/or dependants they can get further PBS medicines free for the rest of the year.

In 1995–96 the total cost of the Scheme was \$2,669m. This includes \$478.1m from the patient contribution of prescriptions processed for payment. This figure does not include the cost of drugs supplied through special arrangements, such as the Royal Flying Doctor Services, methadone maintenance programs and hormone treatment.

Retirees who do not get a Social Security or Veterans Affairs pension, but whose income is below the pension cut-off point, qualify for cheaper prescription medicines if they are eligible to hold a Commonwealth Seniors Health Card.

Health insurance coverage

The steady decline in the proportion of the population covered by private health insurance for hospital cover has continued, falling from 44.5% in June 1990 to 33.6% at June 1996 (see table 8.26).

Health funds also offer ancillary cover which provides benefits towards the cost of a range of services not covered under Medicare. These may include ancillary private dental services, optical, chiropractic, podiatry, home nursing and other services. At June 1996, over 6 million people had ancillary cover.

8.25 HOUSEHOLD EXPENDITURE, Medical Care and Health Expenses — 1993-94

	Unit	Couple with dependent children only				
		Lone person aged <35	Couple only, reference person aged <35	Eldest child aged <5	Eldest child aged 5-14	Eldest child aged 15-20
Average weekly household income	\$	476.09	963.91	790.94	842.91	1022.40
Average number of persons in household	no.	1.00	2.00	3.44	4.54	4.15
Average weekly household expenditure(a)(b)						
Accident and health insurance						
Hospital, medical and dental insurance	\$	2.99	11.74	13.03	13.95	16.41
Ambulance insurance (separate insurance)	\$	0.11	0.34	0.39	0.37	0.45
Sickness and personal accident insurance(c)	\$	1.02	2.38	1.96	1.63	2.40
Total	\$	4.12	14.46	15.38	15.95	19.26
Practitioners' fees						
General practitioner doctor's fees	\$	0.24	0.59	1.38	0.90	0.93
Specialist doctor's fees(c)	\$	0.33	1.19	1.99	1.54	2.02
Dental charges	\$	2.91	1.79	3.23	4.32	4.87
Optician's fees (including spectacles)(c)	\$	0.43	0.77	0.34	0.93	1.43
Practitioner's fees, n.e.c.(c)	\$	0.34	0.81	0.98	0.88	0.97
Total	\$	4.25	5.13	7.91	8.57	10.22
Medicines, pharmaceutical products, therapeutic appliances and equipment	\$	2.10	4.14	8.84	6.71	7.71
Other health charges	\$	*0.09	*0.34	*1.06	*0.61	*0.77
Total medical care and health expenses	\$	10.56	24.08	33.19	31.83	37.96

	Unit	Couple with				
		Dependent and non-dependent children only	Non-dependent children only	Couple only, reference person aged 55-64	Couple only, reference person aged >65	Lone person aged >65
Average weekly household income	\$	1 332.22	1 109.61	544.63	389.98	213.12
Average number of persons in household	no.	4.57	3.27	2.00	2.00	1.00
Average weekly household expenditure(a)(b)						
Accident and health insurance						
Hospital, medical and dental insurance	\$	20.36	21.63	16.67	13.26	5.01
Ambulance insurance (separate insurance)	\$	0.39	0.52	0.40	0.30	0.20
Sickness and personal accident insurance(c)	\$	3.01	1.35	0.74	0.11	0.05
Total	\$	23.77	23.50	17.80	13.66	5.26
Practitioners' fees						
General practitioner doctor's fees	\$	1.35	0.79	0.44	0.34	0.06
Specialist doctor's fees(c)	\$	2.02	2.37	1.49	1.90	0.83
Dental charges	\$	4.96	2.94	2.57	1.92	0.69
Optician's fees (including spectacles)(c)	\$	1.61	1.68	1.09	0.85	0.59
Practitioner's fees, n.e.c.(c)	\$	1.07	1.34	0.70	0.53	0.25
Total	\$	11.00	9.11	6.29	5.54	2.42
Medicines, pharmaceutical products, therapeutic appliances and equipment	\$	7.45	9.40	7.40	7.11	4.22
Other health charges	\$	*0.69	*1.4	*0.22	*1.68	*0.91
Total medical care and health expenses	\$	42.91	43.42	31.71	27.99	12.81

(a) The average obtained when the total estimated expenditure for a particular expenditure item is divided by the estimated number of households within the scope of the survey in the relevant category of household type. (b) Net of refunds and rebates. (c) At least one of the estimates in this row has a relative standard error greater than 25%.

Source: Unpublished data from the 1993-94 Household Expenditure Survey.

8.26 PERSONS WITH PRIVATE INSURANCE FOR HOSPITAL COVER

	June 1990 %	June 1992 %	June 1994 %	June 1995 %	June 1996 %
With private insurance for hospital cover	44.5	41.0	37.2	35.0	33.6
Without private insurance for hospital cover	55.5	59.0	62.8	65.0	66.4
Total	100.0	100.0	100.0	100.0	100.0

Source: Private Health Insurance Administration Council, Coverage of Basic Hospital tables, June 1996.

Health-related organisations

International

World Health Organization

The World Health Organization (WHO) is a specialised agency of the United Nations having as its 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 assessed contribution to WHO's core budget for 1996 was \$8.1m.

The International Agency for Research on Cancer

The International Agency for Research on Cancer (IARC) was established in 1965 within the framework of the WHO. The headquarters of the agency is 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 1995 was \$1.2m.

Australian Government

Health and Community Services Ministerial Council

The Health and Community Services Ministerial Council incorporates the Australian Health Ministers' Conference (AHMC), Australian Health Ministers' Advisory Council (AHMAC), Community Services Ministers' Conference (CSMC) and the Standing Committee of the Community Services and Income Security Administrators (SCCSISA).

The Health and Community Services Ministerial Council was formed in 1993 by a decision of the Council of Australian Governments (COAG), thus bringing together the Australian Health

Ministers' Conference and the Community Services Ministers' Conference.

The AHMC and its advisory body, the Australian Health Ministers' Advisory Council (AHMAC), provide a mechanism through which the Commonwealth, State and Territory and New Zealand Governments can discuss matters of mutual interest concerning health policy, services and programs. The AHMC comprises the Commonwealth, State, Territory and New Zealand Ministers responsible for Health. Neither the Conference nor the Council has statutory powers and decisions are reached by consensus.

In 1996, Health Ministers considered a wide range of issues including Aboriginal health, the medical workforce, a national public health partnership, national health goals and targets, private health insurance and quality in Australian health care.

Similarly, the CSMC and its advisory body, the SCCSISA provide a mechanism through which the Commonwealth, State and Territory, New Zealand and Papua New Guinea Governments can discuss matters of mutual interest concerning community services and welfare policy and programs. The CSMC comprises the Commonwealth, State, Territory, New Zealand and Papua New Guinea Ministers responsible for community services and welfare. Neither the Conference nor the Council has statutory powers, and decisions are reached by consensus.

In 1996, Community Services Ministers discussed a wide range of issues including services to young people with self destructive behaviours, youth homelessness, national child abuse strategies and COAG reforms.

Meeting jointly as the Health and Community Services Ministerial Council, Ministers considered COAG reforms of health and related community services, future ageing and mental health.

Ministers with responsibilities for disability services discussed the renegotiation of the Commonwealth State Disability Agreement and future directions for disability services.

Department of Health and Family Services

The Commonwealth Department of Health and Family Services provides policy advice and implements Commonwealth government policies on public health, health care, health care funding, and family services for all Australians, particularly the aged, people with disabilities and those with children.

As the national leader in health and family services and public health measures, the Department

- provides expert policy advice and analysis to government;
- promotes planning by governments focused on outcomes and investment in prevention and early intervention, and incentives for efficient, best practice care;
- works in partnership with others to deliver high quality, cost-effective care designed to meet people's needs better;
- works closely across programs to ensure that the focus is on people and outcomes rather than programs and providers; and
- ensures that, where the Department has a regulatory role, the Department performs it sensitively and objectively.

The Department delivers its services through the following seven Programs.

- Public Health (including Health Regulation, and Health Research and Information)
- Health Care and Access (including Medicare Benefits and General Practice Development, Pharmaceutical Benefits, Acute Care and Mental Health)
- Aboriginal and Torres Strait Islander Health
- Family and Children's Services
- Aged and Community Care
- Disability Programs
- Corporate Leadership and Management

The Department works in association with other agencies in the Portfolio, primarily the Health Insurance Commission, the Australian Hearing Services, the Australia New Zealand Food Authority, the Australian Institute of Health and Welfare and the Australian Institute of Family Studies.

Australian Institute of Health and Welfare

The Australian Institute of Health and Welfare (AIHW), is a statutory authority within the Commonwealth Health and Family Services portfolio. The Institute's mission is to inform community discussion and decision making through national leadership in the development and provision of authoritative and timely information and analysis on the health and welfare of Australians.

The AIHW works closely with other agencies which collect data, produce statistics and undertake research and analysis in the health, welfare and housing assistance fields.

The AIHW also provides support to the States and Territories in the health and welfare areas, primarily through the Australian Health Ministers' Advisory Council, the Standing Committee of Community Services and Income Security Administrators, and State and Territory housing authorities.

The Institute's major divisions are located in Canberra and its National Injury Surveillance Unit is located in Adelaide. The Institute also supports three external units: the AIHW National Perinatal Statistics Unit (Sydney), the AIHW Dental Statistics and Research Unit (Adelaide); and the AIHW National Reference Centre for Classification in Health (Brisbane). In addition, the AIHW jointly funds with the ABS the Aboriginal and Torres Strait Islander Health and Welfare Information Unit within the ABS National Centre for Aboriginal and Torres Strait Islander Statistics, Darwin.

National Health and Medical Research Council

The National Health and Medical Research Council (NHMRC) is a statutory authority, within the Commonwealth Department of Health and Family Services portfolio, which provides advice to the Commonwealth Government, the State and Territory Governments and the community on matters relating to individual and public health and on health ethics issues. It also advises

the Minister for Health and Family Services on funding for medical and public health research.

The NHMRC statement of strategic intent is that the NHMRC will work with others for the health of all Australians, by promoting informed debate on ethics and policy, providing knowledge based advice, fostering a high quality and internationally recognised research base, and applying research rigour to health issues.

The Council members are drawn from State and Territory health departments, professional and scientific organisations, unions, universities, business, consumer groups and the Aboriginal and Torres Strait Islander Commission. It operates via a comprehensive network of expert committees and working parties, thus drawing on a broad spectrum of expertise from the health area and the community.

The Private Health Insurance Administration Council

The Private Health Insurance Administration Council (PHIAC) is a statutory authority that was established in June 1989. The main powers and functions of the Council, which are set out in section 82G of the National Health Act, are as follows:

- to monitor the financial performance of health funds to ensure that the statutory reserve requirements are being met;
- to administer the reinsurance account arrangements;
- to collect and disseminate financial and statistical data, including tabling of an annual report to Parliament on the operations of health funds;
- to establish uniform reporting standards for funds;
- to impose levies to cover the operating costs of the Council and any unpaid claims of a collapsed fund;
- to receive applications for the review of acute care certificates and application fees, and administer the funding arrangements for the operation of the Acute Care Advisory Committees;
- to obtain from registered organisations, for the purposes of modelling, evaluation and research, information referred to in the Hospital Casemix Protocol; and
- to collect and disseminate information about private health insurance, for the purpose of

enabling people to make informed choices about private health insurance.

PHIAC disseminates statistics through an annual report and through quarterly reports that are made available to health funds, the Federal Government and State Governments and other users with an interest in health insurance. The statistics are compiled from registered health benefits organisations' quarterly returns and provide data on membership and coverage, bed days, and benefit paid.

Australian Quarantine and Inspection Service

AQIS carries significant health-related responsibilities in export inspection, quarantine administration and imported food.

Export inspection activities are derived from the *Export Control Act 1982*, which is the principal legislation for export activities, and subordinate legislation comprising regulations enabled under this Act and Ministerial Orders made under these regulations.

Inspection covers meat, fish, dairy products, processed foods and vegetables, dried fruit, fresh fruit and vegetables, grains, horticultural and plant products, live animals, and some animal products. The aims of the inspectorate are to assist the export of Australian agricultural, forestry and fishery products by providing information, services and facilities that enable exporters to comply with the animal and plant health requirements of importing countries. It also aims to provide effective inspection services for food and other products under AQIS control to ensure that they are safe and wholesome, are informatively described, meet international requirements and facilitate trade.

In 1995–96, AQIS provided inspection for over \$4b worth of export meat to over 120 destinations. Inspection services are also provided by AQIS on behalf of Governments in New South Wales, the Northern Territory and the Australian Capital Territory for meat produced for domestic consumption.

A range of non-prescribed goods is also inspected and certified on an ad hoc basis where overseas governments require this as a condition of entry of Australian goods.

AQIS quarantine activities derive from the *Quarantine Act 1908* and the *Biological Control Act 1984*. Programs are designed to address the

risk of introduction of diseases and pests while enabling the importation of cleared agricultural products. Animal and plant health requirements are negotiated with exporting countries, involving the latest technology for assurance of quarantine safety.

Quarantine activities in some States are contracted to State Departments of Agriculture on the Commonwealth's behalf, and include both monitoring and surveillance elements. In 1995–96, inspections based on risk management principles were undertaken of 10,000 ship arrivals, 52,000 first port aircraft arrivals, 7.3 million passengers and aircrew, approximately 1 million cargo containers (20 foot equivalent units) and 1.8 million airfreight consignments.

Quarantine responsibilities include the administration of animal quarantine stations at Sydney, Melbourne, Adelaide and Perth and a high security quarantine station on the Cocos (Keeling) Islands, and the supervision of a range of plant quarantine stations and private facilities for both animal and plant quarantine.

All food imported into Australia is also subject to inspection under the provisions of the *Imported Food Control Act 1992*, which came into force in June 1993. In 1995–96, 35,084 shipments were subject to AQIS clearance, of which 6,695 were automatically released due to the good compliance history of the supplier. The remaining 28,389 shipments were closely inspected and/or analysed, with the result that 1,446 failed to meet the relevant food standards and were denied access to the Australian market place. Where an overseas government's inspection system can be shown to provide safety assurances equivalent to Australia's food inspection system, food accompanied by that agency's certification is allowed entry with minimal inspection and testing on arrival.

AQIS has significant international involvement in the development of international food safety standards and related aspects of hygiene and manufacturing practice.

Australia New Zealand Food Authority

The Australia New Zealand Food Authority is a statutory authority established by the *Australia New Zealand Food Authority Act 1995*. Its primary function is to develop, vary and review standards for food available in Australia and New Zealand.

The objectives of the Authority in relation to food standards are:

- to protect public health and safety;
- to provide consumers with information;
- to promote trade and commerce; and
- to promote the international alignment of food standards.

The Authority is currently reviewing food standards to ensure consistency between the Food Standards Code and the standards-setting objectives of the Authority. The review will seek to ensure flexibility in the Code and to accommodate innovation. It also provides a mechanism for the development of joint food standards with New Zealand.

The Authority runs the Imported Food Inspection Program jointly with the Australian Quarantine and Inspection Service, and provides national co-ordination of food recalls in Australia. It also publishes the biennial Australian Market Basket Survey.

National Occupational Health and Safety Commission

The National Occupational Health and Safety Commission (Worksafe Australia) is a tripartite body comprising representatives of the peak employee and employer bodies — the Australian Council of Trade Unions and the Australian Chambers of Commerce and Industry — as well as the Commonwealth Government and the State and Territory Governments. The mission of the National Commission is to lead national efforts to provide healthy and safe working environments, and to reduce the incidence and severity of occupational injury and disease.

Worksafe Australia has primary Commonwealth responsibility for occupational health and safety statistics.

A report relating to workers' compensation cases reported in 1993–94 involving a fatality, a permanent disability or five days or more off work, based on information supplied by Commonwealth, State and Territory agencies which administer workers' compensation systems, contained the following main findings:

- Of all the cases included on the database, 75% involved males and 25% females, excluding Victoria and the Australian Capital Territory.
- The incidence rate for males for all industries was 40 cases per 1,000 wage and salary

earners; for females, 17 per 1,000 wage and salary earners; and for persons, 30 per 1,000 wage and salary earners, excluding Victoria and the Australian Capital Territory.

- The frequency rate for males for all industries was 20 cases per million hours worked; for females, 11 per million hours worked; and for persons, 17 per million hours worked, excluding Victoria and the Australian Capital Territory.
- Around 1 in 34 workers sustained a work related injury or disease in 1993–94, excluding Victoria and the Australian Capital Territory.
- The average duration was 9.4 weeks per injury or disease case, excluding Victoria and the Australian Capital Territory.
- In 1993–94 the total estimated cost of workers' compensation claims for all of Australia was \$3.7b. This direct cost alone represented 0.9% of non-farm GDP, and 1.8% of non-farm wages, salaries and supplements.

Therapeutic Goods Administration

The Therapeutic Goods Administration (TGA) within the Department of Health and Family Services is responsible for ensuring that therapeutic products available in Australia are safe, effective and of high quality. Therapeutic goods include prescription drugs, non-prescription medicines, traditional remedies and medical devices.

The TGA conducts audits of manufacturers and pre-market assessments of medicines before they are released into the marketplace, and monitors marketed products through a comprehensive post-market monitoring program.

Pre-market assessment times for new drugs continue to decrease, ensuring early availability in Australia of important new advances for the treatment of serious diseases. The TGA processed 806 prescription drug submissions during 1995–96.

The Therapeutic Goods Administration Laboratories (TGAL) undertake targeted sampling of drug and medical device products on the market. In 1995–96, 1,104 products overall were tested and 169 failed to meet the required standards. This failure rate does not reflect the general quality of available products because the sampling program is largely directed to those products where problems are either known or suspected. Failures which reflect

safety concerns result in recall of the batch. In 1995–96, there were 46 recalls of drug products and 117 recalls of medical devices. This represents a very small proportion (0.16% and 0.53% respectively) of the total numbers of these products included in the Australian Register of Therapeutic Goods.

Following the change of government in March 1996, the TGA also acquired responsibility for ensuring the assessment of potential health hazards to the community posed by chemicals and by the use and transport of radioactive material. The former Environmental Health and Safety Unit, the Australian Radiation Laboratory and the Nuclear Safety Bureau became part of the TGA administrative cluster. Additionally, the secretariat for the National Drugs and Poisons Schedule Committee has been located within the TGA to provide a single point for industry to lodge applications for drug product scheduling and registration.

In 1995–96, 203 assessments of agricultural and veterinary chemicals were completed for the National Registration Authority for Agricultural and Veterinary Chemicals, and 173 requests for assessment of industrial chemicals were completed for the National Industrial Chemicals Notification and Assessment Scheme. Policy advice has also been provided to the government on national and international chemicals regulation.

Australian Radiation Laboratory

The Australian Radiation Laboratory develops national policy relating to radiation health and:

- formulates policy by developing codes of practice and by undertaking other regulatory, compliance, surveillance and advisory responsibilities at the national level with respect to public and occupational health aspects of radiation;
- maintains national standards of radiation exposure and a working standard of absorbed dose;
- provides advice in relation to the quality and use of radio-pharmaceutical substances; and
- in support of the above activities, undertakes research and development in the fields of ionizing and non-ionizing radiations which have implications for public and occupational health.

The Australian Radiation Laboratory continues to have a high standing in international agencies

concerned with radiation safety and has been a substantial contributor to three major guidance documents finalised by the International Commission on Radiological Protection and the International Atomic Energy Agency.

Cancer registries

Cancer is a major cause of morbidity and mortality. Each year in Australia about 70,000 new cases of cancer are diagnosed and 35,000 people die from cancer. This equates to an average risk of one in three men and one in four women being directly affected by cancer in their lifetime.

Cancer is a notifiable disease in all States and Territories and is the only major disease category for which an almost complete coverage of incidence data is available. It is also the only major cause of death in Australia that is continuing to increase. If this situation is to be changed, good information on the occurrence of different types of cancer, on characteristics of patients, and on survival and mortality is essential to provide a sound basis for epidemiological studies and the initiation of new prevention and treatment programs.

The only effective method of obtaining cancer incidence data is through universal registration of cancer cases. Cancer incidence data are available from cancer registries which operate in each State and Territory. These registries are supported by a mix of State and Territory government and anti-cancer council funding.

The National Cancer Statistics Clearing House, operated jointly by the Australian Institute of Health and Welfare and the Australasian Association of Cancer Registries, compiles data produced by State and Territory registries on an ongoing basis and produces national statistics on the incidence of cancer.

Communicable Diseases Network — Australia New Zealand

The Communicable Diseases Network — Australia New Zealand was established in 1990 to enhance national capacity for communicable disease surveillance and control. The Network operates on a co-operative basis with the involvement of health authorities from the Commonwealth, States, Territories and New Zealand, and representatives from other government agencies including the Australian Defence Forces and the Department of Primary Industries and Energy, and non-government

organisations which contribute to communicable disease control in Australia. The Network co-ordinates national surveillance of communicable diseases through the National Notifiable Diseases Surveillance System, the National Mycobacterial Surveillance System, the Serious Adverse Events Following Immunisation Surveillance Scheme and the National Acute Hepatitis C Surveillance System. It also facilitates and co-ordinates communicable disease control activities where a national response is required.

Australian non-government

National Heart Foundation of Australia

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 does this 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 1995 was \$21.7m of which \$16.0m was from public donations and bequests. Since the inception of the Foundation, research has been a major function. With increasing opportunities for prevention and control of heart disease, the Foundation's education and community service activities are increasing significantly. In 1995, expenditure on research, education and community service totalled \$14.5m.

Australian Red Cross

The Australian Red Cross runs the Blood Transfusion Service in Australia, based on donations from voluntary non-remunerated donors. The service is funded by the Commonwealth Government and State Governments (approximately 98%) and Red Cross (approximately 2%). The cost of providing the service in 1994-95 was \$111.5m.

Plasma products are manufactured by CSL Limited from plasma from Red Cross blood donors, and these are distributed by Red Cross.

Blood and blood products are provided free of charge to recipients.

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Introduction	233
Commonwealth and State government responsibilities in education	233
Preschool education	234
Primary and secondary education	234
School attendance	234
School organisation and operation	234
Special programs	234
Curriculum development	235
Primary schooling	235
Secondary schooling	235
Number of schools, students and teaching staff	236
Other schooling arrangements	238
Apparent retention rates	239
Funding of schools	240
Tertiary education	240
Higher education	241
Vocational education and training	245
Education characteristics of the population	249
Participation in education	249
Education attendance and the labour force	249
Educational attainment	251
Adult education	252
Government assistance to students	252
AUSTUDY	253
ABSTUDY	253
AUSTUDY/ABSTUDY supplement	253
Assistance for isolated children	254
Administration of education at the national level	254
Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA)	254
Australian Council for Educational Research (ACER)	255
National Centre for Vocational Education Research (NCVER)	255
Australian Qualifications Framework Advisory Board (AQFAB)	255
Standards and Curriculum Council	255
Other organisations	255
Expenditure on education	255
Bibliography	259

Introduction

Education and training in Australia can be thought of as a continuous medium, which is delivered in four sectors — pre-school education; compulsory and post-compulsory schooling; vocational education and training; and higher education (the latter two of the four sectors being known collectively as the tertiary sector) — supported by an infrastructure for State and national coordination, planning and policy formulation. Pre-school education is not covered by the statistics in this chapter.

The term 'education' has traditionally been used to denote the processes of obtaining knowledge, attitudes, skills or socially valued qualities of character and behaviour. Education is regarded as a lifelong process, initiated at birth, developed in schooling and subsequent formal pathways of learning, and continued thereafter. Training is a more specific type of learning, whereby certain skills are developed to a standard of proficiency for subsequent application in the workplace. The value of training lies in its practical relevance.

Historically, the large part of education has usually been conducted in formal institutions, while training took place at the workplace (or 'on-the-job'). Over time, on-the-job training was found to be incomplete without some additional formal instruction. This led to the evolution of a separate training sector focusing primarily on the development of specific work-related skills.

While education may be regarded as 'people oriented' and training 'skill oriented', the distinction between education and training is not clear-cut. Moreover, in recent times the boundaries between the two have become less clearly delineated. Reforms and initiatives in the latter part of the twentieth century have seen education extend even further beyond formal institutions, and training beyond the workplace. Education and training are now both perceived as parts of a lifelong learning process that enables individuals to take their places in a skilled and changing labour force, to lead fulfilling personal lives and to become active members of the community.

Because of the close relationship between education, training and employment, the participation of persons in education as well as

their transition into the labour force need to be monitored, as does participation in training and subsequent outcomes. This information is needed to assess the effectiveness of policies designed to increase participation in education and improve skill levels in the labour force.

Commonwealth and State government responsibilities in education

The governments of the six Australian States and the two Territories have the major responsibility for education, including the administration and substantial funding of primary, secondary and technical and further education (TAFE). The Commonwealth Government also plays a significant role in education policy, programs and funding. Total government expenditure on education in 1994–95 was \$23b (see later section, *Expenditure on Education*), which represented 5.6% of Gross Domestic Product.

The State governments administer their own systems of primary, secondary and technical and further education through government departments and agencies responsible to State Ministers. Detailed information on the education systems of the States may be found in the respective State Year Books.

The Commonwealth Government has direct responsibility for education in Australian territories (Norfolk Island, Christmas Island and the Cocos (Keeling) Islands) under the Minister for the Environment, Sport and Territories. The Commonwealth Government also has special responsibilities for Aboriginal and Torres Strait Islander 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. The education responsibilities entail grants to schools; student assistance; overseas students; awards and exchanges; tertiary education; language policy; educational research and statistics; publications; education for Aboriginal and Torres Strait Islander people; multicultural education; Asian and women's studies; and education and the arts.

The Australian Constitution empowers the Commonwealth Government to make grants to the States and to place conditions upon such grants. The Commonwealth Government is principally responsible for the funding of higher education institutions, and provides supplementary funding for schools and for technical and further education. Apart from its significant financial role, the Commonwealth is involved in promoting national consistency and coherence in the provision of education across Australia. Further information on Commonwealth Government activities is contained later in this chapter.

Preschool education

All States and Territories have a policy of making preschool education available universally for children in the years prior to school entry. A majority of the States and Territories have made considerable progress towards this goal. Most preschools are conducted on a sessional basis (i.e., sessions of two to three hours for two to five days per week). Preschool programs generally favour the free play approach with emphasis on children's social and emotional development through creative activities. Parents often contribute by assisting at some sessions or by the purchase of play materials and educational resources. Attendance fees are not usually charged in those States where preschools are government-run, but in others fees may be payable to private or voluntary organisations.

Primary and secondary education

School attendance

School attendance is compulsory throughout Australia between the ages of 6 and 15 years (16 years in Tasmania).

Each State or Territory has its own specific requirements. Most children commence primary school at about five years of age. Primary schooling generally begins with a preparatory or kindergarten year, followed by 12 grades to complete a full secondary course of study. While the final two years of schooling generally fall outside the compulsory stage of education, in 1995 83% of students remained at school until Year 11 and 72% remained until Year 12.

School organisation and operation

Primary schooling provides a general elementary program lasting for seven or eight years until Years 6 or 7. Students enter secondary schools at Year 7 in some State systems and at Year 8 in others. Secondary education is generally comprehensive and coeducational. Most students attend schools reasonably near to their homes. Usually primary and secondary schools are separate institutions, but in some country areas there are area or central schools which provide both levels of schooling. Non-government schools follow a similar pattern, but a significant, though declining, proportion are single sex institutions. In Tasmania and the Australian Capital Territory, attendance for the final two years of government schooling is at separate secondary colleges.

Generally, schools in Australia have a considerable degree of autonomy. Most State departments have established regional administrations which are responsible for matters such as planning school buildings and deploying staff, while a central curriculum unit provides general guidelines on course planning. In general, individual schools determine teaching and learning approaches within the guidelines and offer options within resources available and the attitudes and interests of students. Some systems encourage school-based curriculum development and, in the case of Queensland and the Australian Capital Territory, school-based assessment in place of external examinations. In Victoria a combination of school-based assessment and external exams culminate in the Victorian Certificate of Education. While schools usually have a parents' association, there has been encouragement of greater community participation in general decision-making at school level in some systems through parent representation on school councils and boards.

Special programs

Specialist services and programs provided in schools include:

- educational or vocational counselling by a permanent or visiting teacher,
- English as a Second Language programs by specialist teachers, especially in schools with significant numbers of children from non-English speaking backgrounds;

- special programs designed to assist Aboriginal and Torres Strait Islander school children (including the widespread use of Aboriginal and Torres Strait Islander teachers' aides and bilingual education programs in communities where the children's first language is an Aboriginal or Torres Strait Islander language); and
- a variety of programs for gifted and talented children; and remedial assistance for children with learning difficulties.

Curriculum development

Curriculum development in Australia is the responsibility of the State and Territory governments. The Commonwealth Government plays an important role in promoting equity and social justice policies in the delivery of education, and encouraging national collaboration on school curriculum matters. Since 1988, the Commonwealth, State and Territory Ministers for Education have been working together on school curriculum issues.

As part of the agreed National Goals for Schooling, the Ministerial Council for Education, Employment, Training and Youth Affairs approved eight key learning areas: English, mathematics, science, technology, studies of society and the environment, the arts, health, and languages other than English. Between 1989 and 1993 the Commonwealth and States embarked on the development of curriculum statements and profiles in each of the key learning areas.

There has been widescale adoption of the national curriculum statements and profiles, or variations of them. Almost all States and Territories are using the statements and profiles as a basis for their curriculum development at both primary and secondary levels, but are incorporating variations which reflect local policies and priorities.

The statements provide a framework for curriculum development in each area of learning. The curriculum profiles are designed to assist in the improvement of teaching and learning in schools by working on the principle that good assessment focuses on what is valued and also provides a framework for reporting on a student's progress and achievements in each of the learning areas. They outline what students should learn in each learning area and to what level of complexity. Interwoven through them are a number of cross-curricula

perspectives as well as principles of inclusivity, ensuring that the profiles use gender inclusive language and that the knowledge, skills and understanding identified are inclusive of the knowledge, experience and interests of women and of Aboriginal and Torres Strait Islander people.

Primary schooling

In primary education, 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 and community languages, and instrumental music.

Students in Australian primary schools usually have only one teacher for all subjects, and are promoted each year on the basis of completing the previous year, rather than on achievement. 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 occasionally practised.

Secondary schooling

In secondary education, 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 involve the eight key learning areas. Optional subjects may include, for example, a foreign language, a further humanities or social science subject, commerce, art, crafts, music, home economics, a manual arts subject, agriculture, physical education or health education. Some schools offer optional courses in subjects such as consumer education, conversational foreign languages, word processing, commerce studies, driver education, 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.

Students in Australian secondary schools generally have a different teacher for each separate subject area, though, like primary schools, variations may occur where open-plan 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.

Post-compulsory schooling in Australia is undergoing considerable change, with an increasing emphasis on the incorporation of vocational programs into the senior secondary curriculum. Under the Australian Vocational Training System, students at school may obtain vocational education and training sector certificates as part of their senior study and undertake some parts of their programs in the workplace.

Examinations and assessment at each level are carried out by individual schools except Year 12 in those 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 vocational course in a 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, higher education institutions and other post-school institutions.

Students' eligibility for entry to higher education institutions is assessed during, or at the end of, the final two years of secondary schooling. Five 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.

Number of schools, students and teaching staff

Of the 9,865 schools operating in Australia in 1995, 7,366 (75%) were government schools operated by the State Directors-General of Education (or equivalent) and 2,499 (25%) were non-government schools (see table 9.1).

9.1 SCHOOLS, STUDENTS AND TEACHING STAFF — July 1995

	Government schools no.	Non-government schools				All schools no.
		Anglican no.	Catholic no.	Other no.	Total(a) no.	
Schools	7 366	115	1 696	688	2 499	9 865
Students						
Males	1 129 599	46 884	306 101	101 339	454 324	1 583 923
Females	1 078 254	42 268	301 636	103 256	447 160	1 525 414
Persons	2 207 853	89 152	607 737	204 595	901 484	3 109 337
FTE of teaching staff(b)						
Males	51 472	3 102	12 017	5 938	21 057	72 529
Females	92 315	3 993	24 361	9 203	37 557	129 872
Persons	143 787	7 095	36 378	15 141	58 614	202 401

(a) Includes special schools administered by government authorities other than the State Ministry of Education in Victoria. (b) Full-time teaching staff plus full-time equivalent of part-time teaching staff.

Source: *Schools, Australia* (4221.0).

9.2 STUDENTS, By Category of School and Sex

	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.	1995 no.
Government schools						
Males	1 123 008	1 137 101	1 145 848	1 141 627	1 133 490	1 129 599
Females	1 070 339	1 080 125	1 088 235	1 086 429	1 081 448	1 078 254
Persons	2 193 347	2 217 226	2 234 083	2 228 056	2 214 938	2 207 853
Non-government schools						
Males	425 504	431 414	435 871	439 003	445 751	454 324
Females	422 806	426 497	429 012	431 316	438 691	447 160
Persons	848 310	857 911	864 883	870 319	884 442	901 484
All schools						
Males	1 548 512	1 568 515	1 581 719	1 580 630	1 579 241	1 583 923
Females	1 493 145	1 506 622	1 517 247	1 517 745	1 520 139	1 525 414
Persons	3 041 657	3 075 137	3 098 966	3 098 375	3 099 380	3 109 337

Source: Schools, Australia (4221.0).

9.3 NUMBER OF STUDENTS, By Level of Education(a) — July 1995

Level/year of education	Government schools no.	Non-government schools				All schools		
		Anglican no.	Catholic no.	Other no.	Total no.	Males no.	Females no.	Persons no.
Primary								
Pre-year 1(b)	136 081	2 530	38 332	9 354	50 216	95 934	90 363	186 297
Year 1	195 284	3 334	49 788	12 898	66 020	134 284	127 020	261 304
Year 2	189 911	3 239	48 587	12 513	64 339	130 152	124 098	254 250
Year 3	186 833	3 539	48 569	12 685	64 793	128 932	122 694	251 626
Year 4	188 628	3 906	48 313	12 862	65 081	129 727	123 982	253 709
Year 5	188 397	4 808	48 975	13 603	67 386	130 547	125 236	255 783
Year 6	186 973	5 320	48 574	13 916	67 810	130 539	124 244	254 783
Year 7 (Qld, SA, WA, NT)	75 598	2 424	15 520	6 030	23 974	51 298	48 274	99 572
Ungraded	13 582	12	469	2 294	2 775	10 274	6 083	16 357
Total primary	1 361 287	29 112	347 127	96 155	472 394	941 687	891 994	1 833 681
Secondary								
Year 7 (NSW, Vic., Tas., ACT)	103 409	6 293	34 892	11 947	53 132	80 085	76 456	156 541
Year 8	169 111	11 004	51 490	20 770	83 264	129 145	123 230	252 375
Year 9	165 196	10 915	49 256	20 125	80 296	125 468	120 024	245 492
Year 10	154 168	11 062	47 340	19 312	77 714	117 888	113 994	231 882
Year 11	130 096	10 746	40 325	18 089	69 160	97 395	101 861	199 256
Year 12	109 196	9 989	36 593	16 579	63 161	81 751	90 606	172 357
Ungraded	15 390	31	714	1 618	2 363	10 504	7 249	17 753
Total secondary	846 566	60 040	260 610	108 440	429 090	642 236	633 420	1 275 656
Total	2 207 853	89 152	607 737	204 595	901 484	1 583 923	1 525 414	3 109 337

(a) As from 1990 students attending special schools have not been separately identified and have been allocated to either primary or secondary level of education. (b) Pre-year 1 comprises kindergarten in New South Wales and the Australian Capital Territory; preparatory in Victoria and Tasmania; reception in South Australia; and transition in the Northern Territory.

Source: Schools, Australia (4221.0).

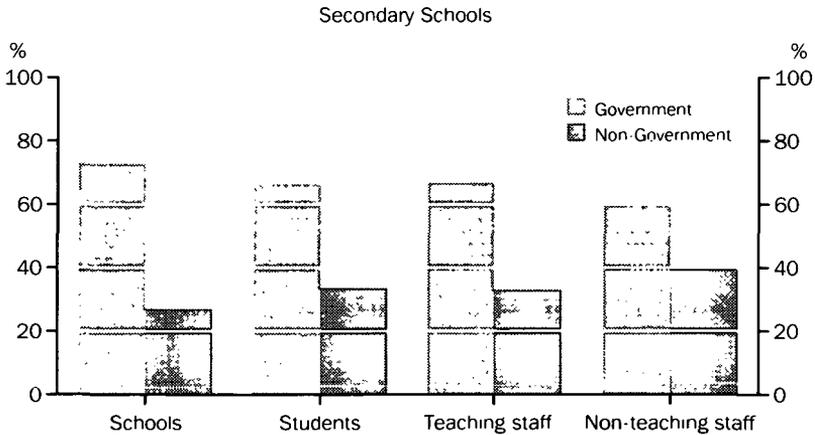
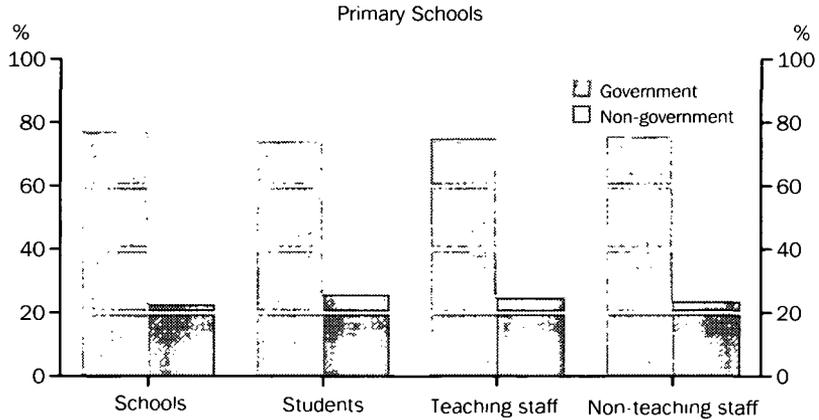
In July 1995, the number of full-time students attending primary and secondary schools totalled 3,109,337, comprising 2,207,853 (71%) in government schools and 901,484 (29%) in non-government schools.

The number of full-time students attending government schools in 1995 decreased by 7,085 (0.3%) from the 2,214,938 attending in 1994. The number of full-time students

attending non-government schools increased by 17,042 (1.9%) from the 884,442 attending in 1994 (see table 9.2). Table 9.3 shows the number of students in July 1995 by level of education.

Figure 9.4 shows the proportions of students and school staff in government and non-government schools, for primary and secondary schools.

9.4 PERCENTAGE OF STUDENTS AND SCHOOL STAFF (FTE(a))
 — July 1995(b)



(a) Full-time teaching staff plus full-time equivalent of part-time teaching staff. (b) Combined Primary/Secondary and Special schools are not included, however, the associated students and staff are included.

Source: *Schools, Australia* (4221 0)

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.

Children of some Aboriginal and Torres Strait Islander groups in remote areas of the Northern Territory, who have moved away from larger centres into small decentralised communities called outstations or homeland centres, receive schooling from Aboriginal and Torres Strait Islander teaching assistants supported by visiting teachers from established schools.

Special education is provided by State governments and non-government authorities in specialist schools, in special classes or units in regular schools or by withdrawal from regular classes for periods of intensive assistance by special staff. 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

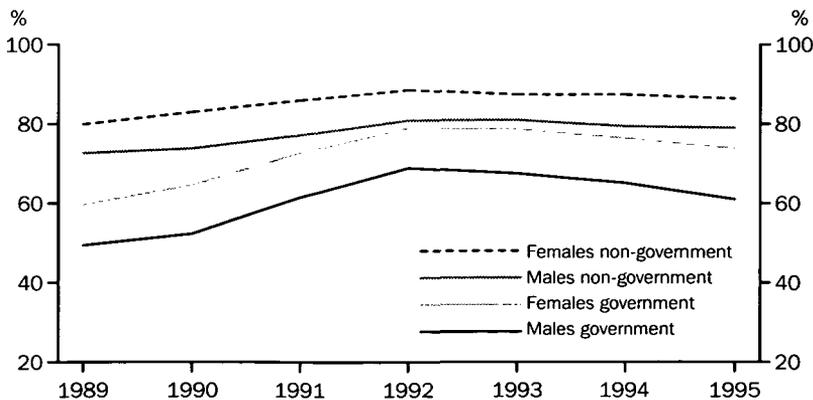
special needs. The Commonwealth government provides funds to State and non-government authorities and community groups to assist in the provision of services and upgrading of special education facilities.

Boarding facilities are available at some non-government schools, mainly in the larger towns and cities. A small number of government schools, in particular those catering for groups such as Aboriginal and Torres Strait Islander people, have residential hostels close by.

Apparent retention rates

Apparent retention rates are an important measure of performance of education systems and related government policies. The apparent retention rate is the percentage of students of a given cohort group who continued to a particular level/year of education. In graph 9.5, apparent retention rates have been calculated for students who continued to Year 12 from their respective cohort group at the commencement of their secondary schooling.

9.5 APPARENT RETENTION RATES TO YEAR 12



Source: *Schools, Australia* (4221.0).

The apparent retention rate of secondary school students to Year 12 fell from 74.6% in 1994 to 72.2% in 1995. As in previous years, the retention rate for female students (77.9%) was higher than the corresponding rate for males (66.7%). The rate varied between States and Territories, ranging from 42.7% in the Northern Territory to 91.1% in the Australian Capital

Territory. The apparent retention rates decreased between 1994 and 1995 in all States and Territories except Tasmania, where there was a rise from 58.3% to 59.7%.

Care should be exercised in the interpretation of apparent retention rates since a range of factors affecting their calculation has not been

taken into account. At the national level these include the effects of: students who repeat a year of education, migration, and other changes to the school population

Comparisons between government and non-government schools must be made with caution because of the net transfer of students from government to non-government schools, which tends to inflate the non-government school retention rates and reduce the government school rates. International comparisons are another area where structural differences must be taken into account.

Funding of schools

Major responsibility for funding government schools lies with State Governments, which provide about 90% of schools' running costs. The Commonwealth contribution represents about 10%. The Commonwealth is the major source of public funding for non-government schools, providing about 65%, while the States provide about 35%.

Non-government schools operate under conditions determined by government authorities, usually registration boards, in each State and Territory. These conditions require that minimum education standards are met and that the schools have satisfactory premises. The majority of non-government schools are Catholic, and there is a Catholic Education Commission in each State and at the national level. Most other non-government schools are under the auspices of, or run by, other religious denominations.

Primary and secondary education is free in government schools in all States and Territories. Fees may be charged, however, for the hire of text books and other school equipment, particularly in secondary schools.

Most State governments provide financial assistance to parents under specified conditions for educational expenses. Assistance includes various types of scholarships, bursaries, transport and boarding allowances, many of which are intended to assist low-income families. The Commonwealth Government also provides a number of schemes of assistance to facilitate access to education (see *Government assistance to students* later in this chapter).

Tertiary education

Tertiary education is provided in universities, TAFE institutions and other Vocational Education and Training (VET) institutions such as theological colleges, private business and commercial colleges and secretarial colleges. Some VET training is also provided by libraries, community centres or churches. In addition, there has been a concerted effort nationally to increase the range and variety of VET training which can be undertaken in the final two, post-compulsory years of schooling, and a number of higher education institutions provide VET training.

TAFE institutions and their regional campuses tend to be smaller than higher education institutions, their average size being affected by the number of community centres and similar organisations offering TAFE courses. In 1994 there were 21 government training organisations that administered and/or delivered VET courses, covering most of the 1,045 training provider locations delivering VET training in that year.

Primary responsibility for administration of the TAFE system lies with the State and Territory Governments. Funding is provided primarily by the State and Territory Governments, with additional funds being provided by the Commonwealth Government.

There are 36 public institutions of higher education in the Unified National System (UNS) and one private university (Bond University in Queensland) recognised by the Australian Vice-Chancellors' Committee (AVCC). Institutions within the UNS receive Commonwealth funding according to an academic profile agreed between them and the Government.

In addition there are a number of smaller public institutions outside the UNS which receive Commonwealth funding on a contract basis, and one other private institution (Notre Dame in Western Australia), all of which are teaching at university level.

Apart from the Australian National University, the University of Canberra and the Australian Maritime College (not a member of the UNS), which are established under Commonwealth

legislation, Australian universities operate under State legislation. They are autonomous bodies responsible for their own governance and make their own decisions on, for example, matters of allocation of their funding, staffing and academic courses.

Higher education

Students commencing higher education courses will have completed a full secondary education, or will have demonstrated that they have a high probability of successfully completing a course. There is keen demand for higher education places at most institutions.

Higher education institutions offer a great variety of courses embracing such areas as agriculture, architecture, arts, business, dentistry, economics, education, engineering, health, law, medicine, music, science and veterinary science. Fields of study with the largest numbers of award course students in 1995 were Arts, humanities and social sciences (24%); Business administration, economics (22%); and Science (15%).

Higher education institutions are funded by the Commonwealth under the *Higher Education Funding Act 1988*. In 1994, the operating revenue of UNS institutions amounted to some \$6.9b, 60% of which came from Commonwealth Government Grants. Commonwealth Government funding is also provided to higher education institutions through various research programs. In 1994, \$301m, or 4% of total revenue, was allocated in this way, almost all on the advice of the Australian Research Council (ARC).

In addition to government funding, institutions receive contributions from students, who are required to contribute to the cost of their education through the Higher Education Contribution Scheme (HECS) and from other fee paying students. In 1994, 13% of operating revenue was raised from HECS. Other higher education income sources include investments, State Government grants, donations and bequests.

The basic undergraduate course at most institutions is a bachelor degree course of three or four years' duration. At some institutions, courses may also be offered at the diploma or advanced diploma level. All institutions in the Unified National System also offer postgraduate level study. One to two years of full-time postgraduate study is required for a master's degree and three to five years for a doctoral degree. Postgraduate diplomas and certificates are offered in some disciplines. In 1995, 77% of higher education students were enrolled in bachelor courses, with a further 21% enrolled in higher degree and other postgraduate courses.

All institutions provide full-time and part-time courses. In addition, some institutions offer courses which associate full-time study with periods of employment. Distance education courses are also offered. Students can also enrol in higher education courses through the Open Learning Agency of Australia Pty Ltd. In 1995 there were 7,735 students enrolled in OLAA programs.

In 1995, 59% of students were enrolled in full-time study, 29% in part-time study and 12% in external studies.

The system of tuition in higher education institutions is normally by means of lectures, tutorials, seminars and supervised practical work. Normally, assessment of a student's progress is made by examination and/or completion of prescribed coursework or of individual research.

Many institutions have halls of residence on the campus which accommodate some of the students currently enrolled, usually those from remote or country areas. Student organisations on campus provide a wide range of sporting and social facilities for students.

Tables 9.6 to 9.11 show a range of statistics about higher education students and courses.

9.6 HIGHER EDUCATION STUDENTS, Level of Course and Field of Study — 1995

Level of course	Agriculture, animal husbandry no.	Architecture, building no.	Arts, humanities and social sciences no.	Business administration, economics no.	Education no.
Higher doctorate	—	—	2	—	131
Ph.D.	806	280	5 111	1 547	1 853
Master's by research	386	320	3 684	822	1 160
Master's by coursework	215	763	7 295	13 384	7 682
Postgraduate qualifying/preliminary	24	47	231	262	409
Graduate (post) diploma — new area	350	411	4 889	6 606	7 876
Graduate (post) diploma — extension area	87	354	1 686	2 439	3 840
Graduate certificate	75	179	621	2 501	1 372
Bachelor's graduate entry	—	341	836	73	3 895
Bachelor's honours	114	80	4 118	827	249
Bachelor's pass	5 845	10 597	105 499	99 103	39 634
Diploma	1 371	—	396	139	1 180
Associate diploma	2 482	178	2 529	1 120	765
Other award course	—	—	30	310	5
Enabling courses	95	—	2 440	44	584
Non-award courses	—	—	—	—	—
Total courses	11 850	13 550	139 367	129 177	70 635

Level of course	Engineering and surveying no.	Health no.	Law, legal studies no.	Science no.	Veterinary sciences no.	Total no.
Higher doctorate	2	88	6	13	—	242
Ph.D.	2 357	2 533	246	6 091	213	21 037
Master's by research	1 443	1 116	330	2 096	78	11 435
Master's by coursework	2 313	4 789	1 719	3 085	60	41 305
Postgraduate qualifying/preliminary	69	331	101	293	2	1 769
Graduate (post) diploma — new area	777	3 201	687	3 050	5	27 852
Graduate (post) diploma — extension area	677	3 153	804	1 082	5	14 127
Graduate certificate	241	646	310	412	1	6 358
Bachelor's graduate entry	3	359	613	—	—	6 120
Bachelor's honours	848	604	202	3 457	9	10 508
Bachelor's pass	38 236	54 309	17 276	66 418	1 301	438 218
Diploma	33	116	—	266	—	3 501
Associate diploma	1 133	698	654	1 493	—	11 052
Other award course	9	103	542	197	—	1 196
Enabling courses	28	91	—	219	—	3 501
Non-award courses	—	—	—	—	—	—
Total courses	48 169	72 137	23 490	88 172	1 674	598 221

Source: Department of Employment, Education, Training and Youth Affairs 'Selected Higher Education Student Statistics, 1995'.

9.7 HIGHER EDUCATION COURSES COMPLETED, Level of Course and Field of Study — 1994

Level of course	Agriculture, animal husbandry no.	Architecture, building no.	Arts, humanities and social sciences no.	Business administration, economics no.	Education no.
Higher doctorate	—	—	1	—	2
Ph.D.	111	28	443	72	114
Master's by research	75	38	452	120	170
Master's by coursework	98	295	1 859	3 703	2 114
Postgraduate qualifying/preliminary	—	19	33	66	35
Graduate (post) diploma — new area	121	114	2 037	2 407	4 987
Graduate (post) diploma — extension area	42	152	723	825	1 752
Graduate certificate	9	24	239	918	1 055
Bachelor's postgraduate	—	165	218	8	1 649
Bachelor's honours	91	83	2 718	639	108
Bachelor's pass	978	1 775	19 676	19 534	10 992
Diploma	284	—	195	4	813
Associate diploma	539	22	662	378	273
Other award course	—	—	6	18	3
Total persons	2 348	2 715	29 262	28 692	24 067

Level of course	Engineering and surveying no.	Health no.	Law, legal studies no.	Science no.	Veterinary sciences no.	Total no.
Higher doctorate	2	30	—	10	2	47
Ph.D.	288	277	19	811	40	2 203
Master's by research	261	117	45	392	11	1 681
Master's by coursework	627	958	400	755	13	10 822
Postgraduate qualifying/preliminary	9	56	65	63	—	346
Graduate (post) diploma — new area	291	1 180	289	1 129	3	12 558
Graduate (post) diploma — extension area	196	1 169	909	479	4	6 251
Graduate certificate	78	298	198	205	—	3 024
Bachelor's postgraduate	—	122	57	—	—	2 219
Bachelor's honours	432	353	227	2 296	77	7 024
Bachelor's pass	4 986	15 034	2 861	11 852	257	87 945
Diploma	—	237	—	80	—	1 613
Associate diploma	342	219	42	392	—	2 869
Other award course	8	18	51	248	—	352
Total persons	7 520	20 068	5 163	18 712	407	138 954

Source: Department of Employment, Education, Training and Youth Affairs 'Selected Higher Education Statistics, 1994'.

9.8 HIGHER EDUCATION STUDENTS(a), Level of Course and Sex

	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.	1995 no.
MALES						
Higher doctorate	155	140	168	176	157	144
Ph.D.	6 065	7 012	8 500	9 979	11 448	12 674
Master's by research	4 222	4 781	5 998	6 784	6 756	6 157
Master's by coursework	11 532	14 096	16 322	18 527	19 970	21 574
Postgraduate qualifying	1 998	1 694	1 561	1 440	800	774
Graduate (post) diploma	15 527	17 710	18 157	17 841	17 749	17 132
Graduate certificate	219	664	1 088	1 614	2 413	3 249
Bachelor's postgraduate	1 220	1 227	1 185	1 151	1 380	1 638
Bachelor's honours	3 044	3 807	4 481	4 941	4 980	4 939
Bachelor's pass	163 365	177 803	185 696	190 438	193 159	197 786
Diploma	8 045	7 329	3 745	2 128	1 908	1 822
Associate diploma	11 713	10 484	9 873	8 732	6 864	6 130
Other	2 315	2 929	3 779	4 235	4 395	4 801
Total(a)	229 420	249 676	260 553	267 986	271 979	278 820
FEMALES						
Higher doctorate	50	37	104	112	112	98
Ph.D.	3 233	3 948	5 123	6 112	7 224	8 363
Master's by research	2 810	3 362	4 393	5 182	5 317	5 278
Master's by coursework	8 250	10 889	12 953	10 507	17 228	19 731
Postgraduate qualifying	2 524	2 305	2 249	2 014	853	995
Graduate (post) diploma	18 304	21 329	21 702	22 601	24 314	24 847
Graduate certificate	221	737	1 089	1 707	2 431	3 109
Bachelor's postgraduate	2 432	2 972	2 863	3 346	3 885	4 482
Bachelor's honours	3 193	3 949	4 794	5 433	5 804	5 569
Bachelor's pass	170 996	195 031	218 350	229 392	233 702	240 432
Diploma	32 140	29 173	13 696	5 616	2 224	1 679
Associate diploma	8 729	7 976	7 522	6 860	5 419	4 922
Other	2 773	3 154	3 974	4 199	4 904	5 852
Total(a)	255 655	284 862	298 812	307 631	313 417	325 357
PERSONS						
Higher doctorate	205	177	272	288	269	242
Ph.D.	9 298	10 960	13 623	16 091	18 672	21 037
Master's by research	7 032	8 143	10 391	11 966	12 073	11 435
Master's by coursework	19 782	24 985	29 275	33 584	37 198	41 305
Postgraduate qualifying	4 522	3 999	3 810	3 454	1 653	1 769
Graduate (post) diploma	33 831	39 039	39 859	40 442	42 063	41 979
Graduate certificate	440	1 401	2 177	3 321	4 844	6 358
Bachelor's postgraduate	3 652	4 199	4 048	4 497	5 265	6 120
Bachelor's honours	6 237	7 756	9 275	10 374	10 784	10 508
Bachelor's pass	334 361	372 834	404 046	419 830	426 861	438 218
Diploma	40 185	36 502	17 441	7 744	4 132	3 501
Associate diploma	20 442	18 460	17 395	15 592	12 283	11 052
Other	5 088	6 083	7 753	8 434	9 299	10 653
Total(a)	485 075	534 538	559 365	575 617	585 396	604 177

(a) Includes State-funded basic nursing students who would previously have been trained in hospitals.

Source: Department of Employment, Education, Training and Youth Affairs 'Selected Higher Education Student Statistics, 1995'.

The proportion of higher education students who are female has risen slightly from 52% in 1989 to 54% in 1995, as the following table shows. This table also illustrates that higher

education students are predominantly in the younger age groups (60% were 24 or under in 1995).

9.9 HIGHER EDUCATION STUDENTS, Age and Sex

	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.	1995 no.
19 and under						
Males	71 254	74 820	71 186	68 660	69 757	70 683
Females	90 589	96 617	93 427	90 794	91 958	93 997
Persons	161 843	171 437	164 613	159 454	161 715	164 680
20–24						
Males	71 902	80 304	87 542	92 101	92 415	94 182
Females	69 273	79 967	89 877	97 397	98 810	101 455
Persons	141 175	160 271	177 419	189 498	191 225	195 637
25–29						
Males	30 153	32 334	34 152	35 397	36 239	37 661
Females	27 447	30 693	32 557	33 671	35 051	37 858
Persons	57 600	63 027	66 709	69 068	71 290	75 519
30 and over						
Males	56 111	62 218	67 673	71 828	73 568	76 294
Females	68 346	77 585	82 951	85 769	87 598	92 047
Persons	124 457	139 803	150 624	157 597	161 166	168 341
Total						
Males	229 420	249 676	260 553	267 986	271 979	278 820
Females	255 655	284 862	298 812	307 631	313 417	325 357
Persons	485 075	534 538	559 365	575 617	585 396	604 177

Source: Department of Employment, Education, Training and Youth Affairs 'Selected Higher Education Student Statistics, 1995'.

9.10 HIGHER EDUCATION STUDENTS, Type of Enrolment and Sex

	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.	1995 no.
Internal						
Full-time						
Males	140 247	153 210	158 175	160 357	161 374	165 288
Females	159 264	175 197	181 029	183 222	183 615	189 996
Persons	299 511	328 407	339 204	343 579	344 989	355 284
Part-time						
Males	65 279	71 652	75 867	79 548	80 212	80 767
Females	67 573	77 557	83 449	88 534	91 213	92 928
Persons	132 852	149 209	159 316	168 082	171 425	173 695
External						
Males	23 894	24 814	26 511	28 081	30 393	32 765
Females	28 818	32 108	34 334	35 875	38 589	42 433
Persons	52 712	56 922	60 845	63 956	68 982	75 198
Total						
Males	229 420	249 676	260 553	267 986	271 979	278 820
Females	255 655	284 862	298 812	307 631	313 417	325 357
Persons	485 075	534 538	559 365	575 617	585 396	604 177

Source: Department of Employment, Education, Training and Youth Affairs 'Selected Higher Education Statistics, 1995'.

Vocational education and training

Most vocational education and training in Australia is provided in government-administered colleges, generally referred to as Colleges of Technical and Further Education (TAFEs) or, to a lesser extent, Institutes of Technology. Vocational education

and training is also provided in some higher education institutions, schools, agricultural colleges, and by adult and community education authorities and private providers of education, such as business colleges.

9.11 HIGHER EDUCATION COURSE COMPLETIONS, Level of Course and Sex

	1989 no.	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.
HIGHER DEGREE						
Research						
Males	1 458	1 465	1 706	1 775	2 040	2 484
Females	651	723	852	937	1 159	1 447
Persons	2 109	2 188	2 558	2 712	3 199	3 931
Coursework						
Males	1 969	2 499	3 271	4 278	5 176	6 072
Females	1 207	1 538	2 190	3 007	3 866	4 750
Persons	3 176	4 037	5 461	7 285	9 042	10 822
OTHER DEGREE						
Postgraduate degree						
Males	6 648	6 517	7 854	8 547	9 148	9 209
Females	9 380	9 289	11 272	12 023	13 392	12 970
Persons	16 028	15 806	19 126	20 570	22 540	22 179
Bachelor degree						
Males	25 554	27 029	30 015	33 876	37 158	39 282
Females	28 539	31 153	37 355	45 971	52 988	57 906
Persons	54 093	58 182	67 370	79 847	90 146	97 188
OTHER NON-DEGREE						
Males	4 711	4 114	3 809	3 277	3 258	2 413
Females	10 365	10 072	9 237	6 892	4 675	2 421
Persons	15 076	14 186	13 046	10 169	7 933	4 834
TOTAL						
Males	40 340	41 624	46 655	51 753	56 780	59 460
Females	50 142	52 775	60 906	68 830	76 080	79 494
Persons	90 482	94 399	107 561	120 583	132 860	138 954

Source: Department of Employment, Education, Training and Youth Affairs 'Selected Higher Education Statistics, 1995'.

The TAFE institutions offer a wide range of vocational and non-vocational training programs, ranging from recreation and leisure, through basic employment and educational preparation to trades, para-professional and professional levels. Training programs are also classified across 12 fields of study on the basis of major discipline or subject matter orientation, which are broadly consistent with the fields of study covered by higher education institutions.

Primary responsibility for administration of the TAFE system lies with the State Governments. In 1995, recurrent funding of the TAFE system was about \$3.400m, of which the States provided 59% and the Commonwealth 23%, the remaining 18% coming from fees and other sources. Capital funding was \$337m, of which the Commonwealth provided 68% and the States 33%.

All States and Territories charge most students some form of administration fee for TAFE courses, which varies according to the type of course and its duration. Nationally, in 1995 around 4.3% of recurrent and operating revenue

for TAFE was provided by student fees and charges.

The Commonwealth Government and the State Governments are strongly committed to provision of quality vocational education and training in Australia, and agreed in 1992 to establish a national vocational education and training system. Under this new system, a Ministerial Council, chaired by the Commonwealth Minister, determines national policy and priorities, strategic directions, funding arrangements and planning processes for vocational education and training, on the advice of the Australian National Training Authority (ANTA), which commenced operation on 1 January 1994.

Under the new national system, State training agencies manage the delivery of vocational education and training in a manner consistent with the national strategic plan. These agencies are accountable to their State Ministers for operational matters, and to the Ministerial Council on matters of national policy.

As part of the agreement to establish ANTA, the Commonwealth is providing an additional \$1,550m growth funding for vocational education and training over the four years from 1993 to 1997, while the States are committed to maintaining their effort over the same period.

Table 9.12 shows the duty hours spent on teaching and non-teaching activities by teaching staff in VET institutions in 1995.

9.12 TECHNICAL AND FURTHER EDUCATION TEACHING STAFF, Duty Hours — 1995

	Unit	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Full-time staff										
Teaching hours	'000	3 252.6	2 979.2	1 937.2	846.5	1 536.4	296.8	144.5	174.4	11 167.5
Non-teaching hours	'000	3 969.2	3 555.9	1 959.1	1 385.7	1 043.8	435.3	205.3	358.6	12 912.9
Total duty hours	'000	7 221.8	6 535.1	3 896.4	2 232.1	2 580.2	732.1	349.8	533.0	24 080.5
Number of staff	no.	6 193	4 637	3 249	1 889	2 089	457	273	423	19 210
Part-time staff										
Teaching hours	'000	3 397.2	2 583.5	638.4	561.9	577.2	173.7	43.7	175.9	8 151.4
Non-teaching hours	'000	259.1	301.4	34.3	8.5	10.8	54.4	0.8	—	669.3
Total duty hours	'000	3 656.3	2 884.9	672.7	570.4	588.0	228.1	44.5	175.9	8 820.7
All teaching staff										
Teaching hours	'000	6 649.8	5 562.6	2 575.6	1 408.3	2 113.5	470.5	188.2	350.2	19 318.9
Non-teaching hours	'000	4 228.3	3 857.3	1 993.4	1 394.2	1 054.6	489.7	206.1	358.6	13 582.3
Total duty hours	'000	10 878.1	9 420.0	4 569.1	2 802.5	3 168.1	960.2	394.3	708.8	32 901.2

Source: National Centre for Vocational Educational Research 'Selected Vocational Education and Training Statistics, 1995'.

9.13 VOCATIONAL EDUCATION AND TRAINING CLIENTS, Streams 2100–4500 — 1995

Age group	Males no.	Females no.	Persons no.
Under 16	9 941	8 465	18 421
16	22 932	18 202	41 142
17	31 453	22 303	53 766
18	43 458	31 416	74 888
19	42 720	28 682	71 411
20–24	130 697	99 151	229 952
25–29	78 827	66 581	145 529
30–39	135 509	128 239	264 033
40–49	83 519	95 520	179 332
50–59	33 981	34 627	68 734
60–64	5 668	6 157	11 864
>64	5 700	7 183	12 920
Not stated	35 367	41 383	100 756
Total	659 772	587 909	(a)1 272 748

(a) Total persons exceeds the sum of the sexes because sex was not stated for 25 067 students.

Source: National Centre for Vocational Education Research 'Selected Vocational Educational Education and Training Statistics, 1995'.

In 1994, a number of changes were made to the collection of VET statistics, to embrace the Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS). AVETMISS was designed to apply to all vocational education and training programs (other than those which are higher education or school programs) delivered by any organisation. These changes included the introduction of the term 'client' to replace 'student'. A client is any individual participating in a specific enrolment or training contract with a specific organisation. Table 9.13 shows the number of VET clients, the majority of whom were enrolled in TAFE institutions, by age group and sex, in 1995.

Clients may be enrolled in more than one activity. Table 9.14 shows the number of enrolments in each field of study in 1995, by stream.

9.14 VOCATIONAL EDUCATION AND TRAINING CLIENTS, Stream and Field of Study — 1995

Stream	Land and marine resources, animal husbandry no.	Architecture, building no.	Art, humanities and social sciences no.	Business administration, economics no.	Education no.	Engineering, surveying no.	
Recreation, leisure	13 389	20 100	230 176	37 134	3 474	16 624	
Basic employment skills	25 205	1 979	42 163	15 578	5 208	5 870	
Education preparation	191	187	12 735	4 572	7 039	595	
Operatives — initial	20 207	15 724	14 395	95 272	5 738	26 244	
Recognised trades							
Part exempt	869	6 456	1 292	68	—	16 663	
Complete	7 488	31 914	516	295	—	65 794	
Other skills							
Part exempt	6 472	774	5 528	28 194	592	6 468	
Complete	14 460	1 738	13 532	55 765	1 069	23 527	
Trade technician/supervisory	5 293	9 087	6 834	43 553	949	24 009	
Para-professional							
Technician	83	2 613	1 180	16 240	—	2 598	
Higher technician	2 926	9 401	16 366	79 055	5 244	22 969	
Professional	77	176	2 467	3 832	182	318	
Operatives — post initial	1 906	2 486	1 570	8 912	680	5 932	
Trades/other skills — post initial	7 475	10 089	2 409	18 792	1 690	17 387	
Trade technician/supervisory — post initial	1 903	82	174	1 002	773	6 574	
Para-professional							
Technician — post initial	—	24	90	3 145	564	404	
Higher technician — post initial	—	134	128	681	1 030	2 062	
Total net(a) excluding Recreation, leisure	94 555	92 864	121 379	374 956	30 758	227 414	
Total net(a) all streams	107 944	112 964	351 555	412 090	34 232	244 038	
Stream	Health, community services no.	Law, legal studies no.	Science no.	Veterinary science, animal care no.	Services, hospitality, transport -ation no.	TAFE multi-field education no.	Total net(a) no.
Recreation, leisure	102 868	959	14 086	291	35 934	76 697	230 835
Basic employment skills	8 839	150	5 127	100	4 489	176 316	195 021
Education preparation	935	23	1 671	11	1 607	80 593	84 840
Operatives — initial	30 465	810	57 761	558	41 604	47 197	178 395
Recognised trades							
Part exempt	42	—	—	—	5 231	5 616	10 889
Complete	371	33	36	—	20 740	12	21 192
Other skills							
Part exempt	9 506	48	633	97	8 994	3 915	23 193
Complete	9 852	7 434	4 221	1 014	17 336	1 498	41 355
Trade technician/supervisory	10 253	219	8 397	145	14 523	711	34 248
Para-professional							
Technician	3 689	314	3 025	23	581	684	8 316
Higher technician	13 225	4 030	7 754	281	8 089	137	33 516
Professional	951	—	420	—	1 488	—	2 859
Operatives — post initial	6 386	48	2 445	8	3 803	8 473	21 163
Trades/other skills — post initial	5 394	89	2 581	—	17 685	1 000	26 749
Trade technician/supervisory — post initial	701	6	1 021	—	1 687	85	3 500
Para-professional							
Technician — post initial	12	—	93	—	193	511	809
Higher technician — post initial	243	—	79	42	266	291	921
Total net(a) excluding Recreation, leisure	100 864	13 204	95 264	2 279	148 316	327 039	686 966
Total net(a) all streams	203 732	14 163	109 350	2 570	184 250	403 736	917 801

(a) Net totals are less than the sums of the individual items because some students enrol in more than one field of study in the same study stream, but are only counted once in the total.

Source: National Centre for Vocational Education Research 'Selected Vocational Education and Training Statistics, 1995'.

Education characteristics of the population

Participation in education

A large proportion of persons in the age group 15–24 participate in education well beyond the compulsory school age of 15 (16 in Tasmania). Table 9.15 shows that, in September 1995, 67%

of 17 year olds were still at school, while a further 10% had moved on to tertiary education. Overall, the education participation rate of 15–24 year olds in September 1995 was 50%.

9.15 EDUCATION PARTICIPATION, Rates of Persons Aged 15–24 — September 1995

Type of institution	Age (years)										Average %
	15 %	16 %	17 %	18 %	19 %	20 %	21 %	22 %	23 %	24 %	
Attending											
School	94.5	83.2	66.9	22.0	3.4	*1.7	*0.8	*0.2	*0.3	*0.1	25.5
Tertiary											
Higher Education	—	*0.1	1.7	16.9	26.7	25.8	21.9	18.3	12.3	10.4	13.6
TAFE	*0.2	3.8	8.4	15.4	17.4	14.3	8.8	5.7	6.4	5.4	8.5
Total tertiary(a)	*0.6	4.4	11.4	35.5	46.6	42.1	32.4	26.7	21.1	18.5	24.1
Not attending	5.0	12.5	21.7	42.5	50.0	56.2	66.8	73.0	78.6	81.4	50.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Includes persons who were attending 'Other educational institutions'.

Source: *Participation in Education, Australia* (6272.0.40.001).

Education attendance and the labour force

An ABS survey in May 1995 found that an estimated 2,234,600 persons aged 15–64 years had attended an educational institution to study for a recognised qualification in the previous year. At the time of the survey only 70% (1,562,500) were still attending. Among this group were 68,800 persons who had changed from full-time to part-time study, and 41,900 of these were employed full-time.

Of the 672,100 persons who had ceased education since the previous year, 527,100 were employed, 92,800 were unemployed and the remaining 52,200 were not in the labour force.

Many persons were involved in both study and work. The 1,562,500 persons continuing at an educational institution in May 1995 included

814,500 (52%) employed (374,300 of these in full-time employment) and 104,700 who were looking for work. There were also 22,500 persons who reported combining full-time study and full-time employment.

Graph 9.17 gives an indication of the proportions of full and part-time students in each sector in May 1995. The graph shows that part-time education in schools is confined to less than 1% of school students, whereas around 69% of TAFE students were studying part-time. In comparison, 41% of higher education students were studying part-time in May 1995.

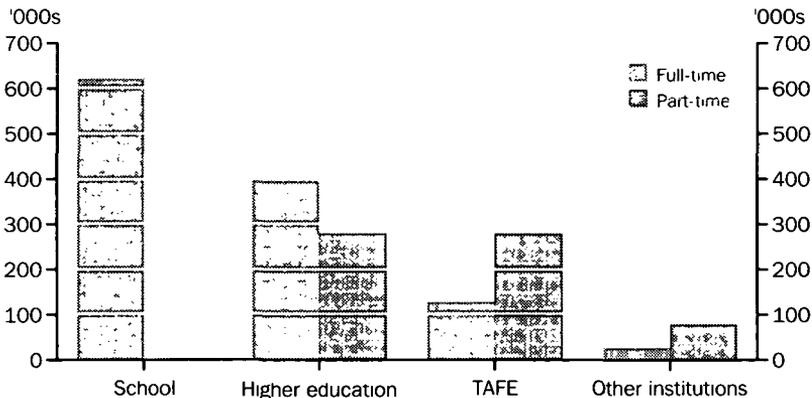
9.16 PERSONS AGED 15-64 WHO ATTENDED AN EDUCATIONAL INSTITUTION(a) IN 1994, Labour Force Status — May 1995

Type of attendance	Employed			Unem- ployed '000	Labour force		Total '000	Unem- ployment rate %
	Full-time '000	Part-time '000	Total '000		In '000	Not in '000		
ATTENDED FULL-TIME IN 1994								
Attending in 1995								
Full-time	19.5	374.2	393.7	82.3	476.0	607.7	1 083.7	17.3
Part-time	41.9	15.1	57.0	7.9	64.8	*3.9	68.8	12.1
Total	61.4	389.4	450.7	90.2	540.9	611.6	1 152.5	16.7
Not attending in 1995	174.0	59.6	233.6	70.4	303.9	25.7	329.6	23.1
Total	235.3	448.9	684.3	160.5	844.8	637.3	1 482.0	19.0
ATTENDED PART-TIME IN 1994								
Attending in 1995								
Full-time	*3.1	*5.9	8.9	*2.3	11.2	8.6	19.8	*20.5
Part-time	309.9	45.0	354.8	12.3	367.1	23.2	390.3	3.3
Total	312.9	50.8	363.8	14.6	378.4	31.7	410.1	3.9
Not attending in 1995	255.3	38.2	293.5	22.5	316.0	26.6	342.5	7.1
Total	568.2	89.1	657.3	37.1	694.3	58.3	752.6	5.3
TOTAL ATTENDED IN 1994								
Attending in 1995								
Full-time	22.5	380.1	402.7	84.6	487.3	616.2	1 103.5	17.4
Part-time	351.8	60.1	411.8	20.1	432.0	27.1	459.0	4.7
Total	374.3	440.2	814.5	104.7	919.2	643.3	1 562.5	11.4
Not attending in 1995	429.2	97.8	527.1	92.8	619.9	52.2	672.1	15.0
Total	803.5	538.0	1 341.6	197.6	1 539.1	695.5	2 234.6	12.8

(a) To study for a recognised qualification.

Source: Transition from Education to Work, Australia (6227.0.40.001).

9.17 PERSONS AGED 15-64 ATTENDING AN EDUCATIONAL INSTITUTION — May 1995



Source: Transition from Education to Work, Australia (6272.0.40.001).

Educational attainment

In May 1995, 4,864,600 (41%) persons aged 15–64 had completed a recognised post-school qualification. A further 6,382,900 (54%) of the population had no recognised post-school qualifications. Of these, 811,300 (7%) were attending a tertiary institution in May 1995. Those persons still at school numbered 626,600 (5%).

Of those with post-school qualifications, 1,599,900 held a skilled vocational qualification (such as a trade qualification), the most commonly reported qualification. Bachelor degrees were reported by 998,700 persons, associate diplomas by 744,700 and 340,300 reported undergraduate diplomas. The smallest category was those with a higher degree, reported by 180,700 persons. See table 9.18 for details.

9.18 PERSONS AGED 15–64, Age and Educational Attainment — May 1995

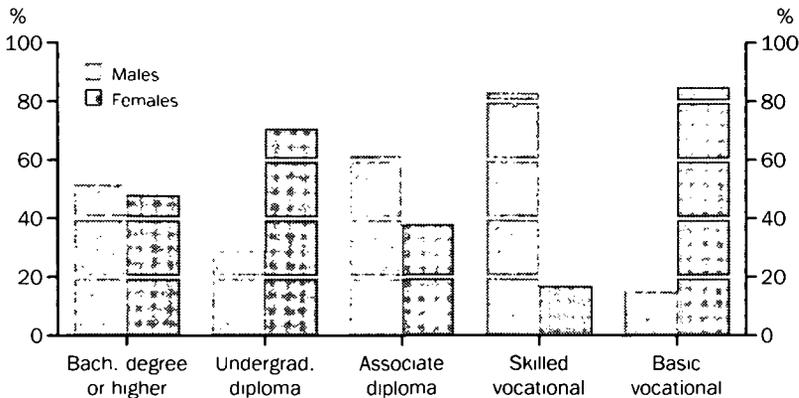
Educational attainment	Age group (years)					Total '000
	15–24 '000	25–34 '000	35–44 '000	45–54 '000	55–64 '000	
With post-school qualifications						
Higher degree	*1.1	34.5	64.0	53.9	27.1	180.7
Postgraduate diploma	7.9	49.5	93.1	58.3	22.8	231.6
Bachelor degree	135.9	316.4	290.2	184.7	71.5	998.7
Undergraduate diploma	21.0	74.8	112.8	87.1	44.6	340.3
Associate diploma	100.0	212.1	198.2	145.3	89.1	744.7
Skilled vocational	196.9	454.3	384.9	341.2	222.6	1 599.9
Basic vocational	135.3	211.1	205.5	136.1	76.3	764.3
Total	598.1	1 355.0	1 350.7	1 007.1	553.9	4 864.6
Without post-school qualifications(a)						
Completed highest level of school						
Attending tertiary in May 1995	483.4	70.0	29.3	12.4	*1.8	596.8
Not attending tertiary in May 1995	393.8	390.4	304.5	251.4	159.4	1 499.5
Total	877.2	460.4	333.8	263.8	161.1	2 096.2
Did not complete highest level of school						
Attending tertiary in May 1995	98.6	50.3	44.8	16.9	*3.9	214.5
Not attending tertiary in May 1995	487.8	920.4	979.4	913.0	761.8	4 062.4
Total	586.4	970.7	1 024.2	929.9	765.8	4 276.9
Total	1 464.0	1 434.8	1 358.3	1 196.5	929.3	6 382.9
Still at school	621.9	*2.2	*1.7	*0.5	*0.3	626.6
Total	2 683.9	2 791.9	2 710.7	2 204.1	1 483.4	11 874.1

(a) Includes persons who never attended school.

Source: *Transition from Education to Work, Australia* (6227.0.40.001).

Graph 9.19 shows the distribution between males and females for each category of post-school qualifications, in May 1995.

9.19 DISTRIBUTION OF POST-SCHOOL QUALIFICATIONS — May 1995



Source: *Transition from Education to Work, Australia (6227.0.40.001)*.

Adult education

Adult and community education (ACE) is the most decentralised of the education sectors. ACE refers to the provision of those general adult education programs and activities which fall outside, but complement, the formal programs and qualification pathways provided by the school, TAFE and higher education sectors. ACE focuses on the provision of learning opportunities at a community level, rather than work-based training.

The range of course providers is widespread and includes: commercial training providers, private industry, church and cultural groups, professional and semi-professional bodies, the YMCA and similar institutions, higher educational institutions (including tertiary bodies), TAFE Institutions, primary and secondary schools, workers' educational associations, personal tuition, State and Commonwealth departments, public libraries, museums, and galleries.

Courses range from general interest, recreational and leisure activities, personal development, social awareness and craft through to vocational, remedial and basic education. Community-based adult education is open to all, and non-formal characteristics demonstrate the capacity of the community to develop alternatives to institutionalised education.

The higher education sector plays an integral part in adult education through programs of

continuing education in professional development, preparatory skills and general education. One such program is the University of the Third Age (U3A), which provides enrichment courses for people over the age of 50. Some of these courses are offered by institutions in response to industry and government initiatives and are at a level consistent with the general teaching of the institutions. The TAFE sector is the largest provider of adult recreational and leisure courses.

Government assistance to students

In 1995 the Commonwealth Government provided assistance to students through the ABSTUDY, AUSTUDY and Assistance for Isolated Children (AIC) schemes shown in table 9.20. Neither the number of students nor the amount of assistance provided may be totalled, as some of those receiving the AUSTUDY/ABSTUDY supplement (those who did not fully trade in their grant) would be counted twice. More information on each of these schemes is provided in the following four sections.

9.20 STUDENT ASSISTANCE SCHEMES — 1995

Scheme	Students no.	Assistance \$m
AUSTUDY	485 026	1 510
ABSTUDY	45 835	119
AIC	12 064	23
AUSTUDY/ABSTUDY Supplement	60 206	256

Source: Department of Employment, Education, Training and Youth Affairs.

AUSTUDY

AUSTUDY is the Commonwealth Government's means-tested and non-competitive scheme of financial assistance to secondary and tertiary students aged 16 and over. The scheme is a major element in the Government's drive to increase participation in full-time education in the upper secondary and tertiary levels.

The principal aim of AUSTUDY is to provide an equal opportunity for all Australians to access education. This is achieved through the provision of financial assistance to students who would not otherwise be able to continue their education.

Maximum allowance rates for married students with dependent children and for single students aged 16–20 years are aligned with the corresponding rates for unemployed people, and all rates are indexed annually. The types of allowances available are: a standard rate (generally for those living at home); an away from home rate; an independent rate; a pensioner Education Supplement (\$30 per week) for certain Department of Social Security pensioners; and dependent spouse and fares allowances for eligible students.

AUSTUDY also has special provisions for young people unable to live at home because of exceptional or intolerable circumstances. These provisions allow young people to be classified as independent, thus free from the application of the parental means test in assessing their eligibility for AUSTUDY.

The number of students assisted under AUSTUDY has increased substantially since the introduction of the scheme in 1987, from about 225,000 students in that first year to 485,026 in 1996.

ABSTUDY

ABSTUDY represents a major component of the Government's commitment, under the National

Aboriginal and Torres Strait Islander Education Policy, to encourage Australian Aboriginal and Torres Strait Islander people to take full advantage of educational opportunities, to promote equality of education, to be involved in decision-making and to improve educational outcomes.

The scheme provides financial assistance for Australian Aboriginal and Torres Strait Islander people who undertake approved secondary or tertiary education courses. Assistance is also available to primary students aged 14 or over.

ABSTUDY pays an education supplement to school students under the age of 16 who live at home. Other allowances include the living allowance, dependent spouse allowance, school fees allowance, a fares allowance in some circumstances, the pensioner education supplement and an incidental allowance. Full-time, correspondence and tertiary part-time students may be eligible for assistance. Some ABSTUDY allowances are paid whatever the family income. Others are subject to income testing.

In 1995, ABSTUDY assisted approximately 45,800 students.

AUSTUDY/ABSTUDY supplement

The AUSTUDY/ABSTUDY supplement gives eligible tertiary students the chance to trade in all or part of their grant in return for a supplement loan of double the amount traded in. The maximum amount of grant a student can trade in was \$3,500 in 1995, resulting in a \$7,000 loan. The supplement is entirely optional and is provided at low interest. Repayments do not commence until after five years, after which recovery is made through the taxation system when taxable income reaches average weekly earnings.

An AUSTUDY/ABSTUDY grant is also available to dependent tertiary students whose family income in 1995 exceeded the allowable threshold for AUSTUDY and ABSTUDY but was under \$50,850.

In 1995, 60,206 tertiary students were paid an AUSTUDY/ABSTUDY supplement loan, an increase from the 45,138 students who received assistance in 1993, the scheme's first year of operation.

Assistance for isolated children

The Assistance for Isolated Children Scheme (AIC) assists the families of primary, secondary, and, in limited cases, tertiary students who, because of geographic isolation, a disability or other reason (e.g., family itinerancy), do not have reasonable daily access to appropriate government schooling.

Assistance is available for isolated children who board away from home, study by correspondence, or live in a second home, so that they can attend school daily.

AIC provides Basic Boarding, Second Home and Correspondence allowances which are free from income or assets testing. Families can also continue to receive Department of Social Security Family Payments for eligible students. This option is not available under AUSTUDY.

In 1995, AIC assisted 12,064 students and scheme expenditure was \$23m.

Administration of education at the national level

The Department of Employment, Education, Training and Youth Affairs (DEETYA), replacing the former DEET in April 1996, is responsible for education matters at the national level, to which a number of bodies contribute.

The *National Board of Employment, Education and Training (NBEET)*, established under the *Employment, Education and Training Act 1988*, is the mechanism for providing coordinated and independent advice to the Government on employment, education, training and research in the context of the Government's broad social, economic and resource policies.

The Board supplies input from providers of education and training, and from business, industry and union organisations, as well as interested bodies in the community.

The *Australian International Education Foundation Council* provides advice on general matters related to international education and training, including the general development of policies and programs, and the delivery of international education and training programs.

The *Australian Language and Literacy Council* advises the Minister on priorities, strategies and

targets for the development and implementation of all aspects of the language and literacy policy.

The *Australian Research Council* makes recommendations to the Minister on the distribution of resources allocated to research funding schemes, and provides advice to the Board on national research priorities and coordination of research policy.

The *Employment and Skills Formation Council* advises the Board on matters related to employment, vocational education and training and skills formation.

The *Higher Education Council* advises the Board on the general development of higher education in Australia and on priorities and arrangements for the funding of higher education institutions.

The *Schools Council* advises the Board on policies and programs relating to schools, and on the general development of primary and secondary education.

In addition to the NBEET arrangements, the Commonwealth Government has established advisory arrangements in a number of specific areas including women, Aboriginal and Torres Strait Islander people, and in language policy and multicultural education.

A number of bodies at the national level have an important coordinating, planning or funding role.

Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA)

MCEETYA, a Commonwealth/State Council, was established in December 1993. The Council replaced the former Ministerial Council on Vocational Education, Employment and Training, the Australian Education Council and Youth Ministers' Council. It has responsibility for pre-primary, primary, secondary and higher education, vocational education and training, employment and linkages between employment/labour market programs and education and training, adult and community education and youth policy and programs. The functions of MCEETYA include coordination of strategic policy at the national level, negotiation and development of national agreements on shared objectives and interests as well as the

sharing of information and collaborative use of resources.

Australian Council for Educational Research (ACER)

ACER is an independent national research organisation. The Council is funded by annual grants from the Commonwealth Government, and each of the State and Territory Governments, as well as from its own activities. The Council is involved in its own and contract research in cooperation with education systems and plays a central role in the areas of educational measurement and evaluation as well as research into learning and teaching and in the social context of education.

National Centre for Vocational Education Research (NCVER)

The NCVER was established in 1980 as a company limited by guarantee. Its core grant (representing about 40% of income) is obtained from the Commonwealth Government (providing one-half of the core grant) and the States and Territories (on a per capita basis). The NCVER funds and conducts research; houses the national clearinghouse and International Labour Organisation (ILO) regional database; is responsible for national statistics on vocational education and training; and publishes research reports and journals.

Australian Qualifications Framework Advisory Board (AQFAB)

AQFAB was established in 1995 by the Ministerial Council on Education, Employment, Training and Youth Affairs, replacing the Register of Australian Tertiary Education (RATE) Advisory Committee. The AQFAB is responsible for facilitating implementation of the new Australian Qualifications Framework which was introduced on 1 January 1995. It will maintain national registers of all bodies empowered to accredit post-compulsory education and training courses and those with authority to issue qualifications in all sectors of post-compulsory education and training.

Standards and Curriculum Council

On 25 May 1995, Ministers for vocational education and training agreed to the Australian National Training Authority's proposal to develop a national structure which will bring into effect more efficient methods for the

development of standards and curriculum. This national structure, called the Standards and Curriculum Council, is responsible for the development and management of competency standards, curriculum assessment and the Australian Qualifications Framework as it relates to vocational education and training. The functions of the National Training Board and the Australian Committee for Training Curriculum were subsumed by the Standards and Curriculum Council.

Other organisations

There are also a number of non-government organisations which have coordinating roles in their specific segments of education and training at the national level. These include the National Catholic Education Commission, the National Council of Independent Schools Associations, the Australian Vice-Chancellors' Committee, the Australian Conference of Directors of TAFE, and the Australian High School Principals' Association.

Expenditure on education

This section provides information on the extent and composition of both government and private expenditure on education. Estimates of government and private expenditure have been compiled in accordance with national accounting concepts. An explanation of these concepts is contained in *Australian National Accounts: Concepts, Sources and Methods* (5216.0), *Classification Manual for Government Finance Statistics, Australia* (1217.0), and also in *Expenditure on Education, Australia* (5510.0) 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 not only the relative importance of that sector in the provision of educational services but also the lack of detailed information relating to expenditure on educational activities in the private sector. However, the information provided shows the order of magnitude of private sector spending, and also the aggregate supply of education services and facilities.

Table 9.21 presents the total outlays on education by the government and private sectors and their components, and the percentages of Gross Domestic Product (GDP)

which they represent, for 1994–95 and preceding years.

9.21 GOVERNMENT AND PRIVATE EXPENDITURE ON EDUCATION

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
	VALUE (\$m)					
Government						
Government final consumption expenditure	11 993	13 123	14 073	14 721	15 427	15 875
Gross fixed capital expenditure	1 301	1 361	1 239	1 440	1 186	1 192
Grants and advances to persons and non-profit institutions(a)	1 995	2 213	2 447	2 469	2 671	2 856
Grants and advances to persons	1 515	1 748	2 031	2 187	2 226	2 230
Advances to persons for Higher Education Contribution Scheme	435	479	577	604	602	402
Other	-5	28	107	97	16	39
Total government outlays on education	17 234	18 953	20 474	21 518	22 129	22 594
Private outlays						
Private final consumption expenditure	3 945	4 436	5 035	5 307	5 548	5 754
Gross fixed capital expenditure	338	388	340	351	401	395
Total final outlays on education services	4 283	4 824	5 375	5 658	5 949	6 149
Total outlays on education						
Total government outlays	17 234	18 953	20 474	21 518	22 129	22 594
Total private outlays	4 283	4 824	5 375	5 658	5 949	6 149
Less private outlays financed by government(a)	2 430	2 692	3 024	3 073	3 273	3 258
Total	19 087	21 085	22 825	24 103	24 805	25 485
Gross Domestic Product(b)	366 307	376 676	391 217	408 855	429 304	453 931
	PROPORTION OF GROSS DOMESTIC PRODUCT (%)					
Total government outlays	4.7	5.0	5.2	5.3	5.2	5.0
Total final outlays on education of which						
Government final consumption outlays	3.3	3.5	3.6	3.6	3.6	3.5
Private final consumption outlays on education services	1.1	1.2	1.3	1.3	1.3	1.3
Government gross fixed capital outlays	0.4	0.4	0.3	0.4	0.3	0.3
Private gross fixed capital outlays	0.1	0.1	0.1	0.1	0.1	0.1
Total	4.8	5.1	5.3	5.3	5.3	5.1
Total outlays on education	5.2	5.6	5.8	5.9	5.8	5.6

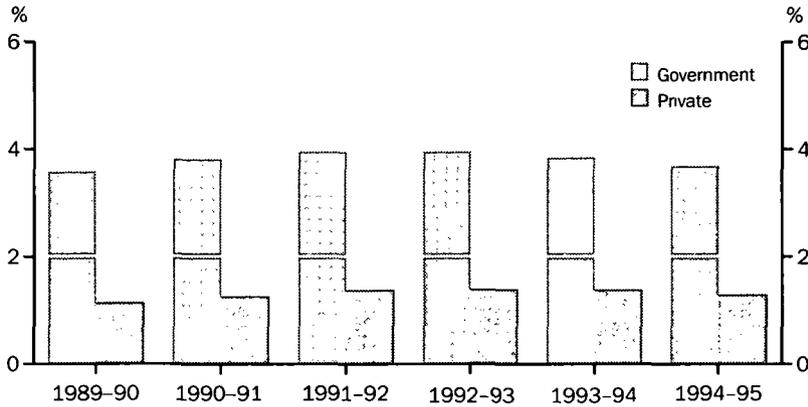
(a) Equals the sum of 'Grants and advances to non-profit institutions' and 'Advances to persons for HECS'. (b) The figures for Gross Domestic Product (GDP(E)) are obtained from Australian National Accounts: National Income, Expenditure and Product, March Quarter, 1996 (5206.0).

Source: *Expenditure on Education, Australia (5510.0)*; *Australian National Accounts: National Income and Expenditure, and Product, 1994–1995 (5204.0)*.

Total final expenditure on education, comprising final consumption expenditure and gross fixed capital expenditure (by governments and the private sector), rose 2.9% from \$23.6b in 1993–94 to \$23.2b in 1994–95, but its percentage of Gross Domestic Product (GDP) fell slightly, from 5.3% to 5.1%.

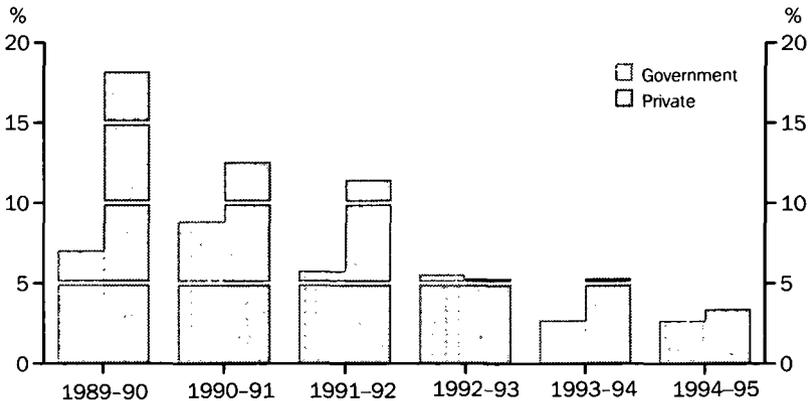
Government final expenditure rose 2.7% from \$16,618m in 1993–94 to \$17,065m in 1994–95, but fell slightly from 3.9% to 3.7% of GDP. Private final expenditure rose 3.4% from \$5,949m in 1993–94 to \$6,149m in 1994–95 but its percentage of GDP decreased from 1.4% to 1.3%.

9.22 FINAL EXPENDITURE ON EDUCATION, as a % of GDP



Source: *Expenditure on Education, Australia (5510.0)*.

9.23 FINAL EXPENDITURE ON EDUCATION, Change from Previous Year



Source: *Expenditure on Education, Australia (5510.0)*.

Total outlays on education, which comprise, in addition to final expenditure as defined previously, government benefit payments for education related services, rose 2.7% from \$24,805m to \$25,484m between 1993-94 and 1994-95, but its percentage of GDP fell from 5.8% to 5.6%.

Total government outlays on education (which includes payments to the private sector) rose 2.1% from \$22,129m to \$22,594m between

1993-94 and 1994-95. The main growth in outlays was in the Commonwealth sector (up 3.1%) reflecting increased grants to the States and Territories, which rose 7.0%. Outlays by State and local governments from their own resources rose 1.3% during 1994-95, compared to a 0.2% increase during 1993-94.

Table 9.24 shows the components of government outlays on education by economic transaction and government purpose in 1994-95.

9.24 GOVERNMENT OUTLAYS ON EDUCATION — 1994-95

	General government final consumption expenditure \$m	Personal benefit payments \$m	Expenditure on new fixed assets \$m	Expenditure on secondhand fixed assets \$m (net)	Other(a)(b) \$m	Inter- governmental grants(c) \$m	Own source outlays(d) \$m
Primary and secondary education(e)							
Commonwealth	31	621	—	—	15	3 113	3 780
State, Territory and local	8 470	45	583	-13	2 643	-3 113	8 615
Total	8 501	666	583	-13	2 648	—	12 385
Tertiary education							
University education(e)							
Commonwealth	267	785	40	-5	413	3 523	5 023
State, Territory and local	3 639	3	225	3	12	-3 523	359
Total	3 905	789	266	-1	424	—	5 382
Technical and further education							
Commonwealth	—	234	—	—	1	733	967
State, Territory and local	1 993	1	335	-5	35	-733	1 627
Total	1 993	235	335	-5	34	—	2 593
Tertiary education n.e.c.							
Commonwealth	—	27	—	—	—	—	27
State, Territory and local	1	—	4	—	—	—	5
Total	1	27	4	—	—	—	32
Total tertiary education							
Commonwealth	267	1 046	40	-5	413	4 256	6 017
State, Territory and local	5 634	5	565	-2	47	-4 256	1 992
Total	5 900	1 051	605	-6	458	—	8 009
Preschool and other special education							
Commonwealth	71	6	1	—	—	59	137
State, Territory and local	999	2	18	—	124	-59	1 082
Total	1 070	8	18	—	124	—	1 219
Transportation of students							
Commonwealth	—	—	—	—	—	—	—
State, Territory and local	180	506	1	—	6	—	693
Total	180	506	1	—	6	—	693
Education n.e.c.							
Commonwealth	181	—	—	—	45	1	228
State, Territory and local	42	—	8	-3	17	-1	62
Total	223	1	8	-3	61	—	290
Total government outlays							
Commonwealth	551	1 673	41	-5	473	7 429	10 162
State, Territory and local	15 324	557	1 174	-18	2 836	-7 429	12 444
Total	15 875	2 232	1 215	-23	3 297	3 309	22 596

(a) Mainly current grants to non-government schools, subsidies for teacher housing and advances to persons under the HECS scheme. (b) The total reflects a consolidation of Commonwealth, State/Territory and local government outlays. (c) Specific purpose grants from the Commonwealth Government to State and Territory Governments. The amounts concerned are shown as a deduction from outlays in the rows for State, Territory and local governments. (d) Outlays on education less specific purpose grants received from other levels of government. In the case of the Commonwealth Government, this represents their total outlays, but in the case of State, Territory and local governments it represents outlays financed from their own resources and non-specific Commonwealth grants. (e) Commonwealth funding of non-government schools is made via inter-governmental grants which are passed on through State and Territory Governments.

Source: *Expenditure on Education, Australia (5510.0)*.

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Introduction	263
The criminal justice system	263
Expenditure on public order and safety	264
The police	265
Commonwealth policing agencies	265
Australian Federal Police (AFP)	265
National Crime Authority (NCA)	265
Size of police forces	265
National crime statistics	266
Crime victimisation surveys	266
Household crime	266
Personal crime	266
Reporting to police	268
Crimes recorded by police	269
Personal crime	269
Homicide	269
Assault	269
Sexual assault	269
Kidnapping/abduction	269
Robbery	269
Firearms	273
Drug offences	274
Courts	275
Criminal courts	275
National criminal courts statistics	276
Correctional services	277
Prisoners in Australia	277
Bibliography	281

Introduction

This chapter provides an overview of the Australian criminal justice system. Where possible, data are based on national crime and justice statistics, focusing on crime victimisation, crimes reported to police, criminal courts and correctional services. The objective of national crime and justice statistics is to make available comparable data across jurisdictions, and so provide indicators of the level and nature of crime and the activities of criminal justice agencies in Australia.

The criminal justice system

The criminal justice system consists of the State and Commonwealth institutions, agencies, departments and personnel responsible for dealing with persons accused or convicted of committing a crime. The justice system also has a responsibility for dealing with the victims of crime.

The various agencies that comprise the criminal justice system can be seen as acting within a broader process in which criminal incidents and offenders move through a number of stages. Figure 10.1 indicates these broad stages and the points at which the different justice agencies make their contribution.

Police agencies are responsible for the prevention, detection and investigation of crimes. Where an alleged offender is detected by police, charges are then laid before a criminal court. The court, consisting of a judicial officer, the prosecution and defence, is then responsible for determining the guilt or innocence of the defendant.

In addition to the court itself, there are a number of other agencies involved in the court process. These include legal representatives for the prosecution and defence. Police Prosecutors are generally responsible for less serious matters heard before courts of summary jurisdiction, whilst Crown Prosecutors normally handle prosecution of the more serious matters dealt with at the Supreme or intermediate court levels. For the defendant, legal aid may be available to handle their defence.

Following the hearing of the charges, in cases where a finding of guilt is made by the court a sentence may be imposed. Fines and bonds are the most common penalties handed down by the courts. The more serious sentences are administered by correctional services agencies. These may include imprisonment, community work of various kinds and some types of bonds. A number of jurisdictions have also introduced new penalties such as home detention or work camps which are also administered by correctional agencies.

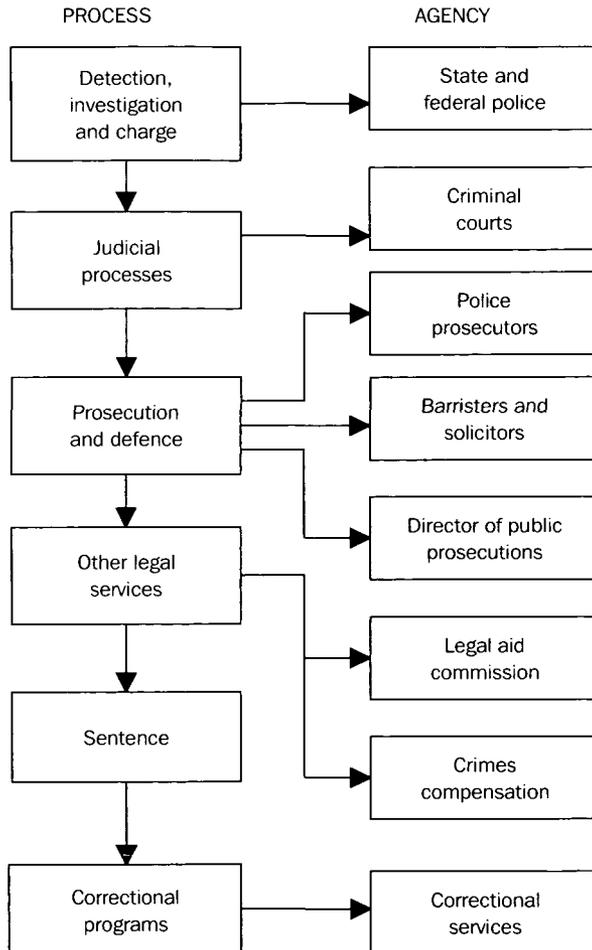
For victims of crime, compensation may be available through the courts, and this is normally handled through a special tribunal. The State provides compensation to victims who can demonstrate an injury or suffering as a result of a criminal incident. The State will then seek these funds from the offender, if they have been identified and convicted.

In all States, two systems of criminal justice exist; the federal criminal justice system, based on offences against Commonwealth laws, and the relevant State system, based on offences against State laws. Criminal law is administered principally through the Commonwealth, State and Territorial police forces, the National Crime Authority, and State and Territorial corrective or penal services. There is no independent federal corrective service, and the relevant State or Territorial agencies provide corrective services for federal offenders.

The Australian States and Territories have independent legislative powers in relation to all matters that are not otherwise specifically vested in the Commonwealth of Australia, and it is the statute law and the common law of the States and Territories that primarily govern the day-to-day lives of most Australians.

The States and Territories have powers to enact their own criminal law, while the Commonwealth has powers to enact laws, including sanctions for criminal offences, in relation to its responsibilities under the constitution. Thus, in effect, there are nine different systems of criminal law in existence in Australia.

10.1 THE CRIMINAL JUSTICE SYSTEM



Source: National Centre for Crime and Justice Statistics Section, ABS.

Expenditure on public order and safety

The government sector of public order and safety covers outlays on administration, supervision, support, operation and review of public order and safety affairs and services. Public order and safety includes police and fire protection services, law courts and legal services, prisons and corrective services, and other services related to public order and safety.

In 1994–95, \$6.25b (equivalent to \$346 per person) was spent by the Commonwealth Government and the State, Territory and local governments on public order and safety (see table 10.2). Compared to 1993–94, this represents an increase of 7.6% in total outlays, or \$21 more per person.

10.2 GOVERNMENT CURRENT AND CAPITAL EXPENDITURE

Offence category	1992-93 \$m	1993-94 \$m	1994-95 \$m
Current outlays	5 211	5 397	5 755
Capital outlays	457	415	496
Total outlays	5 668	5 812	6 251

Source: *Government Finance Statistics, Australia, 1994-95* (5512.0).

The police

Australia is served by eight police forces: one in each State and the Northern Territory, and the Australian Federal Police who are also responsible for policing the Australian Capital Territory. The National Crime Authority also has a policing role.

The principal 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. They may perform a variety of additional duties in the service of the State, including the prosecution of summary offences, regulation of street traffic, acting as clerks of petty sessions, Crown land bailiffs, mining wardens and inspectors under the Fisheries and other relevant Acts. With the exception of the Australian Federal Police and the National Crime Authority, police forces in Australia are under the control of the State and Northern Territory Governments, but their members perform certain functions on behalf of the Commonwealth Government, such as the registration of aliens, and in conjunction with the Australian Federal Police and other Commonwealth officers they enforce various Commonwealth Acts and Regulations.

Commonwealth policing agencies

Australian Federal Police (AFP)

The AFP is a Commonwealth Statutory Authority brought into existence by the *Australian Federal Police Act 1979*. The AFP has its headquarters in Canberra. Its Criminal Investigations Program is conducted through six Regional Commands, its Headquarters Investigations Department and its numerous Liaison Officers in many overseas countries. In the Australian Capital Territory, the AFP provides a full range of general community policing services, including traffic control, special operations, search and rescue services and conventional crime investigations.

The Australian Federal Police is responsible for the prevention, detection and investigation of criminal offences such as drug offences, money laundering, organised crime, identifying the proceeds of crime, and fraud against Commonwealth revenue and expenditure such as social security fraud and taxation fraud.

National Crime Authority (NCA)

The NCA was established by the Commonwealth Government in July 1984 as provided by the *National Crime Authority Act 1984*. Similar legislation was passed in each State, the Northern Territory and subsequently the Australian Capital Territory, to underpin the work of the NCA in those jurisdictions, making the NCA the only law enforcement agency in Australia whose investigations are not limited by jurisdictional or territorial boundaries.

The decision to establish the NCA was taken in response to the findings of several Royal Commissions conducted in the late 1970s and early 1980s, which revealed the extent of organised criminal activity in Australia. The NCA's mission is to counteract organised criminal activity and reduce its impact on the Australian community, working in cooperation and partnership with other agencies.

Size of police forces

The number of sworn police officers in the various Australian police forces is shown in table 10.3. The figures have been supplied by the respective police agencies, and are not directly comparable (e.g., the figures do not differentiate between full-time and part-time officers). In some police forces, unsworn (civilian) staff carry out duties directly connected with policing.

10.3 SIZE OF POLICE FORCES			
Offence category	1992-93 no.	1993-94 no.	1994-95 no.
NCA	97	83	113
AFP	677	672	661
NSW	12 945	12 718	13 070
Vic.	9 742	9 794	10 016
Qld	6 377	6 176	6 290
SA	3 639	3 620	3 616
WA	4 122	4 181	4 227
Tas.	1 027	1 063	1 072
NT	682	692	756
Total	39 308	38 999	39 821

Source: *Police annual reports and the Report on Government Service Provision, Steering Committee for the review of Commonwealth/State Service Provision, 1995.*

Further detail on the operations of each force may be found in the police forces' annual reports to their Ministers.

National crime statistics

The aim of national crime statistics is to provide comparable data across jurisdictions (i.e. States and Territories). These statistics are indicators of the level and nature of reported crime in Australia and provide a basis for measuring changes over time.

Two sources of national statistics provide a picture of crime in Australia. Crimes recorded by police relate to offences that have become known to and have been recorded by police. These offences may have been recorded by a victim, witness or other person, or they may have been detected by police. The statistics do not provide a total picture of crime, as not all crimes come to the attention of the police. In addition, care should be taken in interpreting police statistics as fluctuations in reported crime may be a reflection of changes in community attitudes in reporting crime, changes in police procedures or changes in crime reporting systems rather than a change in the incidence of criminal behaviour.

In order to gain a more comprehensive picture of the nature and extent of crime, these statistics are complemented by information from other sources such as crime victimisation surveys. These surveys are usually conducted on a household basis. Not all types of crime are suitable for measurement by household surveys. No reliable information can be obtained about crimes without specific victims, such as trafficking in narcotics. Crimes of which the victim may not be aware cannot be measured effectively: some instances of fraud and attempted crimes of many types may fall into this category. It may also be difficult to obtain information about some crimes, such as sexual offences and assault by other household members. Some of these crimes are not fully reflected in the data collected. Lastly, no reliable data can be collected by household surveys on crimes against commercial establishments.

In essence, crime victimisation surveys are most suitable for measuring crimes against individuals or households with specific victims who are aware of and recall what happened to them and how it happened, and who are willing to relate what they know.

Crime victimisation surveys

In 1993, a national Crime and Safety household survey of persons aged 15 and over was conducted. Similar surveys were conducted in 1995 in all jurisdictions except Tasmania and the Northern Territory. For the purposes of comparing these surveys, national estimates have been calculated for 1993 and 1995 which do not include any Tasmanian and Northern Territory figures.

Household crime

Of the crimes measured by the surveys, the most common household crime was break and enter, affecting 333,700 households (5.3%) in the mainland States and Australian Capital Territory, in the 12 months to April 1995. About 8% of households were victims of either break and enter or an attempted break and enter, and 2% of households experienced at least one motor vehicle theft.

Rates for break and enter offences had increased from 1993 to 1995, principally due to increases in New South Wales and Western Australia. The rate for motor vehicle theft was steady (see graph 10.4 and table 10.6).

Households in rented accommodation had a higher risk of victimisation than households who owned or were purchasing their home. The lowest household victimisation rates were experienced by households comprising a married couple only, whereas the highest rate was for single parent households.

Personal crime

About 540,000 people were victims of personal crimes in the mainland States and Australian Capital Territory in the 12 months to April 1995 (see table 10.5), representing a rate of about 4% of persons aged 15 years and over. The most common crime reported was assault, affecting 2.7% of people. The rates for 1993 and 1995 are similar.

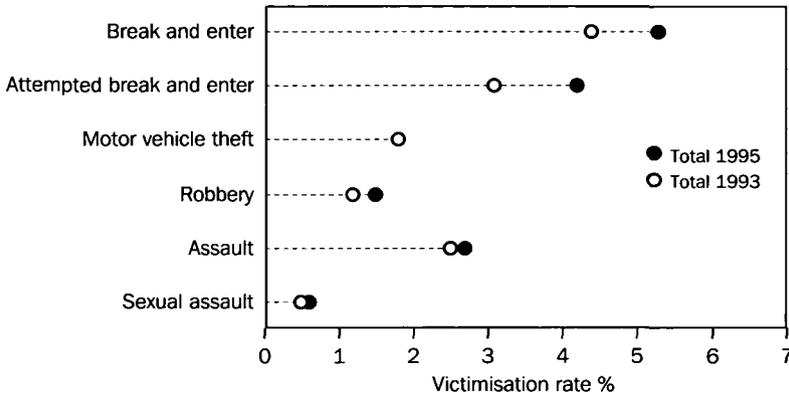
The risk of victimisation through personal crime was highest in the 15–24 year age group, and tended to decrease with increasing age. The victimisation rate (the ratio of victims for an offence category to the total population of households or persons, as appropriate, expressed as a percentage) was generally greater for males than females, with the difference greatest in the 15–24 year age group. The unemployed had the highest personal crime victimisation rate compared with those

employed or not in the labour force. Married people tended to have a lower reported victimisation rate than people who were not married.

While the victimisation rate for all assaults was higher for males than for females, the reverse was the case for assaults occurring inside the

home, where the rate for females was significantly higher than for males. Among female victims of assault who reported the last incident as occurring inside the home, over 90% reported that the offender was known to them, and about 40% of them were victims of assault on three or more occasions in the 12 months prior to the survey.

10.4 VICTIMS OF CRIME, By Type of Offence in the Last 12 Months



Source: *Crime and Safety Survey 1995 for each State publication* (4509.1, 4509.2, 4509.3, 4509.4, 4509.5) and *Crime and Safety, Australia, 1993* (4509.0).

10.5 VICTIMS OF CRIME, By Offence — 1995

Offence category	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	ACT '000	Total '000
Households							
Break and enter	116.8	52.7	75.5	27.0	56.9	4.8	333.7
Attempted break and enter	88.9	36.6	65.6	23.5	45.3	4.8	264.7
Total break and enter(a)	185.6	81.9	124.0	44.8	86.6	8.3	531.2
Motor vehicle theft	46.2	23.8	16.5	6.6	19.1	1.0	113.2
Total household crime(a)	222.2	103.3	136.9	49.9	100.9	9.0	622.2
Persons							
Robbery	78.7	27.9	46.1	12.5	24.1	2.8	192.1
Assault	125.4	81.8	77.6	33.4	34.3	8.5	361.0
Sexual assault(b)	11.8	4.7	6.6	3.9	4.0	1.4	32.4
Total personal crime(a)	199.9	106.8	116.1	47.2	57.6	11.8	539.4

(a) Because an individual household or person could be a victim of more than one type of offence, figures given for individual offence types do not add to the total. (b) Sexual assault questions were asked only of females aged 18 and over.

Source: *Crime and Safety Survey 1995 for each State publication* (4509.1, 4509.2, 4509.3, 4509.4, 4509.5) and *Crime and Safety Australia, 1993*, (4509.0).

10.6 VICTIMS OF CRIME, By Offence Category

	NSW		Vic		Qld		SA		WA		ACT		Total(a)	
	1993 %	1995 %	1993 %	1995 %	1993 %	1995 %	1993 %	1995 %	1993 %	1995 %	1993 %	1995 %	1993 %	1995 %
Victimisation rate														
Households														
Break and enter	3.7	5.3	3.3	3.2	5.2	6.3	5.0	4.6	7.5	8.9	5.0	4.5	4.4	5.3
Attempted break and enter	2.6	4.1	2.6	2.3	3.2	5.5	3.8	4.0	4.9	7.1	4.9	4.5	3.1	4.2
Total break and enter(b)	5.7	8.5	5.4	5.0	7.5	10.3	8.1	7.7	11.0	13.6	8.9	7.9	6.8	8.4
Motor vehicle theft	2.0	2.1	1.7	1.5	1.3	1.4	1.7	1.1	2.2	3.0	0.8	1.0	1.8	1.8
Total household crime(b)(c)	7.5	10.1	7.0	6.3	8.6	11.4	9.7	8.5	12.8	15.8	9.7	8.6	8.3	9.8
Persons														
Robbery	1.3	1.7	1.0	0.8	1.2	1.9	1.3	1.1	1.3	1.9	1.7	1.3	1.2	1.5
Assault	2.6	2.7	2.2	2.4	2.9	3.2	2.5	2.9	2.2	2.6	3.5	3.8	2.5	2.7
Sexual assault(d)	0.8	0.5	0.5	0.3	0.5	0.6	0.8	0.7	0.3	0.7	0.9	1.3	0.6	0.5
Total personal crime(b)(c)	3.9	4.3	3.2	3.1	4.0	4.7	3.8	4.1	3.5	4.5	4.9	5.3	3.7	4.1

(a) For comparison with the 1995 total, the total for 1993 has been recalculated to exclude the contribution from the Northern Territory and Tasmania as neither conducted a Crime and Safety survey in 1995. (b) Because an individual household or person could be a victim of more than one type of offence, figures given for individual offence types do not add to the total. (c) Of all households/persons. (d) Sexual assault questions were asked only of females aged 18 and over.

Source: *Crime and Safety Survey 1995 for each State publication (4509.1, 4509.2, 4509.3, 4509.4, 4509.5) and Crime and Safety Australia, 1993 (4509.0).*

Reporting to police

As table 10.7 shows, of the crimes covered by the survey, motor vehicle theft was the crime most reported by the victims, with over 90% of households reporting the last incident to the police. About three-quarters of break and enter offences were reported to police.

For personal crimes, assaults were the least likely to be reported, especially sexual assault. Estimates from the two surveys indicate that

there may have been a decrease in the reporting rate for sexual assault between 1993 and 1995.

As found in 1993, for crimes other than sexual assault, the main reasons for not telling the police about the last incident were typically 'too trivial/unimportant', 'police could not do anything' or 'police would not do anything'. For sexual assault the two most frequently given reasons were 'private matter' or 'afraid of reprisal/revenge'.

10.7 CRIMES RECORDED BY POLICE, By Offence — 1995(a)

Offence category	NSW %	Vic. %	Qld %	SA %	WA %	ACT %	Total 1995(b) %	Total 1993(b) %
Households								
Break and enter	73.5	76.5	77.6	81.5	80.3	87.8	76.9	78.3
Attempted break and enter	31.3	37.4	28.6	32.7	31.2	38.1	31.7	32.0
Motor vehicle theft	91.4	96.5	94.1	96.8	93.7	100.0	92.7	93.8
Persons								
Robbery	52.2	56.7	55.0	54.0	60.5	62.5	54.9	51.7
Assault	30.4	33.2	36.5	38.5	40.9	31.6	34.2	32.2
Sexual assault(c)	n.p.	14.9	16.2	25.6	n.p.	n.p.	10.8	25.6

(a) Where sexual assault has not been published (n.p.) in the table this is due to a high standard error. (b) For comparative purposes with the 1995 total, the total for 1993 has been recalculated to exclude the contribution from the Northern Territory and Tasmania as neither conducted a Crime and Safety survey in 1995. (c) Sexual assault questions were asked only for females aged 18 and over.

Source: *Crime and Safety Survey 1995 for each State publication (4509.1, 4509.2, 4509.3, 4509.4 and 4509.5).*

Crimes recorded by police

Tables 10.8 to 10.10 and graphs 10.11 and 10.12 show various dimensions of crime and crime victims reported to police in 1995. Within the scope of the national collection, the most frequently reported single offence category in Australia in 1995 was *unlawful entry with intent* (equivalent to burglary, break and enter), with 384,897 occurrences recorded by police, followed by *motor vehicle theft*, with 126,919 cases recorded, and *assault*, with 101,149 cases recorded.

Personal crime

The most recorded personal crime was assault. The 101,149 cases recorded equates to a rate of 560 per 100,000 population. There were 12,809 cases of sexual assault recorded, a rate of 71 victims per 100,000 population, and 351 cases of murder/manslaughter, a rate of 20 victims per 100,000.

Men were more likely to be victims of assault and murder, whereas women were much more often the victims of sexual assault. Young men in particular were the most frequent victims of assault. Children were the most likely victims of both sexual assault and kidnapping. For all these personal crimes except kidnapping, the offenders were more likely to be known to the victims than not, and the location was most likely to be a private dwelling.

Homicide

Homicide, the unlawful killing of another person, comprises four subcategories: Murder, Attempted murder, Manslaughter and Driving causing death. The most likely murder victims in 1995 were males aged 20–44 years. Most murders were committed with some type of weapon, a firearm being used in about 20% of cases. The majority of murders were committed by someone known to the victim, and the most common site for the murder was a private dwelling.

Assault

The largest category of offences against the person was assault, which is the direct infliction of force, injury or violence upon a person including attempts or threats.

Most of the victims of assault were male, with the highest rate of assault being to victims aged 20–34 years. Over half of the offenders were

known to their victims. The most frequent locations of assault offences were private dwellings, streets and footpaths, and recreational facilities. About 10% of assaults involved a weapon.

Sexual assault

Sexual assault is physical assault of a sexual nature directed towards another person where that person does not give consent, or gives consent as a result of intimidation or fraud, or is legally deemed incapable of giving consent because of youth or temporary/permanent incapacity. In 1995, over 80% of victims for sexual assault were female and over half were aged under 20 years (40% aged under 15 years). The most common locations for sexual assault were private dwellings. Most offenders were known to their victims.

Kidnapping/abduction

Kidnapping/abduction is the unlawful seizing or taking away of another person by force, deception, against that person's will or against the will of any parent, guardian or other person having lawful custody or care of that person. Most victims of kidnapping were aged under 20 years and females were more often the victim. This is the only personal offence category where available data indicate that most of the offenders were not known by their victims. About half of the offences occurred on the street or footpath, and a further 20% from residential locations.

Robbery

Robbery is the unlawful taking of property, without consent, under confrontational circumstances from the immediate possession, control, custody or care of a person accompanied by force or threat of force or violence and/or by placing the victim in fear. Organisations were the victims in about a quarter of the cases of armed robbery in 1995, and males were about twice as likely to be victims as females. Organisations were much less likely to be victims of unarmed robberies, but again males were twice as likely as females to be victims.

The most common locations for armed robberies were retail locations, whereas most unarmed robberies were from locations such as streets and footpaths. Over 10% of unarmed robberies were from retail locations.

10.8 VICTIMS OF CRIME, Reported to Police

Offence category	1993	1994	1995
NUMBER			
Homicide			
Murder	300	288	321
Attempted murder	369	336	301
Manslaughter	37	32	30
Driving causing death	222	197	314
Assault(a)	n.a.	n.a.	101 149
Sexual assault	12 555	12 722	12 809
Kidnapping/abduction	628	546	469
Robbery			
Armed robbery	5 324	5 046	6 631
Unarmed robbery	7 465	8 922	9 835
Blackmail/extortion	142	156	152
Unlawful entry with intent	382 245	379 505	384 897
Motor vehicle theft	112 578	119 469	126 919
Other theft(a)	n.a.	n.a.	489 785
RATE PER 100 000 POPULATION			
Homicide			
Murder	1.70	1.61	1.78
Attempted murder	2.09	1.88	1.67
Manslaughter	0.21	0.18	0.17
Driving causing death	1.26	1.10	1.74
Assault(a)	n.a.	n.a.	560.26
Sexual assault	71.11	71.32	70.95
Kidnapping/abduction	3.56	3.06	2.60
Robbery			
Armed robbery	30.15	28.29	36.73
Unarmed robbery	42.28	50.02	54.48
Blackmail/extortion	0.80	0.87	0.84
Unlawful entry with intent	2 164.91	2 127.46	2 131.92
Motor vehicle theft	637.6	669.73	703
Other theft(a)	n.a.	n.a.	2 712.89

(a) Assault and Other theft were collected for the first time in 1995.

Source: *National Crime Statistics, 1994 and 1995 (4510.0)*.

10.9 VICTIMS OF CRIME REPORTED TO POLICE, By Sex — 1995

Offence category	Males	Females	Not stated/inadequately described(a)	Total
NUMBER				
Homicide				
Murder	187	122	12	321
Attempted murder	206	93	2	301
Manslaughter	23	7	—	30
Driving causing death	97	49	168	314
Assault	58 568	39 108	3 473	101 149
Sexual assault	2 073	10 515	221	12 809
Kidnapping/abduction	155	309	5	469
Robbery				
Armed robbery	3 068	1 692	1 871	6 631
Unarmed robbery	5 755	3 126	954	9 835
Blackmail/extortion	92	38	22	152
%				
Homicide				
Murder	58.3	38.0	3.7	100.0
Attempted murder	68.4	30.9	0.7	100.0
Manslaughter	76.7	23.3	—	100.0
Driving causing death	30.9	15.6	53.5	100.0
Assault	57.9	38.7	3.4	100.0
Sexual assault	16.2	82.1	1.7	100.0
Kidnapping/abduction	33.0	65.9	1.1	100.0
Robbery				
Armed robbery	46.3	25.5	28.2	100.0
Unarmed robbery	58.5	31.8	9.7	100.0
Blackmail/extortion	60.5	25.0	14.5	100.0

(a) The category of Not stated/inadequately described has been consolidated with the category of Not applicable. For some offences, the sex of the victim is not applicable, such as Blackmail/extortion, Armed robbery, and Unarmed robbery where the victim can be an organisation.

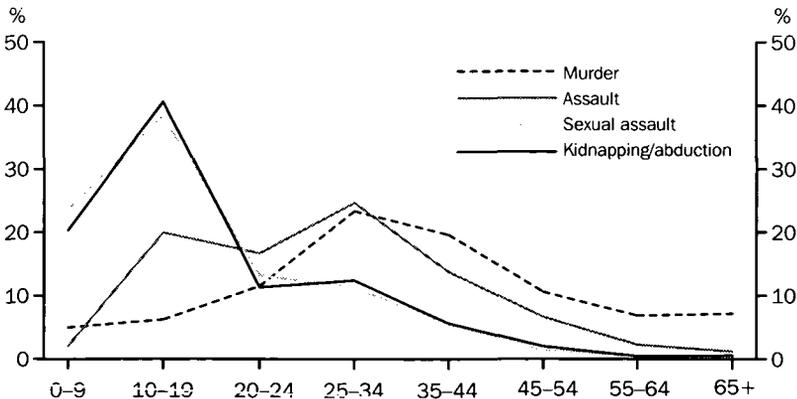
Source: *National Crime Statistics, 1995 (4510.0)*.

10.10 VICTIMS OF CRIME REPORTED TO POLICE, By Age — 1995

Offence category	0-9	10-19	20-24	25-34	35-44	45-54	55-64	65+	Not specified(a)	Total
NUMBER										
Homicide										
Murder	16	20	37	75	63	34	22	23	31	321
Attempted murder	11	32	35	81	47	28	10	6	51	301
Manslaughter	1	6	2	7	6	1	1	2	4	30
Driving causing death	4	35	26	20	24	5	9	9	182	314
Assault	2 058	20 201	16 887	24 948	13 962	6 732	2 294	1 219	12 848	101 149
Sexual assault	2 602	5 202	1 452	1 593	727	259	56	67	851	12 809
Kidnapping/abduction	111	180	62	53	26	7	1	2	27	469
Robbery										
Armed robbery	13	825	779	1 040	704	560	247	116	2 347	6 631
Unarmed robbery	47	2 514	1 256	1 611	1 135	808	460	533	1 471	9 835
Blackmail/extortion	1	12	12	27	34	20	4	4	38	152
%										
Homicide										
Murder	5.0	6.2	11.5	23.4	19.6	10.6	6.9	7.2	9.7	100.0
Attempted murder	3.7	10.6	11.6	26.9	15.6	9.3	3.3	2.0	16.9	100.0
Manslaughter	3.3	20.0	6.7	23.3	20.0	3.3	3.3	6.7	13.3	100.0
Driving causing death	1.3	11.1	8.3	6.4	7.6	1.6	2.9	2.9	58.0	100.0
Assault	2.0	20.0	16.7	24.7	13.8	6.7	2.3	1.2	12.7	100.0
Sexual assault	20.3	40.6	11.3	12.4	5.7	2.0	0.4	0.5	6.6	100.0
Kidnapping/abduction	23.7	38.4	13.2	11.3	5.5	1.5	0.2	0.4	5.8	100.0
Robbery										
Armed robbery	0.2	12.4	11.7	15.7	10.6	8.4	3.7	1.7	35.4	100.0
Unarmed robbery	0.5	25.6	12.8	16.4	11.5	8.2	4.7	5.4	15.0	100.0
Blackmail/extortion	0.7	7.9	7.9	17.8	22.4	13.2	2.6	2.6	25.0	100.0

(a) The category of Not specified has been consolidated with the category of Not applicable. For some offences, the age of the victim is not applicable, such as Blackmail/extortion, Armed robbery, and Unarmed robbery where the victim can be an organisation.
Source: National Crime Statistics, 1995 (4510.0).

10.11 CRIMES RECORDED BY POLICE, By Age — 1995

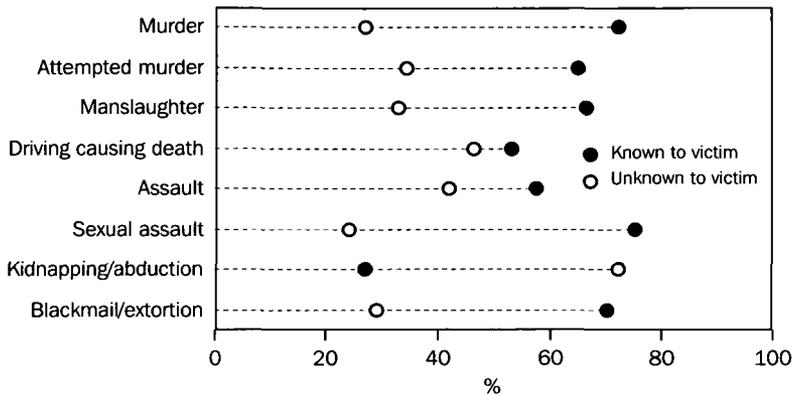


Source: National Crime Statistics, 1995 (4510.0).

Sexual assault and Kidnapping/abduction have a very high incidence of offences for victims aged 0-9 and 10-19. Graph 10.11 indicates that victims of sexual assault represent 40% of all

victims in the 10-19 year age group compared to kidnapping/abduction 38%; assault 20%; and murder 6%.

10.12 CRIMES RECORDED BY POLICE — 1995



Source: National Crime Statistics, 1995 (4510.0).

Firearms

As shown in table 10.13 and graph 10.14, a weapon was involved in 66% of reported murders in 1995, an increase of 3% over 1994. Firearms were used in 18% of murders and 27% of attempted murders in 1995, an increase of 2% and 3% over 1994. Although the use of firearms

increased for attempted murder in 1995, overall the use of all weapons decreased by nearly 4% to 75%. The use of a firearm was relatively uncommon in sexual assaults and assaults, with less than 1% for each category.

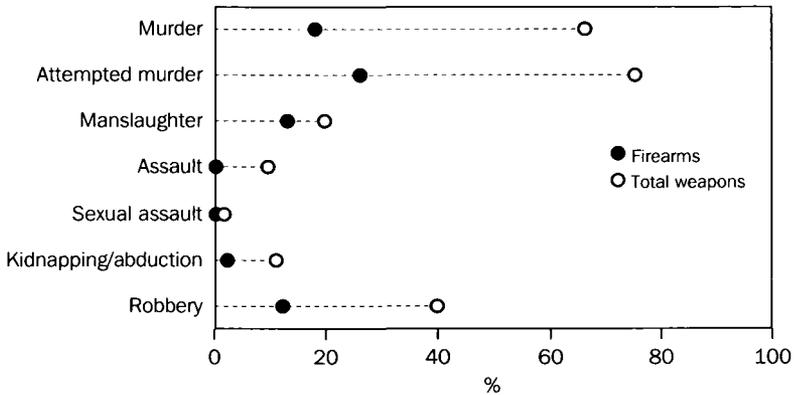
10.13 VICTIMS OF REPORTED CRIME(a), By Use of Weapon in Commission of Offence — 1994 and 1995

Offence category	Firearm %	Other weapon %	Weapon n.f.d. %	Total weapons %	No weapons %	Total %
1995						
Homicide						
Murder	18.4	43.3	4.7	66.4	33.6	100.0
Attempted murder	26.6	48.5	0.3	75.4	24.6	100.0
Manslaughter	13.3	6.7	—	20.0	80.0	100.0
Assault(b)	0.6	8.9	0.3	9.8	90.2	100.0
Sexual assault	0.2	1.7	0.1	2.0	98.0	100.0
Kidnapping/abduction	2.6	7.7	1.1	11.3	88.7	100.0
Robbery	12.5	22.8	4.9	40.3	59.7	100.0
1994						
Homicide						
Murder	17.0	43.1	3.5	63.5	36.5	100.0
Attempted murder	23.7	51.8	3.6	79.0	21.0	100.0
Manslaughter	9.4	15.6	—	25.0	75.0	100.0
Assault(b)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Sexual assault	0.1	1.2	—	1.3	98.7	100.0
Kidnapping/abduction	3.8	9.3	0.7	13.9	86.1	100.0
Robbery	13.0	19.9	3.3	36.2	63.8	100.0

(a) Victims of robbery refers to individual persons or organisations. All other offence categories used in this table refer to individual persons. (b) Assault was collected for the first time in 1995.

Source: National Crime Statistics, 1995 (4510.0).

10.14 CRIMES RECORDED BY POLICE — 1995



Source: National Crime Statistics, 1995 (4510.0).

Drug offences

To combat the perceived serious and growing threat posed by the traffic in and abuse of drugs of dependence, there is close cooperation between the Commonwealth Government, State and Territory Governments, the various police forces and other agencies. In addition to other law enforcement agencies, the Australian Customs Service has responsibility for the enforcement of laws controlling the illicit importing and exporting of drugs.

Information on the widespread problems arising from drug abuse in Australia, and on how these problems are being approached, is in the *Australian Illicit Drug Report*, produced by the Australian Bureau of Criminal Intelligence (ABCI). A total of 54,815 arrests were made for drug related offences in Australia during 1994. Table 10.15 shows that by far the largest category of drug arrests was for cannabis, with 46,391 arrests (85% of the national total).

10.15 TOTAL ARRESTS BY DRUG TYPE, Excluding Steroids and Other Drugs — 1994

Offence category	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
NUMBER									
Cannabis	14 008	10 303	7 422	2 435	9 427	1 658	1 041	97	46 391
Cocaine	225	49	13	7	5	—	—	—	299
Heroin	1 448	843	279	201	114	24	69	14	2 992
Amphetamine	1 328	1 677	515	282	694	45	43	9	4 593
LSD	149	66	72	111	122	5	11	4	540
Total	17 158	12 938	8 301	3 036	10 362	1 732	1 164	124	54 815
%									
Cannabis	81.6	79.6	89.4	80.2	91.0	95.7	89.4	78.2	84.6
Cocaine	1.3	0.4	0.2	0.2	—	—	—	—	0.5
Heroin	8.4	6.5	3.4	6.6	1.1	1.4	5.9	11.3	5.5
Amphetamine	7.7	13.0	6.2	9.3	6.7	2.6	3.7	7.3	8.4
LSD	0.9	0.5	0.9	3.7	1.2	0.3	0.9	3.2	1.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Australian Illicit Drug Report, 1994 — Australian Bureau of Criminal Intelligence.

Courts

Courts exist in all Australian States and Territories for the hearing of both criminal and civil cases. A criminal case arises from a charge laid by police or other prosecuting authorities, and is an allegation of a breach of the law. A civil case, by contrast, is a dispute between two or more individuals or corporations, in which one side is seeking a legal remedy for an injury or loss from the other party who is alleged to be liable.

The courts are arranged in a hierarchy, with the bulk of less serious matters being heard before magistrates and more serious matters being heard before judges. In the civil context, the seriousness of a case is usually determined through the amount of money sought in compensation, while for criminal matters seriousness is determined by the nature of the offence alleged. Figure 10.16 shows the arrangement of the court system in Australia.

The hierarchy of courts also applies to the system of appeals. Appeals are available to the losing side in a civil matter, and to the defendant in a criminal matter, from all levels of court. The High Court of Australia is the highest court of appeal for both criminal and civil cases.

While they are an important aspect of the justice system, there is little national statistical information on the activities of the civil courts. The section which follows is therefore restricted to the criminal jurisdiction.

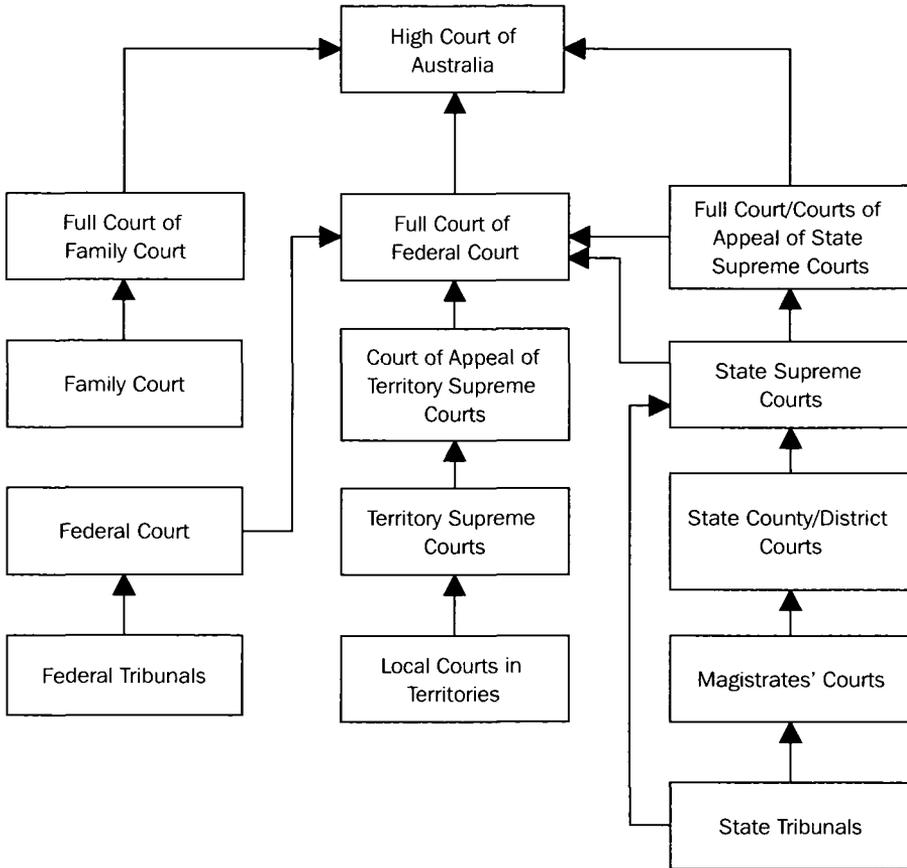
Criminal courts

All Australian States and Territories have a system of courts for the hearing of criminal matters. Once charges are laid by police, the court will hear evidence by both prosecution and defence, and will make a decision as to the guilt or innocence of the defendant. In cases where the defendant is found guilty, the court may also record a conviction and impose a penalty.

The courts in Australia are arranged in a hierarchical manner (figure 10.16). The lowest level of criminal court is the Magistrate's Court or court of summary jurisdiction. The majority of all criminal cases are heard in these courts. Cases heard in Magistrates' Courts do not involve a jury; the magistrate acts to determine the guilt of the defendant. This is known as a summary proceeding. Only relatively minor offences can be dealt with in this way. More serious offences are dealt with by the higher levels of court. All States and Territories have a Supreme Court, which can deal with all criminal matters. The larger jurisdictions also have an intermediate level of court, known as the District or County Court, which deals with the less serious offences. All offences which are dealt with by the higher courts have an automatic entitlement to a trial before a judge and jury. In some jurisdictions, the defendant may elect to have the matter heard before a judge alone. Offences which must be heard before a judge and jury are known as indictable offences. These include offences such as murder and drug importation as well as serious sexual offences, robberies and assaults.

The defendant in a criminal matter is entitled to appeal against the conviction or the severity of penalty imposed. Under some circumstances, the prosecution is also entitled to appeal against the leniency of the penalty. The States and Territories differ in the ways in which appeals are dealt with. Some appeals from Magistrates' Courts may be heard before the intermediate courts. In other jurisdictions the Supreme Court may hear these appeals. In most jurisdictions, an appeal court or Court of Criminal Appeal may be constituted to hear appeals from the Supreme or intermediate courts. In Australia, the highest court of appeal from all jurisdictions is the High Court of Australia.

10.16 HIERARCHY OF COURTS



Source: Industry Commission Report on Government Service Provision, Steering Committee for the Review of Commonwealth/State Service Provision, 1995.

National criminal courts statistics

There are no detailed national statistics on the operation of the criminal courts. A National Criminal Courts Statistics Unit (NCCSU), which is funded jointly by the ABS, the Commonwealth Attorney-General's Department, and the Attorney-Generals' departments of the eight States and Territories, has recently been set up with the task of providing a more comprehensive set of statistics.

Table 10.17 shows the number of judicial officers in each court type in the various jurisdictions. Slightly more than half of all judicial officers are assigned to the Magistrates' court in all States.

Of all criminal matters filed in Australia, 98% were filed in the Magistrates' Court, with New South Wales and Victoria contributing 60% to the national total (table 10.18).

10.17 COURT TYPE, By Number of Judicial Officers — 1995

Offence category	NSW no.	Vic. no.	Qld no.	SA no.	WA no.	Tas. no.	NT(a) no.	ACT(a) no.	Total no.
Supreme court	44	27	21	14	16	7	6	3	138
District/County court	58	54	32	17	19	n.a.	n.a.	n.a.	180
Magistrates' court	121	97	71	33	37	12	10	7	388
Total	223	178	124	64	72	19	16	10	706

(a) The Northern Territory, the Australian Capital Territory and Tasmania do not have District/County courts.

Table 10.17 excludes Judges and Magistrates assigned specifically to Childrens' Courts, Coroners' Courts, Courts of Appeal and Family Law Courts.

Source: *Unpublished ABS data.*

10.18 CRIMINAL MATTERS FILED, By Court Type — 1993–94

Offence category	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT(a) '000	ACT(a) '000	Total '000
Supreme court	1.0	0.8	1.3	0.5	0.4	0.4	0.1	0.2	4.7
District/County court	10.6	4.3	5.7	2.3	2.3	n.a.	n.a.	n.a.	25.2
Magistrates' court	400.0	522.5	219.1	142.7	181.6	25.9	15.7	8.0	1 515.5
Total	411.6	527.6	226.1	145.5	184.3	26.3	15.8	8.2	1 545.4

(a) The Northern Territory, the Australian Capital Territory and Tasmania do not have District/County courts.

Source: *Report on Government Service provision, Steering Committee for the Review of Commonwealth/State Service Provision, 1995.*

Correctional services

Correctional services are responsible for administering those penalties handed down by the criminal courts which require some form of supervision of the offender. This may include imprisonment on either a full or part-time basis, community service and other forms of supervised work, home detention or good behaviour bonds under supervision.

All States and the Northern Territory operate prisons and other correctional services. Separate provisions exist in each State and Territory for dealing with juvenile offenders. Convicted adult prisoners from the Australian Capital Territory serve their sentences in New South Wales prisons, but local provision is made for the short-term custody of remand prisoners, and for probation and parole services. The Commonwealth Government does not operate any prisons or other correctional services, and federal offenders (that is, persons convicted of offences under Commonwealth laws) fall within the jurisdiction of State agencies for correctional purposes.

A number of jurisdictions have established or are examining the possibility of establishing privately operated prison facilities. These prisons 'compete' with State operated facilities for the governments' business and are monitored by the Correctional Services

authorities in a similar manner to State operated prisons. There is likely to be an increasing trend towards this type of arrangement in future.

Prisoners in Australia

The total prison population in Australia has grown from 9,826 in 1982 to 16,944 in 1994. The unsentenced prisoner population, that is, prisoners awaiting their court trial, has grown from 996 in 1982 to 1,946 in 1994, while the population of sentenced prisoners has grown from 8,830 to 14,998 in 1994. Factors influencing the size of the prison population over this period have included legislative changes in some jurisdictions affecting the length of time prisoners spend in gaol, significant court delays in some jurisdictions leading to an increase in unsentenced prisoners, and changes to the ways in which minor offences are dealt with, particularly fine default.

In December 1995, the prison population in Australia averaged 16,059, a rate of 117.5 per 100,000 adult population (table 10.19). By far the majority of prisoners in Australia were male (95%). Prisoners also tended to be relatively young (median age of 31 years). As imprisonment is the most serious penalty which can be imposed by Australian courts, those convicted of more serious offences, or repeat offenders, comprise the majority of the prison

population. Violent and sexual offences account for around 47% of the offences for which persons were in gaol in 1994. Property offences also account for a relatively high proportion of the offences for Australian prisoners with around 28% of all prisoners in gaol for some form of property offence in 1994.

There is variation in the types of offences for which men and women are sentenced to imprisonment, reflecting the differences in the patterns of offending between men and women. The most common offences for males in 1994 were sexual offences, break and enter, robbery and assault. For women, the most common offences were fraud and misappropriation, dealing and trafficking in drugs, and break and enter.

New South Wales accounts for the majority of Australian prisoners, with 45% of the total. The next largest jurisdiction is Victoria, with only 15% of the total. This represents a marked difference in the imprisonment rates in Australia's two largest jurisdictions.

Overall imprisonment rates also vary between jurisdictions (graph 10.20). The average daily prison population rate for the Northern Territory is over twice that of the next largest jurisdiction, Western Australia.

There are three different indices used to measure Indigenous imprisonment in Australia: the number of Indigenous prisoners; the number as a proportion of the adult Indigenous population (rate per 100,000 adult Indigenous population); and the comparison (ratio) of Indigenous to non-Indigenous rates of imprisonment. Imprisonment rates per 100,000 adult Indigenous population enable the comparison of Indigenous imprisonment across the States and Territories, while the ratio indicates the extent to which the imprisonment rates of Indigenous persons exceed the imprisonment rates of non-Indigenous persons.

Based on counts taken on or near the first day of the month, in the June quarter 1996 the number of Indigenous persons in prison in Australia averaged 3,136, (19% of all prisoners in Australia). The national Indigenous imprisonment rate for the quarter was 1,768 per 100,000 adult Indigenous population and the ratio of Indigenous to non-Indigenous rates of imprisonment was around 18:1, that is, the national rate of Indigenous imprisonment was 18 times greater than the rate of non-Indigenous imprisonment.

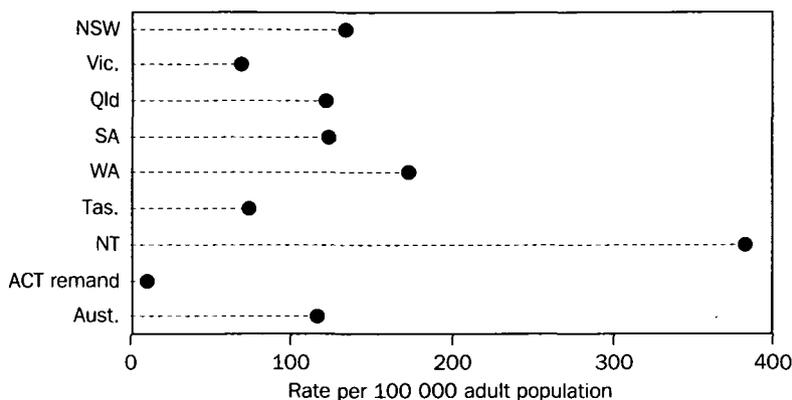
10.19 AVERAGE DAILY PRISONER POPULATION, By Sex — December 1995

Offence category	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT in NSW(a)	ACT remand	Aust.
NUMBER										
Males	5 927	2 293	2 905	1 332	2 138	252	458	77	22	15 327
Females	316	118	108	74	112	12	6	3	2	748
Persons	6 412	2 458	2 848	1 392	2 213	240	473	79	24	16 059
RATE PER 100 000 ADULTS										
Males	258.8	136.2	237.6	239.0	331.5	145.3	735.6	67.1	19.4	227.1
Females	13.4	6.7	8.7	12.8	17.3	6.8	9.8	2.6	2.0	10.8
Persons	134.2	70.1	122.4	123.9	173.8	74.8	384.3	34.9	10.7	117.5

(a) Prisoners sentenced in the Australian Capital Territory are held in New South Wales prisons and are included in the New South Wales figures. Australian Capital Territory in New South Wales represents a subset of the New South Wales total. They are not included in the Australian total as this would result in double counting.

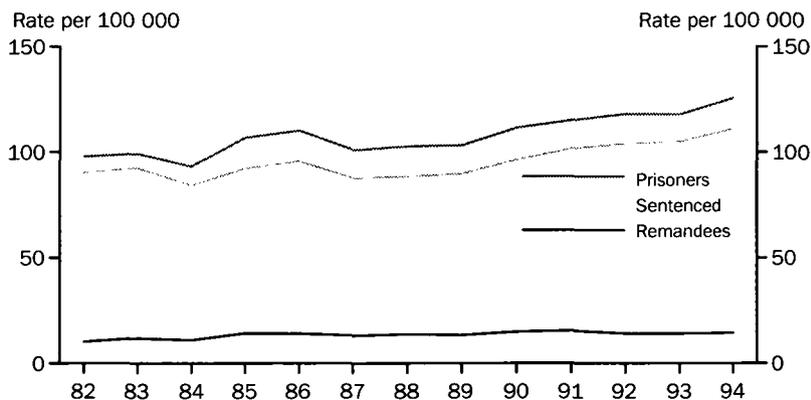
Source: National Correctional Statistics: Prisons, March Quarter 1996, Issue No. 3 — Report by the ABS to the Corrective Services Ministers' Council.

10.20 AVERAGE DAILY IMPRISONMENT RATES — December 1995



Source: National Correctional Statistics: Prisons, March Quarter 1996, Issue No. 3 Report by the ABS to the Corrective Services Ministers' Council.

10.21 PRISONERS, Adult Population(a)



(a) The data is a snapshot of the prison population as at 30 June of every year.

Source: Australian Prisoners Results of the National Prison Census, Australian Institute of Criminology, 1982 to 1994.

10.22 INDIGENOUS IMPRISONMENT — June Quarter 1996

	NSW(a)	Vic.	Qld	SA	WA	Tas.	NT	ACT(a)	Aust.
Number	857	110	800	255	739	26	341	1	3 129
Rate	1 828.0	947.4	1 716.8	2 309.6	2 721.9	442.7	1 256.2	89.6	1 763.6
Ratio(b)	15.8	13.8	15.6	21.2	23.4	6.0	7.6	1.6	17.6

(a) The number of Indigenous prisoners sentenced in the Australian Capital Territory and held in New South Wales prisons has been subtracted from the New South Wales figures and added to the Australian Capital Territory remand figures to provide total figures for the Australian Capital Territory. (b) Ratio of Indigenous to non-Indigenous rates of imprisonment.

Source: National Correctional Statistics: Prisons, June Quarter 1996 — A report prepared for the Corrective Services Ministers' Council by the National Correctional Services Statistics Unit.

Table 10.23 shows the proportion of sentenced prisoners for each State and for Australia as a whole. For example, the national figure for sentenced prisoners with driving offences is 3.9%, compared to Tasmania and the Northern Territory with 11% and 9% respectively. Similarly, 7% of prisoners in Tasmania, and 6% in the Northern Territory are in prison due to licence/registration offences, compared to New South Wales with a negligible percentage.

South Australia has the greatest proportion of prisoners with break and enter offences (18%), compared to Tasmania which has the lowest proportion with 7%.

In New South Wales, 11% of prisoners are in prison due to deal/traffic in drug offences, compared to the Northern Territory with less than 1%.

10.23 SENTENCED PRISONERS, By Most Serious Offence(a) — 1994

Offence category	NSW %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	ACT(b) %	Aust. %	Aust. no.
Homicide										
Murder	4.0	8.8	8.3	5.7	5.6	15.8	5.6	—	5.9	881
Other homicide	2.8	3.4	4.0	1.7	2.2	2.7	7.6	—	3.0	453
Assault	10.5	7.2	12.7	13.0	12.6	8.1	13.6	—	10.8	1 625
Sex offences	10.1	14.8	19.4	9.3	17.9	7.7	16.2	—	13.2	1 977
Other against person	0.6	1.8	0.7	1.9	1.5	—	2.3	—	1.0	154
Robbery	13.9	10.1	15.2	14.0	12.6	9.0	5.8	—	13.1	1 965
Extortion	0.3	0.2	0.2	0.2	0.1	—	—	—	0.2	37
Break and enter	13.4	11.8	14.2	17.5	13.7	6.8	9.3	—	13.4	2 014
Fraud and misappropriation	5.3	4.5	3.3	7.4	3.8	2.7	1.5	—	4.7	709
Receiving	2.2	1.1	0.8	2.4	0.9	2.3	0.8	—	1.7	251
Other thefts	7.4	10.8	4.9	2.9	4.6	7.2	5.3	—	6.8	1 016
Property damage(c)	1.1	1.4	1.3	0.9	1.4	1.8	2.0	—	1.3	189
Government security(d)	5.0	7.5	3.6	9.0	9.6	16.2	10.9	—	6.4	958
Possession of weapon	0.6	0.1	—	—	—	0.5	—	—	0.3	42
Other against good order	0.4	0.9	0.1	0.2	0.6	0.5	0.8	—	0.4	65
Possession/use drugs	0.9	0.5	1.4	1.4	1.2	—	0.5	—	1.0	145
Deal/traffic drugs	11.3	9.1	2.8	3.5	6.4	0.9	0.3	—	8.1	1 211
Manufacture/grow drugs	2.2	0.5	0.8	1.5	0.6	0.5	1.8	—	1.4	213
Driving offences	5.1	1.1	2.7	2.9	2.6	10.8	9.1	—	3.9	579
Licence/registration offences	—	3.4	2.2	4.2	1.5	6.8	6.1	—	1.6	238
Other traffic offences	—	—	—	0.2	0.1	—	—	—	—	4
Other offences	2.8	1.1	1.2	0.4	0.8	—	0.8	—	1.8	269
Offences in custody	—	—	0.1	—	—	—	—	—	—	3
Total	100.0	—	100.0	100.0	100.0	100.0	100.0	100.0	—	100.0	14 998

(a) The most serious offence is the offence with the longest sentence a prisoner has received. For unsentenced prisoners, the most serious offence is the charge which carries the longest statutory maximum penalty. (b) Persons sentenced to imprisonment in the Australian Capital Territory are held in New South Wales prisons as the Australian Capital Territory does not have the facilities to hold sentenced prisoners. Thus, statistics relating to the Australian Capital Territory sentenced prisoners are included with New South Wales figures. (c) Property damage also includes Environmental Offences. (d) Government security also includes Justice Procedures.

Source: *Prisoners in Australia, 1994 — Results of the 1994 National Prison Census — Report by the ABS to the Corrective Services Ministers' Council.*

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Introduction	285
Cultural and natural heritage	285
National Estate	285
Natural environment	286
National parks	286
Use of national parks	286
Museums and art museums	287
Museum and art museum attendance	287
Botanical gardens, zoological and marine parks	288
Botanical gardens	288
Attendance at botanical gardens	288
Zoological and marine parks	289
Libraries and archives	290
Libraries	290
National libraries' bookstock	291
Library attendance	291
Reading habits and book buying	291
Book publishing	292
Archives	292
Music and performing arts	293
Important national organisations	294
Attendance at performances	295
Film and video	296
Film and video production	296
Film and video distribution	298
Motion picture exhibition	298
Cinema attendance	298
Video hiring and watching	299
Multimedia	299
Radio and television broadcasting	300
National Transmission Agency (NTA)	301
Australian Broadcasting Corporation (ABC)	301
Special Broadcasting Service (SBS)	301
Radio and television operations	302
Australian Broadcasting Authority (ABA)	302
Radio and television services — summary of operations	302

Radio and television — listening and viewing habits	303
Training in the arts	303
Festivals	304
Fifty years of arts councils in Australia	304
Employment and participation in cultural activities	305
Employment in cultural occupations	305
Involvement in culture/leisure activities	305
Government funding for culture	306
Sport and recreation	307
Government funding for recreation and sport	308
Sport, recreation and gambling industries	308
Involvement in sport	309
Participation in sport and recreation	310
Sports attendance	310
Bibliography	311

Introduction

Cultural and recreational activities are essential to a shared sense of quality of life, and take many forms. At a national level these forms range across cultural heritage, creative and performing arts, music, literature, film and video, libraries, radio and television, leisure, sports and recreation.

This chapter reviews a range of cultural and recreational activities which Australians undertake, and provides a statistical summary (where available) for those activities.

Cultural and natural heritage

Australia's heritage is drawn from its cultural and natural environments.

Cultural heritage includes many different types of Indigenous sites, such as ceremonial grounds and rock art galleries, and historic places of significance, such as old towns and residential and commercial buildings, shipwrecks and streetscapes.

Natural heritage includes places which are of scientific, archaeological, aesthetic and ecological importance. It can also include geological features and landscapes. Extensive areas of coastline, forests, wetlands and desert are included in national parks, nature reserves and wilderness areas. Many smaller sites are important habitats for native flora and fauna, enabling the conservation of threatened species. Many natural places are also significant to Indigenous communities for cultural reasons.

Conservation of heritage places involves identifying them, surveying their values, classifying and managing them. These functions are shared between all levels of government and their statutory authorities, with assistance from academic and professional bodies, individuals and community conservation organisations such as the National Trusts and conservation councils in each State.

The Commonwealth Government works in partnership with the community and with State and Territory Governments. It also undertakes heritage activities on its own account where the implications of these actions go beyond State or

local boundaries. Examples of this include the nomination of sites for World Heritage listing, the protection of Aboriginal heritage, and advice about proposals which might affect places entered in the Register of the National Estate — Australia's national Heritage list.

National Estate

The term 'the National Estate' was coined by William Clough Ellis, a British architect in the 1940s. It was introduced into Australia when the Federal Government set up a Commission of Inquiry into the National Estate, headed by Hon. Mr Justice R.M. Hope. The inquiry aimed to 'preserve and enhance the quality of the National Estate'. Following the recommendations of this inquiry, the Australian Heritage Commission Act was passed in 1975 with the support of all political parties.

'The National Estate' is defined in the legislation as:

'... those places, being components of the natural environment of Australia, or the cultural environment of Australia, that have aesthetic, historic, scientific or social significance or other special value for future generations as well as for the present community.'

Both publicly and privately owned places form part of the National Estate. It encompasses places which are important to local communities, as well as those which are of regional or State significance. The National Estate also includes places which have national or international significance. Broad stretches of coastline, desert, forest and national parks, as well as isolated geological monuments and small areas which might provide habitats for endangered plant or animal species, are part of the National Estate. It can cover whole villages and suburbs, streetscapes, single mansions, cattlemen's huts, railway yards and other reminders of Australia's industrial heritage. Places of Aboriginal or Torres Strait Islander significance such as rock engravings, galleries of rock art, fish traps, carved trees, meeting places, ceremonial sites, and reminders of early European settlement such as mission stations are also part of Australia's National Estate.

The Australian Heritage Commission has a statutory obligation to identify the National Estate and has established the Register of the National Estate to place on public record Aboriginal, Historic and Natural places to ensure that they are appropriately managed and conserved.

Places are sometimes lost to the National Estate because of natural events such as flooding and bushfires. Some are also lost through redevelopment or neglect. There are no legal constraints on the way State and local

governments, other organisations or private citizens, manage places in the Register. The Commonwealth Government is the only body whose actions are legally constrained as a result of entering a place in the Register.

During 1995–96, the number of places in the Register of the National Estate increased by a net 372 to 11,403. This compared with a net increase of 258 in 1994–95. Details by State and type, and comparisons between 1994–95 and 1995–96, are shown in table 11.1.

11.1 NUMBER AND TYPE OF PLACES ON THE REGISTER OF THE NATIONAL ESTATE

State/Territory	Aboriginal places		Historic places		Natural places		Total	
	1994–95	1995–96	1994–95	1995–96	1994–95	1995–96	1994–95	1995–96
New South Wales	208	213	2 671	2 844	408	417	3 287	3 474
Victoria	101	103	2 166	2 193	200	200	2 467	2 496
Queensland	144	144	632	705	255	261	1 031	1 110
Western Australia	74	74	846	879	223	229	1 143	1 182
South Australia	143	143	735	745	360	361	1 238	1 249
Tasmania	64	63	1 144	1 153	226	227	1 434	1 443
Northern Territory	86	86	102	105	52	52	240	243
Australian Capital Territory(a)	10	10	122	137	28	28	160	175
External Territories	—	—	15	15	16	16	31	31
Total	830	836	8 433	8 776	1 768	1 791	11 031	11 403

(a) Includes Jervis Bay.

Source: Australian Heritage Commission.

More comprehensive statistics on the types of places on the National Estate can be found in the annual reports of the Australian Heritage Commission.

Natural environment

The natural environment includes conservation areas and areas used for outdoor recreation (except sport) such as national and State parks or reserves, other natural areas on the National Estate or equivalent State or Territory government registers, tourist caves, and picnic and recreation (not sporting) grounds. Management of the natural environment ensures the preservation of local flora and fauna, controls and excludes the development of the area for fishing, forestry, mining or agriculture and, where appropriate, facilitates access by the general public.

National parks

National parks are established by both Commonwealth and State/Territory legislatures. There is no coordinating legislation, although all governments participate in national forums and

cooperate in joint programs, such as the National Reserves System, to achieve a common purpose. The *National Parks and Wildlife Conservation Act 1975* is Commonwealth enabling legislation which provides for the establishment of parks and reserves on land owned or leased by the Commonwealth, in Commonwealth waters and on Aboriginal land leased to the Commonwealth.

Use of national parks

Table 11.2 gives the numbers and profile of the people visiting national parks in Australia. These findings are derived from a household survey conducted over four quarters in 1995–96, and show that a total of 3.48 million people (or 26.7% of the Australian population aged 18 and over) went to a national park in the three month period preceding conduct of the survey. Of these 1.79 million were males and 1.68 million were females.

11.2 VISITORS TO NATIONAL PARKS — 1995–96

Attendees	'000
Sex	
Male	1 790
Female	1 680
Total attendees	3 480
Age	
18–24 years	450
25–34 years	950
35–44 years	940
45–54 years	590
55–64 years	330
65 years and over	220
Birthplace	
Australian born	2610
Overseas born	870
Employment status	
Employed full-time	1870
Employed part-time	660
Unemployed	160
Not in labour force	780

Source: *Population Survey Monitor, 1995–96.*

Museums and art museums

Museums are defined by the International Council of Museums as institutions, generally housed in one or more buildings, primarily engaged in the collection, acquisition, conservation and exhibition of the material evidence of people, their culture and environment, for the purpose of education and enjoyment by the general public and/or specialists. Conceptually, museums include art museums and historical theme parks, such as Sovereign Hill, but exclude commercial art galleries as they are regarded as retail outlets. However, in the discussion below and in tables 11.3 and 11.4, museums and art museums have been treated as separate entities, and there is no double counting between them.

While there is no centralised system of administration for Australian museums and art museums, there is a central professional organisation called Museums Australia, based in Melbourne. This organisation is associated with the International Council of Museums. In addition to providing professional advice for its members, Museums Australia provides information about member institutions, including collections and policies. During 1996, the National Museum of Australia commenced development of a national Internet access program called AMIS. When completed, AMIS

will offer access to information of cultural, historic and scientific heritage items in every museum in the country.

In many cases, State museums and art museums were established many years before their national counterparts. As a result, a number of notable national collections are housed in museums operated by or through State governments, rather than being housed in the national institutions. The main national museums and art museums are the National Museum of Australia, the Australian National Maritime Museum, the Australian War Memorial museum, the National Science and Technology Centre (Questacon), the National Gallery of Australia, and the National Portrait Gallery at Old Parliament House in Canberra (operated by the National library). The last major national survey of museums was conducted in 1993. The results provided an estimate of over 1,700 museums and art museums operating in Australia at that time.

Museum and art museum attendance

A survey of attendance at cultural venues was conducted by the ABS in March, 1995. It revealed that 3.9 million people, or 27.8% of the Australian population aged 15 and over, had visited a museum at least once in the previous 12 months. Of these, 3.1 million (or 22.3% of the Australian population aged 15 and over) had visited an art museum.

In 1995 Museums Australia conducted a survey of 283 larger museums with paid staff, which found that the total operating expenditure of these institutions was \$351m, and total income \$341.9m (table 11.4).

11.3 ATTENDANCE AT MUSEUMS AND ART MUSEUMS — 1995

	Museums '000	Art museums '000
Sex		
Male	1 866.9	1 317.5
Female	2 038.6	1 816.6
Total	3 905.6	3 134.1
Age		
15–24 years	766.8	628.1
25–34 years	828.7	597.5
35–44 years	938.7	643.3
45–54 years	645.6	590.5
55–64 years	383.6	349.5
65 years and over	342.2	325.2
Birthplace		
Australian born	2 950.6	2 351.4
Overseas born	955.0	782.8
Employment status		
Employed	2 604.4	2 059.8
Unemployed	223.8	167.5
Not in labour force	1 077.4	906.9

Source: Attendance at Selected Cultural Venues, March 1995 (4114.0).

11.4 INCOME AND EXPENDITURE FOR MUSEUMS AND ART MUSEUMS — 1994–95

	Units	Museums	Art museums	Total
Number	no.	175	108	283
Income	\$m	237.5	104.4	341.9
Operating expenditure	\$m	234.7	116.3	351.0
Capital expenditure	\$m	33.7	23.8	57.5

Source: Museums Australia Inc., Museums 1995 Survey.

Botanical gardens, zoological and marine parks

Botanical gardens

Botanical gardens are scientific and cultural institutions established to collect, study, exchange and display plants for research and for the education and enjoyment of the public. Some botanical gardens augment the living botanical displays with arboreta (tree collections), and herbaria (scientific collections of dried preserved plant specimens used for the accurate classification and identification of plants and plant material and for taxonomic studies), and some botanical gardens (those in Adelaide, Melbourne and Sydney) use annexes to extend the range of cultivated plant displays.

An increasing number of smaller regional botanical gardens have been created in recent years — often under the auspices of local government.

There are significant botanical gardens in each capital city, with the Australian National Botanic Gardens occupying a 90 hectare site on the lower slopes of Black Mountain in Canberra and 80 hectares at Jervis Bay. It contains the national collection and one of Australia's most comprehensive displays of living native plants. Officially opened in 1970, in September 1991 it was proclaimed a reserve under the *National Parks and Wildlife Conservation Act 1975*, which provided legal protection for the collections. The Australian National Botanic Gardens maintains 85,000 plants, representing more than 6,000 taxa — constituting about one-third of the vascular plants recorded for Australia.

In July 1993, the Australian National Botanic Gardens was the first botanical gardens and herbarium to make its information on Australian plant species, etc. available through a World Wide Web server on the Internet. The Jervis Bay Botanical Gardens has been placed on the Interim List of the Register of the National Estate in recognition of its importance as a research and teaching-based botanical garden established to display and interpret Australian flora, especially those of the New South Wales South Coast.

The Council of Heads of Australian Botanic Gardens, which comprises the heads of the principal Commonwealth, State and Territory botanical gardens, meets annually to discuss significant issues of gardens management.

The other national consultative body in this field is the Council of Heads of Australian Herbaria, which comprises the heads of the major Australian herbaria, with observers representing smaller and regional herbaria. It meets annually to discuss collections management and curation, and significant issues of botanical activity in Australia.

Attendance at botanical gardens

The Survey of Attendance at Selected Cultural Venues showed that over 5.4 million people (or 38.5% of the Australian population aged 15 and over) attended a botanical garden at least once in the 12 months ended 31 March 1995.

11.5 ATTENDANCE AT BOTANICAL GARDENS, Persons Aged 15 and Over — 1995

Attendees	'000
Sex	
Male	2 459
Female	2 951
Total	5 411
Age	
15–24 years	1 123
25–34 years	1 167
35–44 years	1 125
45–54 years	861
55–64 years	539
65 years and over	596
Birthplace	
Australian born	3 868
Overseas born	1 542
Employment status	
Employed	3 453
Unemployed	316
Not in labour force	1 642

Source: *Attendance at Selected Cultural Venues, March 1995 (4114.0)*.

Zoological and marine parks

Zoological parks and marine parks (i.e. animal, fauna, bird life, reptile parks; aquaria; aviaries; butterfly houses; dolphinariums) are primarily engaged in the breeding, preservation, study and display of native and/or exotic fauna in captivity, enclosures or natural environments, so as to be accessible to the general public on payment of an entrance fee. The term *marine parks* does not include declared 'marine parks' such as the Great Barrier Marine Park, which have been created for conservation purposes only, and are treated for statistical purposes as part of the natural environment.

Melbourne was the location of the first zoo in Australia, Melbourne Zoo being founded in 1857. There are now zoos and wildlife sanctuaries all over Australia. As well as the four traditional zoos in Sydney, Melbourne, Adelaide and Perth, there are numerous wildlife parks and sanctuaries, some associated with urban zoos and others privately owned. Some of the better known zoological parks and sanctuaries are Healesville Sanctuary (60 km from Melbourne), the Western Plains Zoo (Dubbo), Werrabee Zoological Park (Melbourne suburbs), The Territory Wildlife Park (Darwin), Monarto Zoological Park (70 km from Adelaide) and Lone Pine Koala Sanctuary (Brisbane). The best known marine park in Australia is Seaworld at Surfers Paradise, Queensland.

The Australasian Regional Association of Zoological Parks and Aquaria (ARAZPA) was formally established in 1990 at Auckland Zoo, New Zealand, and was incorporated in Australia in 1991. The Australian regional office is located in New South Wales. ARAZPA is administered by a Board of Management with committees addressing the region's species management program, ethics, budget and policy review, and animal husbandry. While the association has an increasing number of individual members, there are currently 42 full institutional members, which are zoological parks and aquaria. A key purpose of the association is to encourage the development of zoos and aquaria as conservation and education resources, and to promote zoological parks and aquaria as cultural institutions of high standing.

The 1995 Survey of Attendance at Cultural Venues shows that over 4.9 million people (or 35.3% of the Australian population aged 15 and over) visited an animal or marine park during the 12 months ended March 1995 (table 11.6). Of these, 3.1 million (or 22.2% of the Australian population aged 15 and over) visited a zoo at least once during the year.

11.6 ATTENDANCE AT ANIMAL AND MARINE PARKS, Persons Aged 15 and Over — 1995

Attendees	'000
Sex	
Male	2 269.6
Female	2 696.3
Total	4 966.0
Age	
15–24 years	1 113.4
25–34 years	1 311.5
35–44 years	1 132.1
45–54 years	673.7
55–64 years	402.1
65 years and over	333.0
Birthplace	
Australian born	3 631.5
Overseas born	1 334.4
Employment status	
Employed	3 315.3
Unemployed	297.2
Not in labour force	1 353.5

Source: *Attendance at Selected Cultural Venues, March 1995 (4114.0)*.

Libraries and archives

Libraries

The National Culture-Leisure Industry Statistical Framework divides libraries into five types: the National and State Libraries, Public Libraries, Special Libraries, Libraries in Higher Education Establishments and School Libraries. For further details, see *Year Book Australia, 1996*.

Australia's library roots may be traced back to 1788 when the first fleet arrived at Botany Bay, bringing with it Australia's first literature (such as treatises and manuals of surgeons, navigators and surveyors, bibles and prayer books) and the notion of the library.

By 1821 Sydney had a Biblical Library. In 1826 the Australian Subscription Library and Reading Room was opened. In 1869 this was bought by the colonial government and became the first Free Public Library of Sydney. It has since evolved into the State Library of New South Wales. Mechanic Institute Libraries were widespread during the 1830s, existing in Sydney, Melbourne, Brisbane, Perth, Adelaide and Hobart. Australia's first Special Library, the Sydney Law Library, opened in 1842. Australia's Parliamentary Libraries were established between the 1840s and 1870s and enjoyed prestigious status. At this time university libraries in Australia were quite insignificant. Soon after the gold rushes in the 1850s free Municipal Libraries appeared, mostly in country areas. However, in the colonial capitals, another type of free Public Library was developing. These libraries were wholly funded from public funds, and exist today as the State Libraries in each capital city.

The mid 1930s are deemed to mark the turning point in Australian library development. The first piece of modern library legislation in Australia was passed in 1939, and postwar development saw an expansion of University and Special Libraries, together with a shift towards a national policy for libraries, coordination and cooperation between libraries. The late 60s and 70s heralded library automation projects, including online information delivery.

In 1960 the National Library of Australia Act gave the statutory title of National Library to the Commonwealth National Library. Today the National Library of Australia provides national leadership and coordination in this field. It is responsible for developing and maintaining the collection of printed material published in

Australia, acquired under the provisions of the *Copyright Act 1968* and, as the national bibliographic centre, compiles and publishes the Australian National Bibliography.

The Library is also the Australian National Centre for the International Serials Data System, which assigns International Standard Serial Numbers (ISSN) to Australian serials, and is the Australian Agency for International Standard Book Numbers (ISBN).

The strategic direction envisaged by the National Library of Australia is a shift from collecting, storing and providing access to its collection at one site to making information in its various forms available to Australian libraries and individual researchers wherever they are located.

The National Document and Information Service project (NDIS), a cooperative venture with New Zealand, supports this vision. NDIS will be a key element in the Library's provision of technology-based information services, providing a gateway to recorded knowledge held in libraries and databases in Australia, New Zealand and other parts of the world. In preparation for wider electronic access to its collections, the National Library is planning for extensive digitisation of its Australian collections. In addition, it has established a presence on the Internet, and provides multimedia educational kiosks and an Internet Cafe for use by the public. It is also currently developing its first multimedia publications. *Images 1* is the National Library's new gallery of images available on the Internet. The service provides online access to 13,500 pictures.

First established in 1937 as the Australian Institute of Librarians, the Australian Library and Information Association (ALIA) is a major national organisation devoted to promoting quality library and information services and professionalism of library and information personnel. The Association's national headquarters are in Canberra, with a Branch in each State and Territory.

Established in 1988, the Australian Council of Libraries and Information Services (ACLIS) is the national, cross-sectorial libraries body which deals exclusively with the needs of institutions and supports research and development relating to Australian libraries. Its National Council is located in Canberra, with committees in each State and Territory. ACLIS was involved in the

development of the first national Library Industry Competency Standards during 1994–95, and is currently playing a major role in reforming the Copyright Act to enable libraries and information services to operate effectively in the emerging digital environment.

National libraries' bookstock

The Public Lending Right is a scheme established by the Commonwealth Government to compensate eligible creators and publishers for the loss of royalties on sales of books they may incur when copies of their books are available in public libraries. As part of the operation of this Scheme, surveys of bookstocks of national, State and Territory and public libraries are conducted. Results of surveys for 1988–89 to 1994–95 are shown in table 11.7.

11.7 NATIONAL, STATE AND PUBLIC LIBRARY BOOKSTOCK

Year	Bookstock million
1988–89	26.8
1989–90	27.4
1990–91	27.9
1991–92	28.4
1992–93	29.1
1993–94	29.1
1994–95	29.5

Source: Public Lending Right Committee, Annual Report 1994–95.

Library attendance

The 1995 Survey of Attendance at Selected Cultural Venues provides data for persons aged 15 and over who attended a national, State or local library at least once over the 12 month survey period. Table 11.8 shows that more than 5.4 million persons (or 38.4% of the Australian population aged 15 and over) attended one of these libraries at least once during the 12 months ended March 1995.

In June 1993, the Cultural Ministers Council established a national Libraries Working Group to advise on how Governments might best assist the State and public libraries in meeting the library, information and cultural needs of Australians.

The first national 'market research' based survey of its kind in Australia was conducted between October 1994 and January cultural infrastructure

11.8 ATTENDANCE AT LIBRARIES(a) – 1995

	'000
Sex	
Male	2 231.2
Female	3 171.9
Total	5 403.1
Age	
15–24 years	1 219.2
25–34 years	1 044.9
35–44 years	1 216.7
45–54 years	806.8
55–64 years	469.5
65 years and over	646.0
Birthplace	
Australian born	3 982.8
Overseas born	1 420.3
Employment status	
Employed	3 167.8
Unemployed	378.7
Not in labour force	1 856.6
Total visits	79 020.0

(a) National, State or local library only.

Source: Attendance at Selected Cultural Venues, March 1995 (4114.0).

of the nation — up to 1995. Among other things, the survey found that the library is “a heavily used component of the 69% usage levels within a five year period and around 50% usage by all age groups, socio-economic and demographic categories. It also established that the library is a multifunctional and recurrent resource for education, training, business research, personal interest and recreation”. In terms of patterns and range of use, it was noted that the high usage of the library for formal and informal educational purposes portrays the library as functioning as an additional arm of the national education system. It was also found that, among users, 68% are stable users or 'loyal clients'. In terms of how people position the library in practical and attitudinal terms, it was found that a majority of both non-users (54%) and users (90%) would automatically use the library if they wanted to find something out.

Reading habits and book buying

A household survey conducted in February 1995 revealed that 87.9% of males and 82.4% of females aged 18 years and over had read a newspaper in the week prior to the survey, and 46.8% of males and 57.8% of females aged 18 years and over had read a book in the week prior to the survey.

11.9 READING HABITS, Persons Aged 18 and Over — 1995

Literature read	Age (years)						Total %	Total '000
	18-24 %	25-34 %	35-44 %	45-54 %	55-64 %	65 and over %		
MALES								
Books	50.9	54.2	44.7	40.9	42.7	44.7	46.8	2 943
Magazines	72.3	73.7	68.1	68.1	52.7	52.5	45.9	3 922
Newspapers	85.5	88.4	88.1	87.4	94.8	84.4	87.9	5 531
Journals	*9.1	29.7	27.6	28.8	25.7	20.3	24.2	1 525
Other	*3.6	7.1	7.3	*6.8	*8.1	*2.7	6.1	381
None	*2.4	*0.2	*2.8	*6.3	*1.0	*8.0	3.3	209
FEMALES								
Books	57.2	61.9	61.1	55.1	55.5	53.2	57.8	3 770
Magazines	80.4	78.4	76.0	75.7	73.2	65.9	75.1	4 898
Newspapers	79.9	84.1	83.4	85.8	81.1	78.4	82.4	5 370
Journals	*8.9	16.6	17.4	21.9	18.5	8.9	15.5	1 007
Other	*6.1	*3.3	*5.4	*4.3	*2.8	*0.7	3.8	248
None	*1.8	*2.0	*0.7	*3.7	*3.1	*4.5	2.5	163

Source: Population Survey Monitor, February 1995 (4104.0).

The ABS Household Expenditure Survey provides extensive data on spending on the arts and on arts-related goods and services. A comparison of the total annual expenditure on books by all Australian households in 1988-89 and 1993-94 shows an increase of \$358m, with \$705m spent on books in 1988-89 and \$1,063m in 1993-94. Table 11.10 shows the annual averages of spending on books per person in 1993-94, by State and Territory.

11.10 ANNUAL AVERAGES OF SPENDING ON BOOKS PER PERSON — 1993-94

	Amount spent \$
Australian Capital Territory	96
Northern Territory(a)	70
Queensland	65
Victoria	65
New South Wales	57
South Australia	56
Western Australia	56
Tasmania	54
Australian average	61

(a) Darwin and environs and Alice Springs only.

Source: Household Expenditure Survey, Australia: Detailed Expenditure Items 1993-94 (6535.0).

Book publishing

In 1994, data were collected from 186 organisations in Australia predominantly engaged in book publishing and which engaged staff. Table 11.11 shows that these organisations

generated \$1,156.7m in turnover, of which \$841.7m was from sales of books. Of total book sales, \$487.7m were attributed to Australian titles.

Archives

Archives are institutions whose primary function is the permanent preservation of unique records, selected because of their administrative, financial, legal or other information value. These records are generally no longer required for the conduct of current activities by government agencies, non-government organisations or private individuals. While much archival work is an adjunct to other activity, there is a growing number of archival bodies, funded by governments and private sources, employing specialist staff to serve the legal, administrative and research needs of individuals and organisations.

Australian Archives is the Commonwealth organisation, established by the *Archives Act 1983*, responsible for the broad management of the range of Commonwealth records. The National Office of the Archives is in Canberra and there are offices in all States and the Northern Territory. It administers the legislative framework for Commonwealth records management (including arrangements for the disposal of records), identifies and documents records, provides appropriate custody and preservation arrangements (including archival storage) and makes records available under the

11.11 BOOK PUBLISHERS, Australia – 1994

	Unit	Total businesses
Organisations	No	186
Sale of books	\$m	841.7
Sales of other products	\$m	260.0
Total turnover	\$m	1 156.7
Average turnover per business	\$m	6.2
Wages and salaries paid	\$m	212.8
Royalties and fees paid	\$m	63.4
Total costs	\$m	1 001.2
Average costs per business	\$m	5.4
Sales of Australian titles	\$m	487.7
Royalties and fees paid per Australian book sales	%	13
Operating profit before tax	\$m	162.1
Profit margin	%	14

Source: *Book Publishers, Australia, 1994 (1363.0)*.

law. Records covered by the Act occur in all formats, from files and index cards through architectural models and photographs, films and video tapes to optical disks, computer databases, tapes and disks.

Some State and Territory archives have been established as separate authorities (New South Wales, Victoria, South Australia, Tasmania and the Northern Territory). Others still operate broadly under State Library control.

In addition, archives have been established by some churches, business corporations, universities and city councils. The Australian War Memorial collects private material concerning Australians at war and is also custodian of certain official Commonwealth records relating to war or warlike operations. The National Film and Sound Archive collects cultural material relevant to the film and sound media. Other corporate and private records continue to be collected by some State archives offices, libraries and universities.

Many of the bodies in the archives or records field are members of the Australian Council of Archives which provides a means of promoting cooperation on issues of common concern.

The Australian Archives has established a presence on the Internet, the World Wide Web site 'Archives of Australia', which enables all other archives in Australia to place information about themselves and their holdings on the Internet.

Music and performing arts

The first inhabitants of Australia used music and dance for ceremony rather than entertainment. Throughout the country, the music of Aboriginal people was song. As far as can be ascertained, there was no traditional Aboriginal music for instruments alone, although song is almost invariably accompanied by a kind of percussive sound, usually made by some kind of wood struck together by the singers themselves. The great majority of Aboriginal songs also function as dance music. The Aboriginal people never performed to an audience in a European sense.

The first European concert music heard in Australia was probably played by a Royal Marine band at the assembly on 7 February 1788, when the commission was read out appointing Captain Arthur Phillip as Governor and Commander-in-Chief of the British colony of New South Wales.

Theatrical performance began in Australia on 4 June 1789, when Governor Phillip and a party of officers went to a convict hut to see George Farquar's play *The Recruiting Officer* performed by a party of convicts, but it was not until 9 June 1796 that the first opera was performed in a theatre — *The Poor Soldier*.

Today, Australia stands beside other nations with its own unique cosmopolitan culture. It contains elements of an indigenous past, European migration from settlement through to the present day, and more recently interaction with and migration from Australia's Asian and Pacific neighbours. Involvement in music and

the performing arts has been a significant influence in the development of this culture.

Music covers all areas of the industry: composition; live performances ranging from the latest pop styles to classical instrumental, vocal and orchestral forms, recording and publishing; studio and concert performances; and the marketing of sheet music.

The performing arts concentrate on opera and musical comedy, theatre in its various forms and the various styles of dance, but also include artists working as acrobats, clowns, magicians, comedians, revue artists, poetry readers, and other performing artists.

Important national organisations

Three important national organisations in the music and performing arts area are the Australian Ballet, the Australian Opera and

Musica Viva. There is no national symphony orchestra by name, although there have been six symphony orchestras run by the Australian Broadcasting Corporation and located in the States. The *Creative Nation* policy launched in late 1994 indicated that the Sydney Symphony Orchestra would become the flagship symphony orchestra and have its own separate organisation although no change of name was indicated.

The Australian Ballet was established in 1961 as the nation's classical ballet company. The company usually performs in most Australian capital cities every year and tours overseas occasionally. The Australian Ballet has an international reputation as one of the top ballet companies in the world. Table 11.12 shows the number of performances given by the Australian Ballet, and its employment by category, over the years 1990 to 1995.

11.12 THE AUSTRALIAN BALLET

	1990	1991	1992	1993	1994	1995
PERFORMANCES						
Theatres in Australia						
New South Wales	84	82	80	79	82	81
Victoria	61	62	60	61	60	61
Queensland	10	12	—	9	11	11
South Australia	7	10	10	9	10	7
Western Australia	—	—	9	—	—	6
Australian Capital Territory	—	6	—	10	—	6
Other venues in Australia						
Open air	1	—	—	1	1	1
ABC-TV simulcasts	2	—	—	1	1	2
Overseas	22	—	27	18	14	—
Total performances	187	172	186	188	179	175
EMPLOYMENT						
Dancers	60	60	64	65	65	65
Staff						
Artistic	7	8	8	8	9	9
Music	5	4	4	4	5	5
Production and theatre	27	29	30	27	29	24
Marketing and publicity	11	11	13	15	19	23
Administration and finance	21	20	21	21	20	20
Total employment	131	132	140	140	147	146

Source: Australian Ballet Foundation, Annual Reports.

The Australian Opera is the largest performing arts organisation in Australia. Its revenue is \$37m, with more than \$21m earned at the box

office and \$9m received in government grants. In 1995 it presented 236 performances to total audiences in excess of 308,000 (table 11.13).

11.13 THE AUSTRALIAN OPERA(a)

	Unit	1992	1993	1994	1995
Salaries and wages paid	\$m	17.9	19.1	20.1	21.4
Performances	no.	213	233	233	235
Attendances	no.	285 376	286 376	302 852	308 561
Box office, donations and other income	\$m	22.7	24.2	25.7	28.0
Government grants	\$m	8.2	9.0	8.5	8.9

(a) Excludes operations of the Australian Opera and Ballet Orchestra, which became a subsidiary in 1993.

Source: *The Australian Opera*.

Musica Viva is Australia's national chamber music entrepreneur. A non-profit company founded in 1945 with headquarters in Sydney, Musica Viva has a Board with members drawn from all over Australia, a State committee structure and branch offices in capital cities.

During 1995, it presented concerts to just under 380,000 patrons in Australia and an additional 52,000 overseas (table 11.14).

11.14 MUSICA VIVA AUDIENCES(a)

	1992	1993	1994	1995
New South Wales	231 793	245 191	256 715	265 194
Victoria	29 301	39 941	40 220	41 150
Queensland	5 991	9 824	8 681	8 385
South Australia	8 246	8 755	9 853	10 035
Western Australia	23 322	37 693	38 203	32 931
Tasmania	8 784	9 720	9 586	11 567
Australian Capital Territory	8 815	11 421	10 266	10 478
Australia	316 252	362 545	373 524	379 740
Overseas	93 850	27 300	71 380	52 000
Total	410 102	389 845	444 904	431 740

(a) Includes audiences at regional touring concerts, education concerts, subscription concerts and special events.

Source: *Musica Viva*.

ABC Concerts, one of the operations areas of the Australian Broadcasting Corporation, manages a network of six State symphony orchestras, making it the largest orchestral organisation in the world. The diverse activities of the orchestras reach into Australian life in many ways: through live concert presentations in major venues, free open-air performances, regional touring, opera and ballet support, compact disc and audio cassette recordings, and broadcasts on national radio and television. During 1994-95, ABC Symphony Orchestras gave a total of 652 concerts of all types (paid, schools and free) to a total audience of 987,433, an average attendance of 1,514 per performance.

Attendance at performances

Attendance at music performances is a significant aspect of the cultural life of Australians. Table 11.16 shows attendance at popular and classical music concerts in the 12 months to March 1995. Popular music performances were the best attended, with 3.8 million people (or 26.9% of the Australian population aged 15 and over) attending at least one popular music concert, while 1.1 million (or 7.7% of the Australian population aged 15 and over) attended at least one classical music concert.

11.15 ABC SYMPHONY ORCHESTRAS, Performances and Total Attendances

Type of performance	1993-94		1994-95	
	Number of concerts no.	Total attendances no.	Number of concerts no.	Total attendances no.
Paid orchestral concerts	485	589 214	515	682 771
School concerts	169	87 554	106	78 944
Free concerts	22	260 556	31	225 718
Total	676	937 324	652	987 433

Source: *Australian Broadcasting Commission, Annual Report 1993-94; Australian Broadcasting Corporation, Annual Report 1994-95*.

11.16 ATTENDANCE AT MUSIC PERFORMANCES — 1995

Attendees	Popular music concert '000	Classical music concert '000
Sex		
Male	1 861.1	437.4
Female	1 929.7	643.8
Total	3 790.7	1 081.3
Age		
15–24 years	1 215.8	163.8
25–34 years	969.7	180.6
35–44 years	732.1	219.1
45–54 years	496.8	230.7
55–64 years	216.7	140.6
65 years and over	160.6	146.8
Birthplace		
Australian born	2 939.8	757.4
Overseas born	851.0	323.7
Employment status		
Employed	2 768.1	717.4
Unemployed	247.1	46.1
Not in labour force	775.6	317.8

Source: Attendance at Selected Cultural Venues, March 1995 (4114.0).

The popularity of musicals is reflected in attendance numbers at the performing arts. Table 11.17 shows that over 2.7 million people (or 19.3% of the Australian population aged 15 and over) attended at least one performance of musical theatre. Least attended were dance performances; 1.4 million (or 10% of the Australian population aged 15 and over) attended at least one dance performance in the previous 12 months.

Film and video

Film and video production

Australia has a well developed audiovisual production industry which is composed, for the most part, of small specialised companies. They produce programs ranging from feature films to sports coverage, documentaries and television commercials. A relatively small number of companies engage exclusively in film and television drama production. The majority specialise in the production of commissioned programs such as commercials and corporate communications.

11.17 ATTENDANCE AT THE PERFORMING ARTS — 1995

Attendees	Dance performance '000	Theatre		Other performing arts '000
		Musical '000	Other '000	
Sex				
Male	515.4	1 021.0	906.3	1 209.7
Female	892.0	1 701.1	1 430.0	1 424.6
Total	1 407.5	2 722.1	2 336.3	2 634.4
Age				
15–24 years	310.3	531.2	547.2	669.0
25–34 years	278.4	501.0	506.8	706.5
35–44 years	318.9	530.1	479.5	589.6
45–54 years	253.7	544.0	400.7	349.0
55–64 years	121.4	302.7	216.4	168.5
65 years and over	124.8	313.1	185.8	151.8
Birthplace				
Australian born	1 029.5	2 092.2	1 775.5	2 074.1
Overseas born	377.9	629.9	560.8	560.3
Employment status				
Employed	956.2	1 853.1	1 631.9	1 872.0
Unemployed	84.3	102.0	122.2	150.4
Not in labour force	366.9	767.0	582.2	612.0

Source: Attendance at Selected Cultural Venues, Australia, March 1995 (4114.0).

The major market for Australian audiovisual producers is the domestic television broadcast industry. Export markets are important mainly for feature films and television dramas, some high-budget documentaries and some commercials.

Private and public television stations produce a large volume of programming — including drama and situation comedy, news and current affairs, light entertainment, 'infotainment' and sketch comedy, sports coverage, and children's programs — at an estimated cost in excess of \$838m.

The film and video production industry comprises businesses mainly engaged in the production of motion pictures on film or video tape for theatre or television projection. Services such as casting, film editing and titling are also included.

Table 11.18 shows the findings of a survey of the film and video production industry conducted by the ABS in respect of 1993–94. At the end of June 1994, there were 1,179 businesses in the film and video production industry. These businesses employed a total of 5,998 persons and generated \$467.7m from the sales of goods and services, and a further \$121.2m from the sale of rights for completed works. The industry had a total income of \$607.7m and expenses of \$705.8m, resulting in an operating loss of \$98.1m. An amount of \$463.0m was spent on the production of films and videos. This consisted of \$184.2m on productions made for television, \$143.4m on productions other than

for television (including \$87.3m on feature films), and \$135.4m on production of commercials and advertisements. During 1993–94, the industry completed or was working on 4,420 productions (the majority of which (3,733) related to corporate/marketing/training videos), and 29 feature films were in production or were completed.

11.18 FILM AND VIDEO PRODUCTION INDUSTRY, SUMMARY OF OPERATIONS — 1993–94

	Unit	
Businesses at end June	no.	1 179
Total employment at end June	no.	5 998
Sales of goods and services	\$m	467.7
All other income	\$m	140.1
Total expenses	\$m	705.9
Operating profit before tax	\$m	-98.1

Source: *Film and Video Production and Distribution, 1993–94* (8679.0).

The Commonwealth Government provides assistance and encouragement, through measures such as the investment program of the Australian Film Finance Corporation and the Australian content regulations of the Australian Broadcasting Authority, to enable the production of high cost dramas and documentaries. Table 11.19 shows the number and value of Australian titles produced from 1990–91 to 1994–95.

11.19 AUSTRALIAN FILM INDUSTRY, Number and Value of Australian Titles(a)

Type of film	1990–91		1991–92		1992–93		1993–94		1994–95	
	No.	Value \$m	No.	Value $m	No.	Value $m	No.	Value $m	No.	Value $m
Features	26	133	34	135	24	91	31	210	20	113
Mini-series	15	65	6	26	14	79	4	33	12	69
Series and serials	16	101	26	69	14	69	16	100	17	98
Telemovies	3	2	5	6	10	26	14	24	22	54
Total	60	301	71	237	62	266	65	367	71	334

(a) Includes co-productions, foreign titles shot in Australia and Australian titles shot overseas.

Source: *Australian Film Commission*.

The year 1995 marked one hundred years of film production in Australia. To celebrate this event, Film Australia Limited contributed a four-part documentary series entitled *The Celluloid Heroes*. In addition, the National

Library and the Australian Council of Film Societies prepared eight silent film packages, each of which focuses on a particular aspect of silent cinema and contains a feature on 16mm film.

Another major event for 1995 was the passing in the Federal Parliament of the Classification (Publications, Film and Computer Games) Act (the 'Classification Act'). This legislation signals a new regime with emphasis on classification rather than censorship. A new National Code has also been devised and is a schedule attachment to the legislation. This Code represents the consensus of the Commonwealth, State and Territory Governments regarding the different categories for films, videos, computer games and publications.

Film and video distribution

The film and video distribution industry comprises businesses mainly engaged in leasing or wholesaling motion pictures on film or video tape to organisations for exhibition or sale. Agents mainly engaged in leasing and wholesaling films and videos to organisations are also included.

Table 11.20 shows that, at 30 June 1994, there were 69 businesses in the industry, employing 981 people. These businesses generated \$571.1m from the sales of goods and services, and had an operating profit before tax of \$39.6m.

During 1993-94, 4,678 Australian titles were distributed worldwide, of which 4,346 were distributed in Australia.

11.20 FILM AND VIDEO DISTRIBUTION INDUSTRY, SUMMARY OF OPERATIONS — 1993-94

	Unit	
Businesses at end June	no.	69
Total employment	no.	981
Sales of goods and services	\$m	571.1
All other income	\$m	69.6
Total expenses	\$m	601.1
Operating profit before tax	\$m	39.6

Source: *Film and Video Production and Distribution, Australia, 1993-94* (8679.0).

Motion picture exhibition

The motion picture exhibition industry comprises businesses mainly engaged in screening motion pictures on film or video tape. It also includes businesses mainly engaged in drive-in theatre operation, cinema operation and film or video festival operation.

Some of the findings of a survey on the motion picture exhibition industry, conducted by the ABS in respect of the 1993-94 financial year, are shown in table 11.21. At the end of June 1994, there were 224 businesses in the industry, employing 5,729 people.

The motion picture exhibition industry had an operating profit before tax of \$75.2m for 1993-94, which represented a relatively high operating profit margin of 12%, compared with the average 8.9% achieved by all industries in the Australian economy for that year.

At the end of June 1994, there were 329 cinema sites and 41 drive-in sites in Australia. For 1993-94 the total number of paid admissions for cinemas and drive-ins was 61.6 million.

11.21 MOTION PICTURE EXHIBITION INDUSTRY, SUMMARY OF OPERATIONS — 1993-94

	Unit	
Number of businesses	no.	224
Employment	no.	5 729
Number of paid admissions		
Cinemas	'000	60 047
Drive-ins	'000	1 557
Total expenses	\$m	560.1
Gross income	\$m	635.3
Operating profit before tax	\$m	75.2

Source: *Motion Picture Exhibition, Australia, 1993-94*, (8654.0).

Cinema attendance

The March 1995 Survey of Attendance at Selected Cultural Venues provided the first ABS figures for cinema attendances in Australia for persons aged 15 years and over. Over 8.7 million persons (or 62.1% of the Australian population aged 15 and over) attended a hardtop cinema, drive in or other public screening of a film at least once in the 12 months ending 31 March 1995.

11.22 ATTENDANCE AT CINEMAS, Persons Aged 15 and Over — 1995

Attendees	'000
Sex	
Male	4 075
Female	4 658
Total	8 734
Age	
15–24 years	2 351
25–34 years	2 051
35–44 years	1 829
45–54 years	1 255
55–64 years	627
65 years and over	620
Birthplace	
Australian born	6 720
Overseas born	2 014
Employment status	
Employed	5 954
Unemployed	522
Not in labour force	2 258

Source: Attendance at Selected Cultural Venues, March 1995 (4114.0).

Video hiring and watching

The Retail and Services Census for 1991–92 collected data on all shopfront locations classified as video hire outlets. There were 3,181 video hire outlets operating, employing 13,032 persons, mostly on a part-time basis. They achieved a turnover of \$608m.

11.23 VIDEO HIRE OUTLETS — 1991–92

	Unit	
Locations	no.	3 181
Locations per 100 000 head of population	no.	18
Persons employed at 30 June 1992		
Males	no.	5 298
Females	no.	7 734
Total	no.	13 032
Wages and salaries paid	\$m	89
Turnover	\$m	608

Source: Australia's Culture No. 5: Video Hire, Cultural Ministers Council, Statistical Advisory Group.

In a survey in February 1994, the ABS asked some questions about video watching. Just under 60% of households with children viewed a video in the two weeks prior to the survey, while 39.5% of adults reported that they had viewed a video in that period. The survey also

found that almost 5.1 million households (79.3% of all households in Australia) had a video recorder and that just under 58% had hired at least one video in the previous month.

Multimedia

Multimedia is rapidly emerging as a significant new creative medium. Multimedia presents on a computer some combination of media forms such as voice, music, video, photographs, animation and text, usually for the purposes of education, marketing, training or entertainment. A few years ago, different equipment or products were required to experience each of these methods of presentation, but recent advances in computer technology have enabled them all to be available in one package on a desktop computer. Therefore another simple definition of multimedia is a 'combination of previously separate media'. Multimedia is a subset of the broader 'new media' which has been defined as any and all of the following:

- enrichment of traditional means of communicating information (e.g. digital audio broadcasting, high definition TV, digital audio and video production or post-production);
- combination of previously separate media (e.g. multimedia, digital video conferencing, CD-ROM); or
- creation of entirely new media (e.g. hypertext, hypermedia, virtual reality).

Developments in the latter category of new media have made on-line services such as the Internet increasingly easy for people to use.

The terms 'multimedia' and 'new media' are often used interchangeably. The most important feature of multimedia is its potential for 'interactivity', the ability of the user to respond to what is presented and control what is presented next.

Until a few years ago, most computer software was aimed primarily at business and education markets. However the household market has grown rapidly in recent years. In February 1996, 30% (1,960,000) of households in Australia frequently used a computer at home, up from 23% two years earlier. Computer use was more prevalent in households comprising a married couple with children (45% of such households) than in other households. Of the households with a computer, 41% (811,000) were equipped with a CD-ROM drive, up from 12.5% in

February 1994, and 23%, had a modem or external link compared to 17% two years earlier. Since 1993 most new computers sold in Australia have been equipped with CD-ROM drives, increasing the market for multimedia products on CD-ROMs

The storage capacity of CD-ROMs and market penetration of CD-ROM drives have made them the leading platform for multimedia products (or 'titles'). Of the multimedia titles described in the Australian Film Commission's *Australian Multimedia Catalogue 1996*, 82% are for this platform. On-line multimedia services are hampered by the capacities of public communications networks. However the rollout of optical fibre cable by telecommunications companies, increasing publicity about information available on the Internet, declining costs of access, and the potential for modems to be packaged with new personal computers, will all contribute to an expanding market for on-line services.

In October 1994, the Commonwealth Government released its cultural policy statement *Creative Nation*, which introduced a series of initiatives designed to ensure that Australia was in the forefront of this emerging world business. Initiatives included funding for the establishment of the Australian Multimedia Enterprise to encourage investment in Australian multimedia products and services, and Cooperative Multimedia Centres to provide access to training, expertise and facilities; funding for the *Australia on CD* program; funding for the Australian Film Commission, the Australian Film, TV and Radio School and the Australian Children's TV Foundation to extend their multimedia projects; and sponsorship of industry forums. All of these programs have continued since the election of the Coalition to government

The *Australia on CD* program is administered by the Department of Communications and the Arts. The aim of the program is to showcase a wide range of Australian cultural endeavour, artistic performance and heritage achievements while also encouraging the development of the Australian multimedia industry. The 10 CD-ROMs will be distributed free to all Australian schools, public libraries, Austrade offices and overseas missions. A wide range of Australian cultural institutions have been involved in the creation of the CD-ROMs, including the National Museum of Australia, National Gallery of Australia, National Institute

of Dramatic Art, Australian Opera, Australian Ballet, National Library of Australia, Powerhouse Museum, Australian War Memorial and the Aboriginal and Torres Strait Islander Commission.

Some cultural institutions such as museums have begun to enhance exhibits by using multimedia in displays on computers known as 'information kiosks', often incorporating 'touch-screen technology', where the viewers can determine what they view by touching the screen rather than using a keyboard or mouse.

Administrators of museums, art museums, libraries and historic sites have also begun to make use of the Internet to introduce their collections to people who may not otherwise have visited these institutions. Through the Internet, Australians may now see the latest displays at the Smithsonian Institute in the United States and paintings in the Louvre and view contemporary art from all over the world. The arts community, particularly in the visual arts, has been quick to embrace the Internet to display work and share news and ideas with artists around the world.

Radio and television broadcasting

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Minister for Communications and the Arts. Commonwealth bodies which are involved include Telstra, the Australian Broadcasting Corporation (ABC), the Special Broadcasting Service (SBS), the Australian Broadcasting Authority (ABA), the Department of Communications and the Arts, the Australian Telecommunications Authority (AUSTEL), and the Spectrum Management Agency (SMA).

Basically, the Australian broadcasting system comprises the following types of services

- National radio and television services broadcasting programs produced by the Australian Broadcasting Corporation and the Special Broadcasting Service;
- commercial radio and television services operated by companies under licence;
- subscription television services;
- public radio services operated by incorporated associations under licence on a non-profit basis, and

- Parliamentary radio service to State capitals, Canberra and Newcastle.

National Transmission Agency (NTA)

The NTA, which is a part of the Department of Communications and the Arts, is responsible for the design, construction, operation and maintenance of a complex network of transmission facilities used primarily for the transmission of the programs of the ABC and SBS throughout Australia. In regional and remote areas, commercial licensees make extensive use of the NTA's transmission facilities to deliver their services, as do radiocommunications operators.

During 1995–96 the NTA increased the signal coverage of the network by adding 50 transmitters, resulting in an additional 2.7 million people gaining access to various national radio and television services. The number of transmitters accommodated at NTA sites but owned by commercial, community and self-help operators rose from 475 to 503.

Australian Broadcasting Corporation (ABC)

The ABC is an independent statutory corporation established by the *Australian Broadcasting Commission Act 1983*. The Act requires the ABC to:

- provide within Australia innovative and comprehensive radio and television services of a high order;
- provide programs that contribute to a sense of national identity, inform and entertain, and reflect the cultural diversity of the Australian community;
- provide radio and television programs of an educational nature;
- promote Australia's musical, dramatic and other performing arts; and
- transmit to other countries radio and television programs of news, current affairs, entertainment and cultural enrichment that encourage awareness of Australia and international understanding of Australian attitudes on world affairs.

At 30 June 1996, the ABC provided:

- six distinctly targeted radio networks across Australia on over 6000 transmitters which include Metropolitan Radio stations in nine

cities, Regional Radio with 39 regional stations and 11 smaller studios, Radio National, ABC-FM, and the Triple-J youth radio network;

- a national television service carried on about 600 transmitters;
- Radio Australia, an international radio service broadcast by shortwave and satellite in English and eight other languages to the Asia-Pacific regions and worldwide;
- Australia Television, an international satellite television service broadcasting to over 30 countries and territories in Asia and the Pacific;
- a 24 hour news and parliamentary broadcast radio service to all capital cities except Darwin, and to Newcastle;
- an international network of press offices; and
- six State Symphony Orchestras employing about 490 musicians and providing about 650 performances to almost one million people (see table 11.15 and supporting text).

The ABC also operates a network of retailing outlets (24 shops and 119 ABC centres) known as ABC Enterprises. Operations include the production of books, classical and contemporary recordings, audio cassettes, videos, multimedia and licensed products, and music and magazine publishing.

During 1995–96, the ABC established multimedia as a new output form for the Corporation. ABC Online, the Corporation's Internet publishing service, was launched in August. The ABC is also engaged in several projects as part of the *Australia on CD* program.

Special Broadcasting Service (SBS)

The SBS was established by the Commonwealth Government on 1 January 1978. Its principal function is to provide multilingual radio and television services that inform, educate and entertain all Australians and, in doing so, reflect Australia's multicultural society.

SBS television broadcasts to all State capital cities and to a number of regional centres. It now services areas containing in excess of 15.8 million people and delivers programs in over 60 languages.

SBS Radio became the world's first national multilingual radio service on 26 January 1994 with the commencement of services to Adelaide, Perth, Darwin and Brisbane. At 30 June 1995, SBS Radio was available in all capital cities except Canberra and Hobart, and the regional centres of Wollongong and Newcastle. During 1996 new transmitters in Canberra and Hobart were completed so that SBS National Radio now covers all State and Territory capital cities.

The Corporation is exploring the opportunities provided by new communications technologies. A new unit, Multimedia and New Developments, has been set up to examine service delivery through media such as the Internet, CD-ROM and Pay TV as well as the multiple avenues which digital technology opens up for radio and television.

Delivery of SBS radio and television programs continues to be via the Optus satellite system, except for Sydney TV and radio and Melbourne radio services. SBS currently uses analogue technology for its satellite program distribution, but it is now in the second year of a three year plan to provide \$1m per year for digital technology. These funds were primarily allocated to upgrading television facilities although some funds were directed to research into digital radio.

Radio and television operations

Australian Broadcasting Authority (ABA)

The Authority, established in October 1992 under the *Broadcasting Services Act 1992*, is the broadcasting regulator for radio and television in Australia. As well as planning the availability of segments of the broadcasting services bands (VHF/UHF television, FM and AM radio), the Authority has the power to allocate, renew, suspend and cancel licences and collect any fees payable for those licences.

The Authority is also empowered to conduct research into community attitudes on programming matters, develop program standards relating to broadcasting in Australia, assist broadcasting service providers (licensees) develop codes of practice, monitor compliance with licence conditions and investigate complaints about services.

The authority monitors the suitability of licensees to ensure compliance with ownership and control provisions of the Act. In addition,

the Authority is required to inform itself and the Minister about functions and trends in broadcasting technology.

Commercial television broadcasting services licences are subject to five year terms, compulsory standards on Australian content and children's television and a condition that the licensee be a suitable person. Ownership and control limitations also apply. Under these conditions, no person may be in a position to control more than one television licence in a market or control licences with a combined audience reach of more than 75% of the Australian population. Foreign control of television licences is also restricted. Commercial licences may be transferred at will, subject only to notification requirements under the ownership and control rules. Commercial radio broadcasting licences are subject to less restrictive ownership provisions.

Community radio and television are not subject to ownership limitations, and subscription radio broadcasting services and all categories of narrowcasting services are also not subject to ownership limits or suitability requirements.

The Authority issued 38 new commercial radio licences during 1995–96. It issued 453 non-satellite pay TV licences.

The demand for new categories of radio services resulted in the Authority issuing 440 low power open narrowcasting licences during the period. Also issued were 398 open narrowcasting licences for temporary transmissions by aspirant community broadcasters, making a total of 1,119 issues since October 1992.

The Broadcasting Services Act requires apparatus licences to be issued for all national television and radio broadcasting services. During 1995–96, the Authority issued 1,002 national (ABC and SBS) radio and television apparatus licences.

Sixty licences (36 commercial radio, five commercial television and 19 community radio) were renewed in 1995–96.

Radio and television services — summary of operations

Table 11.24 provides a summary of the operations of radio and television services for 1993–94. At 30 June 1994, there were 314 organisations in the radio and television services industry. Total employment in the

industry was 19,375 persons, with 12,211 (63%) employed in the television services industry and 7,164 (37%) in the radio services industry. Total sales of goods and services were valued at \$2,699.2m, with television services generating \$2,174.5m (81%) and radio services accruing \$524.7m (19%). In addition, there was a further \$776.7m of income received by the industry which mainly related to government funding for government-owned broadcasters.

The radio and television services industry recorded an operating profit before tax of \$394.6m for the year ended 30 June 1994. The television services industry recorded an operating profit before tax of \$376.9m, while the radio industry recorded a smaller profit of \$17.7m. Private broadcasters recorded a profit of \$396.1m during the year, which represented an operating profit margin of 15%.

11.24 RADIO AND TELEVISION SERVICES, SUMMARY OF OPERATIONS — 1993–94

	Unit	Radio services	Television services	Total
No. of organisations	no.	268	46	314
Total employment	no.	7 164	12 211	19 375
Sale of goods	\$m	524.7	2 174.5	2 699.2
All other income	\$m	274.9	501.8	776.7
Total expenses	\$m	781.9	2 299.4	3 081.3
Operating profit before tax	\$m	17.7	376.9	394.6

Source: *Radio and Television Services, Australia, 1993–94*, (8680.0).

Radio and television — listening and viewing habits

The 1992 Time Use Survey provides an insight into how Australians spend their time listening to the radio and watching television. While people spend on average more than one and half hours a day listening to radio, during almost all of that time they are doing a more important (main) activity, whereas for nearly 60% of the time people watch television it is their main activity.

11.25 AVERAGE TIME SPENT LISTENING TO RADIO AND WATCHING TELEVISION STATIONS — 1992

Activity	As a main activity Minutes per day	As part of all activities Minutes per day
Radio stations	4	101
Television stations	103	172

Source: *Time Use Survey, Australia, 1992 (4153.0)* unpublished data.

Training in the arts

Training in the arts in Australia covers a broad range of resources. Formal training is available through courses in Technical and Further Education institutions, universities and private institutions. A number of on-the-job training programs are also available in the arts and many organisations offer in-house training programs for their staff. The last decade has seen the development of multi-disciplinary tertiary arts training institutions in some States.

CREATE Australia is the national peak advisory body on vocational education and training for the sports and recreation, arts, media, entertainment, and heritage industries. It is one of a number of Industry Training Advisory Bodies supported by industry and government. CREATE Australia's primary purpose is to promote and enhance the quality and effectiveness of vocational training and education by providing a forum through which industry can express its vocational education and training needs. CREATE Australia's industry coverage encompasses the design, film, television and radio, music, performing arts, visual arts and crafts, museums, libraries, community arts, sports, recreation and publishing industries.

A number of national specialised education institutions have been established to provide training in cultural fields. For example, the Australian Film, Television and Radio School is the national training centre for the film and broadcasting industries. The National Institute of Dramatic Art (NIDA) is the national training school for people who wish to enter the profession of theatre, film or television as actors, directors, designers, stage managers, theatre crafts technicians, production managers or teachers of voice and movement. The Australian Ballet School provides full-time training to the highest standard for young Australian dancers

seeking a career in the classical dance profession.

A significant development has been the establishment of the Australian National Academy of Music in 1995. This Academy, a joint venture between the Commonwealth and Victorian Governments and organised as a subsidiary company of the University of Melbourne, aims to be a centre of excellence for young musicians of outstanding talent. The Academy offers master classes and short term programs which bring the most distinguished national and international performers and music educators into contact with up to 40 students at any one time.

Festivals

The Commonwealth Department of Communications and the Arts uses the following definition for festivals:

'A festival is a celebratory event organised within a community usually occurring at regular intervals and which involves cultural activities of special importance.'

Festival organisations are set up to organise specific indoor or outdoor cultural festivals, exhibitions or events. Festivals may embrace a number of different art forms (e.g. the Adelaide Festival of Arts, the Festival of Perth), or be limited to a specific art form (e.g. the Tamworth Country and Western Music Festival).

The last 10 years or so have seen the establishment of several new, important arts festivals in Australia. Music festivals constitute the largest group of festivals in Australia, almost half of them devoted to jazz. On average, arts festivals attract 20–25% of their audience from outside their local communities. Volunteers play a major role in the organisation and operation of festivals. Even for those festivals with paid staff, the average number of staff employed is quite small.

Festivals Australia is a Commonwealth Government cultural grant program which provides assistance to regional and community Australian festivals for the presentation of quality cultural activities. It is administered as a complementary program to Playing Australia within the Commonwealth Department of Communications and the Arts. Recommendations are made to the Minister for

the Arts on applications for assistance under Festivals Australia.

Table 11.26 reflects the findings of a survey of festivals conducted in 1995 by the Australia Council, and shows that the total government grant backing small and large arts festivals in Australia amounted to \$13.3m. Box office and subscription sales for larger arts festivals amounted to \$16.6m, while sponsorships and donations amounted to \$10.7m. Income totalled \$46.9m for larger arts festivals and \$7.6m for smaller arts festivals. The Australia Council defined large festivals as those with expenditure of \$300,000 and above. Using this measure, 31 arts festivals were included in the 'larger' group.

11.26 OPERATING INCOME AND EXPENDITURE OF ARTS FESTIVALS — 1995

	Larger arts festivals \$m	Smaller arts festivals \$m
Government funding	11.5	1.8
All other income	35.4	5.8
Total income	46.9	7.6
Salaries and fees	17.0	3.0
All other expenditure	28.9	4.6
Total expenditure	45.9	7.6

Source: Australia Council, *Festival Survey 1995*.

Fifty years of arts councils in Australia

The arts council movement began in Australia in 1943 with the establishment in New South Wales of the Council for Education through Music and Arts by Dorothy Helmrich. In 1946 the organisation was reconstituted as the Arts Council of Australia.

Today the Council is a national network of arts councils supporting the development of arts and cultural activities in rural communities. Thousands of volunteer members of local arts councils in each State are an integral part of the arts council movement.

The original aim of the movement was 'to bring art, in all its forms, to the people, to encourage them not only to cultivate an appreciation ... but also to express themselves in some or other of the arts and crafts'. Participation in the arts remains a principal aim of the arts councils today.

Employment and participation in cultural activities

This section contains a selection of ABS statistical data ranging over the whole spectrum of cultural industries and activities. More comprehensive data can be found in the publications listed in the Bibliography.

Employment in cultural occupations

According to the 1991 Census of Population and Housing, the number of people working in a cultural occupation as their main job was 119,513. The number of persons whose main job was in a cultural occupation group increased

by 12% from the figure recorded in the 1986 Population Census — a 6.6% increase for males compared with a 24.1% increase for females. Authors and related professionals were the occupation group where the largest increase was recorded (49.5%). Two occupation groups recorded falls over the period 1986 to 1991. Architects and landscape architects recorded a fall of 4% despite a 26.9% increase in the number of females; the number of persons recorded in the Performing arts support workers group fell by 9.8% (males fell by 9.8% and females by 3.5%).

11.27 NUMBER OF PERSONS IN SELECTED CULTURAL OCCUPATIONS

Occupation group	1986			1991		
	Males	Females	Total	Males	Females	Total
Architects and landscape architects	8 456	968	9 424	7 786	1 228	9 014
Painters, sculptors and related professionals	1 262	854	2 116	1 528	1 379	2 907
Photographers	4 164	1 052	5 216	3 937	1 308	5 245
Designers and illustrators	6 923	6 483	13 406	9 194	8 099	17 293
Journalists	6 166	3 740	9 906	5 974	4 343	10 317
Authors and related professionals	970	936	1 906	1 395	1 454	2 849
Film, television and stage directors	2 444	823	3 267	2 782	1 018	3 800
Dancers and choreographers	216	463	679	270	553	823
Musicians, composers and related professionals	4 648	1 492	6 140	5 169	1 820	6 989
Actors and related professionals	1 295	830	2 125	1 312	939	2 251
Announcers	1 616	404	2 020	1 739	430	2 169
Performing arts support workers	4 898	1 486	6 384	4 325	1 434	5 759
Craftworkers	1 839	1 853	3 692	2 454	2 347	4 801
Total	44 897	21 384	66 281	47 865	26 352	74 217

Source: Census 1986 and 1991.

Involvement in culture/leisure activities

In March 1993 an ABS survey collected information about the involvement of persons aged 15 and over in selected culture and leisure activities during the previous 12 months. Work in selected culture and leisure activities was defined to include both paid and unpaid involvement, but excluded involvement solely for the respondent's own use or that of their family.

During the 12 months ended March 1993, 1.6 million people (11.8% of the Australian population aged 15 and over) were involved in selected culture and leisure activities. Of these persons, 34.7% received some payment (table 11.28).

11.28 PERSONS INVOLVED IN CULTURE AND LEISURE ACTIVITIES, 12 Months to March 1993

	Paid involvement only '000	Unpaid involvement only '000	Paid and unpaid involvement '000	Total persons involved '000	Persons with no involvement '000	Total persons '000	Participation rate %
MALES							
NSW	38.5	130.5	35.5	204.5	2 081.9	2 286.4	8.9
Vic.	37.9	109.0	33.6	180.5	1 533.1	1 713.6	10.5
Qld	28.6	77.8	26.2	132.6	1 043.3	1 175.9	11.3
SA	11.2	42.1	14.1	67.4	502.9	570.3	11.8
WA	9.2	43.8	15.2	68.2	583.4	651.5	10.5
Tas.	4.2	11.2	4.4	19.7	155.1	174.8	11.3
NT	1.4	4.2	1.5	7.0	51.2	58.3	12.1
ACT	6.3	13.4	5.2	24.9	87.7	112.6	22.1
Aust.	137.2	431.9	135.7	704.8	6 038.6	6 743.4	10.5
FEMALES							
NSW	40.9	184.3	38.7	263.8	2 068.4	2 332.2	11.3
Vic.	37.7	153.1	38.3	229.1	1 529.8	1 758.9	13.0
Qld	25.5	117.3	26.0	168.8	1 013.4	1 182.2	14.3
SA	11.0	59.0	12.6	82.6	500.1	582.7	14.2
WA	13.0	59.2	16.2	88.4	559.7	648.1	13.6
Tas.	3.2	16.9	4.4	24.5	154.9	179.4	13.7
NT	2.2	5.1	2.5	9.8	45.4	55.2	17.8
ACT	6.0	18.6	4.1	28.8	86.7	115.4	24.9
Aust.	139.5	613.6	142.8	895.9	5 958.3	6 854.2	13.1
PERSONS							
NSW	79.3	314.7	74.2	468.3	4 150.3	4 618.6	10.1
Vic.	75.6	262.1	71.9	409.6	3 062.9	3 472.4	11.8
Qld	54.1	195.1	52.2	301.4	2 056.8	2 358.2	12.8
SA	22.2	101.1	26.7	150.0	1 003.0	1 153.0	13.0
WA	22.1	103.0	31.4	156.6	1 143.1	1 299.6	12.0
Tas.	7.4	28.0	8.8	44.3	310.0	354.3	12.5
NT	3.6	9.4	4.0	16.9	96.6	113.5	14.9
ACT	12.3	32.0	9.3	53.7	174.3	228.0	23.5
Aust.	276.7	1 045.5	278.5	1 600.7	11 996.9	13 597.6	11.8

Source: *Work In Selected Culture/Leisure Activities, Australia, March 1993 (6281.0)*.

Many persons were involved in more than one type of activity. There were over 2.6 million involvements in selected culture and leisure activities, with the most popular activities being the teaching of cultural activities, writing/publishing, music, performing arts and organising fetes/festivals. Most of these involvements were of a short-term and part-time nature, involving 13 weeks or less duration and less than 10 hours a week.

Government funding for culture

Culture in Australia receives considerable financial support from the Commonwealth Government in the form of direct grants and

through the provision of taxation benefits. This support is complemented by State, Territory and local governments.

The total outlays for cultural funding of the Commonwealth and State/Territory Governments for 1993-94 was \$2,256m, with the largest funding category being for radio and television broadcasting (\$780m) from the Commonwealth. Table 11.29 shows the government outlays on culture for 1993-94.

State Government funding goes predominantly to national parks and wildlife services (\$383.7m in 1993-94). According to the latest figures available (table 11.30) local government funding goes predominantly to libraries and archives (\$271.8m in 1992-93).

11.29 CULTURAL FUNDING BY COMMONWEALTH AND STATE/TERRITORY GOVERNMENTS — 1993–94

	Level of government		Total \$m
	Commonwealth \$m	States/Territories \$m	
Public halls and civic centres	—	0.7	0.7
National parks and wildlife services	92.9	383.7	476.5
Zoological and botanical gardens	5.3	51.8	57.1
Libraries and archives	73.8	194.6	268.5
Literature and publishing	9.8	2.8	12.6
Museums	47.4	98.7	146.2
Art galleries	19.6	52.9	72.5
Visual arts/crafts and photography	14.1	9.1	23.2
Performing arts venues and arts centres	—	74.5	74.5
Music (excluding opera)	12.8	9.6	22.4
Other performing arts	32.8	36.1	68.8
Cultural heritage	30.5	31.9	62.4
Radio and television broadcasting	780.0	0.3	780.3
Film and video production	81.5	18.0	99.4
Administration of culture	22.6	20.5	43.1
Community cultural activities	29.0	9.7	38.6
Other culture n.e.c.	8.5	1.1	9.6
Total	1 260.5	995.8	2 256.3

Source: *Cultural Funding in Australia 1993–94*, Cultural Ministers Council.

11.30 CULTURAL FUNDING BY LOCAL GOVERNMENTS — 1992–93

	Level of funding \$m
Public halls and civic centres	88.2
National parks and wildlife services	—
Zoological and botanical gardens	—
Libraries and archives	271.8
Literature and publishing	1.5
Museums	5.3
Art galleries	12.1
Visual arts/crafts and photography	2.3
Performing arts venues and arts centres	33.2
Music (excluding opera)	3.0
Other performing arts	6.4
Cultural heritage	25.1
Radio and television broadcasting	0.3
Film and video production	0.1
Administration of culture	5.6
Aboriginal and Torres Strait Islander cultural activities	0.3
Community cultural activities	2.6
Other culture n.e.c.	5.2
Total	463.0

Source: *Cultural Funding in Australia 1992–93*, Cultural Ministers Council.

Sport and recreation

Australia is internationally recognised as a nation interested in sport. At the elite level, Australian athletes are among the best in the world in a number of disciplines, and this reputation is reinforced through regular world-class

performances on the international scene. Apart from the elite level, Australians in general have the health, opportunity and facilities available to participate in a wide range of sport and physical activities. This participation is encouraged in the formative school days, where physical education introduces students to sport and physical activity at an early age. At local level the club structure enables participants to enjoy both competitive sport and non-competitive active recreation.

The media plays a significant part in fostering interest in competitive and spectator sport, with significant time and space devoted to these fields by television, newspaper and radio. The business community also plays a significant part in fostering community support, through sponsorship.

Governments at all levels support the sport and recreation industry through the provision of facilities. The incentive for government support is the long established link between participation in physical activity and health. Active recreation is encouraged through the use of walking and cycling paths, national parks and reserves, swimming pools, beaches and similar facilities.

For many years after Federation the Commonwealth Government had little to do with the promotion of recreation activities and sporting development and participation, but

that has changed in more recent years with a much stronger focus on building of facilities and the training and development of athletes for international competition. At State and particularly at local government level, considerable funding is devoted to the provision of facilities for participation in recreational activities by the general public.

The Sport and Recreation Ministers Council (SRMC) provides the major mechanism for liaison between the Commonwealth Government and State/Territory Governments on matters concerned with sport and recreation in Australia. The Council is a forum for consultation and cooperation between the respective governments, its membership comprising ministers with prime responsibility for sport and recreation.

The Australian Sports Commission is responsible for planning and coordinating delivery of the Commonwealth Government's sports program. The Commission's mission is 'To enrich the lives of all Australians through sport' and its dual objectives are 'increased participation in sport and sports activities by Australians' and 'excellence in sports performance by Australians'.

The Australian Institute of Sport (AIS) conducts the Sports Commission's elite sports development programs, including assistance to elite athletes, coaching and travel support.

AIS scholarship programs exist for 21 sports and for athletes with disabilities. Current scholarship sports include baseball, basketball, canoeing, cricket, cycling, diving, golf, gymnastics, hockey, netball, rowing, rugby union, soccer, softball, squash, swimming, tennis, track and field, volleyball, water polo and wrestling. While many programs are at the AIS headquarters in Canberra, units have been established in Perth (hockey, women's volleyball), Brisbane (diving, squash), Adelaide (track cycling, cricket), Gold Coast (canoeing), Sydney (men's volleyball) and Melbourne (golf). Baseball, rugby union, softball, tennis, track and field, and women's water polo are decentralised. In June 1996 there were 585 AIS scholarship holders.

In addition to the scholarship program, the AIS administers the National Sports Program which offers the use of AIS facilities, resources and expertise for national sporting organisations' squads or teams.

In addition to its focus on elite sport through the AIS, the Sports Commission is responsible for the development and administration of participation programs for all age groups, including coaches, volunteers and officials. It also operates the National Sport Information Centre, which is Australia's premier information resource centre for sport.

Government funding for recreation and sport

The total current outlays of the three levels of government (Commonwealth, State and local) on recreation in 1994-95 was \$1,661m compared with \$1,579m in 1993-94 and \$1,447m in 1992-93.

The Commonwealth Government provided \$87m in 1995-96 for the Australian Sports Commission's program and administration. This figure included \$20m under the Olympic Athlete Program, which is designed to prepare Australia's athletes for the Sydney Olympic and Paralympic Games. During 1996 funding was provided to 114 organisations, with 16 national sporting organisations receiving over \$1m.

Sport, recreation and gambling industries

At the end of June 1995, there were 15,435 businesses in the sport, recreation and gambling industries according to preliminary results of a 1994-95 survey conducted by the ABS. These businesses employed nearly a quarter of a million people and generated income of over \$30b.

The survey covered employing businesses in a variety of industries associated with sport, recreation and gambling activities. The industries covered, and key aggregates from each industry, are shown in table 11.31.

There were 5,090 businesses in the sports industries. These businesses employed 62,371 persons and generated \$2,678.7m in income.

There were 2,041 businesses in the gambling industries. These businesses employed 32,086 persons and received \$15,539.2m in income, the major source of income (97%) being the takings and commissions from gambling. Total expenses for the gambling industry were \$14,234.9m, 70% of that amount being gambling prize monies and payouts.

There were 7,632 businesses in the hospitality clubs and the pubs, taverns and bars industries. These businesses employed 134,743 persons and received total income of \$11,176.4m.

Of the 111,285 gaming/poker machines used, 76% were in the hospitality clubs industry.

Other recreation services, including amusement parks or arcades, side shows, circuses and agricultural shows, accounted for another 672 businesses. These businesses employed 10,761 persons and a further 2,768 volunteers.

11.31 KEY AGGREGATES BY SPORT, RECREATION AND GAMBLING INDUSTRIES — 1994-95

Industry	Number of businesses no.	Total employment no.	Total income \$m
Horse and dog racing	906	15 149	844.1
Sports grounds and facilities n.e.c.	1 566	21 663	813.2
Sports and services to sports n.e.c.	2 618	25 559	1 021.4
Lotteries	178	2 042	4 204.5
Casinos	14	15 837	1 650.5
Gambling services n.e.c.	1 849	14 207	9 686.3
Pubs, taverns and bars	4 345	71 728	6 418.2
Clubs (hospitality)	3 287	63 015	4 758.3
Other recreation services	672	10 761	665.9
Total	15 435	239 961	30 062.4

Source: *Sport, Recreation and Gambling, Australia, 1994-95, Preliminary (8692.0)*.

Involvement in sport

In March 1993, an ABS survey collected information about the involvement of persons aged 15 and over in sport during the previous 12 months. Involvement in sport was defined to include both paid and unpaid participation in playing and non-playing capacities. Spectator involvement in sport was excluded.

The survey found that one third of the Australian population aged 15 years and over were involved in sport, as players (3.1 million), non-players (0.5 million) or both players and non-players (0.9 million). More men than women were involved as players and as non-players.

Overall, 35% of males played sport compared to 23% of females, and at all ages a greater proportion of males than females played sport. The higher the age group the lower was the percentage player participation (table 11.32).

For those involved in sport solely as non-players, the 35 to 44 years age group had the highest participation rate (8% for males, 9% for females). Their most common activities were as administrators or committee members.

11.32 PERSONS INVOLVED IN SPORT — March 1993

Age group (years)	Males		Females	
	All players(a) %	Non-players %	All players(a) %	Non-players %
15-24	55.5	1.3	39.4	1.9
25-34	42.5	3.1	28.1	4.2
35-44	32.3	8.1	20.7	9.1
45-54	25.0	6.8	14.8	4.6
55-64	21.1	3.5	14.5	1.1
65+	20.3	1.1	12.2	0.4
Total	35.3	4.1	23.1	3.8

(a) All players includes those players who have some non-playing involvement.

Source: *Involvement in Sport, Australia, March 1993 (6285.0)*.

Only 259,300 persons received some payment for their involvement, less than 5% of the total number involved in sport (5.9 million) (table 11.33). Coaching, instructing or teaching sport was the activity for which most persons were paid (97,800 people), while about 57,000 were paid for active sports participation.

11.33 PAID AND UNPAID INVOLVEMENTS IN SPORT — March 1993(a)

Type of involvement	Involvements			Participation rate %
	Paid '000	Unpaid '000	Total '000	
Playing involvements	57.0	3 906.5	3 963.6	29.1
Non-playing involvements				
Coach/instructor/teacher	97.8	433.7	531.5	3.9
Referee/umpire	63.1	362.8	425.8	3.1
Administrator/committee member	26.0	604.9	630.9	4.6
Other involvements	15.4	378.9	394.3	2.9
Total non-playing involvements	202.3	1 780.3	1 982.5	.
Total involvements	259.3	5 686.8	5 946.1	..

(a) Persons with several types of involvement were counted against each type of involvement.

Source: *Involvement in Sport, Australia, March 1993* (6285 0)

Participation in sport and recreation

Participation in organised and social sporting activities is measured by a quarterly household survey, the Population Survey Monitor. This is the first national survey undertaken by the ABS to measure participation in individual sports, and frequency of participation. The survey showed that in 1995–96 nearly one third of all people aged 18 and over participated in sport or physical activity which was organised by a club or association. The results of this survey were released in a publication entitled *Sport and Recreation Participation, Australia* (4177.0).

Sports attendance

A survey of sports attendance conducted by the ABS in March 1995 obtained data about the number of people who attended a sporting event as a spectator at least once in the previous 12 months. The survey excluded those under

15 years of age and attendance at junior and school sport.

The survey found that 6.2 million people, or 44.3% of the population aged 15 or more, went to a sporting event at least once during the year. Males were the predominant spectators, 51.5% (3.6 million) compared to 37.4% (2.7 million) of females.

Australian rules football attracted the most people across Australia to attend at least one game in the 12 month period. Almost two million (1,874,200) people saw at least one game, while of these people nearly 30% (553,300) saw 10 games or more.

Horse racing (1.7 million), rugby league (1.5 million) and cricket (1.2 million) follow Australian rules as the sports most attended at least once.

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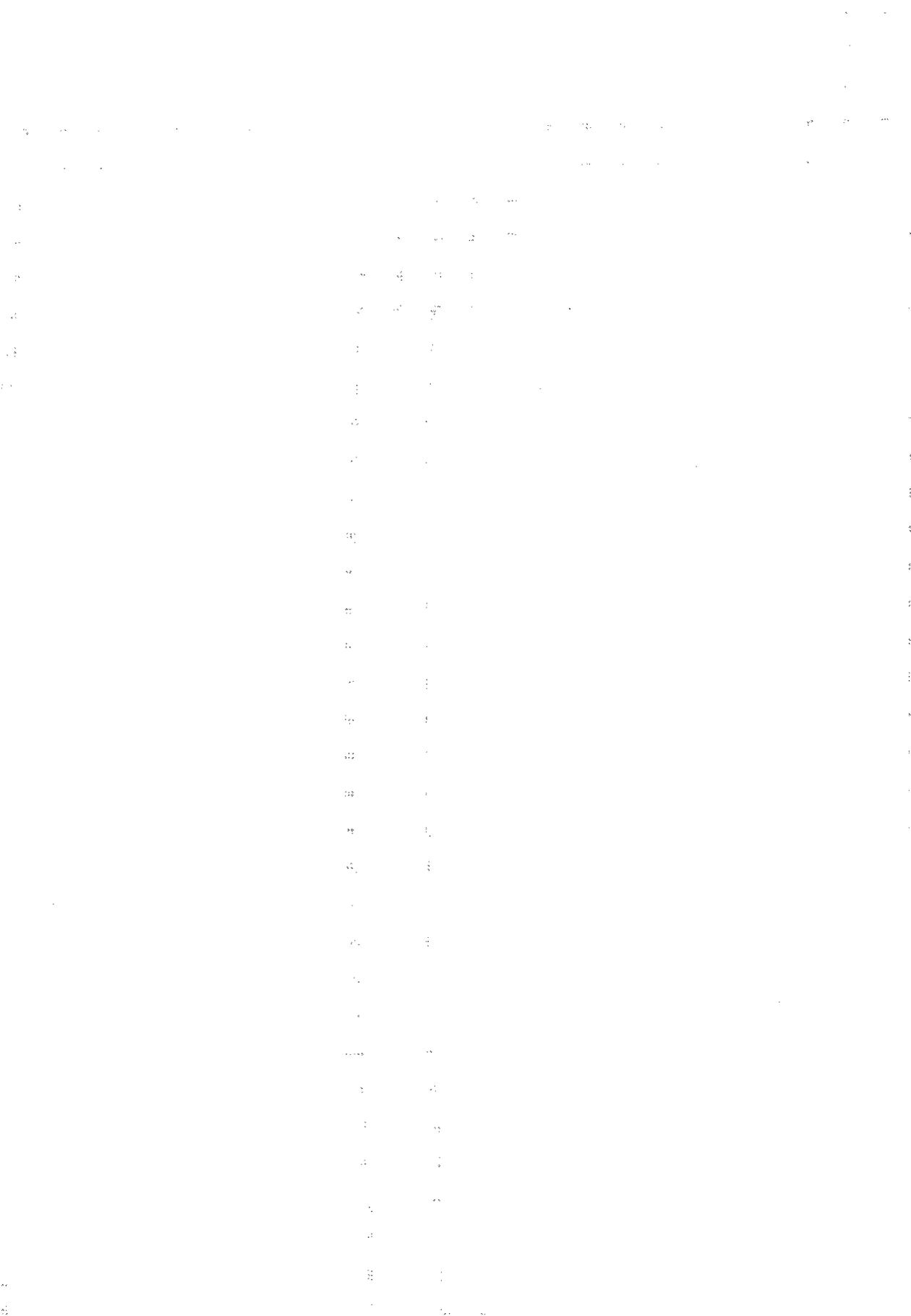
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Introduction	315
Industry contribution to Gross Domestic Product	315
Industry structure: classification, numbers and sizes of businesses	317
Business operations and performance	321
Employment in industries	323
Labour productivity	324
Industry contribution to capital expenditure	325
Bibliography	326
Special Article — Women in Small Business	327



Introduction

This chapter presents statistics on the structure and performance of the main broad industry sectors of the Australian economy and their relative contributions to overall economic activity in terms of employment, production and investment.

Tables 12.1 and 12.3 dissect the economy's production by industry. The remaining tables provide more detailed indicators of economic activity by industry, but they are limited in scope. Tables 12.4 to 12.7 and 12.10 to 12.14 include private employing and public trading businesses (i.e. non-employing businesses and general government organisations are excluded). Tables 12.8, 12.9 and 12.15 include private employing businesses but exclude public trading businesses.

Statistics in this chapter are presented at broad industry levels, generally equating to the Division level in the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (1292.0). However, the label Private community services has been adopted in some cases to emphasise the fact that general government units have been excluded from the Economic Activity Survey (EAS), an important source of data for this overview.

While the statistics presented in this chapter provide the basis for comparisons of business performance across industries, care should be taken when comparing data in industry-specific chapters with the data in this chapter. Any differences in the frequency, scope, statistical units and methodologies of the various collections used to compile the statistics should be taken into account when making such comparisons.

Industry contribution to Gross Domestic Product

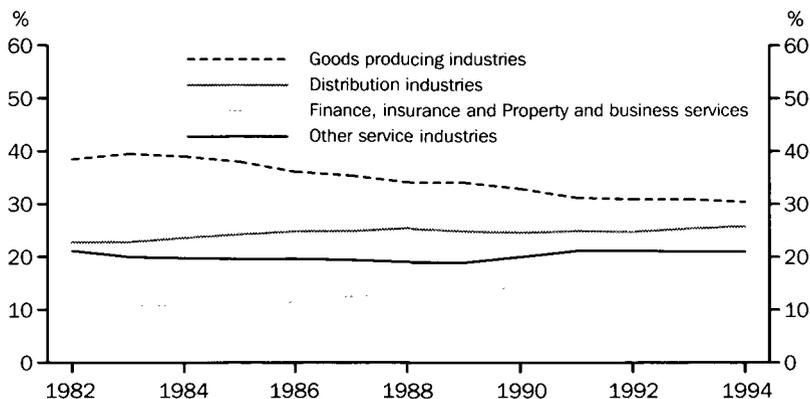
One measure of the changing importance of an industry within the economy is its contribution to Gross Domestic Product (GDP), as presented in the National Accounts. This is shown in percentage terms in table 12.1 and summarised, at a broader level, in figure 12.2. Table 12.3 shows the gross product of each industry in value terms at five-yearly intervals from 1974–75. While the proportions in table 12.1 are best calculated using data valued in current prices, trends in value aggregates, as in table 12.3, are best assessed in constant price terms, presently at average 1989–90 prices.

12.1 GROSS PRODUCT, By Industry — Proportion of GDP at Current Prices

Industry	1982–83	1984–85	1989–90	1992–93	1993–94	1994–95
	%	%	%	%	%	%
Agriculture, forestry and fishing	3.6	4.5	4.0	3.2	3.2	2.9
Mining	6.4	6.6	4.3	4.1	3.9	3.7
Manufacturing	17.8	17.4	15.2	14.1	14.3	14.6
Electricity, gas and water	3.7	3.7	3.3	3.4	3.3	3.0
Construction	6.9	6.8	7.3	6.1	6.2	6.2
Wholesale trade	8.4	9.4	10.4	10.1	10.6	10.7
Retail trade	7.0	6.9	7.4	7.4	7.5	7.5
Accommodation, cafes and restaurants	1.7	1.6	1.9	2.0	2.0	2.1
Transport and storage	5.6	5.8	5.3	5.3	5.3	5.6
Communication	2.1	2.2	2.3	2.7	2.6	2.8
Finance and insurance	4.6	4.5	5.4	7.1	7.1	7.1
Property and business services	6.0	6.3	8.2	8.2	8.0	8.1
Government administration and defence	4.5	4.1	3.5	3.9	3.9	3.8
Education	5.2	4.8	4.4	5.0	4.9	4.7
Health and community services	5.5	5.1	5.0	5.6	5.5	5.6
Cultural and recreational services	1.9	1.9	1.9	2.1	2.2	2.3
Personal and other services	1.8	1.7	1.7	1.9	1.8	1.8
Ownership of dwellings	8.6	8.3	9.4	9.9	9.7	9.5
Import duties	1.2	1.3	1.1	0.8	0.8	0.8
Less imputed bank service charge	2.5	2.7	2.0	3.0	2.8	2.7
All industries (GDP(I))	100.0	100.0	100.0	100.0	100.0	100.0

Source: Australian National Accounts, National Income, Expenditure and Product (5204.0).

12.2 CONTRIBUTION TO GDP, By Broad Industry



Source: Australian National Accounts, National Income, Expenditure and Product (5204.0).

In figure 12.2 goods-producing industries include Agriculture, forestry and fishing, Mining, Manufacturing, Electricity, gas and water and Construction. Distribution industries include Wholesale trade, Retail trade, Accommodation,

cafes and restaurants and Transport and storage. Other service industries include Communication, Education, Health and community services, Cultural and recreational services and Personal and other services.

12.3 GROSS PRODUCT, By Industry — Average 1989–90 Prices

	1974–75 \$m	1979–80 \$m	1984–85 \$m	1989–90 \$m	1994–95 \$m
Agriculture, forestry and fishing	10 745	12 334	14 115	14 820	13 558
Mining	9 129	9 557	12 115	15 829	17 967
Manufacturing	43 847	48 066	49 226	56 370	64 623
Electricity, gas and water	6 285	7 967	9 969	12 214	13 449
Construction	17 910	20 159	21 792	27 067	27 033
Wholesale trade	28 858	30 862	32 075	38 311	40 941
Retail trade	18 409	19 850	24 324	27 308	30 008
Accommodation, cafes and restaurants	4 652	4 795	5 402	6 935	7 892
Transport and storage	10 464	13 284	15 663	19 449	23 724
Communication	3 214	3 910	5 569	8 504	13 467
Finance and insurance	10 545	11 929	14 113	19 983	17 034
Property and business services	15 142	16 729	21 316	30 512	33 698
Government administration and defence	8 782	9 580	11 331	13 090	15 226
Education	8 596	12 056	13 324	16 448	19 153
Health and community services	10 151	12 661	15 138	18 559	22 042
Cultural and recreational services	4 131	4 914	6 264	7 205	9 106
Personal and other services	4 191	4 408	4 799	6 314	6 839
Ownership of dwellings	19 388	24 919	29 231	34 686	40 444
Import duties	1 934	2 140	3 074	3 952	5 314
Less imputed bank service charge	6 241	5 919	7 344	7 486	7 545
All industries (GDP(P))	(a)228 617	(a)261 946	301 496	370 070	413 973

(a) Estimates before 1984–85 have been derived by linking estimates for earlier base years to estimates at average 1989–90 prices. Since this linking has been done separately for components and totals, additivity has not been maintained.

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

Table 12.1 and figure 12.2 indicate that the contribution to GDP from goods-producing industries (Agriculture, forestry and fishing, Mining, Manufacturing, Electricity, gas and water, and Construction) has declined steadily (by a total of almost eight percentage points from the contribution of the mid-1980s). Within the service industries, the contribution of the distribution industries, of Wholesale trade and Retail trade, Accommodation, cafes and restaurants and Transport and storage, has risen just over three percentage points since the mid-1980s; the contribution of the Finance, insurance and Property services group has risen just over four and a half percentage points and the other services industries, as a group, have returned to a contribution level of 21% of GDP, after having contributed just under 19% in 1989–90.

Despite the decline in Manufacturing's share of GDP from 17.8% in 1982–93 to 14.6% in 1994–95, it remains the most important industry in gross product terms. Other industries with large changes in their contribution to GDP from 1982–83 to 1994–95 include Mining, which

declined from 6.4% to 3.7%, Finance and insurance, which increased from 4.6% to 7.1%, and Wholesale trade which increased from 8.4% to 10.7%.

GDP, at average 1989–90 prices, has increased by 81.1%, from \$228,617m in 1974–75 to \$413,973m in 1994–95. Between 1989–90 and 1994–95 the increase has been 11.9%.

Industry structure: classification, numbers and sizes of businesses

For many purposes the term 'business' is taken to mean a legal entity such as a registered company, partnership, sole proprietor, government enterprise or any other legally recognised organisation which provides goods or services. The business units about which the ABS collects and publishes information have been defined to reflect, as far as possible, the way businesses are structured and the units for which accounts are kept.

12.4 BUSINESSES AND EMPLOYMENT, By Industry and Size — June 1995

Industry	Small and medium businesses		Large businesses		All employing businesses
	\$m	%	\$m	%	\$m
Agriculture, forestry and fishing(a)	26 961	n.a.	..	..	26 961
Mining	6 728	20	26 452	80	33 181
Manufacturing	65 594	33	130 364	67	195 958
Electricity, gas and water supply	4 426	16	24 097	84	28 522
Construction	36 922	77	11 284	23	48 206
Wholesale trade	113 554	67	55 699	33	169 252
Retail trade	87 146	63	50 726	37	137 872
Accommodation, cafes and restaurants	19 198	80	4 938	20	24 136
Transport and storage	15 630	38	25 270	62	40 900
Communication services	944	5	18 428	95	19 373
Finance and insurance	8 341	40	12 739	60	21 080
Property and business services	33 732	71	13 552	29	47 285
Private community services(b)	11 590	72	4 548	28	16 138
Cultural and recreational services	6 952	36	12 170	64	19 122
Personal and other services	6 707	77	2 010	23	8 716
All industries	444 425	53	392 276	47	836 701

(a) As separate details are not available for large businesses, all businesses are classified as small and medium businesses.

(b) Includes private education, health services and community services businesses, but excludes those in the public sector.

Source: *Business Operations and Industry Performance (8140.0)*.

Throughout this chapter the term 'business' refers to the 'management unit'. This is defined as the highest level accounting unit in a business for which accounts are maintained, provided that the unit does not include too wide a range of activities. For the majority of businesses, the management unit coincides with the legal entity (i.e., company, partnership, trust, sole operator, etc.). In the case of large diverse businesses, however, there may be more than one management unit, each coinciding with a division or line of business for which separate accounts are kept.

Table 12.4 provides an overview of the structure of Australian employing businesses (public and private sector) at June 1995 in terms of the

number of operating businesses and the number of persons employed. Table 12.13 provides a time series of employment in industries between June 1991 and 1995.

For the purpose of these statistics, large businesses are defined as management units which employ 200 or more persons or have assets worth more than \$200m.

Tables 12.4 to 12.7 show that, in 1994-95, small and medium businesses accounted for 99.6% of the total number of public trading and private employing businesses, and represented 61% of the employment, 53% of the sales, 39% of the profits and 50% of the industry gross product of these businesses.

12.5 SALES OF GOODS AND SERVICES, By Industry and Size of Business — 1994-95

Industry	Small and medium businesses		Large businesses		All employing businesses
	\$m	%	\$m	%	\$m
Agriculture, forestry and fishing(a)	26 961	n.a.	..	..	26 961
Mining	6 728	20	26 452	80	33 181
Manufacturing	65 594	33	130 364	67	195 958
Electricity, gas and water supply	4 426	16	24 097	84	28 522
Construction	36 922	77	11 284	23	48 206
Wholesale trade	113 554	67	55 699	33	169 252
Retail trade	87 146	63	50 726	37	137 872
Accommodation, cafes and restaurants	19 198	80	4 938	20	24 136
Transport and storage	15 630	38	25 270	62	40 900
Communication services	944	5	18 428	95	19 373
Finance and insurance	8 341	40	12 739	60	21 080
Property and business services	33 732	71	13 552	29	47 285
Private community services(b)	11 590	72	4 548	28	16 138
Cultural and recreational services	6 952	36	12 170	64	19 122
Personal and other services	6 707	77	2 010	23	8 716
All industries	444 425	53	392 276	47	836 701

(a) As separate details are not available for large businesses, all businesses are classified as small and medium businesses.

(b) Includes private education, health services and community services businesses, but excludes those in the public sector

Source: *Business Operations and Industry Performance* (8140.0).

12.6 OPERATING PROFIT BEFORE TAX, By Industry and Size of Business — 1994–95

Industry	Small and medium businesses		Large businesses		All employing businesses
	\$m	%	\$m	%	\$m
Agriculture, forestry and fishing(a)	3 460	n.a.	..	..	3 460
Mining	1 261	21	4 610	79	5 871
Manufacturing	4 226	26	11 950	74	16 175
Electricity, gas and water	522	14	3 235	86	3 757
Construction	2 560	93	203	7	2 763
Wholesale trade	4 778	68	2 202	32	6 979
Retail trade	3 402	71	1 420	29	4 822
Accommodation, cafes and restaurants	1 668	97	59	3	1 726
Transport and storage	1 017	39	1 562	61	2 579
Communication	150	5	2 649	95	2 799
Finance and insurance	1 634	8	18 369	92	20 003
Property and business services	4 484	58	3 292	42	7 777
Private community services(b)	2 291	83	486	17	2 776
Cultural and recreational services	774	36	1 382	64	2 156
Personal and other services	628	90	69	10	697
All industries	32 853	39	51 489	61	84 342

(a) As separate details are not available for large businesses, all businesses are classified as small and medium businesses. (b) Includes private education, health services and community services businesses, but excludes those in the public sector.

Source: *Business Operations and Industry Performance* (8140.0).

Both the Economic Activity Survey and the Australian National Accounts measure overall economic activity, although the Economic Activity Survey is substantially narrower in scope and coverage. Differences also occur in the

industry dissection of the two sets of statistics because they rely on different units frameworks. A Technical Note discussing this topic is included as Appendix 1 to *Business Operations and Industry Performance, Australia* (8140.0).

12.7 INDUSTRY GROSS PRODUCT, By Industry and Size of Business — 1994–95

Industry	Small and medium businesses		Large businesses		All employing businesses
	\$m	%	\$m	%	\$m
Agriculture, forestry and fishing(a)	9 411	n.a.	..	..	9 411
Mining	3 047	18	14 014	82	17 061
Manufacturing	20 425	34	39 212	66	59 638
Electricity, gas and water	2 336	18	10 632	82	12 968
Construction	9 890	83	2 018	17	11 908
Wholesale trade	16 118	70	6 982	30	23 101
Retail trade	13 909	63	8 000	37	21 909
Accommodation, cafes and restaurants	7 177	77	2 179	23	9 356
Transport and storage	5 911	34	11 325	66	17 236
Communication	393	3	12 007	97	12 400
Finance and insurance(b)	1 345	..	-1 811	..	-466
Property and business services	17 098	72	6 521	28	23 619
Private community services(c)	8 242	69	3 757	31	12 000
Cultural and recreational services	2 314	44	2 935	56	5 250
Personal and other services	2 729	74	949	26	3 678
All industries	120 348	50	118 719	50	239 068

(a) As separate details are not available for large businesses, all businesses are classified as small and medium businesses.

(b) Industry Gross Product for Finance and insurance is negative because it does not take account of implicit charges for financial services included in interest. (c) Includes private education, health services and community services businesses, but excludes those in the public sector.

Source: *Business Operations and Industry Performance* (8140.0).

Tables 12.8 and 12.9 present statistics, in respect of 1994–95, from the first year of the ABS' new longitudinal survey of business growth and performance. The survey also collected some data in respect of 1993–94. All sized businesses are included in the scope of this survey.

Businesses with static employment were defined as those where the change in employment ranged from -10% to +10%. Businesses with

increasing employment were those where the growth in employment was more than 10%. Businesses with decreasing employment were those where employment declined by more than 10%.

Just over two-thirds of private employing businesses in the selected industries had static employment between 30 June 1994 and 30 June 1995.

12.8 CHANGE IN EMPLOYMENT, By Industry — 30 June 1994 to 30 June 1995

Selected industries	Proportion of businesses with employment		
	Decreasing %	Static %	Increasing %
Mining	12.4	73.6	14.0
Manufacturing	15.1	59.6	25.3
Construction	17.8	68.6	13.6
Wholesale trade	9.6	69.4	21.1
Retail trade	12.0	68.4	19.6
Accommodation, cafes and restaurants	11.6	70.5	17.9
Transport and storage	14.1	72.1	13.8
Finance and insurance	10.0	78.6	11.4
Property and business services	13.3	70.1	16.7
Other selected industries	17.7	67.2	15.1
All selected industries	13.6	68.7	17.7

Source: *Small and Medium Enterprises, Growth and Performance, Australia (8141.0)*.

Almost 18% of businesses increased their employment by more than 10%.

Manufacturing and Wholesale trade recorded the largest percentages of businesses which increased employment by more than 10%.

Wholesale trade was the only industry in which fewer than 10% of businesses decreased their employment by more than 10%. In the Construction industry, 17.8% of businesses reported decreases in employment of more than 10%.

12.9 CHANGE IN SALES OF GOODS AND SERVICES, By Industry — 1993–94 to 1994–95

Selected industries	Proportion of businesses with sales of goods and services		
	Decreasing %	Static %	Increasing %
Mining	38.4	36.2	25.4
Manufacturing	16.7	35.7	47.6
Construction	23.1	32.8	44.1
Wholesale trade	14.5	40.3	45.3
Retail trade	15.2	52.6	32.2
Accommodation, cafes and restaurants	9.6	56.4	34.0
Transport and storage	14.4	33.5	52.2
Finance and insurance	21.0	41.7	37.3
Property and business services	18.8	37.3	43.9
Other selected industries	15.0	51.2	33.9
All selected industries	17.0	42.4	40.6

Source: *Small and Medium Enterprises, Growth and Performance, Australia (8141.0)*.

Just over 40% of all businesses in the selected industries recorded increased sales of goods and services from 1993–94 to 1994–95. During this time, sales decreased for 17% of businesses.

The Transport and storage industry recorded the largest proportion of businesses with an increase in sales from 1993–94 to 1994–95 (52.2%).

The Accommodation, cafes and restaurants industry was the only industry to have less than 10% of businesses recording a decrease in sales.

In the Mining industry, 38.4% of businesses reported decreases in sales of more than 10%.

Business operations and performance

Table 12.10 presents measures of business operations (in terms of income and expenditure) by industry. The statistics relate only to employing businesses (public and private sectors) but exclude general government. Table 12.11 shows a selection of performance ratios suitable for comparing performance across industries. All the data items listed are defined in *Business Operations and Industry Performance, Australia* (8140.0) and the derivations of the performance ratios are presented after table 12.11.

These tables also show the relative importance (based on financial measures) of various industries. The Finance and insurance industry accounted for 24% of the operating profits and 41% of the net worth of all industries included. Manufacturing accounted for 19% of operating profits and 9% of net worth. Agriculture, forestry and fishing accounted for 4% of operating profits but 14% of net worth.

The relative performance of industries, like the relative performance of businesses, is best analysed by reference to a combination of performance ratios and level estimates. Various ratios commonly used in financial analysis are included in table 12.11. These show, for example, that in 1994–95:

- industries which converted the highest proportion of their sales into profit (as represented by the profit margin) were Finance and insurance and Mining;
- businesses in Cultural and recreational services, Construction and Retail trade reported, on average, the highest return on assets;
- the greatest ability to service debt charges from profits (as represented by the interest coverage ratio) was shown in Private community services, Cultural and recreational services and Manufacturing; and
- the industry with the highest return on net worth was Construction.

12.10 FINANCIAL TRANSACTIONS — 1994-95

	Agriculture, forestry and fishing \$m	Mining \$m	Manufacturing \$m	Electricity, gas and water \$m	Construction \$m	Wholesale trade \$m	Retail trade \$m	Accommodation, cafes and restaurants \$m	
Sales of goods and services	26 961	33 181	195 958	28 522	48 206	169 252	137 872	24 136	
Less									
Cost of sales	18 023	16 359	137 827	16 139	36 650	146 391	115 992	14 819	
Trading profit	8 938	16 822	58 131	12 383	11 556	22 861	21 880	9 317	
Plus									
Interest income	245	748	698	361	166	798	460	219	
Other operating income	1 190	934	1 787	1 318	1 236	1 644	850	507	
Less									
Labour costs	3 202	4 958	33 781	3 449	8 589	13 953	15 250	6 211	
Depreciation	1 760	4 064	5 592	3 275	725	1 563	1 292	876	
Other operating expenses	366	2 179	2 386	151	366	707	529	277	
Earnings before interest and tax	5 046	7 304	18 857	7 186	3 278	9 080	6 119	2 679	
Less									
Interest expenses	1 585	1 433	2 682	3 429	515	2 101	1 297	953	
Operating profit before tax	3 460	5 871	16 175	3 757	2 763	6 979	4 822	1 726	
	Transport and storage \$m	Communication \$m	Finance and insurance \$m	Property and business services \$m	Private community services(a) \$m	Cultural and recreational services \$m	Personal and other services \$m	All industries \$m	
Sales of goods and services	40 900	19 373	21 080	47 285	16 138	19 122	8 716	836 701	
Less									
Cost of sales	25 444	7 275	21 594	24 572	8 286	14 095	5 213	608 679	
Trading profit	15 456	12 098	-514	22 713	7 851	5 027	3 503	228 023	
Plus									
Interest income	284	148	53 014	2 622	292	131	155	60 341	
Other operating income	3 190	245	12 810	6 155	7 574	872	1 284	41 597	
Less									
Labour costs	11 530	6 355	11 818	16 768	11 546	2 646	3 431	153 487	
Depreciation	2 934	2 538	1 823	1 892	674	567	475	30 050	
Other operating expenses	443	195	903	970	279	312	155	10 219	
Earnings before interest and tax	4 023	3 403	50 765	11 861	3 217	2 504	882	136 205	
Less									
Interest expenses	1 444	605	30 762	4 084	441	348	185	51 863	
Operating profit before tax	2 579	2 799	20 003	7 777	2 776	2 156	697	84 342	

(a) Includes private education, health services and community services businesses, but excludes those in the public sector.

Source: *Business Operations and Industry Performance (8140.0)*.

12.11 INDUSTRY PERFORMANCE RATIOS — 1994–95

Industry	Profit margin %	Return on assets %	Return on net worth %	Long-term debt to equity times	Current ratio times	Interest coverage times
Agriculture, forestry and fishing	12.2	2.7	3.2	0.1	2.4	3.2
Mining	16.8	8.3	16.3	0.5	1.1	5.1
Manufacturing	8.2	10.0	22.4	0.5	1.2	7.0
Electricity, gas and water	12.4	3.4	5.8	0.5	0.8	2.1
Construction	5.6	12.2	54.4	1.3	1.1	6.4
Wholesale trade	4.1	8.5	32.6	0.7	1.2	4.3
Retail trade	3.5	12.0	40.6	0.8	1.1	4.7
Accommodation, cafes and restaurants	6.9	6.4	15.2	0.8	0.8	2.8
Transport and storage	5.8	4.1	9.7	0.9	0.8	2.8
Communication	14.2	8.9	19.7	0.5	0.8	5.6
Finance and insurance	23.0	2.2	6.4	..	..	1.7
Property and business services	13.9	5.5	14.2	0.7	1.0	2.9
Private community services(a)	11.6	11.3	21.6	0.5	0.5	7.3
Cultural and recreational services	10.7	12.4	28.3	0.8	0.9	7.2
Personal and other services	6.9	6.5	11.5	0.4	1.5	4.8
All industries	9.0	4.6	11.0	—	—	2.6

(a) Includes private education, health services and community services businesses, but excludes those in the public sector.

Source: *Business Operations and Industry Performance (8140.0)*.

The derivations of the performance ratios shown in table 12.11 are as follows:

- Profit margin is operating profit before tax as a percentage of sales of goods and services plus interest income plus Other operating income;
- Return on assets is operating profit before tax as a percentage of total assets;
- Return on net worth is operating profit before tax as a percentage of net worth;
- Long-term debt to equity is non-current liabilities as a proportion of net worth;
- Current ratio is current assets as a proportion of current liabilities; and
- Interest coverage is earnings before interest and tax as a proportion of interest expenses.

Employment in industries

The following table shows the total number of working proprietors, partners and employees on the payrolls of employing businesses (public and private sectors), classified by industry, at the end of June 1991 to 1995. Businesses which have not registered as group employers with the Australian Taxation Office are out of scope of

the estimates in table 12.12, that is self-employed persons working in non-employing businesses are excluded (although they may be included in some other ABS measures of employment).

Of the goods-producing industries, Mining and Manufacturing and the utilities of Electricity, gas and water have experienced declining employment, while Agriculture, fishing and forestry and Construction have increased employment. Employment in most of the service-providing industries has been increasing, particularly in Property and business services, Cultural and recreational services and Personal and other services, where it has risen by over 20% in the five years from June 1991. Employment in Finance and insurance, Transport and storage and Communication has declined during the same period.

Despite the decline in employment in Manufacturing, this industry remains the largest employer, closely followed by Retail trade.

Broader discussion of employment changes over time is included as part of *Chapter 6, Labour*.

12.12 EMPLOYMENT IN INDUSTRIES

Industry	June 1991 '000	June 1992 '000	June 1993 '000	June 1994 '000	June 1995 '000
Agriculture, forestry and fishing	334	330	348	349	348
Mining	93	89	81	77	81
Manufacturing	1 079	1 009	991	950	960
Electricity, gas and water	110	99	91	81	73
Construction	280	256	261	275	289
Wholesale trade	393	401	396	422	413
Retail trade	846	860	848	873	908
Accommodation, cafes and restaurants	319	351	344	379	380
Transport and storage	325	294	294	292	311
Communication	127	124	114	116	124
Finance and insurance	330	314	297	296	284
Property and business services	506	567	556	552	618
Private community services(a)	488	495	512	517	534
Cultural and recreational services	103	112	120	123	158
Personal and other services	124	139	137	143	152
All industries	5 458	5 441	5 389	5 444	5 632

(a) Includes private Education, Health services and Community services businesses, but excludes those in the public sector.

Source: *Business Operations and Industry Performance (8140.0)*.

Labour productivity

Changes in the number of hours worked tend to reflect the level of economic activity of an industry. A developing or buoyant industry will generally show an increase in the number of hours worked over time. However, structural reform or increased use of technology within an

industry may result in changes in employment relative to output.

A general indication of such effects is provided in the following table, showing constant price estimates of gross product per hour worked.

12.13 INDEXES OF GROSS PRODUCT PER HOUR WORKED, By Industry(a)(b)

Industry	1984-85	1990-91	1991-92	1992-93	1993-94	1994-95
Agriculture, forestry and fishing	97.8	106.8	107.0	113.8	116.1	98.2
Mining	94.4	112.8	122.0	126.9	119.9	129.1
Manufacturing	88.6	103.4	110.1	114.1	120.2	123.0
Electricity, gas and water	66.7	108.4	107.5	119.5	125.8	133.5
Construction	107.5	101.7	103.5	101.0	103.0	102.3
Wholesale trade	102.4	90.7	93.0	92.8	93.4	107.8
Retail trade	108.5	99.3	104.4	104.5	107.0	104.9
Accommodation, cafes and restaurants	103.2	94.2	90.6	93.0	93.7	95.2
Transport and storage	92.2	100.6	106.8	111.7	115.7	120.9
Communication	67.7	103.4	119.4	151.4	148.8	141.7
Cultural and recreational services	119.2	109.1	103.6	115.4	111.3	107.8
All industries	97.4	100.3	102.4	105.0	107.2	108.3

(a) Average 1989-90 prices. (b) Estimates of gross product per hours worked are not presented for six industries: Finance and insurance; Property and business services; Government administration and defence; Education, Health and community services; and Personal and other services, because the estimates of gross product at average 1989-90 prices are derived using input data as indicators of output.

Source: *Australian National Accounts: National Income, Expenditure and Product (5204.0)*.

Industry contribution to capital expenditure

The following table shows estimates of the level of private expenditure on capital assets (non-dwelling structures and equipment) by industry, providing a general indication of trends in productive capacity. Industries with the most significant increases in levels of capital

expenditure since 1984–85 were Mining (more than double), Manufacturing, Health and community services and Cultural and recreational services, while capital expenditure in the Agriculture, forestry and fishing industry has been substantially lower in recent years.

12.14 PRIVATE GROSS FIXED CAPITAL EXPENDITURE(a)

Industry	1984–85 \$m	1990–91 \$m	1991–92 \$m	1992–93 \$m	1993–94 \$m	1994–95 \$m
Agriculture, forestry and fishing	4 191	2 036	2 211	2 435	2 757	3 011
Mining	3 229	5 425	5 061	6 296	6 203	7 147
Manufacturing	5 776	6 984	6 607	7 017	6 897	8 655
Electricity, gas and water	155	134	91	470	904	232
Construction	2 017	1 813	1 475	1 511	1 860	1 836
Wholesale trade	2 198	2 395	1 849	1 921	2 747	2 942
Retail trade	2 543	2 648	2 763	2 838	2 966	3 166
Accommodation, cafes and restaurants	1 508	2 455	1 615	1 121	1 185	2 152
Transport and storage; Communication	2 548	2 244	1 722	2 546	2 576	3 348
Finance and insurance	2 399	2 909	3 622	2 620	2 250	2 839
Property and business services	3 758	6 520	4 486	4 180	4 328	5 305
Education	246	381	342	357	404	391
Health and community services	731	889	983	1 190	1 357	1 292
Cultural and recreational services	517	694	705	490	653	1 318
Personal and other services	212	415	418	369	256	232
Ownership of dwellings	16 687	16 752	16 829	19 306	21 894	22 783
Total (excluding real estate transfer expenses)	48 715	54 694	50 779	54 667	59 237	66 649
Real estate transfer expenses	5 314	5 353	5 881	5 934	6 566	6 350
Total	54 029	60 047	56 660	60 601	65 803	72 999

(a) Average 1989–90 prices.

Source: Australian National Accounts: Capital Stock (5221.0).

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Women in small business

Background

Small business is acknowledged as a vital sector of the Australian economy. It is recognised that women play a significant role in Australian business, particularly in small business. This article looks at the overall structure of the Australian small business sector, focusing in particular on the role women play in small business, and on some of the characteristics of female business operators and the businesses they operate.

A business is traditionally regarded as small if: it is independently owned and operated; it is closely controlled by the owners who also contribute most if not all of the operating capital; and the principal decision making functions rest with the owners.

Unfortunately, these characteristics are not readily identifiable for the business population as a whole, which renders such a definition impractical for statistical purposes. Hence business employment is commonly accepted as a proxy for defining businesses by size in most statistics in Australia. For this article small businesses are defined as those non-agricultural businesses employing less than 20 people.

Participation of women in small business

Employment in Australia has grown over the past 50 years from just over 3 million people to today's level of about 8.3 million, an increase of just over 5 million people. Female employment has contributed slightly more than half of this rise, increasing from 0.8 million to 3.6 million over the period. This percentage increase (350%) represents an average annual rate of

increase of 3.2%. Employment of males has virtually doubled over the last 50 years, representing a significantly lower average annual rate of increase of 1.4%.

Expressing this another way, the participation rate of women in the workforce has risen from about 20% 50 years ago to about 53% today. The participation rate for women is still less than for men, currently running at 73%, but the rate for women is increasing rapidly.

If current trends continue, the number of women in the workforce will be about the same as the number of men in another 50 years.

It is not possible to undertake a similar analysis for women in small business, as the data sources do not support such analysis. However on the assumption that the proportion of females in small business employment is about the same as the proportion for all businesses, it seems reasonable to assume that the same conclusion could be drawn.

Women in small business by industry

The small business sector in 1994–95 had employment of almost 2.5 million, of which 1.0 million (40%) were female. Of this:

- 206,000 worked by themselves in their own business,
- 104,000 ran businesses which had employees, and
- 709,000 were employees.

Table S2.1 looks at employment in small business by sex and industry.

S2.1 EMPLOYED PERSONS IN SMALL BUSINESS, By Sex and Industry — 1994–95

Industry	Employment				All '000
	Females		Males		
	'000	%	'000	%	
Mining	1.4	14.7	8.1	85.3	9.5
Manufacturing	74.6	31.2	164.3	68.8	238.9
Construction	58.7	16.2	303.4	83.8	362.1
Wholesale trade	72.8	33.7	143.2	66.3	216.0
Retail trade	231.7	45.7	275.3	54.3	507.0
Accommodation, cafes and restaurants	83.0	55.9	65.4	44.1	148.4
Transport and storage	29.1	23.7	93.9	76.3	123.0
Finance and insurance	24.0	47.4	26.6	52.6	50.6
Property and business services	174.5	46.2	203.3	53.8	377.8
Education	30.4	69.6	13.3	30.4	43.7
Health and community services	123.1	69.1	55.0	30.9	178.1
Cultural and recreational services	37.7	52.8	33.7	47.2	71.4
Personal and other services	74.8	57.7	54.8	42.3	129.6
Total all industries(a)	1 019.4	41.3	1 450.6	58.7	2 470.0

(a) Includes the Electricity, gas and water supply and Communication services industries.

Source: Survey of Employment and Earnings, unpublished data; Labour Force Survey, unpublished data. Adapted from table 1.3 in *Small Business in Australia, 1995* (1321.0).

It can be seen that the industries in which most women worked were:

- Retail trade 231,700
- Property and business services 174,600
- Health and community services 123,100

There were also significant numbers of women employed in Accommodation, cafes and restaurants (83,000), Personal and other services (74,800), Manufacturing (74,600), and Wholesale trade (72,800).

The industries in which women represent the greatest proportion of employment are:

- Education 70%
- Health and community services 69%
- Personal and other services 58%
- Accommodation, cafes and restaurants 56%
- Cultural and recreational services 53%

In the Retail sector, the proportion of women in the workforce is 46%, the same as for Property and business services. Clearly women are having a far greater impact on employment in the services sector of the economy than in the goods producing sector.

Women working in their own small business

In 1994–95 there were 310,000 women working in their own business, nearly 33% of people working in their own business. Over the period 1984–85 to 1994–95, this has grown from 225,000, which was 30% of people working in their own business.

The average annual growth rate of women working in their own business over this period has been 3.3%. This compares to an average annual growth of men working in their own business (518,000 in 1984–85 to 639,000 in 1994–95) of 2.1%.

Table S2.2 shows the industry distribution of the women and men working in their own business.

It can be seen that the industries in which most women work in their own business are:

- Retail trade 86,400
- Property and business services 44,200

Numbers of women working in their own business are also high in Personal and other services (33,000), Construction (28,900), Manufacturing (25,400), and Health and community services (25,200).

S2.2 PERSONS WORKING IN THEIR OWN SMALL BUSINESS, By Sex and Industry — 1994-95

Industry	Persons working in their own business				
	Females		Males		All '000
	'000	%	'000	%	
Mining	0.4	10.0	3.6	90.0	4.0
Manufacturing	25.4	35.6	46.0	64.4	71.4
Construction	28.9	13.6	184.3	86.4	213.2
Wholesale trade	13.0	30.9	29.1	69.1	42.1
Retail trade	86.4	40.2	124.4	57.9	214.8
Accommodation, cafes and restaurants	16.4	47.8	17.9	52.2	34.3
Transport and storage	10.8	17.9	49.5	82.1	60.3
Finance and insurance	2.2	21.4	8.1	78.6	10.3
Property and business services	44.2	32.1	93.4	67.9	137.6
Education	9.7	61.0	6.2	39.0	15.9
Health and community services	25.2	55.0	20.6	45.0	45.8
Cultural and recreational services	12.7	42.9	16.9	57.1	29.6
Personal and other services	33.0	52.1	30.3	47.9	63.3
Total all selected industries(a)	310.6	32.7	638.9	67.3	949.5

(a) Includes the Electricity, gas and water supply and Communication services industries.

Source: Survey of Employment and Earnings, unpublished data; Labour Force Survey, unpublished data. Adapted from table 1.3 in *Small Business in Australia, 1995* (1321.0).

The industries in which the proportions of women working in their own business are highest are:

- Education 61%
- Health and community services 55%
- Personal and other services 52%
- Accommodation, cafes and restaurants 48%
- Cultural and recreational services 43%

These are the same industries in which women represent the highest proportion of employment (see table S2.1).

The trend in business ownership and operation by women is toward a far greater involvement in the services sector of the economy. Of women working in their own business, 83% are in this sector, compared with only 63% of men.

Women small business operators

In February 1995, the ABS conducted a sample survey of households which collected details of the characteristics of small business operators.

The analysis below is based on the results of that survey and hence the actual number of businesses and their operators is a little different to the ones used in tables S2.1 and S2.2.

In this survey, operators were identified if they were:

- the proprietor of a sole proprietorship, or
- the partner(s) in a partnership, or
- the working director of an incorporated company.

The survey identified 1.25 million small business proprietors in Australia, of which 424,000 were female (34%). The age and qualifications of these operators are shown in table S2.3.

**S2.3 SMALL BUSINESS OPERATORS, By Sex and Selected Characteristics
— February 1995(a)**

Selected characteristic	Females		Males		All '000
	'000	%	'000	%	
Age					
Less than 30	45.4	10.7	99.8	12.1	145.3
30-50	298.1	70.3	518.0	62.6	816.0
Greater than 50	80.8	19.0	210.0	25.4	290.8
Total all operators	424.3	100.0	827.8	100.0	1 252.1
Qualifications(a)					
Secondary school	228.3	54.1	286.1	34.9	514.4
Basic or skilled vocational	93.5	22.2	323.4	39.4	416.8
Degree or diploma	99.9	23.7	210.6	25.7	310.5
Total all operators	421.7	100.0	820.0	100.0	1 241.7
Ethnicity					
Born in Australia	316.5	74.6	588.1	71.0	904.6
Born overseas	107.7	25.4	239.7	29.0	347.4
Total all operators	424.3	100.0	827.8	100.0	1 252.1

(a) Persons who did not complete the highest available year of secondary school and did not go on to achieve vocational qualifications or a degree/diploma have been excluded from this table.

Source: Adapted from tables 1, 2 and 5 in *Characteristics of Small Business, Australia, 1995* (8127.0).

This table shows that 11% of the female small business operators were less than 30 years old, 70% were between 30 and 50 years old and 19% were older than 50. When compared to males, there is a smaller proportion of small business operators who are women older than 50, but a greater proportion in the 30-50 age category. The proportions are about the same for operators who are less than 30.

Looking at the qualifications of the small business operators, nearly a quarter (24%) of the female small business operators had a degree or a diploma. This is fairly similar to the proportion for male small business operators (26%). However there are significant differences for the other qualification categories. Only 22% of female small business operators had basic or skilled vocational qualifications and 54% had secondary school qualifications as their highest level of qualification. For males these proportions were 39% and 35% respectively.

Three quarters of female small business operators were born in Australia, proportionally slightly greater than for males.

Hours worked by female small business operators

The ABS Characteristics of Small Business survey also explored the number of hours spent by the small business operators working in their business. Table S2.4 shows the results of this analysis.

This table shows that over half of the female small business operators work less than 35 hours per week in their business. This compares to less than one sixth of male small business operators. As a consequence, there is a far greater proportion of male operators who work between 35 and 75 hours per week in their business. However, the proportion of operators who work more than 75 hours per week is nearly the same for women as it is for men.

This shows that there are important differences between part-time and full-time female small business operators. These are best explored by seeing if there any differences in the characteristics of the two groups.

S2.4 FULL-TIME AND PART-TIME SMALL BUSINESS OPERATORS, By Sex and Hours Worked(a) — February 1995

Hours worked(a)	Females		Males		All '000
	'000	%	'000	%	
Part-time operators					
1-10	80.3	33.8	19.1	16.0	99.4
11-20	104.6	44.0	52.9	44.3	157.4
21-34	52.8	22.2	47.3	39.6	100.1
Total part-time operators	237.6	100.0	119.3	100.0	356.9
Full-time operators					
35-50	119.7	64.2	416.7	58.8	536.3
51-75	47.2	25.3	242.5	34.2	289.7
More than 75	19.6	10.5	49.3	7.0	68.9
Total full-time operators	186.5	100.0	708.5	100.0	895.0
Total operators	424.3	100.0	827.8	100.0	1 252.1

(a) Hours worked relates to the usual number of hours worked by an operator in a week.

Source: Adapted from Tables 3 and 4 in *Characteristics of Small Business, Australia, 1995* (8127.0).

Looking first at age, there is not much difference between the characteristics of female part-time and full-time small business operators. Those less than 30 years of age account for 10.3% of part-time women small business operators, compared with 11.2% for full-time operators. The proportion of women over 50 is slightly less for part-time operators (18.7%) than it is for full-time operators (19.5%). By definition, there is a slight reversal in the proportions for the 30-50 age group.

There is, however, a significant difference in the ethnicity of women small business operators. Part-time operators who were born in Australia account for 78.7% of total women part-time operators. This compares with a figure for female Australian-born full-time operators of 69.4%. Correspondingly, the proportions for female overseas-born operators were 21.3% for part-time operators and 30.6% for full-time operators. It appears that Australian-born female small business operators have a greater leaning

towards part-time employment than their overseas-born counterparts.

There is also a marked difference in the area of qualifications. Women small business operators holding either a degree or diploma accounted for 27.0% of female part-time operators and 19.6% of full-time operators. The opposite is evident for those women for whom the highest available year of secondary school education was the highest qualification gained. For 51.3% of part-time female small business operators this was the highest level of qualification, compared with 57.7% of full-time operators. Somewhat surprisingly, it seems that part-time operators have a higher level of qualifications.

However, the largest differences become apparent when one examines the industrial classification of the female small business operators. Table S2.5 shows the percentage of female small business operators working full- and part-time classified by industry.

S2.5 WOMEN SMALL BUSINESS OPERATORS, By Full-time/Part-time Status and Industry — February 1995

Industry	Women small business operators	
	Full-time %	Part-time %
Mining	0.2	0.1
Manufacturing	10.2	8.1
Construction	5.0	19.8
Wholesale trade	6.4	6.7
Retail trade	31.3	18.6
Accommodation, cafes and restaurants	8.2	2.1
Transport and storage	3.1	5.0
Communication services	0.5	0.1
Finance and insurance	1.1	1.2
Property and business services	13.8	20.3
Education	1.7	2.7
Health and community services	7.2	5.8
Cultural and recreational services	4.0	3.1
Personal and other services	7.5	6.2
Total all selected industries	100.0	100.0

Source: Characteristics of Small Business Survey, unpublished data.

There are some very marked differences in these data. Of part-time operators, nearly 20% are engaged in the Construction industry, while for full-time operators the figure is only 5%. Clearly there are a large number of female small business operators who are working part-time in the building and construction special trades (plumbing etc) industries. Similarly, 20% of part-time female small business operators are in the Property and business services industry, compared with nearly 14% of the full-time operators. On the other hand, there is a higher proportion of full-time than part-time female small business operators in the Retail trade industry (31.3% full-time and 18.6% part-time) and the Accommodation, cafes and restaurants industry (8.2% full-time and 2.1% part-time).

Women as major decision makers in small business

In its 1994-95 Business Growth and Performance survey, the ABS sought information about the major decision maker in the firm, in cases where there was a major decision maker. This survey showed that 60% of small firms with employees had a major decision maker, and of these 10% of the major decision makers were female.

From its February 1995 survey looking at the characteristics of small business operators, the ABS estimated that, in nearly 30% of non-employing small businesses with a single decision maker, the decision maker was female.

Combining these two statistics provides an estimate of a little over 80,000 Australian businesses which have a woman major decision maker. This represents about 10% of all small businesses in Australia. (It should be noted that this estimate excludes any non-employing firms with more than one operator; hence it is likely to be a slight underestimate of the true number of firms with a female major decision maker.)

Looking at the industrial classification of major decision makers from the Business Growth and Performance Survey, one finds a set of proportions similar to those for full-time operators shown in table S2.5. This tends to further indicate that the female small business operators who work part-time are either not the major decision maker in the firm, or are in firms which do not have any employees.

The qualifications of women who were major decision makers were:

- highest available year of secondary school 52.0%
- trade qualifications 16.6%
- tertiary qualifications 28.4%
- not stated 2.9%.

This distribution is fairly similar to that shown earlier in table S2.3 for all female small business operators.

Female major decision makers in small business — experience in operating a business

The Business Growth and Performance Survey collected information on the years of experience as a business proprietor or director. This is summarised in table S2.6.

S2.6 WOMEN SMALL BUSINESS OPERATORS, Business Operations Experience — February 1995

Experience	Female % of total %
Less than 2 years	15.4
3–5 years	14.1
6–10 years	10.2
11–20 years	10.2
21 or more years	4.8

Source: Business Growth and Performance Survey, unpublished data.

This shows the increasing tendency of major decision makers to be female as length of experience as a decision maker decreases, which indicates that the number of women becoming major decision makers has increased significantly in recent years.

The average length of experience of a female major decision maker is about 9 years. For males the figure is 12 years.

Summary

It can be seen that women are an important part of business in Australia today. Their contribution to the workforce has grown at more than twice the rate for men over the past 50 years. It can reasonably be assumed that the same is true for women in the small business sector.

The proportion of women working in their own business is also growing rapidly. Over the past decade there has been an average annual growth rate of over 3%, which is one and a half times the rate for men.

Of these women working in their own business, 70% are 30–50 years of age. One quarter of them have tertiary qualifications, a further quarter have basic or skilled vocational qualifications and half have no higher qualification than a secondary school certificate. Three quarters of them are Australian born. Interestingly, however, more than half of these women small business operators work part time, or less than 35 hours per week. This is the major difference that seems to exist when compared to men working in their own business, of whom only one in seven work part-time.

Whether one looks at the industry classification of full time or total female small business operators, the predominant industries are Retail trade and Professional and business services. Compared to the number of male small business operators, the industries in which women predominate are the range of personal and community service industries.

Women appear to be the major decision makers in about 10% of all small businesses in Australia. Based on a subset of these — firms which employed staff and which had a single major decision maker — it is possible to look at their length of experience in being a decision maker. On average these women appear to have had about nine years experience as decision makers, compared to 12 years for men. It is also interesting that, as length of experience becomes shorter, the proportion of female major decision makers becomes greater. Of persons with over 20 years decision-making experience, less than 5% are female, but of those with less than two years experience the proportion of women is more than 15%.

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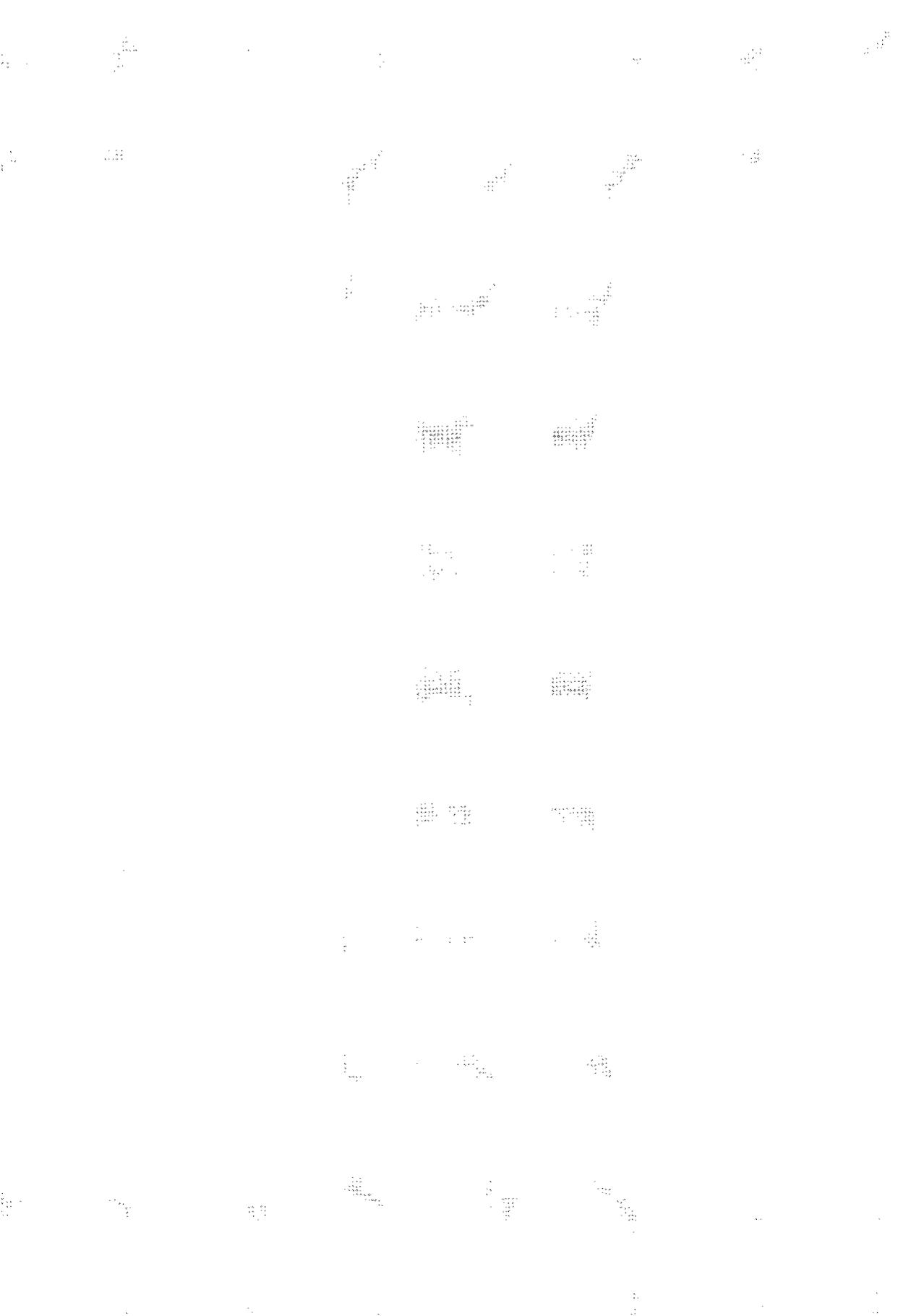
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Introduction	337
Environmental indicators	337
National activities	338
Greenhouse response	338
National Greenhouse Response Strategy	338
Greenhouse 21C	339
Greenhouse Challenge	339
National Greenhouse Gas Inventory	339
Climate change research	341
Environment programs	342
Australian Waste Database project	342
Air quality	343
National Strategy for Ecologically Sustainable Development (NSESD)	346
Waste disposal	347
Pollution abatement and control techniques	347
Land and soil conditions	348
Changes in land cover 1788–1993	348
Soil conditions	349
Water	352
Environment research and development	355
Environment education and training	356
Bibliography	357



Introduction

This chapter presents information about Australia's environment and its interaction with society and the economy. Due to the complex nature of the topic and the vast amount of available information, not all aspects are covered here. As many other issues were discussed in previous Year Books, this year's chapter focuses on key areas of contemporary interest not addressed in previous Year Books, such as greenhouse gas issues, air quality and climate change, pollution abatement,

environmental research and development, and environmental education and training. Also included are previously covered topics for which new information is now available, such as environmental indicators.

Environmental indicators

In 1992 the Organisation of Economic Cooperation and Development (OECD) established an *Environmental Performance Review Program* in order to evaluate the

13.1 OECD ENVIRONMENTAL INDICATORS

Indicator	Unit	Australia	Canada	USA	Netherlands	Sweden	UK	OECD
Carbon Dioxide (CO ₂) emissions from energy use								
1991	Mill. t	283	435	5 035	193	56	608	10 439
CO ₂ emissions from energy per capita	tonnes	16	16	20	12.5	6.5	10.5	12
Major protected areas 1990	'000 km ²	457	701	983	4	18	46	2 481.7
Protected areas (% of land area)	%	5.9	7.0	10.5	9.5	3.9	18.9	7.7
Scientific Reserves and National Parks	'000 km ²	296.0	268.0	204.0	0.1	6.0	n.a.	885.4
Wooded area								
1990	'000 km ²	1 060	4 533	2 946	3	280	24	10 311
1990 (% of land area)	%	13.8	49.2	32.1	9.9	68.1	10	33.2
Threatened species in species known, early 1990								
Mammals	%	12.3	6.2	10.5	28.8	19	45.2	n.a.
Birds	%	3.4	3.3	7.2	22.4	7.9	28.3	n.a.
Fish	%	0.4	4.4	2.4	79.4	4.0	12.2	n.a.
Reptiles	%	2.9	48.8	7.1	100	—	33.3	n.a.
Amphibians	%	5.0	21.4	3.6	62.5	46.2	33.3	n.a.
Vascular plants	%	4.7	1.4	0.5	7.6	8.2	9.5	n.a.
Hazardous waste								
Production 1990	'000 t	316	6 080	180 000	1 040	500	2 940	237 388
Per unit of GDP	kg/\$US '000	1.1	11.4	31.6	4.3	3.8	3.3	15.8
Energy intensity — tonnes of oil equivalent (TOE) 1991								
per \$US '000	tonnes	0.32	0.4	0.34	0.28	0.34	0.24	0.27
per capita	tonnes	5.2	7.8	7.7	4.6	5.7	3.8	4.8
Motor vehicles in use								
1981	million	7.3	13.2	155.8	4.8	3.1	17.3	336.1
1991	million	10	16.8	192.3	6.2	4	23.3	455.1
Car ownership								
1980	veh/100 persons	39	43	53	32	35	26	34
1991	veh/100 persons	45	48	58	37	43	34	42
Population								
1992	million	17.5	27.4	255	15.2	8.7	57.8	866.3
Population density								
1992	persons/km ²	2.3	2.8	27.2	406.6	19.3	236.2	26.9
GDP at 1985 prices and purchasing power parities (index 1980 = 100)								
1985	—	117	115	113	105	109	110	112
1992	—	140	132	132	125	118	126	135

Source: OECD *Environmental Indicators* 1995.

performance of member countries in implementing their domestic environmental policies and international commitments. Australia is due to be assessed by the OECD in 1997.

The OECD has developed a core set of indicators to be used in environmental performance reviews of member countries. There are three broad categories of indicator, based on the Pressure-State-Response framework: indicators of environmental pressure, which describe pressures from human activities exerted on the environment; indicators of environmental conditions, which describe the quality of the environment, and the quantity and quality of natural resources; and indicators of societal responses, which show the extent to which society is responding to environmental changes and concerns. Table 13.1 presents statistical information on indicators of environmental pressure prepared by the OECD, and shows a comparison of Australia with selected OECD countries and all OECD countries combined.

Compared to the other countries included in table 13.1, Australia is favourably placed in many aspects, including total area in scientific reserves and national parks, proportion of species threatened, hazardous waste generation, and population density. However, its per capita emission of carbon dioxide from energy use are higher than in many OECD countries.

National activities

Greenhouse response

One of the outcomes of the world environment conference in Rio de Janeiro in June 1992 was the establishment of the United Nations Framework Convention on Climate Change, which was a direct global response to the problem of climate change due to the enhanced greenhouse effect. Since the greenhouse effect is largely a consequence of human activities, it is expected that developed countries, whose past economic activities have been major contributors to greenhouse gases, will play a leading role in adopting greenhouse gas reduction measures. Australia is both a signatory to the convention, and a major player in developing response strategies and obligations for the 120 member countries. Since 1992 Australia has embarked on a number of greenhouse gas initiatives designed to meet its national policy objectives and international

obligations. These initiatives include the *National Greenhouse Response Strategy* released in December 1992, *Greenhouse 21C, a plan of action for a sustainable future* released in March 1995, and *Greenhouse Challenge* which was launched in October 1995.

National Greenhouse Response Strategy

Measures to control greenhouse gas emissions are an integral component of Australia's National Strategy for Ecologically Sustainable Development. The *National Greenhouse Response Strategy (NGHRS)* was launched and signed by the Commonwealth Government and the State and Territory Governments, and approved by the Australian Local Government Association in 1992. The target is first to stabilise greenhouse gas emissions based on 1988 levels by the year 2000, then to reduce these emissions by 20% by the year 2005. The proviso to meeting this target is that Australia will not implement response measures that would have adverse impacts nationally, or on Australia's trade competitiveness, in the absence of similar action by major greenhouse producing countries.

The primary goal of the NGHRS is '...to contribute towards effective global action to limit greenhouse gas emissions and enhance greenhouse gas sinks to improve knowledge and understanding of the enhanced greenhouse effect; and to prepare for potential impacts of climate change in Australia.' The key elements of the strategy include

- a set of sectoral objectives and strategies guiding response measures;
- a phased plan of action for limiting greenhouse gas emissions, enhancing and conserving greenhouse gas sinks, and preparing for potential impacts of climate change;
- research and analysis to improve knowledge and understanding of the enhanced greenhouse gas effect;
- mechanisms for community involvement in the implementation and further development of the strategy;
- assignment of priorities to the response measures;
- a monitoring system for the programs;
- periodic review and continued development of the strategy.

As part of its commitment to limit greenhouse gas emissions, the Commonwealth Government is initiating a review of its national strategies and performance, which is expected to be completed in 1997. Among the areas targeted for special consideration are vegetation clearance controls, revegetation and farm forestry, changing agricultural patterns, forestry and reforestation, as well as a review of the energy and transport sectors.

Greenhouse 21C

In March 1995 the Commonwealth Government announced *Greenhouse 21C*, an additional package of measures, including a \$63m funding package, to its National Greenhouse Response Strategy. Greenhouse 21C aims to promote:

- cooperative agreement between government and industry for reductions in net greenhouse gas emissions;
- renewable energy initiatives, including research and development in renewable energy technology;
- economic reform in the energy sector (especially in the gas industry), and increased energy efficiency;
- a greenhouse information network;
- tree-planting programs to provide greenhouse sinks;
- environmental best practice in Commonwealth Government operations.

It has been projected that Greenhouse 21C will reduce growth in greenhouse gas emissions to about 3% above the stabilisation target level by the year 2000.

Greenhouse Challenge

In October 1995 the Commonwealth Government launched the *Greenhouse Challenge*, a program of cooperative agreement with industry to mitigate Australia's greenhouse gas emissions through cost effective industry initiatives such as improved energy and process efficiency, and by enhancing greenhouse gas sinks. A total of \$9.7m has been allocated over four years to support the development and implementation of the program. The Greenhouse Challenge Office (jointly sponsored by the Department of Primary Industries and Energy, the Department of Industry, Science and Technology, and the Department of Environment, Sports and Territories) was set up to coordinate the program, and to work with

industry in developing and implementing cooperative agreements. The office also works closely with State, Territory and local governments to facilitate the implementation of greenhouse gas abatement policies and measures. It is estimated that, when fully implemented, the program will lead to reductions of up to 15 million tonnes (15%) of greenhouse gas emissions annually by the year 2000.

Significant progress has been made since the beginning of the program, with agreements from companies in over 250 sites that account for just under 50% of the national total emissions from the industrial sector. The agreements have identified over 420 actions to reduce greenhouse gas emissions, including:

- use of new low energy cells in aluminium smelting processes;
- reduction of wastes going to landfills;
- increasing the number of tree plantations to act as CO₂ sinks;
- use of renewable energy alternatives;
- switching fuel sources to less potent greenhouse gases.

Initially, the focus is on the industrial and commercial sectors, which account for about 70% of Australia's energy-related CO₂ emissions. By taking part in the program, industry can make significant contributions to the national targets in the reduction of greenhouse gas emissions.

Recent information and updates on the *Greenhouse Challenge* are now available on the Department of Primary Industries and Energy's greenhouse directory on the Internet.

National Greenhouse Gas Inventory

A major requirement of the United Nations Framework Convention on Climate Change is the periodic publication by member states of a National Greenhouse Gas Inventory of emissions and sinks, using an internationally comparable methodology. Table 13.2 shows trends in emissions of selected greenhouse gases for 1990 and 1994. There was a general increase in emissions in some sectors, and a decrease in others, for all gases except CO₂ which showed an increase in emission levels in all sectors.

13.2 SELECTED GREENHOUSE GASES, Changes in National Emissions — 1990–94

	Unit	Energy	Transport	Fugitive fuel	Industry	Solvents	Agriculture	Landuse change and forestry(a)	Waste	All sectors
Carbon dioxide (CO ₂)										
Net CO ₂ emissions 1990	'000 t	202 162	60 460	3 845	6 655	—	—	121 668	—	394 790
Net CO ₂ emissions 1994	'000 t	210 175	63 759	4 274	7 293	—	—	124 550	—	410 051
Average rate of CO ₂ change	% per year	1.0	1.3	2.7	2.3	—	—	0.6	—	0.95
Methane (CH ₄)										
CH ₄ emissions 1990	'000 t	79.2	30.0	1 212.9	3.2	—	3 223.2	336.7	704.4	5 589.7
CH ₄ emissions 1994	'000 t	87.1	25.8	1 217.9	3.7	—	3 140.8	335.2	766.9	5 577.3
Average rate of CH ₄ increase	% per year	2.4	-3.7	0.1	3.8	—	-0.6	-0.6	2.1	-0.1
Nitrous oxide (N ₂ O)										
N ₂ O emissions 1990	'000 t	2.5	5.2	0.1	1.6	—	68.2	3.6	—	81.2
N ₂ O emissions 1994	'000 t	2.7	8.9	0.1	1.4	—	67.4	3.6	—	84.1
Average rate of N ₂ O increase	% per year	1.3	14.6	1.3	-3.8	—	-0.3	-0.2	—	0.9
Carbon monoxide (CO)										
CO emissions 1990	'000 t	857	5 199	7.3	—	—	12 042	6 638	—	24 743
CO emissions 1994	'000 t	932	3 522	7.7	—	—	10 583	6 596	—	21 641
Average rate of CO increase	% per year	2.1	-9.3	1.3	—	—	-3.2	-0.2	—	-3.3
Oxides of nitrogen (NO _x)										
NO _x emissions 1990	'000 t	865.9	479.9	1.3	—	—	906.2	121.4	—	2 374.7
NO _x emissions 1994	'000 t	907.4	420.7	1.3	—	—	799.8	120.3	—	2 249.5
Average rate of NO _x increase	% per year	1.2	-3.2	1.3	—	—	-3.1	-0.6	—	-1.4
Non-methane volatile organic compounds(b)										
NMVOC emissions 1990	'000 t	202.0	664.3	211.1	8.1	167.5	705.4	753.3	3.7	2 715.5
NMVOC emissions 1994	'000 t	22.3	522.1	232.8	9.9	166.4	620.0	748.2	4.0	2 525.6
Average rate of NMVOC increase	% per year	2.4	-5.8	2.5	5.1	-0.2	-3.2	-0.2	2.0	-1.8

(a) The 1990 value for emissions from forest and grassland conversion is used for all years to 1994, as an interim measure pending revision of the methodology. (b) NMVOC.

Source: National Greenhouse Gas Inventory, 1988–94.

Table 13.3 outlines a range of policy options identified for reducing greenhouse gas emissions in Australia.

13.3 OPTIONS FOR REDUCTION OF GREENHOUSE GAS EMISSIONS

Factors	Options
Residential	
Lighting	Compact fluorescent lights to replace incandescents
Cooking	Microwave cooking, electric induction, improved gas
Water heating	Better tank insulation, low flow shower heads, pipe lagging, improved gas combustion, electronic ignition
Space heating	Building improvements including weatherisation and insulation, new solar efficient design, improved wood and electric heaters
Space cooling	Building improvements, technology improvements
Commercial	
Lighting	More efficient fluorescents, compact fluorescents, daylighting
Electric drive	High efficiency motors, ducting redesign
Space cooling	Building improvements, improved efficiency/operation of cooling technologies
Space heating	Building improvements, better furnace efficiency/operation
Water heating	Tank insulation, pipe lagging, gas combustion, ignition
Industrial	
Smelting	Intelligent controllers, heat recovery, increased scrap usage
Metal processing	Heater design, combustion control, heat recovery
Furnaces	Combustion efficiency and control, heat recovery
Steam	Pipe insulation, optimised distribution
Fluid heating	Better heat exchangers, efficient use, combustion efficiency
Drying	Combustion efficiency, better heat transfer, efficiency of intelligent controllers
Mechanical drives	Efficient motors, variable speed drives, optimal sizing, improved in-house wiring, optimisation of use
Aluminium	Electrode tuning, increased use of recycled material
Transport	
Cars	Improved fuel economy from downsizing, continuous gearing, electronic ignition, improved aerodynamics
Trucks	Better fuel ignition and gearing systems, fleet and dispatch control
Rail	Control systems, electric motor efficiencies
Mining	Improved efficiency in gas preparation, chilling, liquefaction, vehicle efficiency
Agriculture	More efficient farm vehicles, electric motors and processing equipment

Source: Deni Greene Consulting Services 1991 in ABS 1992, *Australians and the Environment: Issues and Facts* (4140.0).

Climate change research

Australia has high standing in the scientific world in the area of climate change research, especially in such aspects as climate variability and impact assessments, and in modelling the implications of climate change for Australia and the Asia-Pacific region. The 1996 Commonwealth Government Budget provides \$6.2m in 1996–97 for climate change research, with a commitment for a further \$14m over four years for national greenhouse gas research, related activities and implementation to support advancement in the science of climate change.

Australia is a member of and signatory to the United Nations Framework Convention on Climate Change and plays a key role in the Intergovernmental Panel on Climate Change (IPCC). In its Second Assessment Report released in July 1995, the IPCC noted significant

scientific gains in understanding the science of climate change, and in separating the natural from the anthropogenic influences on the climate system, since the First Assessment Report in 1990. It found that despite uncertainties in a number of key areas, there was sufficient evidence to suggest that the human influence on global climate is realistic and discernible, and emphasised that urgent action must be taken, especially by developed countries, to limit and reduce the emissions of greenhouse gases. However, the report did not specify what level of concentration of greenhouse gases might constitute dangerous human interference in the climate system. Some countries, including Australia, argued that neither the science nor the assessment of impacts is yet sufficiently advanced to nominate a specific level.

Scenarios have been developed for changes to surface temperatures in Australia, depending on assumptions about CO₂ emissions, climate sensitivity to those emissions and the strength of regional responses to the size of emissions. Table 13.4 presents ranges of temperature increase by the years 2030 and 2070 resulting from a doubling in CO₂ concentration. Surface temperatures have been projected to increase by between 1.5 and 4.5 degrees centigrade in the event of a doubling in CO₂ emissions. Despite the uncertainties in the science, such scenarios have been used to assess Australia's vulnerability to future climate changes, and to develop options for responses and adaptation strategies.

13.4 SCENARIOS OF TEMPERATURE INCREASE

Region	2030	2070
	°C	
Northern coast (north of about 25°S)	0.0-1.5	0-4
Southern coast (south of about 25°S)	0.5-2.0	1-5
Inland	0.5-2.5	1-5

Source: Commonwealth of Australia 1994, *Climate Change: Australia's national report under the United Nations Framework Convention on Climate Change*.

Environment programs

Australian Waste Database project

Australians generate vast amounts of wastes every year, which are a major source of pressure on the environment. In response to a growing need for the collection and reporting of information on waste generation and management, the National Waste Database (NWD) project was initiated by the Environment Protection Agency and the Cooperative

Research Centre for Waste Management and Pollution Control. The project aims to establish a database on waste generation, which can be used as a monitoring system of waste minimisation policies by Commonwealth and State environmental and waste management agencies and other organisations. Part of the project's objectives includes the establishment of a nationally agreed classification system for various categories of wastes, and a protocol for sampling and characterising urban solid wastes.

The NWD has two major components: solid wastes, comprising non-hazardous wastes from municipal, commercial, industrial, building and demolition activities, and hazardous wastes, mostly liquid industrial wastes which are precluded from disposal through the sewerage system or municipal waste landfills, and therefore require special disposal facilities such as a treatment plant. The hazardous waste database is part of the proposed National Pollutant Inventory (NPI). Hazardous wastes are the focus of this section.

The management and disposal of hazardous wastes in Australia presently fall under the jurisdiction of the State and Territory Governments. There is no uniform national legislation for the disposal of hazardous wastes, although a number of Acts relating to pollution control exist. Available data on hazardous wastes relate to monitored or manifested wastes, that is, wastes transported from the generator to a central treatment site.

The volumes of manifested hazardous wastes generated by industry in Sydney in 1990-94 are shown in table 13.5. Wastes disposed of on site and radioactive wastes are not included in the NWD. Manufacturing produces the highest amount of hazardous wastes, contributing 59% of the total volume.

13.5 MANIFESTED HAZARDOUS WASTES GENERATED ANNUALLY BY INDUSTRY, Sydney — 1990–94(a)

Waste	Agriculture(b) kl	Mining kl	Manufacturing kl	Electricity, gas and water kl	Construction kl	Wholesale, retail trade kl
Plating and heat	—	—	742	—	—	54
Acids	—	56	5 744	97	—	90
Alkalis	—	9	6 457	66	6	416
Inorganic chemicals	67	166	2 921	57	14	616
Reactive chemicals	—	—	180	8	—	3
Paint — organic sludges	—	—	8 052	1	21	499
Organic solvents	—	—	3 077	6	2	319
Pesticides	—	—	106	—	—	1
Waste oil	11	21	7 298	228	282	2 077
Textiles	—	—	441	—	—	—
Putrescible	—	—	7 945	181	1	769
Wash-waters	—	55	5 904	276	45	2 290
Inert	—	—	395	7	—	46
Organic chemicals	—	1	1 949	9	2	41
Bags etc.	—	—	13	—	—	2
Immobilised	—	—	4 560	—	2	3
Miscellaneous	—	84	1 675	1 424	955	1 155
Total(c)	78	393	57 460	2 362	1 330	8 381

Waste	Accommodation and hospitality kl	Transport and storage kl	Communication services kl	Finance, insurance, property, business services kl	Health and community services kl	Total kl
Plating and heat	3	1	12	17	—	830
Acids	—	4	28	194	—	6 212
Alkalis	—	67	9	2 345	—	9 375
Inorganic chemicals	—	12	53	103	22	4 032
Reactive chemicals	—	3	—	25	—	220
Paint — organic sludges	—	3	7	175	—	8 759
Organic solvents	—	23	223	452	—	4 102
Pesticides	—	—	—	10	—	118
Waste oil	4	124	3 661	2 922	—	16 628
Textiles	—	20	—	38	—	500
Putrescible	—	1	109	3 659	—	12 665
Wash-waters	56	118	126	1 418	1	10 290
Inert	—	2	1	57	—	507
Organic chemicals	—	21	15	7 085	—	9 122
Bags etc.	—	—	—	25	—	40
Immobilised	—	—	2	206	—	4 773
Miscellaneous	—	2 797	223	277	722	9 312
Total(c)	63	3 195	4 466	19 011	745	97 485

(a) Average over five years. (b) Includes forestry and fishing. (c) Excludes oily wastes and greasy wastes which are hazardous, but which are controlled by a separate manifest system.

Source: Australian Waste Database Project 1994.

Air quality

Australian guidelines for air quality are based not on the usual notion of transparency of the atmosphere, but on considerations of what is optimal for human health. The responsibility for monitoring air quality and assessing impacts on human health rests with State and Territory agencies, which currently limit their activities to:

- 'urban airsheds' or major metropolitan areas surrounding most capital cities;
- selected regional and industrial areas;
- some areas around major sources of emissions.

The number of air quality monitoring stations in Australia and the parameters monitored are indicated in table 13.6. Only 5% of the country is covered by the existing network of air quality monitoring stations. For the remaining 95%, the major concerns relate to sulphur dioxide from

industrial point sources like coal power stations, heavy metals such as lead from ore processing, particulates from forestry and agricultural activities, pesticides from aerial spraying, and roadside emissions from motor traffic in rural areas.

13.6 ROUTINELY MONITORED AIR QUALITY INDICATOR SITES — 30 June 1995

Location	O ₃	CO	NO ₂	SO ₂	Visibility	TSP(a)	Lead	Dust	PM10(b)	PM2.5(b)	Fluoride	PAH(c)	VOCs(d)	Airtrak
Adelaide	2	1	2	1	2	9	9	—	—	—	—	—	—	—
Brisbane	8	1	9	3	4	—	5	11	—	—	—	—	—	2
Broken Hill	—	—	—	—	—	3	3	27	—	—	—	—	—	—
Cairns	—	—	—	—	—	1	—	—	—	—	—	—	—	—
Canberra	2	2	2	—	2	5	5	—	—	—	—	—	—	—
Cape Grim	1	1	—	1	—	—	1	—	1	1	—	—	—	—
Central Tablelands	—	—	—	—	—	2	—	10	—	—	—	—	—	—
Gladstone	—	—	3	2	2	—	—	—	2	—	—	—	—	—
Hobart	—	—	—	—	—	(e)	(e)	—	—	—	—	—	—	—
Hunter Valley	—	—	—	4	—	20	—	194	—	—	14	—	—	—
Illawarra	—	—	—	8	—	9	2	60	—	—	—	16	—	—
Kalgoorlie	—	—	—	11	—	—	—	—	—	—	—	—	—	—
Latrobe Valley	2	—	2	2	2	—	—	—	—	—	—	—	—	—
Launceston	—	—	—	—	—	(e)	—	—	—	—	—	(e)	—	—
Mackay	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Mt Isa	—	—	—	1	—	—	—	—	—	—	—	—	—	—
Newcastle	2	1	11	10	—	9	7	15	2	—	12	18	—	—
Perth (incl. Kwinana)	9	3	11	6	6	3	3	—	4	6	—	—	2	2
Port Augusta	—	—	—	(e)	—	(e)	—	—	—	—	—	—	—	—
Port Pirie	—	—	—	(e)	—	(e)	(e)	—	(e)	—	—	—	—	—
Port Phillip Region	11	5	9	7	10	5	5	—	1	—	—	—	3	—
Rockhampton	—	—	—	—	—	2	—	—	—	—	—	—	—	—
Southern Tablelands	—	—	—	—	—	—	—	11	—	—	—	—	—	—
Sydney	13	8	11	4	8	4	4	10	6	—	—	—	—	1
Townsville	—	—	—	—	—	—	—	6	2	—	—	—	—	—
Wollongong	2	4	2	2	2	4	5	17	1	—	—	3	—	—
Whyalla	—	—	—	—	—	(e)	(e)	—	—	—	—	—	—	—

(a) Total suspended particulates. (b) TSP include all particles from the smallest up to 50mm in diameter: within this range are sub-categories of those less than 10mm in diameter, known as PM10 and those smaller than 2.5mm known as PM2.5. (c) Polycyclic Aromatic Hydrocarbons. (d) Volatile organic compounds. (e) Monitored but number of monitors not specified.

Source: Australia — State of the Environment Report, 1996.

Table 13.7 is a summary of Australian urban and regional air quality. It shows that, although breaches of the guidelines are common, there is a general improvement in the concentration of most pollutants. Major air pollutants and their

sources are indicated in table 13.8. Motor vehicles are the main source of emissions in cities, accounting for 82–89% of all carbon monoxide, 41–50% of hydrocarbons, and 54–80% of oxides of nitrogen.

13.7 URBAN AND REGIONAL AIR QUALITY

Pollutant	
AREAS OF MOST SIGNIFICANCE	
Ozone	Primarily Melbourne and Sydney.
Nitrogen dioxide	With heavy traffic.
Sulphur dioxide	Near metal ore processing.
Carbon monoxide	Areas with heavy traffic, wood fires.
Total suspended particulates (TSP or PM10)(a)	Areas with heavy traffic, mining and industrial areas, biomass burning (including wood fires).
Lead	Lead point sources and motor vehicles.
Fluoride	Aluminium smelters and ceramics works.
MEASURED LEVELS	
Ozone	Occasional breaches of guidelines.
Nitrogen dioxide	Occasional breaches in large cities.
Sulphur dioxide	Substantial breaches of guidelines near some sites.
Carbon monoxide	Some breaches.
Total suspended particulates(a)	Some breaches.
Lead	Some substantial breaches.
Fluoride	Breaches, often in buffer zones.
TRENDS	
Ozone	Signs of improvement may be the result of meteorological variability.
Nitrogen dioxide	No clear trends.
Sulphur dioxide	Some improvements due to better controls for specific plants.
Carbon monoxide	Slight improvement in most cities.
Total suspended particulates(a)	General improvements.
Lead	Steady improvement in urban areas.
Fluoride	General gradual improvements.
OTHER COMMENTS	
Ozone	Potentially growing problem in Brisbane and Perth as populations increase rapidly.
Nitrogen dioxide	—
Sulphur dioxide	Potential for pressure for new sources in future.
Carbon monoxide	Measured levels sensitive to monitor siting.
Total suspended particulates(a)	TSP not as well related to health effects as PM10 or PM2.5(a).
Lead	Motor vehicles declining in importance as lead emissions decrease.
Fluoride	Vegetation protection.

(a) Particles are monitored and reported in size-related categories. Total suspended particulates (TSP) include all particles from the smallest up to 50mm in diameter: within this range are sub-categories of those less than 10mm in diameter, known as PM10 and those smaller than 2.5mm known as PM2.5.

Source: Australia — State of the Environment Report, 1996.

13.8 SOME MAJOR AIR POLLUTANTS AND EMISSIONS

Pollutant	Source
Carbon monoxide	Mainly produced from fossil fuel combustion sources. The car is the main contributor of this pollutant.
Sulphur dioxide	Emitted from sources such as coal burning, oil combustion and some industrial processes.
Oxides of nitrogen	Produced from processes in air, oil and water such as lightning and soil biological processes. Can also be produced from sources such as fossil fuel combustion, biomass burning, cultivated soils and intensive use of fertilisers. Nitrogen oxide also contributes for the greenhouse effect and depletion of stratospheric ozone.
Lead	One of the most significant pollutants, owing to its toxic nature, particularly its effects on young children. Sources include petrol engines, lead smelters, refineries, combustion of recycled sump oil and battery manufacture.
Air toxics	Includes pollutants known to cause or suspected of causing long term health effects in humans. Many air toxics are either volatile organic compounds or metallic compounds that could affect health following long-term exposure at very low concentrations.
Particulate matter (particles)	Particles of various sizes suspended in the air can reduce its clarity. These particles may include sea salt, sulphate from sea salt and SO ₂ emissions, carbon from combustion processes, silica from soil and pollen.
Ozone	Tropospheric ozone is a secondary air pollutant, formed in the process of photochemical reactions among other chemicals.
Fluoride	Recognised as one of the traditional pollutants because of its effects on vegetation and livestock. Has a limited effect on the human body. Major sources are industrial processes, such as aluminium smelting, phosphate fertiliser production and brick and glass making.
Greenhouse gases	A number of trace gases which have a significant effect on the radiative energy balance of the earth's atmosphere. Includes carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide and chlorofluorocarbons and their substitutes.

Source: *Australians and the Environment* (4601.0).

National Strategy for Ecologically Sustainable Development (NSED)

Sustainable development refers to development that aims to meet the basic needs of the present without compromising the ability of future generations to meet their own needs. The concept of ecologically sustainable development was developed at the United Nations Stockholm Conference in 1972, although the idea only gained international prominence in the last few years. In Australia the *National Strategy for Ecologically Sustainable Development (NSED)* was endorsed by Heads of Government in 1992, following extensive consultation with all community sectors. The first report on implementation of the strategy was issued in December 1993. An Intergovernmental Committee for Ecologically Sustainable Development (ICEDSD) was established to monitor the performance of the NSED.

The core objectives of the NSED are:

- to enhance individual and community well-being and welfare by following a path of economic development that safeguards the welfare of future generations;

- to provide for equity within and between generations;
- to protect biological diversity and maintain essential ecological processes and life-support systems.

In order to achieve ecologically sustainable development, four key areas of the environment need to be sustained: biodiversity, ecological integrity, natural capital, and social integrity. Biodiversity refers to the variety of species, populations, habitats and ecosystems. Australia has diverse flora and fauna, some unique to the continent. Ecological integrity pertains to the general health and resilience of natural support systems and their ability to withstand stresses such as climate change. Natural capital refers to stocks of fresh water, productive soils, forests, sub-soil assets and other resources. Social integrity relates to the resilience of social and cultural systems to development processes.

Waste disposal

Compared to other OECD countries, Australia has a relatively high production of solid waste, second only to the United States in per capita production of municipal waste. Landfill is the main form of waste disposal. This is due to the relatively low cost of landfills, and availability of land in many areas. However, in some cities the establishment of new landfills is becoming a major problem for municipal authorities due to increasing scarcity of open land, and growing community opposition. Table 13.9 shows the life expectancy of current landfill sites in Australian capital cities. Most of the current municipal landfills are expected to fill up within 10–15 years.

13.9 LIFE EXPECTANCY OF SELECTED CURRENT LANDFILL SITES

	Year expected to reach capacity(a)
Sydney	n.a.
Melbourne	(b)2000+
Brisbane	2016
Adelaide	—
North and central regions	(c)2003 (2009)
South regions	(d)2016 (2020)
Perth	2007
Tasmania	n.a.
Darwin	2026
ACT and Queanbeyan	2005–07

(a) Estimates taken at different times, on basis of existing landfill sites. (b) Usually only licensed for five to seven years at a time. (c) Best case scenario based on 8% reduction for five years and 0% reduction thereafter.

Source: Department of Commerce and Trade Western Australia 1990; Waste Recycling and Processing Service 1994; ACT Department of Urban Services 1995, unpub.; Department of Environment and Natural Resources SA 1995; Darwin City Council 1996, unpub.; Brisbane City Council 1996, unpub.; Wallwork and Joy 1993.

Landfills are a major source of pollution. Solid waste decomposes to produce acidic leachate and methane which can contaminate the air, land, surface and ground water systems. Table 13.10 shows an estimate of municipal solid wastes taken to landfill sites in Australia in 1989–90, and the net methane emissions from those sites. Total municipal solid waste amounted to an estimated 14.7 million tonnes, and methane 1.3 million tonnes. Another common problem with landfill sites is noxious odours which permeate the surrounding air.

Incineration is an alternative method of waste disposal, especially in remote communities where the costs of landfills and waste disposal

13.10 METHANE PRODUCED(a) BY LANDFILL SITES — 1989–1990

State	Municipal solid waste to landfill '000 t	Net methane emissions '000 t
NSW	5 462	517.3
Vic.	3 508	284.1
Qld	1 909	211.9
SA	1 478	139.2
WA	1 605	125.2
Tas.	285	27.0
NT	102	9.7
ACT	314	29.8
Australia	14 663	1 344.3

(a) These are estimates and may not reflect actual totals.

Source: DEST 1994, National Greenhouse Gas Inventory 1988 and 1990.

services are prohibitive. Nationally, incineration accounts for only 1% of total municipal solid waste disposal, which is significantly low compared to other countries (table 13.11).

13.11 PROPORTION OF MUNICIPAL SOLID WASTE INCINERATED, Various Countries

Country	Municipal solid waste incinerated %
Singapore	85
Denmark	65
Sweden	55
France	42
Netherlands	40
Germany	30
Australia	<1

Source: Australia, Parliament 1994.

Pollution abatement and control techniques

In order to minimise the impact of their activities on the environment, many Australian industries and other groups now adopt pollution abatement and control measures, either through compliance with Government legislation or through economic incentives. Economy-wide statistics on industry actions are not available at present. The information presented in table 13.12 is limited to the mining industry, and shows the proportion of establishments within the mining sector undertaking selected pollution abatement and control techniques in 1994. The coal industry adopting dust and noise control measures. Its treatment of waste water is second only to that of the oil and gas industry. The metal ore

industry has the highest proportion of establishments using ventilation and cleaning

exhaust gases to control dust and other noxious substances.

13.12 ESTABLISHMENTS USING POLLUTION ABATEMENT AND CONTROL TECHNIQUES, By Industry — 30 June 1994

Techniques	Coal %	Oil and gas %	Metal ore %	Other mining %	Services to mining %	Total mining %
CONTROL OF DUST AND OTHER SUBSTANCES EMITTED INTO THE AIR						
Protective activity	73	18	58	47	26	46
Ventilation	56	18	68	28	26	40
Application of water	98	27	92	92	48	77
Application of chemicals	41	9	22	20	6	19
Cleaning of exhaust gases	40	36	44	16	14	25
Other	9	—	6	4	2	4
No method used	—	—	1	—	3	1
No dust/substances emitted into the air	1	55	3	6	35	15
CONTROL OF NOISE LEVELS FOR EMPLOYEES AND/OR THE ENVIRONMENT						
Silencers	83	64	74	64	47	64
Protective equipment	95	82	94	90	59	85
Erection of noise barriers	48	27	54	48	17	38
Modification of buildings	41	27	24	35	9	25
Limitations on hours of operations	30	—	19	52	20	30
Other	10	18	5	4	3	5
No method used	—	—	1	1	1	1
No method required	4	18	2	2	25	10
TREATMENT OF WASTE WATER						
Mechanical treatment technology	70	73	62	52	25	49
Biological treatment technology	38	36	22	4	5	14
Advanced treatment technology	12	18	12	2	2	6
Other	15	9	14	8	4	9
No method used	4	—	5	3	2	3
No waste water produced	14	18	19	36	66	38
TREATMENT OF HAZARDOUS WASTES						
Physical treatment	19	—	26	3	4	11
Chemical treatment	6	18	16	2	3	6
Thermal treatment	5	36	5	—	1	3
Biological treatment	1	—	2	—	1	1
Conditioning of radioactive wastes	—	—	2	—	1	1
Other	7	18	15	3	6	8
No method used	4	—	4	1	4	3
No hazardous waste produced	68	45	47	93	84	75

Source: *Mining Technology Statistics, Australia (8413.0)*.

Land and soil conditions

Changes in land cover 1788–1993

Land cover is a generic term used to describe the physical state of the land surface, which includes vegetation, soil, water and artificial structures. Being the interface between the earth's crust and the atmosphere, it influences the flow of energy and materials between the two systems. Changes in land cover affect a wide range of physical processes including the energy, water and nutrient cycles and balances.

Australia's natural vegetation cover has undergone considerable changes since European settlement in 1788. Almost 9% of the continent was covered by forests. Woodlands and open woodlands each covered 21%, shrublands 40%, and grasslands 7%. Less than 1% of the total land was unvegetated.

By the late 1980s only 5% of Australia was forested, 140,000 km² having been cleared for

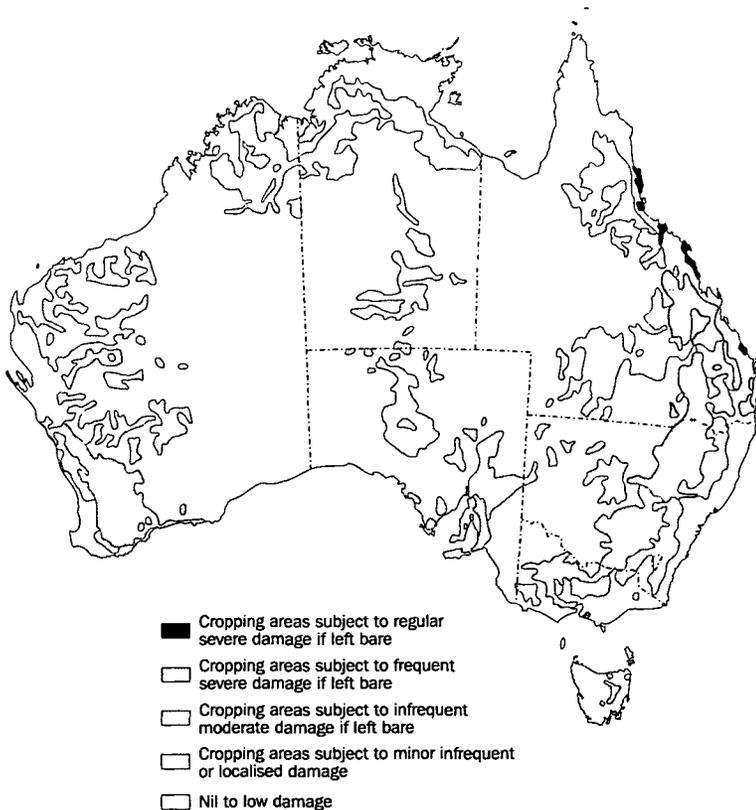
grazing and crop production, and a further 175,000 km² converted to woodland or open woodland. The original area of woodland or open woodland declined from 21% to 14%, mainly due to clearing for pasture and cropping. Grasslands nearly doubled in area, from 7% in 1788 to 16% in the 1980s. The last major clearing for agriculture is believed to have occurred in the 1970s, although annual clearing rates over the past 10 years are also considered to be in excess of 5,000 km².

Rapid expansion and intensification of cropping and grazing, commercial forestry, mining, development of transport infrastructure and urbanisation have led to considerable restructuring of the Australian landscape, such that areas of high wilderness quality are now restricted to arid lands and the 'wet-dry' tropics.

Soil conditions

Australian soils are generally characterised by low organic matter, poor surface structure, and a large proportion of clay content. In the arid zone, large areas are covered by soils formed on aeolian sands. Changes in soil structure due to land use are among Australia's most serious forms of land degradation. These changes occur in a number of ways, including losses of organic matter associated with regular tillage, exposure of wet soil to stress caused by machinery or stock, and by exposing bare soil to intensive rainfall. The effects of a decline in soil structure include reduced porosity and permeability leading to waterlogging, excessive run-off and soil erosion, reduced root vigour which affects nutrient and water uptake, and yield decline.

13.13 AREAS THAT EXPERIENCE DAMAGE, Wind Erosion



Source: AUSJG 1992 in ABS 1996 (4606.0).

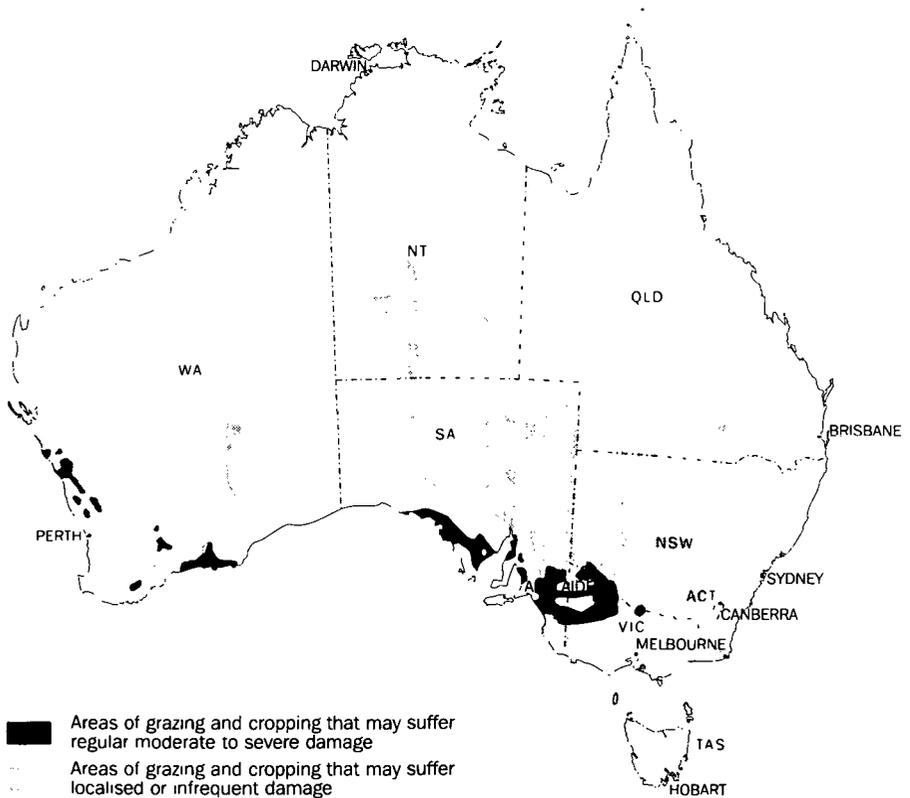
Soil erosion is a naturally occurring process, but certain management practices exacerbate the problem, resulting in large scale removal of topsoil in many parts of the country. It has been estimated that soil erosion in Australia has increased 10–100 times in the last 100 years within agricultural areas

Water erosion is the most common cause of land degradation in Australia. Map 13.13 shows areas that are most susceptible to this process. Maintenance of plant cover, reduced tillage,

strip cropping, and contour banks are common land management techniques used to protect the soil from accelerated water erosion.

Map 13.14 shows major areas that are most susceptible to wind erosion in Australia. These include some of the agricultural areas, and the sandy soils of southern, western, and central Australia. Land management practices used to minimise wind erosion include maintenance of vegetation, and using windbreaks to reduce surface wind speeds.

13.14 AREAS THAT EXPERIENCE WATER EROSION DAMAGE



Source: AUSLIG 1992 in ABS 1996 (4606.0).

Soil acidity and salinity are other contemporary environmental problems in Australia. Although many of the continent's acidic soils are naturally occurring, there is increasing concern about

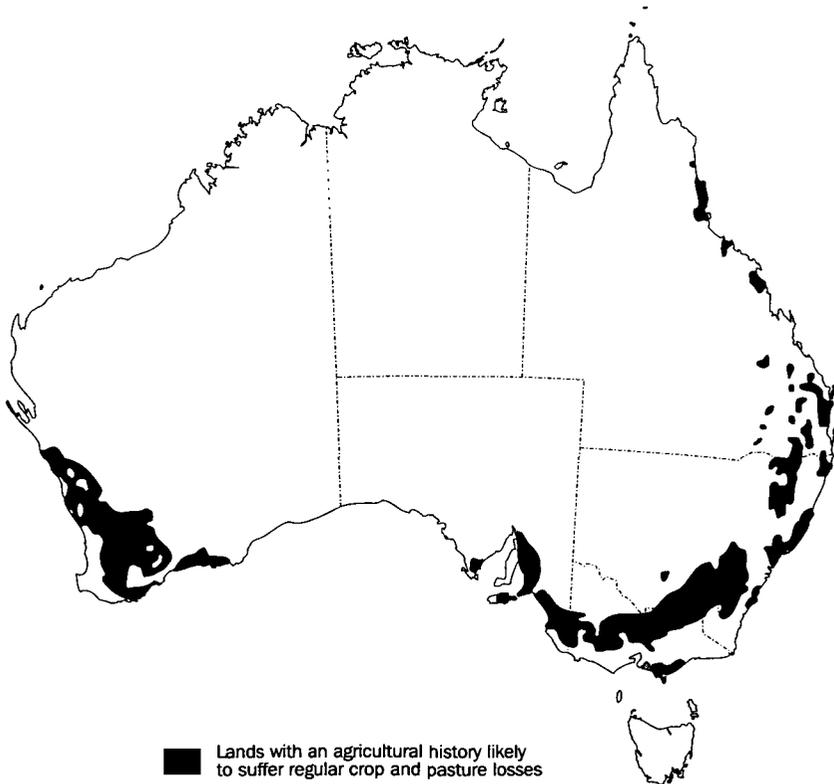
those soils that show accelerated acidification. Map 13.15 shows areas that experience induced soil acidity. Many of these are found in the cropping and grazing areas. Widespread

clearance of deep rooted perennial vegetation, replaced by shallow rooted annual crops and pastures, has led to significant modifications of the hydrological cycle in many areas. The net result is a rise in the water table, bringing dissolved salts to the soil profile. These salts concentrate on the surface following evaporation, causing scalds and seepages.

Map 13.16 shows areas affected by salinity in Australia in 1992. In Western Australia alone an

estimated 1.6 million hectares, or 9% of the area of cleared agricultural land in the State, are salinised. Estimates of dryland salinity in the Murray–Darling Basin, South Australia, and Victoria stand at 200,000 hectares, 400,000 hectares and 150,000 hectares respectively. Similar estimates for New South Wales and Queensland stand at 20,000 hectares and 10,000 hectares respectively.

13.15 AREAS OF INDUCED ACIDITY



Source: AUSLIG 1992 in ABS 1992 (4140.0)

13.16 AREAS AFFECTED BY SALINITY



Source: AUSLIG 1992 in ABS 1992 (4140.0).

Water

Australia is often described as the dry continent, with most of its land mass classed as arid or semi-arid. About 80% of the country receives median rainfall of less than 600 mm, while 50% receives less than 300 mm. Approximately 65% of the continent's mean annual run-off occurs in the northern Drainage Divisions. About 32% of Australia's land mass produces virtually no run-off. This low percentage run-off is due to a combination of high evaporation rates, low and variable rainfall, and low relief of most of the land mass.

Compared to other habitable continents, Australia has the least amount of water in rivers

and the smallest areas of permanent wetlands. Table 13.17 shows Australia's surface water resources by Drainage Division in 1987. There are 12 major Drainage Divisions and 245 river basins. The largest Drainage Division is the Murray-Darling, which drains about one-seventh of the entire land mass and supports 30-40% of the nation's resource-based industries (including half of the sheep and crops, one-quarter of the dairy and beef, and three-quarters of the irrigated field crops). Within the Lake Eyre, Bullo-Bancannia, and Western Plateau Drainage Divisions average evaporation is nearly five times the average rainfall.

13.17 SURFACE WATER RESOURCES, By Drainage Division

Drainage Division	Area km ²	Mean annual runoff Gl	Mean annual outflow Gl
North-East Coast	451 000	83 900	83 900
South-East Coast	274 000	41 900	41 900
Tasmania	68 200	52 900	52 900
Murray-Darling	1 060 000	24 300	12 200
South Australian Gulf	82 300	877	767
South-West Coast	315 000	6 670	6 600
Indian Ocean	519 000	3 960	3 840
Timor Sea	547 000	80 700	80 700
Gulf of Carpentaria	641 000	92 500	92 500
Lake Eyre	1 170 000	6 310	—
Bulloo-Bancannia	101 000	1 090	—
Western Plateau	2 450 000	1 580	—
Total	7 680 000	397 000	375 000

Source: Australian Water Resources Council (AWRC) 1987.

13.18 MAJOR GROUNDWATER RESOURCES OF DRAINAGE DIVISIONS

Drainage Division	Area of Aquifers(a) km ²	Fresh Gl	Marginal Gl	Brackish Gl	Saline Gl	Total Gl
North-East Coast	114 250	1 260	464	185	94	2 000
South-East Coast	71 660	760	699	353	50	1 860
Tasmania	7 240	47	69	8	—	124
Murray-Darling	908 500	782	594	435	349	2 160
SA Gulf	2 500	—	74	10	1	85
South-West Coast	328 000	466	415	260	78	1 220
Indian Ocean	487 400	22	241	174	71	508
Timor Sea	328 900	617	1 980	161	57	2 820
Gulf of Carpentaria	340 250	721	1 180	16	11	1 930
Lake Eyre	834 030	81	382	125	31	619
Bulloo-Bancannia	90 100	28	27	41	4	100
Western Plateau	1 706 700	44	746	64	90	944
Total	5 219 530	4 828	6 871	1 832	836	14 370

(a) Includes surficial, sedimentary and fractured aquifers.

Source: AWRC 1987.

Groundwater is an important resource in Australia, providing about 80% of the total annual water supplies. About 600 communities nation wide depend entirely on groundwater for their domestic water needs. Australia's available groundwater resources in 1987 are shown in Australian Gulf Drainage Division extracted the greatest amount of available groundwater (66%). In 1984 Australia used about 16% of the total groundwater available.

Irrigation accounts for nearly 70% of the total annual water consumption in Australia (table 13.20). The domestic sector is the second largest consumer of water (12%), most of which is used in outdoor activities (table 13.21). Average water consumption in capital cities varies from 263 kilolitres per year in Sydney to 500 kilolitres per year in Darwin.

13.19 GROUNDWATER EXTRACTED IN 1983-84, By Drainage Division

Drainage Division	Available Resource GI	Extracted GI	Resource used %
North-East Coast	2 000	586	29
South-East Coast	1 860	437	24
Tasmania	124	5	4
Murray-Darling	2 160	501	23
South Australian Gulf	85	56	66
South-West Coast	1 220	296	24
Indian Ocean	508	52	10
Timor Sea	2 820	15	1
Gulf of Carpentaria	1 930	95	5
Lake Eyre	619	172	28
Bulloo-Bancannia	100	15	15
Western Plateau	944	9	1
Total	14 370	2 238	16

Source: AWRC in ABS 1992 (4140.0).

13.20 MEAN ANNUAL WATER USE, By Drainage Division(a)

Drainage Division	Unit	Pasture	Crops	Horticulture	Irrigation		
					Total	Total	
North-East Coast	GI	70.5	803.0	92.2		966.0	
South-East Coast	GI	711.0	137.1	176.0		1 024.0	
Tasmania	GI	45.9	46.8	4.0		96.7	
Murray-Darling	GI	4 119.3	2 438.1	1 090.0		7 649.0	
South Australian Gulf	GI	28.2	2.4	45.0		75.6	
South-West Coast	GI	168.0	23.5	75.1		267.0	
Indian Ocean	GI	0.1	1.7	6.8		8.7	
Timor Sea	GI	19.6	45.6	5.1		70.3	
Gulf of Carpentaria	GI	16.6	44.9	12.7		74.2	
Lake Eyre	GI	<1.0	3.3	<0.1		3.0	
Bulloo-Bancannia	GI	—	—	—		—	
Western Plateau	GI	—	<1.0	0.4		0.5	
Total	GI	5 180.0	3 550.0	1 510.0		10 240.0	
Proportion of total	%	35.5	24.3	10.3		70.1	
Urban and industrial							
Drainage Division	Unit	Domestic	Industrial	Commercial	Total	Rural	Total
North-East Coast	GI	353.0	147.0	41.3	541.0	149.0	1 660.0
South-East Coast	GI	747.0	386.0	228.0	1 360.8	144.1	2 530.0
Tasmania	GI	33.0	23.2	9.9	66.1	11.4	174.0
Murray-Darling	GI	225.5	55.1	46.7	327.0	1.0	8 660.0
South Australian Gulf	GI	141.0	23.7	34.1	199.0	37.9	313.0
South-West Coast	GI	211.0	74.0	96.9	382.0	30.0	679.0
Indian Ocean	GI	24.4	17.4	5.9	47.7	7.8	64.1
Timor Sea	GI	23.1	12.5	6.0	41.5	16.3	128.1
Gulf of Carpentaria	GI	14.8	38.0	4.3	57.0	113.0	245.0
Lake Eyre	GI	10.1	4.0	4.6	18.7	113.2	135.0
Bulloo-Bancannia	GI	0.2	0.3	—	0.5	17.5	18.0
Western Plateau	GI	8.8	9.4	2.8	21.0	17.6	40.7
Total	GI	1 790.0	790.0	481.0	3 061.0	1 340.0	14 600.0
Proportion of total	%	12.3	5.4	3.3	20.9	9.2	100.0

(a) Includes water from both reticulated and self-extracted sources.

Source: AWRC 1987.

13.21 AVERAGE HOUSEHOLD WATER CONSUMPTION, Australian Capital Cities — 1993-94

Capital city	Average household consumption Kl/year	Average rainfall mm	Outdoor use %
Sydney	263	1 227	30
Melbourne	270	656	38
Brisbane	430	1 149	n.a.
Adelaide	265	451	56
Perth	330	869	42
Darwin	500	1 659	45
Canberra	400	625	55

Source: Australia — State of the Environment Report, 1996.

Environment research and development

According to the Australian Science and Technology Council, Australia presently lacks the data and the knowledge base that are required for a comprehensive assessment of the quality of its environment, and to evaluate the environmental consequences of the past, present and future activities of its people. Without this information it is also impossible to adequately evaluate its national policies and strategies for ecologically sustainable development. However, research and data collection on environmental issues have increased considerably over the past few years. Table 13.22 shows the distribution of resources on environmental research and development in Australia by both the public and private sectors.

Expenditure and human resource input into environmental research and development were greater than, for example, those on defence research and development.

In addition to the formal research networks, a large number of volunteer organisations are also involved in data gathering and environmental monitoring activities. These include, for example, the Bureau of Meteorology's volunteer observers program with about 6,000 volunteers nation-wide, and the Saltwatch and Ribbons of Blue programs which monitor salt levels in local water supplies, the Waterwatch scheme, and numerous Landcare groups.

13.22 RESOURCES DEVOTED TO RESEARCH AND DEVELOPMENT — 1992-93

	Government		Non-government		Total	
	\$m	person years	\$m	person years	\$m	person years
Defence	201.3	2 104	137.7	429	339	2 533
Economic development Society	1 005.7	10 853	2 911.2	29 920	3 916.9	40 773
Advancement of knowledge Environment	165.7	2 587	588.2	11 701	753.8	14 288
Environmental knowledge	90	816	745.4	14 124	835.4	14 940
Environmental aspects of economic development	140	1 393	98	1 919	237.9	3 312
Environmental management and other aspects	115.5	1 136	56.7	880	172.2	2 016
Total environment	25.6	299	27.9	376	53.6	675
Total	281.1	2 829	182.6	3 174	463.7	6 003
Total	1 743.8	19 188	4 565.1	59 350	6 308.8	78 538

Source: Research and Experimental Development, All Sector Summary, Australia (8112.0).

Environment education and training

Australia is also in the process of broadening its understanding of the continent's complex environment and its interactions with human activities, through education and training. In 1993-94 government organisations spent \$72.6m for the advancement of knowledge in

the natural sciences, technologies and engineering, and another \$7.4m in education and training. In addition, private non-profit organisations spent about \$132m and \$8m for the respective purposes.

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Introduction	361
The agricultural environment	361
Agricultural improvements	362
Irrigation	362
Fertilisers	362
Characteristics of Australian farms	363
Employment in agriculture	365
Australian women in agriculture	365
ABARE's 'Women on Farms' survey	365
Social issues	366
Education and qualifications	367
Communications and technology	367
Gross value of agricultural commodities produced	368
Financial statistics of farm businesses	369
Turnover	370
Gross indebtedness	371
Land used for agriculture	372
Scope of Agricultural Census	372
Land used for agriculture	373
Crops	374
Cereal grains	374
Wheat	374
Oats	377
Barley	378
Grain sorghum	379
Maize	380
Rice	380
Vegetables	381
Fruit (excluding grapes)	382
Grapes	383
Selected other crops	384
Oilseeds	384
Cotton	385
Sugar	385
Fodder crops	386

Livestock	387
Cattle	387
Dairying	389
Dairy production	389
Dairy domestic market	390
Sheep	390
Pigs	391
Poultry	392
Meat production and slaughterings	392
Wool	394
Wool production	394
Wool receivals	395
Wool marketing arrangements	395
Beekeeping	396
Emerging agricultural industries	396
Apparent consumption of foodstuffs	396
Bibliography	398

Introduction

The development of Australian agricultural industries has been determined by interacting factors such as the opening up of new land, the development of transport facilities and profitable markets, and technical and scientific achievements. Until the late 1950s, agricultural products accounted for more than 80% of the value of Australia's exports. Since then, the proportion of Australia's exports from the agricultural sector has declined markedly as the Australian economy has become increasingly diverse and the quantities and value from the mining and manufacturing sectors have expanded (this decline in importance has not been due to a decline in agricultural activity as agricultural output has increased over this period).

Consequently agriculture's direct contribution (based on ABS industry classification) to Gross Domestic Product (GDP) has been declining and is currently 3%. Nevertheless it is still a vital and thriving sector and occupies a significant place in global rural trade, with wool, beef, wheat and sugar being particularly important in volume terms. Australia is also an important source of dairy produce, fruit, cotton, rice and flowers.

The agricultural environment

Australia is a relatively flat continent, with mean elevation just exceeding 200 metres. The dominant feature of the continent is the Great Dividing Range which spans the length of the Eastern seaboard. There are very few naturally good soils for agriculture. Most are infertile and shallow with deficiencies in phosphorus and/or nitrogen. To offset these deficiencies superphosphate and nitrogenous fertilisers are widely used, particularly on pasture and cereal crops. Fragile soil structure and a susceptibility to waterlogging are other common features of Australian soils, while large areas are naturally affected by salt or acidity. These soil characteristics restrict particular agricultural activities or rule out agricultural activity altogether.

With the possible exception of Antarctica, Australia is the world's driest continent. The wet northern summer is suited to beef cattle grazing inland and the growing of sugar and tropical fruits on the coast. The drier summer conditions of southern Australia favour wheat and other dryland cereal farming, sheep grazing and dairy cattle (in the higher rainfall areas) as well as beef cattle. Within regions there also exists a high degree of rainfall variability from year to year, which is most pronounced in the arid and semi-arid regions. Rainfall variability often results in lengthy periods without rain (dry spells) and drought. The seasonality and variability of rainfall in Australia require that water be stored, and 70% of the stored water resource (including ground water) is consumed by the agricultural sector. Storage ensures that there are adequate supplies all year round for those agricultural activities requiring a continuous supply. Irrigation has opened up areas of Australia to agricultural activities which would have otherwise not been practical.

Evaporation is another element of Australia's climate affecting agricultural production. Hot summers are accompanied by an abundance of sunlight. This combination of climate variables leads to rates of evaporation which are high relative to other continents. Areas that have been cleared for crop and pasture production tend to coincide with five to nine months effective rainfall (where rainfall exceeds evaporation) per year. In areas of effective rainfall of more than nine months, generally only higher value crops or tropical crops and fruits are grown, while in areas with effective rainfall of less than five months cropping is usually restricted to areas that are irrigated.

Since European settlement the vegetation of Australia has been altered significantly. In particular, large areas of Australia's forest and woodland vegetation systems have been cleared, predominantly for agricultural activity. The areas that have been altered most are those which have been opened up to cultivation or intensive grazing. Other areas, particularly in the semi-arid regions where extensive grazing of native grasses occurs, now show signs of returning to timber and scrub.

Agricultural improvements

Irrigation

Most crops require a minimum amount of annual rainfall to grow successfully without irrigation. The variability in stream flow and annual rainfall means that successful irrigation of crops and pastures is dependent on storage. Ground water supplies are used in areas where the quantity is adequate

and the quality is suitable. The area of land irrigated (about 2.4 million hectares in 1993–94), although less than 1% of the total land used for agriculture, represented about 6% of land under crops and 5% of the total area under crops and pastures. Most irrigated land is located within the confines of the Murray–Darling Basin which covers parts of New South Wales, Victoria, Queensland and South Australia.

14.1 AREA OF CROPS AND PASTURES IRRIGATED

	Australia										1994
	1992 '000 ha	1993 '000 ha	1994 '000 ha	NSW '000 ha	Vic. '000 ha	Qld '000 ha	SA '000 ha	WA '000 ha	Tas. '000 ha	NT '000 ha	ACT '000 ha
Pastures	1 081	1 184	1 362	635	556	70	53	14	33	1	—
Cereals	275	311	364	284	23	45	7	1	2	1	—
Vegetables for human consumption	93	89	96	17	20	27	9	6	16	—	—
All fruits	120	125	144	33	35	25	40	7	3	1	—
All other crops	356	245	275	176	13	73	4	3	6	—	—
Sugar cane	146	154	168	(a)	(a)	168	(a)	(a)	(a)	(a)	(a)
Total	2 069	2 107	2 408	1 145	646	409	112	32	61	3	—

(a) Not classified.

Source: AgStats (7117.0).

Fertilisers

Most Australian soils are deficient in phosphorus. Because of this and the significant but less widespread deficiency of sulphur in many soils, phosphate fertilisers, particularly single strength superphosphate, account for the bulk of fertiliser use. Over half of superphosphate is used on pastures in areas with moderate to good rainfall. Large quantities

are also used on cereal crops. Nitrogen deficiency is also generally evident in Australian soils and the use of nitrogenous fertilisers is increasing. Potassium deficiency is confined mainly to soils in the higher rainfall areas which are intensively cropped or used for irrigated pastures.

14.2 ARTIFICIAL FERTILISERS, Area and Usage

Year	Area fertilised '000 ha	Superphosphate used '000 t	Nitrogenous fertilisers used '000 t	Other fertilisers used '000 t
1988–89	27 871	2 523	438	971
1989–90	27 360	2 378	483	1 010
1990–91	23 627	(a)	(a)	(b)3 239
1991–92	19 517	(a)	(a)	(b)2 678
1992–93	19 702	(a)	(a)	(b)2 761
1993–94	20 529	(a)	(a)	(b)3 000

(a) Not collected. (b) Includes all fertiliser categories.

Source: Summary of Crops, Australia (7330.0).

Characteristics of Australian farms

The gross product of agriculture, forestry and fishing in 1994–95 was \$12,747m, 3% of GDP. Agriculture constituted the major proportion of this total, as indicated by the fact that 377,100 of the 404,400 people employed in the above group of industries were employed in Agriculture and Services to agriculture. As at August 1995, 5% of employed persons were employed in Agriculture and Services to agriculture.

Table 14.3 provides information on the numbers and types of establishments with agricultural

activity at 31 March 1995. Table 14.4 shows the employment in Agriculture and Services to agriculture for the years 1991 to 1996.

Prior to 1991–92 agricultural establishments were classified in accordance with the 1983 edition of the *Australian Standard Industrial Classification (ASIC)* (1201.0). Since ASIC has now been replaced by the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (1292.0), 1994–95 census units have been classified by industry on an ANZSIC basis. Care should be taken when making comparisons between years where these different classifications have been used.

14.3 ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY, Year Ending 31 March 1995

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Establishments mainly engaged in agriculture, forestry and fishing industries									
Agriculture									
Plant nurseries	591	284	727	128	140	36	19	4	1 929
Cut flower and flower seed growing	200	184	184	122	122	56	4	—	872
Vegetable growing	678	1 015	1 296	569	564	589	9	4	4 724
Grape growing	659	1 645	78	1 730	233	58	3	—	4 406
Apple and pear growing	219	448	117	141	207	165	—	2	1 299
Stone fruit growing	476	251	107	383	173	20	—	—	1 410
Kiwi fruit growing	26	13	3	—	7	—	—	—	49
Fruit growing n.e.c.	1 628	382	2 118	697	294	37	57	1	5 214
Grain growing	1 978	2 452	1 529	2 652	2 276	16	2	—	10 905
Grain-sheep/beef cattle farming	6 091	2 939	1 494	3 588	4 055	75	4	—	18 246
Sheep-beef cattle farming	5 547	3 178	1 046	1 108	630	461	—	29	11 999
Sheep farming	6 281	5 017	743	1 617	1 928	624	—	24	16 234
Beef cattle farming	11 195	8 367	11 998	1 224	1 889	1 190	208	21	36 092
Dairy cattle farming	2 167	7 946	1 916	850	516	779	—	1	14 175
Poultry farming (meat)	316	155	104	72	59	14	1	—	721
Poultry farming (eggs)	144	118	110	47	85	14	6	2	526
Pig farming	442	242	450	221	135	40	1	—	1 531
Horse farming	556	330	495	109	113	41	1	2	1 647
Deer farming	111	112	57	49	38	32	—	—	399
Livestock farming n.e.c.	817	734	659	194	156	75	2	3	2 640
Sugar cane growing	437	—	4 653	—	—	—	—	—	5 090
Cotton growing	405	—	419	—	—	—	—	—	824
Crop and plant growing n.e.c.	304	390	1 626	110	63	73	2	—	2 568
Total Agriculture	41 268	36 202	31 929	15 611	13 683	4 395	319	93	143 500
Services to agriculture; hunting and trapping	37	40	26	24	9	8	—	—	144
Forestry and logging	5	1	6	—	3	13	—	—	28
Commercial fishing	1	—	2	6	8	6	—	—	23
Total establishments mainly engaged in agriculture, forestry and fishing industries	41 311	36 243	31 963	15 641	13 703	4 422	319	93	143 695
Establishments mainly engaged in other industries, but also with some agricultural activity									
Mining	5	2	3	2	2	2	—	—	16
Manufacturing	48	33	9	37	20	5	1	—	153
Electricity, gas and water supply	—	2	—	—	—	—	—	—	2
Construction	43	60	31	24	15	19	—	—	192
Wholesale trade	28	31	16	18	12	7	—	—	112
Retail trade	15	24	33	10	11	11	—	—	104
Accommodation, cafes and restaurants	14	7	5	4	3	3	—	—	36
Transport and storage	45	74	33	40	15	26	—	—	233
Communication services	—	—	—	—	—	—	—	—	—
Finance and insurance	2	1	1	3	—	1	—	—	8
Property and business services	37	7	41	19	18	8	—	—	130
Government administration and defence	9	—	—	—	—	—	—	—	9
Education	16	1	8	1	15	6	—	—	47
Health and community services	4	2	8	1	1	—	—	—	16
Cultural and recreational services	12	14	3	4	2	2	—	—	37
Personal and other services	5	1	9	2	7	1	—	—	25
Unclassified(a)	693	568	685	146	147	41	15	—	2 295
Total establishments with agricultural activity	42 287	37 070	32 848	15 952	13 971	4 554	337	93	147 112

(a) Establishments which could not be classified to an industry because they undertook no agricultural activity during the year ended 31 March 1995.

Source: AgStats (7117.0).

Employment in agriculture

14.4 EMPLOYED PERSONS(a) IN AGRICULTURE AND SERVICES

August	Married males '000	All males '000	Married females '000	All females '000	Persons '000
1991	182.7	266.6	97.6	116.7	383.6
1992	174.2	259.0	92.4	114.5	373.1
1993	188.3	268.8	98.2	116.3	385.1
1994	186.9	262.6	96.3	115.6	378.0
1995	182.7	256.7	99.3	120.4	377.1
1996	182.2	269.9	99.7	121.7	391.6

(a) The estimates of employed persons include persons who worked without pay for at least one hour per week in a family business or on a farm (that is, unpaid family helpers). Persons who worked in another industry and in agriculture are classified to the industry of predominant activity.

Source: *Labour Force, Australia* (6203.0).

Australian women in agriculture

On 15 October 1996 women in Australia gathered to celebrate the inaugural World Rural Women's Day. The Foundation for Australian Women in Agriculture made a presentation to Prime Minister John Howard, the Minister for Primary Industries and Energy, John Anderson and Minister for Social Security and Minister Assisting the Prime Minister for the Status of Women, Jocelyn Newman. In formally acknowledging World Rural Women's Day, Minister John Anderson stated '...Australian agricultural women have ... been the catalyst for a growing international "women in agriculture movement" which has assisted in highlighting the invaluable contribution of agricultural women to producing the world's food, managing the world's natural resources, and nurturing the families and communities that keep rural areas vibrant and sustainable.'

The day's events highlighted the previously underestimated importance of women in the rural workforce which has been growing in recent years. Through organisations like the Foundation of Australian Agricultural Women, Australian Women in Agriculture and the various Women's Units within agricultural departments at the State and Commonwealth

levels, women involved in agriculture have promoted a broader and more active role in the full range of agricultural issues. In Australia, major concerns identified by rural women include their under-representation in rural decision-making bodies, a lack of visibility and recognition of women's economic contribution to the rural sector, and improving access to an integrated delivery of services (health, education, childcare, family support and telecommunications technology).

ABARE's 'Women on Farms' survey

In 1994 the Australian Bureau of Agricultural and Resource Economics (ABARE) collected information about women on farms as part of its wider Farm Surveys. This was the first time that such data about the contribution of women on farms have been collated on a large scale. The study covered family-operated farms in the broadacre and dairy industries. For each farm in the sample, a principal contact and their spouse were selected as the people who made most management decisions about the farm (not all farms had both a female and male contact).

Although they represented only a part of the women involved in agriculture, the women interviewed were central figures in the family farm unit, participating in various ways in the roles of wife and mother, part time worker, farmer and/or decision maker. The group did not include all women working on farms: for example other family members and paid employees were excluded from this study.

The women identified in these surveys were involved in the family farm business in several ways: some women worked alone on the farm and were solely responsible for the decision making and operation of the farm, while others shared the decision making about the financial structure of the business, sales and purchases of livestock and crops, farm labour, and family and household duties. Some assisted during the peak times but were not involved in the day-to-day farm operations, while other women worked in the home attending to household duties or had full time, off-farm employment.

The results show that these women spent more time working off-farm than the men. A greater proportion of the women than of the men had a high level of formal education. Women with a high level of education generally worked for longer periods off-farm compared with other women. Women in the dairy industry spent a greater amount of time working on-farm than did their female counterparts in the broadacre industries. However, on farms with relatively higher levels of debt, women in general spent more time working, both on-farm and off-farm.

Women of all ages contributed to on-farm work, with an estimated one-third of females aged between 41 and 50. In addition, women over the age of 70 still contributed to on-farm work. Women spent more time working on-farm on the larger farms while they worked more off-farm for farms with higher capitalisation.

Social issues

In a 1985 study, commissioned by the Country Women's Association and the Office for the Status of Women (OSW), rural women identified a clear set of priorities. Almost 33% identified financial and economic issues as the single biggest problem facing rural women.

'Rural women want better transport systems and roads to facilitate access to essential services and social contact. They want improved education, training and employment opportunities to broaden their own and their families' economic position and prospects. They want better access to health and community services for themselves and their families, and better telecommunication facilities. These very-basic services are crucial in mitigating ...the undesirable effects of isolation.' (*Life Has Never Been Easy, Report of the Survey of Women in Rural Australia*, Office of the Status of Women and the Country Women's Association of Australia)

ABARE data show that both women and men considered health and social services to be the most important issues affecting rural women. Rural employment opportunities and the performance of the farm business were identified as the most important issues affecting rural centres. The issues perceived to be the most important affecting rural families were educational facilities, rural employment opportunities and the performance of the farm business and the rural sector.

Farming has traditionally been considered a male dominated activity. The 1991 Census showed that 71% of farmers were male and 29% were female. In comparison, across all occupations, 57% of workers were male and 43% were female. There has been a gradual increase over time in the number of women reported as working on farms as a proportion of the total farm workforce. It is possible that the growth in female participation can also be attributed to perceptions that farm women have in regard to their role as farm manager.

ABS data show that there were 72,200 women employed as farmers or farm managers in August 1996. Many of these were in partnership with their husbands. Women represented 30% of all farmers or farm managers. The number of female farmers has remained fairly constant during the last ten years while the numbers of men in farming has fallen by 11%.

There were also many women who worked on farms who were not farmers or farm managers. At August 1996, 123,900 women worked in agriculture or industries that service

agriculture (about 30% of the agricultural workforce). This compares with 63,900 in August 1966 (or 15% of the agricultural

workforce at that time). Over the period 1966 to 1996 women employed in the Agricultural sector increased by 94% (see table 14.5 below).

14.5 EMPLOYMENT IN AGRICULTURE AND SERVICES TO AGRICULTURE, Australia

	Numbers employed at August				Farmers and farm managers at August			
	1966 '000	1976 '000	1986 '000	1996 '000	1966 '000	1976 '000	1986 '000	1996 '000
Males	348.1	287.6	278.6	272.9	227.9	205.0	188.3	168.1
Married females	48.2	71.0	94.7	101.9	n.a.	n.a.	66.7	65.3
All females	63.9	82.9	112.9	123.9	26.5	26.4	73.7	72.2
All persons	412.0	370.5	391.4	396.8	254.4	231.4	262.0	240.2

Source: Labour Force, Australia (6203.0) and Labour Force, Australia (6204.0).

Labour Force data indicate noticeable changes in female employment in the rural sector. 'Women have always been important in maintaining the family farm but with changes in employment mix and growth in part-time work their participation in rural labour markets has risen dramatically' (Lewis in *Agriculture in the Australian Economy*, edited by D.B. Williams). Both full-time and part-time employment have increased, more so part-time which has increased substantially, with nearly all of this change attributed to married rather than single women. The increase in part-time employment can be explained by the mix between household duties and the nature of farm work. The supply of female labour is well suited to the requirements of farm work, especially given that technological change has reduced the need for strenuous physical work. 'Greater emphasis on maintaining accounts and the business management side of farming also provide opportunity for women to use their skills effectively' (Lewis). Economic pressures seem to have contributed to the increase in female farm employment. In many cases male farmers have sought off-farm income and transferred a range of farm duties to their partner.

Education and qualifications

A recent study found that 'Women on farms are more likely to hold higher educational qualifications than male farmers and are also more likely to undertake retraining to provide financial security for families' (Cameron, 1994). This in part reflects women from farms also holding off-farm jobs, and enables them to do so. It probably also reflects past patterns

of farmers' sons leaving school to provide on-farm labour and learning farming in that way. Today, many parents aware of the difficulties facing the agricultural industry, encourage their children to broaden their training. Many who train with a view to returning to the land subsequently find that a degree or experience in business management is a sufficiently versatile qualification to permit employment in non-farm areas' (Epps, 1993). Of all students at the post-secondary institutions, 3.6% of females study farm-related courses (i.e. agriculture, animal husbandry or veterinary science) (Dawe, 1993).

Communications and technology

Looking to the future, women and men in rural Australia are well poised to take advantage of developments in technology with services such as Farmwide Online Computer Pilot, which is run by the National Farmers' Federation. Farmwide provides access to the Internet, e-mail and a wide range of rural services. This pilot aims to facilitate and accelerate the uptake of online services in rural Australia and to determine the specific information and communication needs of rural and regional Australia.

Women have always played a significant role in Australian agriculture, in the nation's farm houses, paddocks and rural communities. Increasingly they are involved in planning and farm management, and decision making. Many of them also support the farm finances through their off-farm employment. In recent years there has been growing recognition for the many roles they play in agriculture.

Gross value of agricultural commodities produced

Table 14.6 shows the gross value of agricultural commodities produced for the years 1990–91 to 1995–96. The value shown is the value of recorded production at the wholesale prices realised in the market place.

14.6 GROSS VALUE OF AGRICULTURAL COMMODITIES PRODUCED

Commodity	1990–91 \$m	1991–92 \$m	1992–93 \$m	1993–94 \$m	1994–95 \$m	1995–96p \$m
Crops						
Barley for grain	568.3	680.9	801.8	844.9	622.2	1 347.0
Oats for grain	147.3	178.3	208.8	147.9	165.8	311.0
Wheat for grain	1 988.1	2 097.2	2 685.5	2 866.8	2 127.2	4 602.0
Other cereal grains	304.9	473.3	340.1	537.5	580.2	683.5
Sugar cane cut for crushing	748.0	602.7	800.9	944.6	1 207.7	1 319.7
Fruit and nuts	1 059.6	1 304.1	1 402.9	1 316.7	1 426.3	1 421.6
Grapes	362.0	433.0	395.5	450.1	511.1	680.6
Vegetables	1 284.9	1 242.4	1 248.6	1 443.7	1 491.6	1 465.0
All other crops(a)	2 611.5	2 853.8	2 853.2	2 963.8	2 999.6	3 752.1
Total crops	9 074.6	9 865.7	10 737.3	11 515.9	11 131.7	15 582.5
Livestock slaughterings and other disposals(b)						
Cattle and calves(c)	3 869.4	3 801.9	3 839.2	4 433.5	4 213.5	3 474.3
Sheep and lambs	364.2	460.6	680.8	793.6	833.7	1 005.5
Pigs	691.0	658.6	649.5	660.5	630.6	589.2
Poultry	788.3	778.0	833.5	929.3	902.0	964.6
Total livestock slaughterings and other disposals(d)	5 721.0	5 738.1	6 032.7	6 852.9	6 615.7	6 066.4
Livestock products						
Wool	4 180.9	2 979.5	2 568.5	2 449.1	3 317.9	2 686.8
Milk	1 824.8	1 960.0	2 314.4	2 448.0	2 419.1	2 965.8
Eggs	321.1	278.1	286.5	233.9	230.6	250.9
Total livestock products(e)(f)	6 354.3	5 244.0	5 207.5	5 166.7	5 993.7	5 937.9
Total value of agricultural commodities produced(g)	21 158.5	20 861.3	21 990.6	23 547.2	23 750.3	27 595.9

(a) Includes pastures and grasses. Excludes crops for green feed or silage. (b) Includes net exports of livestock. (c) Includes dairy cattle slaughtered. (d) Includes goat slaughterings and Tasmanian pigs and poultry. (e) Includes honey and beeswax. (f) Excludes Northern Territory milk and eggs. (g) Includes pigs, poultry, milk and eggs in the Northern Territory.

Source: Value of Agricultural Commodities Produced, Australia (7503.0), Value of Principal Agricultural Commodities Produced, Australia (7501.0).

Table 14.7 shows the index of the gross value of commodities produced at constant prices, which is a measure of change in value after the direct effects of price changes have been eliminated.

14.7 INDEX OF VALUES(a) OF AGRICULTURAL COMMODITIES PRODUCED, At Constant Prices

Commodity	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
Crops						
Barley for grain	1 000	1 016	1 120	1 335	1 649	720
Oats for grain	1 000	933	1 030	1 181	1 004	563
Wheat for grain	1 000	1 056	729	1 019	1 139	615
Other cereal grains	1 000	859	1 379	857	1 166	1 106
Sugar cane(b)	1 000	940	831	1 089	1 165	1 223
Fruit and nuts	1 000	959	1 003	1 171	1 188	1 126
Grapes	1 000	1 027	1 185	983	1 127	952
Vegetables	1 000	1 042	1 050	1 042	1 159	1 105
All other crops(c)	1 000	1 050	1 245	1 244	1 208	1 013
Total crops	1 000	1 019	1 000	1 114	1 200	916
Livestock slaughterings and other disposals						
Cattle and calves(d)	1 000	1 049	1 068	1 089	1 088	1 076
Sheep and lambs	1 000	908	932	945	956	937
Pigs	1 000	984	1 059	1 035	1 085	1 107
Poultry	1 000	1 011	1 076	1 099	1 191	1 191
Total livestock slaughterings(e)	1 000	1 023	1 055	1 070	1 088	1 081
Livestock products						
Wool	1 000	969	804	782	755	666
Milk	1 000	1 022	1 075	1 171	1 291	1 311
Eggs	1 000	1 018	896	942	892	867
Total livestock products(f)	1 000	982	868	876	882	819
Total agricultural commodities produced	1 000	1 008	970	1 024	1 066	925

(a) Indexes of values at constant prices (weighted by average unit values for 1989-90). (b) Sugar cane cut for crushing and planting. (c) Includes pasture and grasses. Excludes crops for green feed or silage. (d) Includes dairy cattle slaughtered. (e) Component series based on carcass weight. Includes goat slaughterings. (f) Includes honey, beeswax and goat products.

Source: *Value of Agricultural Commodities Produced, Australia (7503.0)*.

Financial statistics of farm businesses

14.8 FARM BUSINESSES, Estimates of Selected Financial Aggregates

	1990-91	1991-92	1992-93	1993-94	1994-95
	\$m	\$m	\$m	\$m	\$m
Sales from crops	7 196.7	7 718.3	8 594.6	9 369.5	9 804.2
Sales from livestock	4 864.5	4 905.3	5 431.1	r6 232.5	6 279.1
Sales from livestock products	5 853.6	4 753.6	4 770.9	4 637.3	5 596.3
Turnover	19 190.6	18 576.0	20 068.2	r21 694.3	23 516.3
Purchases and selected expenses	10 892.5	10 726.3	11 392.6	r12 541.1	13 517.0
Value added(a)	7 329.0	8 048.2	9 099.5	r10 598.4	9 768.1
Adjusted value added(a)	6 004.4	6 737.8	7 753.3	r9 178.5	8 234.3
Gross operating surplus(a)	4 114.9	4 885.2	5 832.7	r7 081.2	6 006.0
Interest paid	2 066.0	1 820.4	1 499.2	1 302.0	1 508.9
Cash operating surplus(b)	3 412.8	3 095.0	4 083.2	r4 433.3	4 835.7
Net capital expenditure	1 216.6	1 420.8	1 660.2	1 945.0	2 090.8
Gross indebtedness	14 140.6	14 819.2	15 390.5	15 921.7	18 267.7

(a) Includes an estimate for the increase (or decrease) in the value of livestock. (b) Excludes an estimate for the value of the increase (or decrease) in the value of livestock.

Source: *Agricultural Industries, Financial Statistics, Australia (7507.0)*.

Estimates of selected financial aggregates of farm businesses are shown in the following tables and graphs. The estimates have been derived from the Agricultural Finance Survey (AFS), conducted annually since 1986–87.

14.9 FARM BUSINESSES, Estimates of Selected Financial Aggregates — 1994–95

	NSW \$m	Vic. \$m	Qld \$m	SA \$m	WA \$m	Tas. \$m	Aust.(a) \$m
Sales from crops	2 102.6	1 307.1	3 028.4	1 206.0	1 937.5	193.2	9 804.2
Sales from livestock	2 029.0	1 072.5	1 874.7	501.9	574.6	124.8	6 279.1
Sales from livestock products	1 687.6	1 885.5	555.5	454.6	806.5	201.0	5 596.3
Turnover	6 321.3	4 584.8	6 004.9	2 353.8	3 529.9	570.6	23 516.3
Purchases and selected expenses	3 834.8	2 574.2	3 406.3	1 279.2	2 033.8	320.4	13 517.0
Value added(b)	2 066.4	1 959.2	2 518.7	1 034.0	1 640.6	243.8	9 768.1
Adjusted value added(b)	1 581.9	1 657.8	2 176.0	873.5	1 439.2	209.5	8 234.3
Gross operating surplus(b)	896.8	1 219.6	1 599.0	683.9	1 210.5	130.1	6 006.0
Interest paid	447.4	287.1	359.5	151.1	221.3	38.4	1 508.9
Cash operating surplus(c)	912.0	988.1	1 351.6	570.7	875.7	97.8	4 835.7
Net capital expenditure	507.6	321.0	607.5	222.6	382.6	41.6	2 090.8
Gross indebtedness	5 143.2	3 025.8	4 924.3	1 604.7	2 987.6	462.1	18 267.7

(a) Includes the Northern Territory and the Australian Capital Territory. (b) Includes an estimate for the value of the increase (or decrease) in livestock. (c) Excludes an estimate for the value of the increase (or decrease) in livestock.

Source: *Agricultural Industries, Financial Statistics, Australia (7507.0)*.

Turnover

Turnover (all gross proceeds received by the business during the year from the sale of crops, livestock, livestock products and other miscellaneous revenue) is a good guide to the level of farm business activity. In aggregate, the turnover by farm businesses for 1994–95 of \$23.5b was 8% higher than during 1993–94 (table 14.10). The average turnover per farm business increased by 9% during 1994–95. The increase was due to a 21% increase in sales from livestock products and a 5% increase in sales from crops.

In 1994–95, 19,200 or 18% of Australian farm businesses had a turnover of more than \$300,000 and contributed 57% of the total turnover of all Australian farms. Their average turnover was \$692,100 and average cash operating surplus, \$142,600.

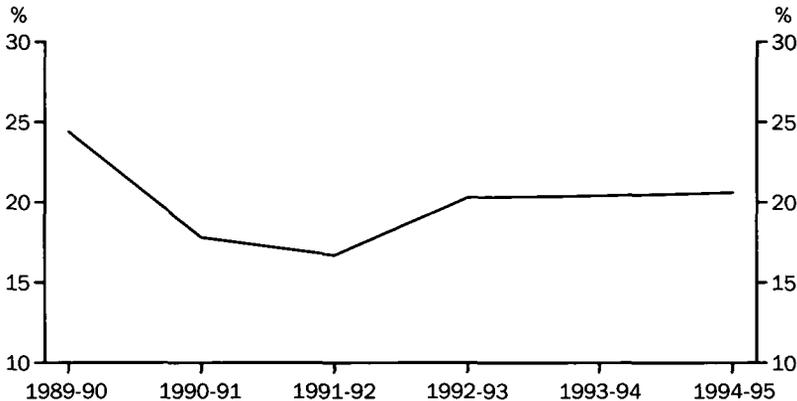
At the other end of the scale, 22,800 farms (21%) had a turnover of less than \$50,000. These farm businesses contributed only 3% of the total turnover, at an average of \$30,500. These farms had an average cash operating loss of \$2,300 per farm.

In 1994–95, the farm business profit margin (the ratio of cash operating surplus to turnover) was 21%, little changed from the 20% in 1993–94 (graph 14.11). The profit margin of Australian farm businesses has still not recovered to the profitability levels achieved between 1986 and 1990.

14.10 FARM BUSINESSES, By Size of Turnover — Australia

Size of turnover	Number of farm businesses				Total turnover			
	1991-92 '000	1992-93 '000	1993-94 '000	1994-95 '000	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
Less than \$50 000	26.3	23.7	21.4	22.8	758.7	762.8	626.4	696.1
\$50 000 to \$99 999	29.7	25.5	24.0	22.2	2 095.9	1 918.6	1 622.3	1 678.1
\$100 000 to \$149 999	18.5	18.3	19.4	17.1	2 267.3	2 281.1	2 313.5	2 142.7
\$150 000 to \$199 999	11.2	10.5	12.4	10.9	1 965.6	1 823.7	2 159.4	1 928.5
\$200 000 to \$249 999	6.8	8.0	8.5	8.4	1 536.0	1 789.0	1 808.2	1 936.6
\$250 000 to \$299 999	5.1	4.8	5.1	6.6	1 417.8	1 299.2	1 384.6	1 821.7
\$300 000 and over	12.0	15.2	16.8	19.2	8 534.8	10 193.9	11 779.9	13 312.6
Total	109.6	106.1	107.5	107.3	18 576.0	20 068.2	21 694.3	23 516.3

Source: *Agricultural Industries, Financial Statistics, Australia (7507.0)*.

14.11 AUSTRALIAN FARM BUSINESSES, Profit Margins

Source: *Agricultural Industries, Financial Statistics, Australia (7507.0)*.

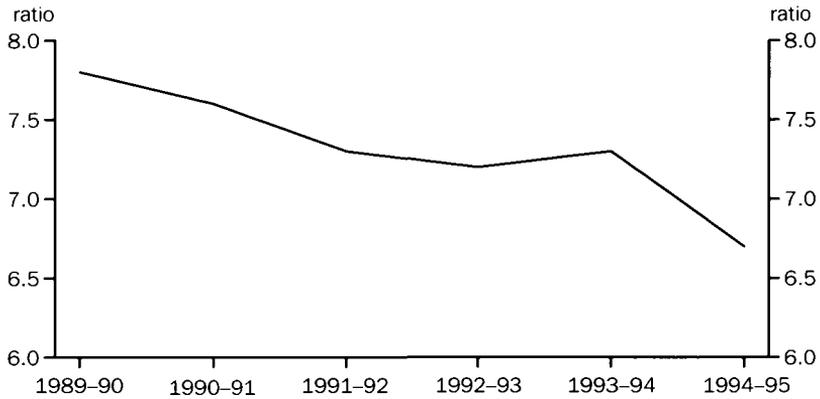
Gross indebtedness

Australian farm businesses owed a total of \$18.3b at 30 June 1995, a 15% increase on 1993-94. The aggregate debt had risen from \$11.5b in 1986-87 when the current series of surveys began. The average gross indebtedness was \$170,300 per farm business. About 22% of farm businesses owed more than \$200,000. These farms owed 78% of the aggregate debt. On the other hand, 24% of farm businesses were debt free at the end of June 1995. The total interest bill for Australian farm business, \$1.5b, was 16% more than in 1993-94. The average interest payment per farm business was \$14,100 in 1994-95, and was \$5,300 below the high recorded in 1989-90.

14.12 AUSTRALIAN FARM BUSINESSES, Aggregate and Average Gross Indebtedness

30 June	Aggregate gross indebtedness \$m	Average gross indebtedness per farm business \$
1990	14 518.0	126 400
1991	14 140.6	130 600
1992	14 819.2	135 200
1993	15 390.5	145 100
1994	15 921.7	148 100
1995	18 267.7	170 300

Source: *Agricultural Industries Financial Statistics, Australia (7507.0)*.

14.13 AUSTRALIAN FARM BUSINESSES, Debt to Asset Ratio(a) — 30 June

(a) The debt to asset ratio is the total value of assets at 30 June divided by gross indebtedness at 30 June.

Source: *Agricultural Industries Financial Statistics, Australia (7507.0)*.

14.14 AUSTRALIAN FARM BUSINESSES, Ratio of Cash Operating Surplus to Interest Paid - 30 June

Source: *Agricultural Industries Financial Statistics, Australia (7507.0)*.

Land used for agriculture

Scope of Agricultural Census

The major source of the statistics on land use, commodity production and livestock numbers in this chapter is the Agricultural Census conducted by the ABS at 31 March each year.

The ABS excludes from the Census those establishments which make only a small contribution to overall agricultural activity. The cutoff, in terms of the estimated value of agricultural operations (EVAO) has been

adjusted over the years since 1982-83. For the 1993-94 and 1994-95 censuses the cut-off was lowered from \$22,500 to \$5,000 to ensure that all important agricultural activity was covered.

While this alteration has resulted in some changes in the counts of numbers of establishments engaged in agricultural activities, 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. Care should be exercised when comparing the 1993–94 and 1994–95 results with those of previous years.

Land used for agriculture

In spite of Australia's harsh environment, agriculture constitutes the most extensive form of land use. At 31 March 1995, the estimated total area of agricultural establishments in Australia was 463.3 million hectares, representing about 60% of the total land area (tables 14.15 and 14.16). The remainder of the Australian land area consists of unoccupied land (mainly desert in western central Australia), Aboriginal land reserves principally located in the Northern Territory, forests, mining leases, National parks and urban areas.

Livestock grazing is the largest land user in Australian agriculture. This activity has led to the replacement of large areas of native vegetation with introduced pastures and grasses in the higher rainfall and irrigation areas. At 31 March 1995, 8% of Australia's agricultural land was sown to pastures and grasses. In the semi-arid and arid zones livestock graze on native grasses.

At 31 March 1995, 4% of Australia's agricultural land was cropped. This continues the trend which has seen about 10% of Australia's agricultural land cultivated each year since the 1980s. Until this time the area of land cropped or sown to pastures and grasses had been expanding rapidly. This expansion was facilitated by factors including increased use of fertilisers, improved water supply and reduction in the rabbit population due to myxomatosis.

14.15 AGRICULTURAL LAND UTILISATION IN AUSTRALIA

Year	Area of			Area of establishments with agricultural activity mill. ha	Total % of Australian land area (768 284 000 ha) %
	Crops(a) mill. ha	Sown pastures and grasses mill. ha	Balance(b) mill. ha		
1989–90	17.0	30.9	416.4	464.3	60.4
1990–91	17.4	28.3	417.1	462.8	60.2
1991–92	16.4	30.8	418.8	466.0	60.7
1992–93	17.3	29.0	413.8	460.1	59.9
1993–94	18.0	29.5	421.6	469.1	61.1
1994–95	17.0	36.1	410.2	463.3	60.3

(a) Excludes pastures and grasses harvested for hay and seed which have been included in 'sown pastures and grasses'. (b) Includes areas of arid or rugged land held under grazing licences but not always used for grazing, and also variable amounts of fallow land.

Source: AgStats (7117.0).

14.16 AREA OF ESTABLISHMENTS WITH AGRICULTURAL ACTIVITY

31 March	NSW mill. ha	Vic. mill. ha	Qld mill. ha	SA mill. ha	WA mill. ha	Tas. mill. ha	NT mill. ha	Aust. (incl. ACT) mill. ha
1990	62.0	13.1	152.3	57.5	110.9	1.9	66.6	464.3
1991	60.7	12.7	150.8	57.0	110.9	1.9	68.8	462.8
1992	60.4	12.4	150.0	56.9	115.7	1.8	68.7	466.0
1993	59.4	12.3	149.5	56.6	110.6	1.8	69.9	460.1
1994	61.2	13.0	152.6	57.3	114.4	2.0	68.6	469.1
1995	60.3	12.7	149.7	56.1	114.0	1.9	68.6	463.3

Source: AgStats (7117.0).

Crops

Table 14.17 shows the area of crops in the States and Territories of Australia since 1870–71, and table 14.18 is a summary of the area, production

and gross value of the principal crops in Australia in recent years

14.17 AREA OF CROPS(a)

Year	NSW '000 ha	Vic. '000 ha	Qld '000 ha	SA '000 ha	WA '000 ha	Tas. '000 ha	NT '000 ha	ACT '000 ha	Aust. '000 ha
1870–71	156	280	21	235	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
1959–60	2 888	1 949	1 184	1 780	2 628	130	1	3	10 564
1969–70	4 999	2 212	2 208	2 290	3 912	98	6	2	15 728
1979–80	5 243	2 243	2 334	2 771	5 281	79	2	1	17 954
1990–91	4 073	2 063	2 872	2 933	5 359	75	6	—	17 382
1991–92	3 846	2 039	2 302	2 920	5 216	76	5	—	16 404
1992–93	3 906	2 258	2 316	3 073	5 668	73	4	1	17 297
1993–94	4 209	2 317	2 394	2 940	6 100	78	5	—	18 043
1994–95	3 432	2 296	2 055	2 991	6 181	70	4	—	17 030

(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, seed and pasture cut for hay and harvested for seed or green feed are excluded. From 1970–71 to 1980–81 the figures related to area 'used for' crops, that is, an area used for more than one purpose during the year was counted only once. From 1981–82, an area double cropped has been counted separately each time used.

Source: AgStats (7117.0).

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 subterranean clover, medics or lucerne. In recent years, alternative winter crops such as canola, field peas and lupins have been introduced to cereal rotation in areas where they had not previously been grown. Rice, maize and sorghum are summer cereals, with the latter being grown in association with winter cereals in some areas. In northern Australia there are two rice growing seasons.

Wheat

Wheat is Australia's most important crop. It is produced in all States but primarily on the

mainland in a narrow crescent known as the wheat-belt. Inland of the Great Dividing Range, the wheat-belt stretches in a curve from central Queensland through New South Wales, Victoria and southern South Australia. In Western Australia, the wheat-belt continues around the south-west of the State and some way north, along the western side of the continent (see map 14.21).

The 1995–96 preliminary estimate of wheat production showed a 92% increase compared with the 1994–95 season (tables 14.19 and 14.20). Due to the breaking of the drought, New South Wales produced more than five times the amount of wheat produced in 1994–95. Production approximately doubled in Victoria, Queensland and South Australia, and in Western Australia it rose 31% to 7.1 million tonnes.

14.18 SELECTED CROPS, Area, Production and Gross Value

Crop	1992-93			1993-94			1994-95		
	Area '000 ha	Production '000 t	Gross value \$m	Area '000 ha	Production '000 t	Gross value \$m	Area '000 ha	Production '000 t	Gross value \$m
Cereals for grain									
Barley	2 947	5 397	802	3 424	6 668	845	2 470	2 913	622
Grain sorghum	427	548	87	499	1 084	173	687	1 273	242
Maize	45	199	42	44	204	41	50	242	59
Oats	1 149	1 937	209	947	1 647	148	897	924	166
Rice	106	858	164	125	1 042	262	119	1 016	216
Wheat	8 275	14 739	2 686	8 383	16 479	2 867	7 891	8 972	2 127
Lupins for grain	1 032	1 195	235	1 150	1 480	270	1 407	1 076	199
Crops for hay									
Oats	247	981	96	233	931	108	252	745	109
Wheat	21	60	6	17	65	6	36	64	12
Sugar cane cut for crushing	328	27 958	801	338	31 312	945	363	32 971	1 208
Tobacco	4	11	70	3	8	51	3	7	40
Cotton seed	287	1 000	706	293	788	652	245	796	851
Peanuts (in shell)	23	32	33	22	45	34	13	23	17
Soybean	30	49	19	41	81	36	18	27	11
Canola	107	178	57	177	305	108	356	264	97
Sunflower	60	50	16	113	105	40	136	112	46
Orchard fruit									
Oranges	n.a.	616	215	n.a.	582	230	n.a.	517	215
Apples	n.a.	328	267	n.a.	307	238	n.a.	317	270
Pears (excluding Nashi)	n.a.	161	103	n.a.	155	89	n.a.	152	73
Peaches	n.a.	63	51	n.a.	59	53	n.a.	58	50
Other fruit									
Bananas	11	214	303	11	219	203	10	208	255
Pineapples	6	142	42	9	157	45	5	139	43
Grapes	63	791	396	67	920	450	73	769	511
Vegetables									
Carrots	5	170	82	5	195	91	7	239	133
Potatoes	39	1 129	317	40	1 185	338	38	1 122	378
Tomatoes	9	280	148	9	327	173	9	340	166
Total all crops (excluding pastures and grasses)	17 297	..	10 133	18 043	..	10 947	17 030	..	10 490

Source: AgStats (7117.0), Value of Agricultural Commodities Produced, Australia (7503.0).

14.19 WHEAT, Area, Production and Receipts

Year	Area(a)		Production(a)		Australian Wheat Board receipts '000 t
	For grain '000 ha	All purposes(b) '000 ha	Grain '000 t	Gross value \$m	
1990-91	9 218	(b)9 237	15 066	1 988.1	13 047
1991-92	7 183	(b)7 213	10 557	2 113.0	6 769
1992-93	8 275	(b)8 296	14 739	2 685.0	12 173
1993-94	8 383	(b)8 400	16 479	2 866.8	13 811
1994-95	7 891	(b)7 927	8 972	2 127.2	6 114
1995-96p	9 719	9 743	17 196	4 602.0	12 661

(a) Area and production data relate to the year ending 31 March. (b) Excludes wheat for hay for all States, except New South Wales.

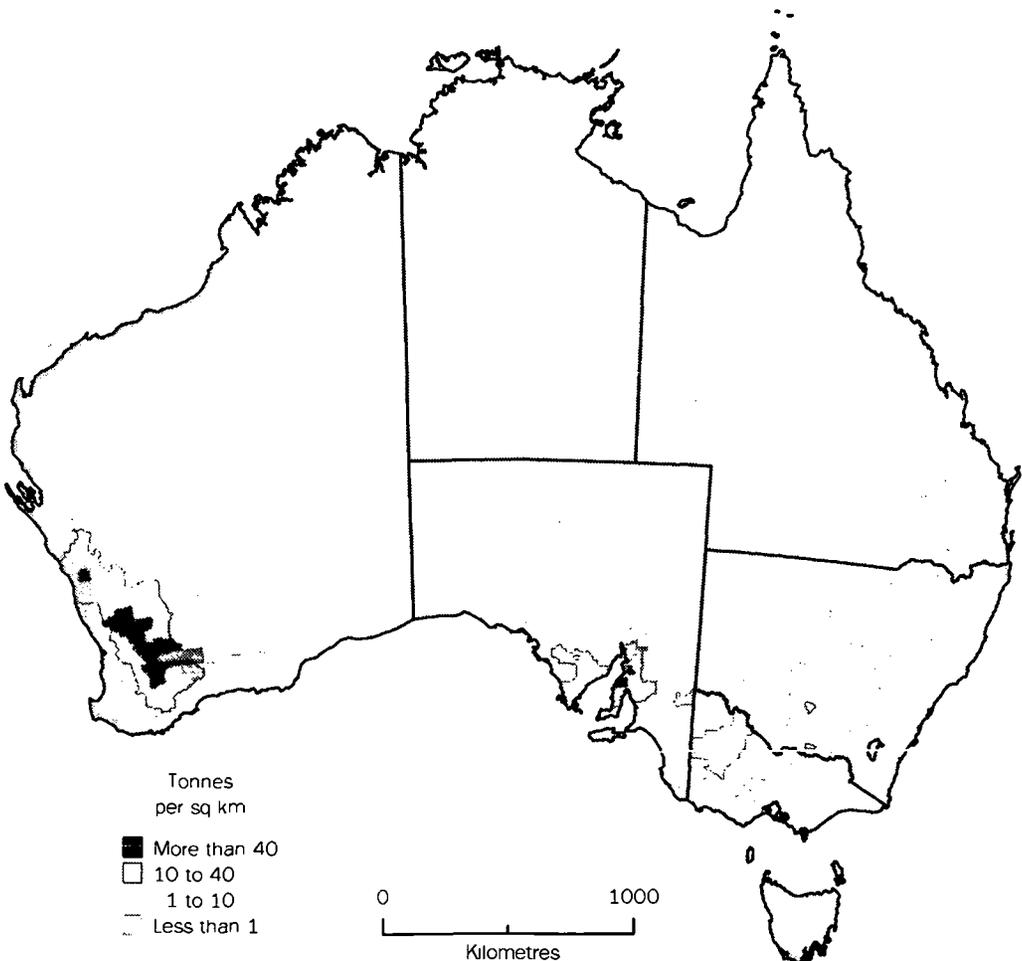
Source: Value of Agricultural Commodities Produced, Australia (7503.0); AgStats (7117.0); Principal Agricultural Commodities, Australia (Preliminary), 1995-96 (7111.0).

14.20 WHEAT FOR GRAIN, Area and Production

Year	NSW	Vic	Qld	SA	WA	Tas.	Aust.
AREA ('000 ha)							
1990-91	2 166	911	1 060	1 448	3 632	1	9 218
1991-92	1 499	664	492	1 297	3 230	1	7 183
1992-93	1 694	821	669	1 419	3 669	1	8 275
1993-94	1 978	780	556	1 216	3 852	2	8 383
1994-95	1 424	822	401	1 395	3 848	1	7 891
1995-96p	2 477	896	684	1 614	4 049	1	9 719
PRODUCTION ('000 t)							
1990-91	4 128	1 493	1 973	2 021	5 449	2	15 066
1991-92	2 183	1 150	344	2 141	4 736	3	10 557
1992-93	3 583	2 022	735	2 421	5 979	5	14 739
1993-94	5 086	222	555	2 121	6 689	5	16 479
1994-95	875	944	225	1 487	5 438	3	8 972
1995-96p	4 660	1 962	563	2 887	7 120	4	17 196

Source: AgStats (7117.0).

14.21 WHEAT FOR GRAIN, Production — 1994-95



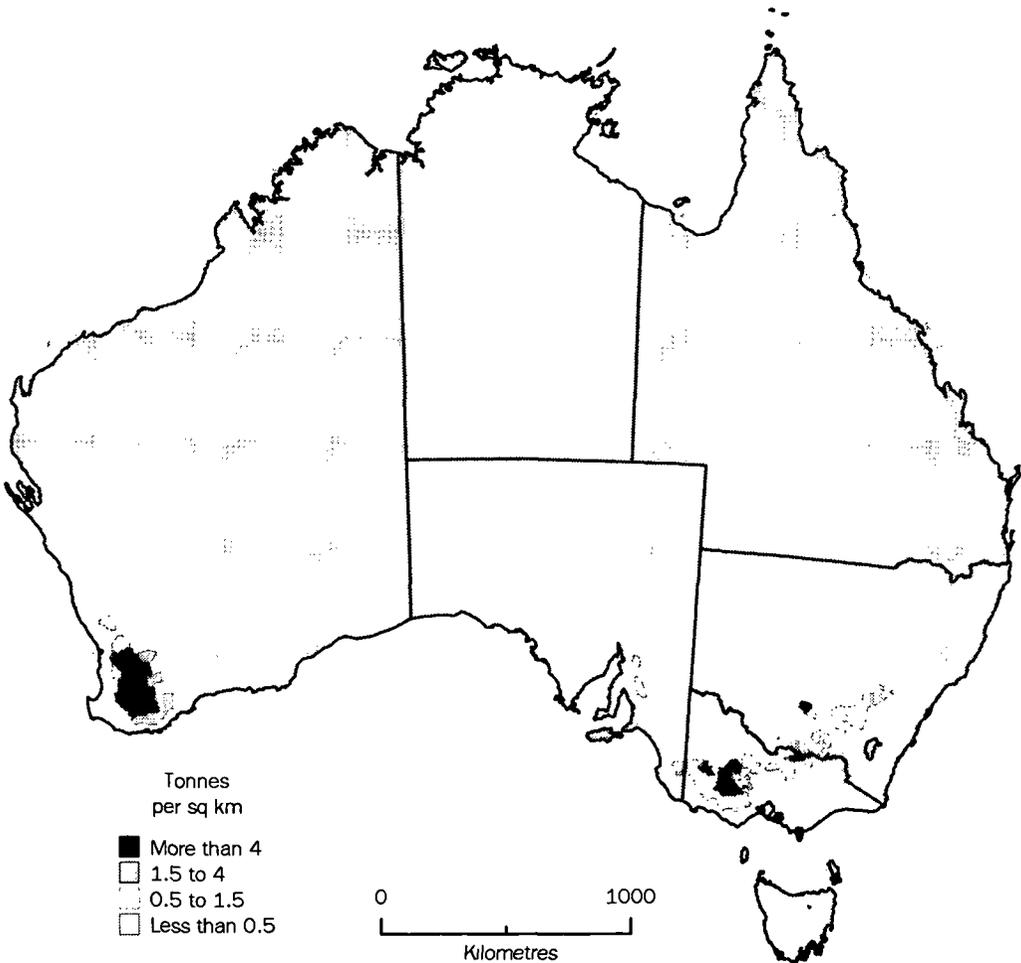
Oats

Oats are traditionally grown in moist, temperate regions. However, improved varieties and management practices have enabled oats to be grown over a wide range of soil and climatic conditions. They have a high feed value and produce a greater bulk of growth than other winter cereals; they need less cultivation and

respond well to superphosphate and nitrogen. Oats have two main uses: as a grain crop, or as a fodder crop (following sowing, or fallow or rough sowing into stubble or clover pastures). Fodder crops can either be grazed and then harvested for grain after removal of livestock or else mown and baled or cut for chaff.

Map 14.22 shows the production of oats in Australia in 1994-95.

14.22 OATS FOR GRAIN, Production — 1994-95



The 1995–96 preliminary estimate of oats for grain production more than doubled when compared with the 1994–95 harvest

(table 14.23). In 1995–96, New South Wales production showed a fourfold increase while Victoria doubled production.

14.23 OATS FOR GRAIN, Area and Production

Year	NSW	Vic.	Qld	SA	WA	Tas.	Aust.
AREA ('000 ha)							
1990–91	374	177	24	135	324	9	1 044
1991–92	457	183	15	129	367	9	1 160
1992–93	448	223	15	123	332	9	1 149
1993–94	369	186	16	101	268	7	947
1994–95	375	148	14	95	256	8	897
1995–96p	556	196	13	127	322	10	1 225
PRODUCTION ('000 t)							
1990–91	538	301	27	148	497	19	1 530
1991–92	579	300	5	172	614	19	1 690
1992–93	761	404	10	165	578	19	1 937
1993–94	618	362	8	135	511	13	1 647
1994–95	197	201	3	87	425	11	924
1995–96p	779	405	8	171	627	20	2 009

Source: Agstats (7117.0); *Principal Agricultural Commodities, Australia (Preliminary) 1995–96 (7111.0).*

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 therefore provide grazing or fodder supplies when other sources are not available. Barley

grain may be crushed to meal for stock or sold for malting. Map 14.25 shows the production of barley in Australia in 1994–95.

Preliminary estimates for barley in 1995–96 showed production was double the harvest of the previous year (table 14.24). New South Wales increased production fourfold while Victoria produced more than three times as much barley as the previous year. Queensland and South Australia also experienced large increases in production.

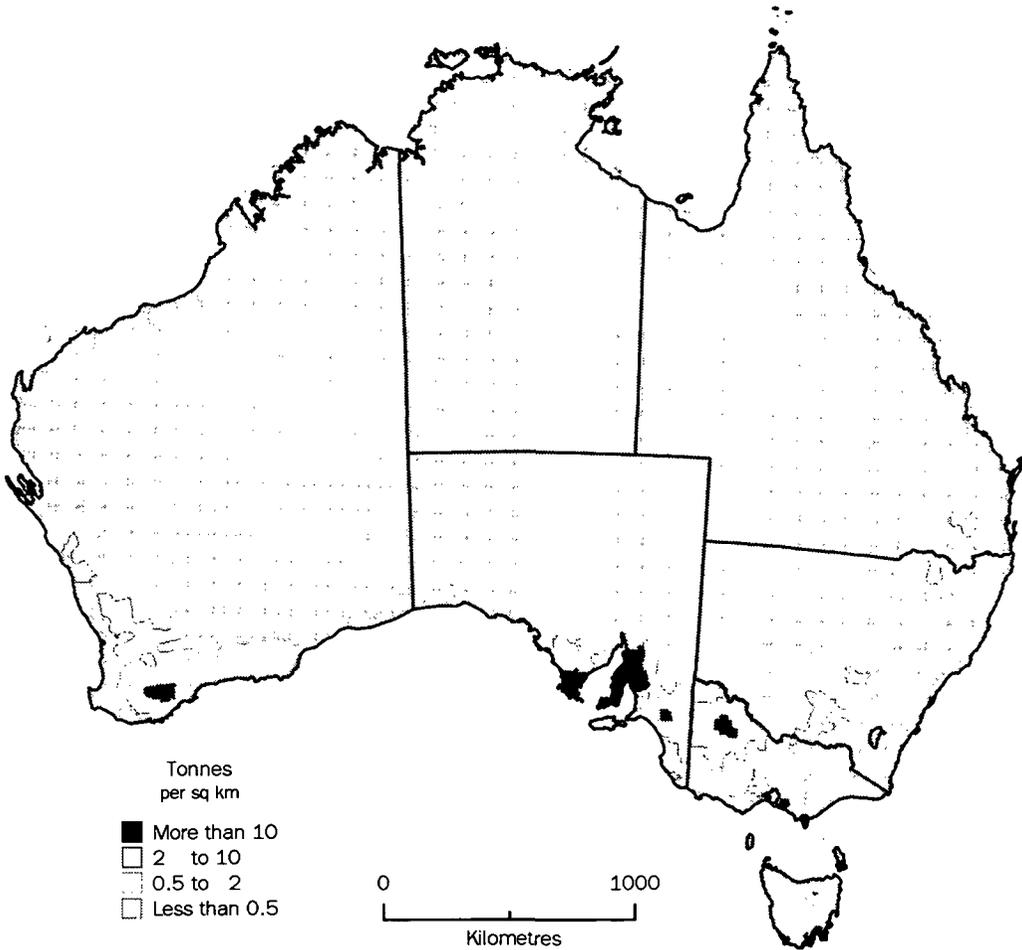
14.24 BARLEY FOR GRAIN, Area and Production

Year	NSW	Vic.	Qld	SA	WA	Tas.	Aust.
AREA ('000 ha)							
1990–91	463	463	177	945	498	10	2 556
1991–92	517	534	128	999	554	11	2 744
1992–93	560	551	189	1 023	611	12	2 947
1993–94	623	639	232	1 115	799	15	3 424
1994–95	410	492	93	882	579	14	2 470
1995–96p	630	651	183	1 017	760	13	3 253
PRODUCTION ('000 t)							
1990–91	822	651	361	1 506	742	26	4 108
1991–92	749	898	70	1 882	900	32	4 530
1992–93	1 044	1 116	285	1 855	1 061	35	5 397
1993–94	1 357	1 386	261	2 242	1 381	41	6 668
1994–95	291	448	73	1 159	915	27	2 913
1995–96p	1 148	1 548	212	1 955	1 355	34	6 252

Source: AgStats (7117.0); *Principal Agricultural Commodities, Australia (Preliminary), 1995–96 (7111.0).*

14.25

BARLEY FOR GRAIN, Production — 1994-95



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.

Grain sorghum production nearly doubled in 1994-95, with Queensland contributing 72% of the Australian harvest and increasing its own production 8% over that of the previous year (table 14.26).

14.26 GRAIN SORGHUM FOR GRAIN, Area and Production

Year	NSW	Vic.	Qld	SA	WA	Tas.	Aust. (a)
AREA ('000 ha)							
1989-90	138	—	238	—	—	—	380
1990-91	84	—	291	(b)	1	(b)	378
1991-92	147	—	420	(b)	—	(b)	569
1992-93	118	—	308	—	—	—	427
1993-94	99	—	399	(b)	—	—	499
1994-95	161	6	519	(b)	—	(b)	687
PRODUCTION ('000 t)							
1989-90	359	1	578	—	1	—	946
1990-91	187	1	558	(b)	2	(b)	751
1991-92	398	—	1 045	(b)	—	(b)	1 447
1992-93	229	—	315	—	2	—	548
1993-94	228	—	852	(b)	—	(b)	1 084
1994-95	347	8	916	(b)	2	(b)	1 273

(a) Includes the Northern Territory. (b) Not collected.

Source: AgStats (7117.0).

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 the Atherton Tablelands of Queensland; and 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.

In 1994-95, maize production rose 19% (table 14.27). Most maize is grown in New South Wales, and the increased production there (45%) accounted for most of the increase for Australia.

14.27 MAIZE FOR GRAIN, Area and Production

Year	NSW	Vic.	Qld	SA	WA	Tas.	Aust.
AREA ('000 ha)							
1989-90	17	—	34	—	1	—	52
1990-91	18	—	29	(a)	1	(a)	49
1991-92	17	—	34	(a)	1	(a)	52
1992-93	16	—	27	(a)	2	(a)	45
1993-94	14	—	28	(a)	2	(a)	44
1994-95	21	1	27	(a)	2	(a)	50
PRODUCTION ('000 t)							
1989-90	98	1	115	—	5	—	219
1990-91	91	2	95	(a)	5	(a)	194
1991-92	119	3	141	(a)	5	(a)	269
1992-93	108	3	75	(a)	13	(a)	199
1993-94	100	2	87	(a)	15	(a)	204
1994-95	145	5	80	(a)	11	(a)	242

(a) Not collected.

Source: AgStats (7117.0).

Rice

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. Nearly all of Australia's rice is grown in New South Wales. The remainder is grown in the Burdekin River

basin at Mareeba in northern Queensland and in the Adelaide River District in the Northern Territory.

Preliminary estimates of the rice harvest in 1995–96 show a decrease in production of 2% (table 14.28).

14.28 RICE FOR GRAIN, Area and Production

Year	NSW	Vic.	Qld	SA	WA	Tas.	Aust.
AREA ('000 ha)							
1990–91	85	(a)	4	(a)	(a)	(a)	89
1991–92	109	(a)	4	(a)	(a)	(a)	114
1992–93	105	(a)	2	(a)	(a)	(a)	106
1993–94	125	(a)	(a)	(a)	(a)	(a)	125
1994–95	119	(a)	(a)	(a)	(a)	(a)	119
1995–96p	140	(a)	(a)	(a)	(a)	(a)	140
PRODUCTION ('000 t)							
1990–91	719	(a)	21	(a)	(a)	(a)	740
1991–92	929	(a)	28	(a)	(a)	(a)	957
1992–93	846	(a)	12	(a)	(a)	(a)	858
1993–94	1 042	(a)	(a)	(a)	(a)	(a)	1 042
1994–95	1 016	(a)	(a)	(a)	(a)	(a)	1 016
1995–96p	999	(a)	(a)	(a)	(a)	(a)	1 000

(a) Not collected.

Source: AgStats (7117.0).

Vegetables

The area sown to vegetables reached a peak of over 200,000 hectares in 1945. It remained static at around 109,000 hectares from the mid-1970s to the mid-1980s, then increased until the end of the decade but has levelled out in recent years (table 14.29). Yields from most vegetable crops have continued to increase due to variety breeding for increased yields, greater use of irrigation and better control of disease and insect pests.

In 1994–95 potatoes were the largest vegetable crop in terms of both area and weight (tables 14.29 and 14.30).

14.29 SELECTED VEGETABLES FOR HUMAN CONSUMPTION, Area

Year	French and runner beans '000 ha	Cabbages '000 ha	Carrots '000 ha	Cauliflowers '000 ha	Onions '000 ha	Green peas '000 ha	Potatoes '000 ha	Tomatoes '000 ha	Other '000 ha	Total vegetables '000 ha
1989–90	7.3	2.3	4.8	3.7	5.1	13.3	40.6	9.6	39.1	125.8
1990–91	6.4	2.3	4.3	3.8	5.7	10.8	39.8	10.1	37.5	120.7
1991–92	6.8	2.3	4.7	3.6	5.4	8.9	39.8	9.0	37.0	117.5
1992–93	6.7	2.1	4.9	4.0	4.4	9.2	(a)38.8	8.6	39.0	117.7
1993–94	6.5	2.0	5.4	3.7	5.2	10.5	(a)40.3	8.9	42.8	125.3
1994–95	6.1	2.1	6.9	3.7	5.2	8.4	(a)37.6	8.7	40.6	119.3

(a) Excludes potatoes for seed.

Source: AgStats (7117.0).

14.30 SELECTED VEGETABLES FOR HUMAN CONSUMPTION, Production

Year	French and runner beans '000 t	Cabbages '000 t	Carrots '000 t	Cauliflowers '000 t	Onions '000 t	Green peas (pod weight) '000 t	Potatoes '000 t	Tomatoes '000 t
1989-90	38.4	77.8	154.9	88.6	192.5	110.7	1 178.0	322.1
1990-91	29.9	76.8	152.1	90.3	222.3	91.5	1 136.2	364.1
1991-92	32.5	78.6	158.3	78.3	220.5	83.5	1 150.1	330.5
1992-93	32.0	69.5	169.5	80.2	167.9	79.6	1 129.2	290.8
1993-94	31.0	64.5	194.8	75.2	213.2	97.2	1 184.7	327.2
1994-95	29.4	70.8	238.5	66.1	200.4	44.6	1 122.0	340.1

Source: AgStats (7117.0).

Fruit (excluding grapes)

A wide variety of fruit is grown in Australia ranging from pineapples, mangoes and pawpaws in the tropics to pome, stone and berry fruits in temperate regions.

The most important fruit crops in Australia are apples, oranges and bananas.

However, some other fruit types have experienced considerable growth in recent years. These include kiwi fruit and strawberries. The most significant crops in terms of gross value of production are apples and bananas. In 1994-95 the value of the banana crop increased by 25% while the value of the apple crop rose 14% (table 14.32).

14.31 SELECTED FRUIT STATISTICS

Year	Orchard fruit					Area of tropical and other fruits			Total area of fruit (excluding grapes) ha
	Apples '000 trees	Oranges '000 trees	Pears '000 trees	Peaches '000 trees	Bananas ha	Pineapples ha	Other fruit ha		
1989-90	7 023	7 187	(a)2 201	2 035	9 092	6 461	2 417	121 785	
1990-91	6 919	7 357	1 558	2 104	9 578	5 927	2 293	113 225	
1991-92	7 206	7 536	1 645	2 123	9 913	5 745	2 531	116 702	
1992-93	7 321	7 797	1 531	2 214	10 520	5 854	2 848	123 066	
1993-94	7 777	8 062	1 610	2 502	10 687	5 870	4 736	132 419	
1994-95	7 989	7 684	1 508	2 386	9 807	5 226	2 991	128 083	

(a) Includes Nashi.

Source: AgStats (7117.0).

14.32 SELECTED FRUIT, Production and Value of Production

Year	Apples	Apricots	Bananas	Cherries	Oranges	Peaches	Pears	Pineapples	Plums and prunes
PRODUCTION ('000 t)									
1989-90	319.4	29.7	180.3	4.7	487.2	58.0	(a)164.2	141.6	19.9
1990-91	288.7	25.2	165.1	5.4	453.3	57.9	156.7	126.0	19.6
1991-92	316.1	31.8	176.9	4.8	469.9	61.7	175.7	133.3	21.6
1992-93	327.8	29.5	213.9	5.0	616.5	62.6	161.4	142.4	25.0
1993-94	306.9	21.2	219.2	6.4	582.1	59.4	155.2	157.4	26.1
1994-95	316.6	29.8	208.1	5.8	517.2	58.4	151.7	138.5	21.8
GROSS VALUE OF PRODUCTION (\$m)									
1989-90	211.6	28.0	181.3	17.4	175.9	50.9	(a)79.3	40.7	24.3
1990-91	182.6	23.6	235.2	19.7	164.6	44.0	83.6	37.3	26.3
1991-92	269.4	33.5	270.0	20.2	202.8	49.0	127.1	39.0	29.9
1992-93	263.4	30.6	299.8	19.2	212.1	49.7	103.0	41.8	37.5
1993-94	237.6	27.1	203.3	27.0	230.0	53.2	89.0	45.2	37.2
1994-95	269.8	28.8	254.7	27.2	214.8	50.0	73.4	43.3	31.9

(a) Includes Nashi.

Source: AgStats (7117.0); Value of Commodities Produced, Australia (7503.0).

Grapes

Grapes are a temperate crop which require 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 lesser extent, for table use (see tables 14.33 and 14.34). Some of the better known wine producing areas are the Barossa, Clare, Riverland, Southern

Districts and Coonawarra (South Australia); north-eastern Victoria and Great Western (Victoria); Hunter and Riverina (New South Wales); Sunraysia (New South Wales and Victoria); and Swan Valley and Margaret River (Western Australia).

The gross value of viticultural production for 1994-95 increased by 14% to \$511m (table 14.33).

14.33 VITICULTURAL STATISTICS, Area, Production and Value

Year	Area		Production grapes used for(a)			Total(b)	
	Bearing '000 ha	Total '000 ha	Winemaking '000 t fresh weight	Drying '000 t fresh weight	Quantity '000 t fresh weight	Gross value \$m	
1990-91	54	60	487	317	851	362.0	
1991-92	56	61	565	373	987	433.0	
1992-93	58	63	545	197	793	377.6	
1993-94	61	67	662	213	920	450.1	
1994-95	62	73	577	147	769	511.0	

(a) Excludes the Northern Territory and the Australian Capital Territory. (b) Includes grapes used for table and other purposes.

Source: Value of Agricultural Commodities Produced, Australia (7503.0).

14.34 VITICULTURE, Area and Production — 1996 season

Variety	Area of vines at harvest			Production of grapes used for(a)			
	Bearing ha	Not yet bearing ha	All vines ha	Winemaking(a) tonnes fresh weight	Drying tonnes fresh weight	Other tonnes fresh weight	Total tonnes fresh weight
Red grapes							
Cabernet Sauvignon	6 296	1 620	7 915	53 389	—	7	53 396
Currant (including Carina)	1 186	121	1 307	1 159	11 771	6	12 937
Grenache	1 980	46	2 025	20 753	—	48	20 802
Mataro	595	27	622	7 836	—	31	7 866
Pinot Noir	1 425	188	1 613	13 581	—	2	13 582
Shiraz	6 451	2 323	8 773	65 639	—	10	65 649
Other red grapes	4 671	646	5 320	32 223	711	13 724	46 658
Total red grapes	22 604	4 971	27 575	194 580	12 482	13 828	220 890
White grapes							
Chardonnay	6 504	3 343	9 847	57 122	—	8	57 130
Doradillo	628	2	630	12 036	—	12	12 048
Muscat Gordo Blanco	3 388	146	3 534	61 052	3 712	45	64 809
Palomino and Pedro Ximenes	649	5	653	8 662	—	10	8 673
Rhine Riesling	3 548	67	3 616	33 092	—	—	33 092
Semillon	2 983	558	3 541	31 315	—	—	31 315
Sultana	14 811	599	15 410	93 848	127 331	21 198	242 376
Waltham Cross	627	22	648	3 110	3 100	1 846	8 056
Other white grapes	6 712	702	7 415	82 547	382	7 510	90 438
Total white grapes	39 850	5 444	45 294	382 784	134 525	30 629	547 937
Total grapes	62 454	10 415	72 869	577 364	147 006	44 456	768 827

(a) Excludes Northern Territory and the Australian Capital Territory where varietal data is not collected.

Source: AgStats 1994–95 (7117.0).

Selected other crops

Oilseeds

The oilseeds industry is a relatively young industry by Australian agricultural standards. The specialist oilseed crops grown in Australia are sunflower, soybeans, canola, safflower and linseed. Sunflower and soybeans are summer grown while the others are winter crops. In Australia, oilseeds are crushed for their oil, which is used for both edible and industrial purposes and protein meals for livestock feeds.

While oilseed crops are grown in all States, the largest producing regions have been the grain growing areas of the eastern States. However, Western Australia recorded a 125% increase in production in 1994–95 (table 1.35). The last 10 years have seen sunflower production fall 48% to 112,000 tonnes. This has been more than offset by the rapid rise in popularity of canola, with production in 1994–95 of 264,000 tonnes compared to only 32,000 in 1984–85.

14.35 OILSEEDS, Area and Production

Year	NSW	Vic.	Qld	SA	WA	Tas.	Aust.
AREA ('000 ha)							
1989-90	84	39	69	7	1	—	200
1990-91	134	23	135	7	2	—	302
1991-92	155	47	71	15	17	—	305
1992-93	119	37	50	14	12	—	232
1993-94	177	66	88	24	37	—	392
1994-95(a)	216	95	92	33	104	—	540
PRODUCTION ('000 t)							
1989-90	119	38	84	7	2	—	251
1990-91	169	21	124	9	2	—	325
1991-92	191	44	78	19	16	—	348
1992-93	198	41	36	16	12	—	304
1993-94	301	83	82	32	48	—	545
1994-95(a)	147	69	64	30	108	—	417

(a) Excludes linseed.

Source: AgStats (7117.0).

Cotton

Cotton is grown primarily for its fibre (lint). When the cotton is matured, seed cotton is taken to a gin where it is separated (ginned) into lint and seed. Lint is used for yarn while seed is further processed at an oil mill. There the short fibres (linters) remaining on the seed after ginning are removed. They are too short to make into cloth but are used for wadding, upholstery and paper. The seeds are then separated into kernels and hulls. Hulls are

used for stock feed and as fertiliser, while kernels are crushed to extract oil. The oilcake residue (crushed kernels) is ground into meal which is a protein roughage also used as stock feed.

Seed cotton production in 1994-95 rose marginally after two consecutive falls (table 14.36). Yield also improved, up from 2.7 tonnes per hectare to 3.2 tonnes per hectare.

14.36 COTTON, Area, Production and Exports

Year	Seed cotton(a)			Raw cotton exports			
	Area '000 ha	Quantity '000 t	Gross value \$m	Cottonseed(b) '000 t	Lint(b) '000 t	Quantity '000 t	Value f.o.b. \$m
1989-90	240	792	640	493	305	291	539
1990-91	279	1 129	898	686	433	319	689
1991-92	312	1 278	879	724	502	463	945
1992-93	287	1 000	706	528	373	399	753
1993-94	293	788	652	466	329	360	732
1994-95	245	796	851	474	335	297	679

(a) Before ginning. (b) Estimated by the Australian Bureau of Agricultural and Resource Economics (ABARE), and the ABS Foreign Trade Section.

Source: ABARE, *Australian Commodity Statistics, 1995; Value of Agricultural Commodities Produced, Australia (7503.0)*; AgStats (7117.0).**Sugar**

Sugar cane is grown commercially in Australia along the east coast over a distance of some 2,100 km, 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 to Australia's record as a reliable sugar supplier.

About 95% of production occurs in Queensland, with some 75% 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. Farm sizes generally range between 20 and 70 hectares.

14.37 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 '000 ha	Production tonnes	Yield '000 t/ha	Quantity tonnes	Yield '000 t/ha	Area harvested '000 ha	Production tonnes	Yield '000 t/ha	Quantity tonnes	Yield '000 t/ha	
1990-91	14	1 137	81.3	161	11.5	311	23 232	74.8	3 354	10.8	
1991-92	15	1 416	93.7	180	12.0	314	19 225	61.2	2 931	9.3	
1992-93	16	1 667	107.3	240	15.0	312	26 292	84.2	4 016	12.9	
1993-94	15	1 674	112.7	218	14.5	323	29 638	91.8	4 082	12.6	
1994-95	16	1 825	111.2	242	15.1	347	31 146	89.8	4 821	13.8	
1995-96p	19	2 090	108.4	284	14.9	365	34 384	94.3	4 677	12.8	

(a) In terms of 94 net titre.

Source: AgStats (7117.0); ABARE: Australia Commodities Forecasts and Issues, 1996.

Fodder crops

Considerable areas of Australia are devoted to fodder crops which are used either for grazing (as green feed), or harvested and conserved as hay and ensilage, etc.

This development of fodder conservation as a means of supplementing pasture and natural sources of stockfeed is the result of the seasonal and comparatively unreliable nature of rainfall in Australian agricultural areas.

14.38 FODDER CROPS, Area and Production

Year	Hay(a)						Green feed or silage(b)	
	Area '000 ha	Production		Gross value \$m	Area '000 ha	Silage made '000 t		
		Quantity '000 t						
1989-90	297	964		104.0	1 053	723		
1990-91	(c)336	(c)1 068		(c)112.3	(d)787	(d)574		
1991-92	(c)450	(c)1 480		(c)159.0	(d)759	(d)687		
1992-93	(c)324	(c)1 220		(c)r119.2	(d)712	(d)883		
1993-94	321	1 227		136.3	707	1 142		
1994-95	385	1 074		158.1	n.a.	n.a.		

(a) Principally oaten and wheaten hay. (b) Principally from oats, barley, wheat and forage sorghum. (c) Excludes wheat for hay for all States, except New South Wales. (d) Excludes oats for New South Wales, Victoria, Tasmania and the Northern Territory.

Source: AgStats (7117.0).

Livestock

The numbers of each of the principal categories of livestock in Australia are shown in table 14.39 at 10-yearly intervals from 1871 to 1991, and then yearly.

14.39 LIVESTOCK

	Cattle '000	Sheep and lambs '000	Pigs '000
31 March			
1861	3 958	20 135	351
1871	4 276	41 594	543
1881	7 527	62 184	816
1891	10 300	97 881	891
1901	8 640	70 603	950
1911	11 745	98 066	1 026
1921	13 500	81 796	674
1931	11 721	110 568	1 072
1941	13 256	122 694	1 797
1951	15 229	115 596	1 134
1961	17 332	152 579	1 615
1971	24 373	177 792	2 590
1981	25 168	134 407	2 430
1991	(a)23 662	163 238	2 531
1992	(a)23 880	148 203	2 570
1993	(a)24 059	138 099	2 646
1994	(a)25 758	132 569	2 775
1995	(a)25 736	123 210	2 653
1996p	(a)27 012	126 320	2 663

(a) Excluding house cows and heifers.

Source: *Livestock and Livestock Products, Australia (7215.0)*, *Principal Agricultural Commodities, Australia (Preliminary) 1995-96 (7111.0)*.

Cattle

Cattle raising is carried out in all States, the main object in certain districts being the production of stock suitable for slaughtering and in others the raising of dairy herds. In many areas, cattle are raised for both dairy and beef purposes. While dairy cattle are restricted mainly to southern and coastal districts, beef cattle are more concentrated in Queensland and New South Wales. Cattle numbers in Australia increased slowly during the 1960s and 1970s, despite seasonal changes and heavy slaughterings, to a peak of 33.4 million in 1976. Beef cattle production is often combined with cropping, dairying and sheep. In the northern half of Australia, cattle properties and herd sizes 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 (see map 14.42).

Drought conditions in the early 1980s led to a decline in the beef herd until 1984. For the next five years, the size of the herd remained relatively static. Since 1989, cattle numbers have gradually increased, despite drought conditions which have prevailed in many parts of Queensland and north-western New South Wales. Table 14.41 shows the number of cattle by State/Territory.

14.40 CATTLE, By Age, Sex and Purpose

	31 March					
	1991 '000	1992 '000	1993 '000	1994 '000	1995 '000	1996p '000
Milk cattle						
Bulls used or intended for service	31	31	31	36	(a)	(a)
Cows, heifers and heifer calves	2 399	2 401	2 472	2 642	1 822	(a)
House cows and heifers	(a)	(a)	(a)	(a)	(a)	(a)
Total	2 430	2 432	2 504	2 678	2 741	2 933
Meat cattle						
Bulls used or intended for service	538	521	526	557	555	565
Cows and heifers (1 year and over)	10 687	10 748	11 171	12 076	11 215	11 908
Calves under 1 year	5 208	5 128	5 064	5 388	5 806	5 959
Other cattle (1 year and over)	4 799	5 050	4 795	5 058	5 419	5 646
Total	21 232	21 447	21 555	23 080	22 995	24 079
Total all cattle	23 662	23 880	24 062	25 758	25 736	27 012

(a) Not collected.

Source: *Livestock and Livestock Products, Australia (7215.0)*; *Principal Agricultural Commodities, Australia (Preliminary), 1995-96 (7111.0)*.

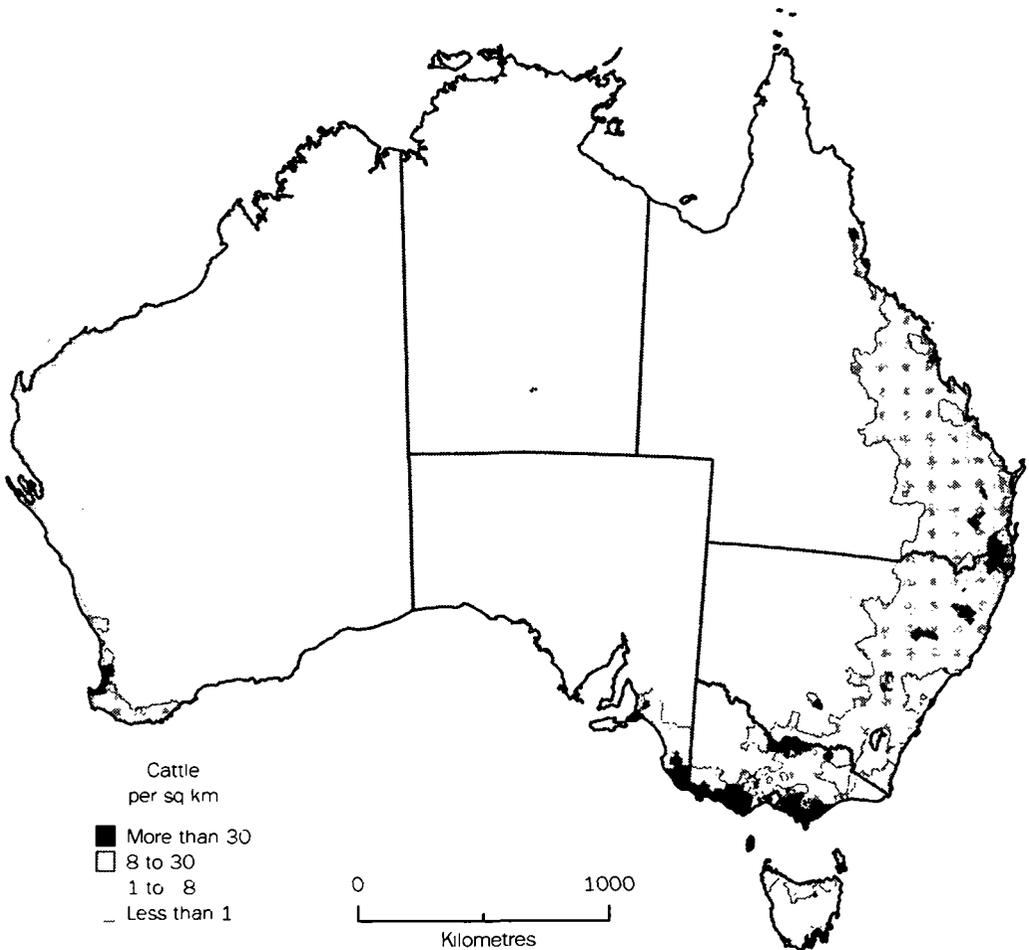
14.41 CATTLE, By State/Territory

Year	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas '000	NT '000	Aust.(a) '000
1991	5 653	3 631	9 856	990	1 584	584	1 353	(b)23 662
1992	5 697	3 574	10 005	1 016	1 649	593	1 334	(b)23 880
1993	5 783	3 689	9 873	1 104	1 648	605	1 347	(b)24 062
1994	6 515	4 189	9 942	1 202	1 806	679	1 435	(b)25 758
1995	6 236	4 285	9 974	1 216	1 899	693	1 421	(b)25 736
1996p	6 661	4 579	10 483	1 206	1 817	733	n.a.	(b)27 012

(a) Includes the Australian Capital Territory. (b) Excluding house cows and heifers.

Source. *Livestock and Livestock Products, Australia (7215 0); Principal Agricultural Commodities, Australia (Preliminary), 1995-96 (7111 0)*

14.42 CATTLE FOR ALL PURPOSES, excluding house cows — 31 March 1995



Dairying

Dairying is a major Australian rural industry, ranking third behind the wheat and beef industries in terms of value of production. The preliminary estimate of the gross value of dairy production at farm gate prices in 1995–96 was \$2,965.8m (table 14.44), about 11% of the gross value of rural production. The gross value of this industry at an ex-factory level is about \$6,000m per year. The industry is also one of Australia's leading rural industries in terms of the proportion of downstream employment and processing it generates. Employment at manufacturing, processing and farm establishments is nearly 60,000 people.

The entry of the United Kingdom, Australia's then largest market, into the European Union in 1973 forced the Australian dairy industry to become more internationally competitive and to develop new export trade links. This emphasis was reinforced with the introduction of the Kerin Plan on 1 July 1986, which directly linked domestic product prices to international market returns. Around 45% of Australian milk production is now exported in manufactured forms, with over 80% of these sales destined for markets in Asia and the Middle East.

Dairy production

There are areas in Australia where climate and natural resources are favourable to dairying and allow production to be based on year-round pasture grazing. This encourages efficient, low cost milk production. With the exception of several inland river schemes, pasture growth generally depends on natural rainfall. Most non-irrigated dairy production is located in

coastal fringe areas. Feedlot based dairying remains uncommon in Australia, although the use of supplementary feed, such as grains, has become more common in recent years.

While seasonal conditions continue to have some influence on yearly output, Australian milk production has risen steadily over the past seven years and in 1995–96 was 8,716 million litres (table 14.44), an increase of 6% compared with the previous year. This largely reflected productivity gains through a combination of farm and herd management techniques. Table 14.43 shows the number of milk cattle over recent years. The preliminary 1995–96 figure for average production per dairy cow of 4,445 litres in 1995–96 was around a third higher than the levels of the early 1980s.

14.43 MILK CATTLE

31 March	Bulls used or intended for service '000	Cows and heifers used or intended for production of milk or cream for sale		Total(a) '000
		Cows (in milk and dry) '000	Heifers '000	
1991	31	1 637	762	2 430
1992	31	1 652	749	2 432
1993	31	1 697	776	2 504
1994	36	1 786	856	2 678
1995	(b)	1 822	(b)	2 741
1996p	(b)	1 961	(b)	2 933

(a) Excludes house cows and heifers. (b) Not collected separately, included in total.

Source: AgStats (7117.0).

14.44 WHOLE MILK, Production, Utilisation and Gross Value

Year	Whole milk intake by factories			
	Market milk sales by factories mill. litres	Milk used in the manufacture of dairy products mill. litres	Total intake mill. litres	Gross value \$m
1991–92	1 765	4 965	6 731	1 960.0
1992–93	1 777	5 550	7 327	2 314.4
1993–94	1 811	6 266	8 077	2 448.0
1994–95	1 832	6 374	8 206	2 419.1
1995–96p	1 835	6 881	8 716	2 965.8

Source: Australian Dairy Corporation; Value of Principal Agricultural Commodities Produced, Australia, 1995–96 Preliminary (7501.0).

Dairy domestic market

Average annual per capita milk consumption has stabilised at around 100 litres since the mid-1980s. However, there have been substantial changes in the types of fresh milk consumed, with fat reduced and modified milks taking an increasing share of overall market milk sales.

In 1994–95, Australians consumed 173,823 tonnes of cheese, 5% more than the previous year. On a per capita basis, this was 9.7 kg per person, 20% more than that consumed in 1984–85.

Sheep

New South Wales has been the State with the most sheep, except for a short period in the early 1860s, when the flocks in Victoria were larger. Western Australia is presently the second largest sheep raising State, with Victoria third (table 14.45).

Sheep numbers reached a peak of 180 million in Australia in 1970. Following subsequent falls, by March 1990 flock numbers had risen to 170 million. However, poor market prospects for wool since 1990 have had a marked impact on the flock size and numbers have declined since then. Map 14.47 shows the distribution of sheep and lambs in Australia at 31 March 1995.

14.45 SHEEP AND LAMBS

31 March	NSW mill.	Vic. mill.	Qld mill.	SA mill.	WA mill.	Tas. mill.	Aust. mill.
1991	59.8	27.5	17.4	17.2	36.5	4.8	163.2
1992	53.6	24.8	15.3	16.1	34.1	4.3	148.2
1993	48.1	23.6	13.4	15.7	33.0	4.3	138.1
1994	46.5	23.4	11.5	14.7	32.0	4.3	132.6
1995	42.9	21.4	11.6	13.2	30.2	3.9	123.2
1996p	43.8	22.6	10.8	14.0	31.0	4.0	126.3

Source: AgStats (7117.0); Selected Agricultural Commodities, Australia (Preliminary), 1995–96 (7112.0).

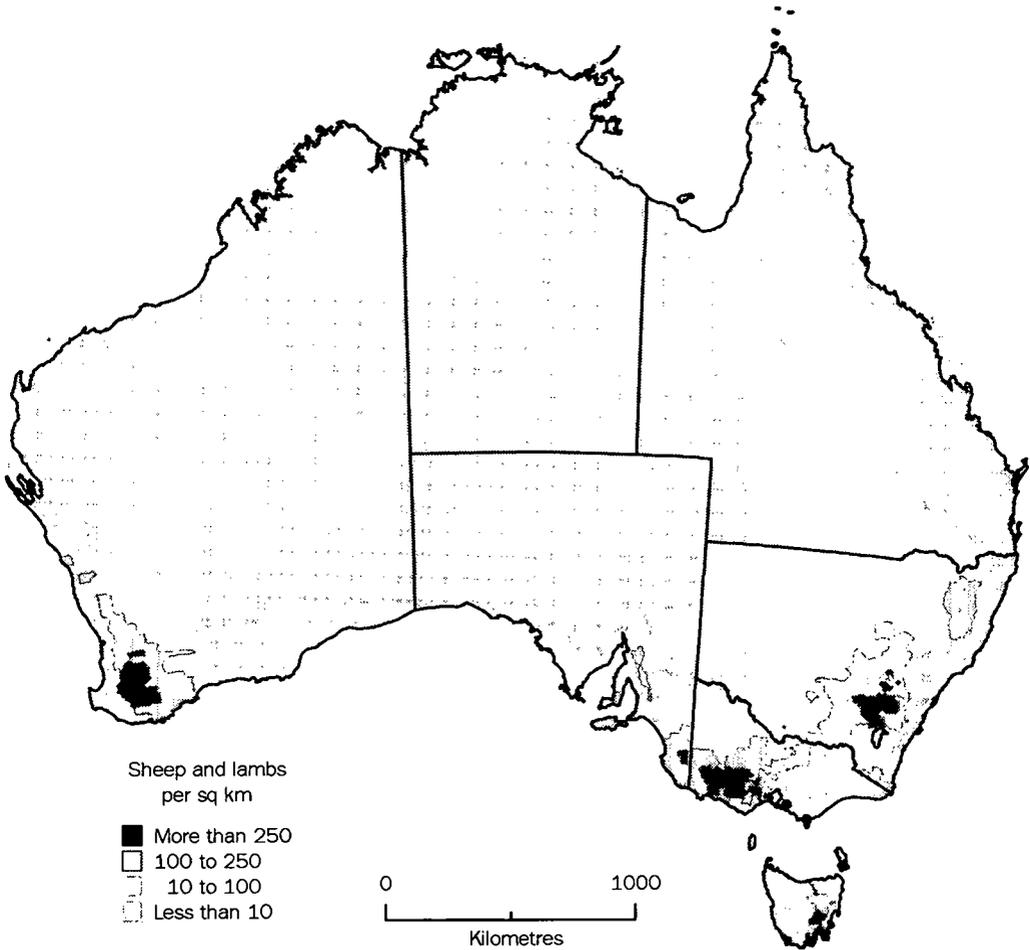
14.46 SHEEP AND LAMBS

	1991(a) mill.	1992(a) mill.	1993(a) mill.	1994(a) mill.	1995(a) mill.	1996p(a) mill.
Sheep (1 year and over)						
Rams		1.7	1.6	1.4	(b)	(b)
Breeding ewes		67.0	65.5	61.4	(b)	(b)
Other ewes		9.7	7.9	6.6	(b)	(b)
Wethers		48.7	45.5	40.3	(b)	(b)
All sheep		127.1	120.5	109.7	95.9	95.3
Lambs and hoggets (under 1 year)		36.1	27.8	28.4	27.3	31.0
Total sheep and lambs		163.2	148.2	138.1	132.6	123.2

(a) At 31 March. (b) Not separately collected.

Source: AgStats (7117.0); Selected Agricultural Commodities, Australia (Preliminary), 1995–96 (7112.0).

14.47 SHEEP AND LAMBS, total number — 31 March 1995



Pigs

As table 14.48 shows, New South Wales is the largest State for pig numbers, closely followed by Queensland.

14.48 PIGS

	NSW	Vic.	Qld	SA	WA	Tas.	Aust.(a)
31 March	'000	'000	'000	'000	'000	'000	'000
1991	821	403	596	400	271	38	2 531
1992	799	431	560	420	318	40	2 570
1993	818	425	617	435	305	44	2 646
1994	834	460	682	440	312	46	2 775
1995	791	439	644	423	316	38	2 653
1996p	747	463	670	415	330	34	2 663

(a) Includes the Northern Territory and the Australian Capital Territory.

Source: AgStats (7117.0).

Poultry

Meat strain chickens are easily the largest category of poultry in Australia, followed by hens and pullets for egg production (table 14.49).

14.49 POULTRY

31 March	Chickens			Other poultry			Total all poultry '000
	Hens and pullets for egg production '000	Meat strain chickens (broilers) '000	Total chickens(a) '000	Ducks '000	Turkeys '000	Other poultry '000	
1990(b)	12 759	43 537	59 262	276	1 221	446	61 205
1991(b)	12 257	39 429	54 330	364	1 426	442	56 562
1992(b)	10 735	44 318	59 320	413	1 317	(c)500	61 550
1993(b)	12 565	51 157	68 087	404	1 093	(c)330	69 914
1994(c)	12 788	50 153	68 701	(d)	(d)	1 660	70 361
1995(e)	11 148	54 445	65 593	n.c.	n.c.	2 088	67 681

(a) Includes breeding stock. (b) Excludes poultry in Tasmania and turkeys in South Australia. (c) Excludes some poultry in Tasmania and turkeys in South Australia. (d) Included in other poultry. (e) Excludes some poultry in Tasmania and other poultry in South Australia.

Source: *Livestock and Livestock Products, Australia (7215.0)*; *AgStats (7117.0)*.

Meat production and slaughtering

Tables 14.50 and 14.51 show details of slaughtering and meat production from abattoirs, commercial poultry and other slaughtering establishments, and include estimates of animals slaughtered on farms and by country butchers. The data relate only to slaughtering for human consumption and do not include animals condemned or those killed for boiling down.

Production of sheep meats 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 sheep meat 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. Preliminary mutton and lamb production estimates for 1995–96 show a fall of 8% to 555,000 tonnes (table 14.50).

Significant changes have taken place in the pig producing industry in recent years. Capital investment and corporate take-overs have seen the emergence of a few large companies producing 30% of all pigs sold in Australia. These moves, on top of the trend to more intensive and efficient production techniques, have seen pig meat production rise steadily since 1982 to reach a peak in 1994–95 of 351,330 tonnes. However, preliminary data for 1995–96 show a fall of 6% to 328,951 tonnes. In addition, there has been an increase in the slaughter weights of pigs, reflecting the demands of the fresh pork trade.

14.50 PRODUCTION OF MEAT(a)

Year	Carcass weight					Dressed weight(b)(c)		
	Beef '000 t	Veal '000 t	Mutton '000 t	Lamb '000 t	Pig meat '000 t	Total meat '000 t	Total all chickens '000 t	Poultry(d) '000 t
1990-91	1 723	36	381	287	312	2 741	388	424
1991-92	1 753	38	392	275	336	2 794	421	452
1992-93	1 787	39	370	273	328	2 798	441	468
1993-94	1 786	39	381	267	344	2 817	469	500
1994-95	1 766	38	339	265	350	2 757	467	499
1995-96p	1 667	34	295	260	329	2 586	468	503

(a) Excludes offal. (b) Excludes Tasmania, the Northern Territory and the Australian Capital Territory.
(c) Dressed weight of whole birds, pieces and giblets. (d) Includes other fowls, turkeys, ducks and drakes.

Source: *Livestock Products, Australia (7215.0)*.

14.51 LIVESTOCK AND POULTRY SLAUGHTERED FOR HUMAN CONSUMPTION

Year	Cattle mill. head	Calves mill. head	Sheep mill. head	Lambs mill. head	Pigs mill. head	Chickens(a)(b) mill. head	Other fowls(c) and turkeys(b) mill head	Ducks and drakes(b) mill. head
1990-91	7.3	1.0	18.2	16.4	4.9	(c)283.7	9.9	2.3
1991-92	7.6	1.1	18.8	15.8	5.1	(c)293.5	8.7	2.2
1992-93	7.4	1.0	17.5	15.4	5.0	304.1	8.4	2.3
1993-94	7.3	1.0	17.8	15.0	5.2	329.5	8.0	2.5
1994-95	7.2	1.0	16.8	15.1	5.1	330.5	8.7	2.3
1995-96p	6.8	1.0	13.9	14.0	4.8	329.3	9.5	2.6

(a) Comprises broilers, fryers and roasters (b) Excludes Tasmania, the Northern Territory and the Australian Capital Territory.
(c) Comprises hens, roosters, etc.

Source: *Livestock Products, Australia (7215.0)*.

Table 14.52 shows a time series of the gross value of livestock slaughterings. The value for 1995-96 shows a sharp fall from 1994-95, due

mainly to a fall in the value of cattle and calf slaughterings.

14.52 GROSS VALUE OF LIVESTOCK SLAUGHTERINGS AND OTHER DISPOSALS(a)

Year	Cattle and calves \$m	Sheep and lambs \$m	Pigs \$m	Poultry \$m	Total(b) \$m
1990-91	3 869.4	364.2	691.0	788.3	5 721.0
1991-92	3 801.9	460.6	658.6	778.0	5 738.1
1992-93	3 839.2	663.0	649.5	833.5	6 023.5
1993-94	4 433.5	793.6	660.5	929.3	6 852.9
1994-95	4 213.5	833.7	630.6	902.0	6 615.7
1995-96p	3 474.3	1 005.5	589.2	964.6	6 066.4

(a) Includes adjustment for net exports of live animals. (b) Includes goats and buffalo.

Source: *Value of Agricultural Commodities Produced, Australia (7503.0)*.

In 1995-96 exports of beef to Japan increased 3% to 340,738 tonnes. Liberalisation of the Japanese market occurred in 1991. This involved the removal of import quotas in exchange for a percentage of customs value. The United Kingdom also bought more Australian beef in 1995-96, raising its take by 37% to 10,167 tonnes. However, exports of beef to the United States fell 27% to 190,074 tonnes and

Canada only accepted 30,293 tonnes, 21% less than 1994-95. In 1995-96, Australia also exported 16% less beef to Taiwan and 14% less to Korea.

Table 14.53 shows a time series of the volume of exports of fresh, chilled or frozen meat, which is dominated by bone-out beef. Exports of both bone-out beef and bone-in mutton experienced falls in 1995-96.

14.53 EXPORTS OF FRESH, CHILLED OR FROZEN MEAT(a)

Year	Beef(b)(c)		Veal(b)		Mutton(b)		Lamb(b)		Pork
	Bone-in '000 t	Bone-out '000 t	Meat '000 t						
1990-91	83.8	662.0	1.0	5.1	91.0	64.9	41.4	3.4	5.4
1991-92	100.0	691.5	1.5	5.7	103.7	75.0	39.4	4.6	5.0
1992-93	81.0	739.9	2.1	5.4	80.2	77.4	46.7	5.5	7.0
1993-94	62.7	742.4	1.3	5.8	97.9	71.0	52.7	5.2	5.9
1994-95	59.8	716.8	2.0	6.9	103.3	65.4	48.5	4.6	5.5
1995-96p	50.5	700.8	1.7	5.3	80.8	64.2	46.1	7.7	5.6

(a) Excludes offal. (b) Factors can be applied to beef, veal, mutton and lamb bone-out figures to derive bone-in carcass weight which, when added to bone-in figures, shows total exports in carcass weight. The factor for beef and veal is 1.5 and that for mutton and lamb 2.0 (Source: Australian Meat and Livestock Corporation). (c) Includes buffalo meat.

Source: *Merchandise Import and Exports, 1994-95 (5410.0)*.

14.54 LIVE SHEEP AND CATTLE EXPORTS(a)

Year	Live sheep exports				Live cattle exports			
	No. '000	Gross weight '000 t	Gross value \$'000	Unit value(b) \$	No. '000	Gross weight '000 t	Gross value \$'000	Unit value(b) \$
1990-91	3 140.5	162.0	45 612	14.40	94.9	31.3	50 407	542.30
1991-92	4 395.6	258.0	87 717	20.00	107.4	33.2	54 930	511.40
1992-93	5 097.1	270.5	121 933	23.92	148.6	50.4	69 847	470.20
1993-94	5 429.8	287.4	148 907	27.42	234.7	79.9	115 020	489.97
1994-95	5 533.6	283.6	179 086	32.36	385.7	136.5	201 948	523.52
1995-96p	5 874.4	296.6	226 461	38.55	616.8	219.2	344 053	557.84

(a) Excludes live sheep and cattle for breeding. (b) Obtained by dividing the gross value by the number of sheep, or cattle.

Source: *Foreign Trade, Australia: Merchandise Imports and Exports, 1994-95 (5410.0)*

Wool

Wool production

Shorn wool ('greasy wool') contains an appreciable amount of grease, dirt, vegetable matter and other extraneous material. The exact quantities of these impurities in the fleece vary with climatic and pastoral conditions, seasonal fluctuations and 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.

Following a gradual upward trend of clean yields to 66% of the Australian clip in 1992-93, this has now fallen to 65% in 1995-96.

Preliminary estimates of the gross value of wool produced in 1995-96 are 55% lower than in 1988-89, the peak year in the wool boom of the 1980s and 19% below the 1994-95 gross value (table 14.55).

14.55 SHEARING, WOOL PRODUCTION AND VALUE

Year	Wool production					
	Sheep and lambs shorn mill.	Average fleece weight kg	Shorn wool '000 t	Total wool		Gross value(b) \$m
				Other wool(a) '000 t	Quantity '000 t	
1990–91	212.9	4.65	989.2	76.9	1 066.1	4 181.0
1991–92	181.2	4.42	801.2	73.7	875.0	2 980.0
1992–93	179.0	4.55	815.1	54.3	869.4	2 569.0
1993–94	148.7	4.49	775.8	52.6	828.3	2 449.1
1994–95	155.5	4.37	679.4	49.6	729.0	3 317.9
1995–96p	143.2	4.48	641.4	44.9	686.3	2 686.8

(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.

Source: *Value of Agricultural Commodities Produced, Australia (7503.0)*; *Livestock and Livestock Products, Australia (7215.0)*.

Wool receivals

The total amounts of taxable wool received by brokers and purchased by dealers in recent years are shown in table 14.56. It excludes wool received by brokers on which tax had already been paid by other dealers (private buyers) or brokers.

14.56 TAXABLE WOOL RECEIVALS

Year	Receivals			Dealers as % of total receivals
	Brokers '000 t	Dealers '000 t	Brokers and dealers '000 t	
1990–91	916.3	96.4	1 012.7	9.5
1991–92	734.2	102.3	836.6	12.2
1992–93	703.2	140.8	844.1	16.8
1993–94	635.2	149.0	784.2	19.0
1994–95	566.6	112.8	679.4	16.6
1995–96p	548.2	93.0	641.2	14.5

Source: *Livestock Products, Australia (7215.0)*.

Wool marketing arrangements

The auction system reverted to a 'free marketing' system during the 1990–91 season. The Reserve Price Scheme that had operated since 1974 was suspended in February 1991. It had become unworkable due to the massive accumulation of wool in the stockpile and the substantial debt which had been incurred. The wool stockpile at the end of 1990–91 was 4,623,938 bales.

In 1994 the Australian Wool Research and Promotion Organisation (AWRAP) integrated its operations with the International Wool Secretariat (IWS) to form a strong

customer-oriented international promotion and research organisation focused on building sustainable demand for wool and wool products. While AWRAP and IWS remain separate legal entities all operational activities are now conducted under the name of IWS. AWRAP conducts certain statutory activities independent of IWS.

From 1 February 1994, the Australian Wool Exchange (AWEX) took over responsibility for the wool auction system. AWEX is not a statutory body and cannot compulsorily collect levies, and is run on a commercial basis. Its major role includes the building and running of a self-regulating wool selling structure and market reporting service on behalf of the wool trade. To achieve this goal, AWEX will explore the advantages and disadvantages of selling wool by different methods. This is illustrated by the currently scheduled trials involving sale of wool by description without display samples.

Sales of wool from the stockpile are controlled by Wool International, the statutory authority in charge of the stockpile. Most wool is sold forward from the stockpile by private treaty, supplemented by auction sales for spot or deferred delivery. From 1 January 1995, Wool International is required to sell a minimum of 182,000 bales and a maximum of 192,000 bales from the stockpile per quarter. Until 1 July 1996, Wool International received wool tax from wool sales for debt repayment associated with the stockpile. Wool tax paid over the period 1993–94 to 1995–96 will form the basis for an entitlement to the residual assets, following the liquidation of the stockpile and repayment of debt.

Wool International's unsold stock at 30 June 1996 was 2,276,070 bales.

Beekeeping

The beekeeping industry consists of 300–400 full-time apiarists, who account for about 70% of the Australian honey production, and a large

number of part-time apiarists who produce the rest. 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. While honey production remains the predominant sector of the industry, production of breeding stock and provision of pollination services are also significant.

14.57 BEEKEEPING

Year	Honey produced					Beeswax produced		
	Number of beehives		Quantity '000 t	Average production per productive hive kg	Gross value \$'000	Quantity tonnes	Gross value(b) \$'000	
	Number of apiarists	Productive(a) '000						Total '000
1989–90	819	298	405	21	71	26 113	412	1 546
1990–91	726	290	384	21	71	26 078	381	1 389
1991–92	651	264	366	19	72	25 008	390	1 305
1992–93	686	278	362	23	81	31 499	422	1 522
1993–94(c)	1 659	381	534	26	68	32 923	620	2 648
1994–95(c)	1 271	314	465	19	61	24 621	341	1 475

(a) Beehives from which honey was taken. (b) Includes pollen. (c) Estimated Value of Agricultural Operations (EVAO) \$5,000.

Source: AgStats (7117.0).

Emerging agricultural industries

The list of agricultural commodities that are now produced in Australia has continued to expand. Some, such as goat (either for fibre, meat or milk) and deer (meat and velvet) production, are now well established. Newer ventures conducted by the livestock farming industry include:

- sheep milk farming
- emu farming
- ostrich farming
- rabbit farming
- crocodile farming
- alpaca farming

In horticulture established crops now include tea and coffee. Other crops more recently introduced include a large variety of fruits and vegetables (mainly from Asia), herbs and pyrethrum, an important oil.

Apparent consumption of foodstuffs

Estimates of the consumption of foodstuffs in Australia are compiled by deducting exports from the sum of production and imports and allowing for recorded movement in stocks of the various commodities. The term consumption is used in a specialised sense. The estimates derived are broadly the quantities available for consumption at a particular level of distribution, that is, 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 to some extent.

The estimates of consumption per capita have been obtained by using the mean resident population for the period.

Table 14.58 shows the changes in trends in the consumption of various foodstuffs since 1938–39.

14.58 APPARENT PER CAPITA CONSUMPTION OF FOOD STUFFS

Commodity	Units	Average 3 years ended							
		1938-39	1948-49	1958-59	1968-69	1978-79	1988-89	1993-94p	1994-95p
Meat (carcass equivalent weight)									
Beef	kg	n.a.	n.a.	n.a.	n.a.	n.a.	39.5	36.4	33.6
Veal	kg	n.a.	n.a.	n.a.	n.a.	n.a.	1.5	1.6	1.5
Beef and veal	kg	63.6	49.5	56.2	40.0	64.8	41.1	r38.1	35.1
Lamb	kg	6.8	11.4	13.3	20.5	14.4	14.9	r11.5	11.4
Mutton	kg	27.2	20.5	23.1	18.8	3.6	6.8	r9.1	5.2
Pigmeat(a)	kg	3.9	3.2	4.6	6.7	13.3	18.1	r19.4	19.3
Total meat	kg	101.5	84.6	97.2	85.9	96.1	80.8	r78.1	71.1
Offal and meat, n.e.i.	kg	3.8	4.0	5.2	5.1	5.9	2.5	2.3	1.8
Total meat and meat products (carcass equivalent weight)	kg	118.5	103.0	112.4	98.8	102.0	83.3	r80.3	72.9
Canned meat (canned weight)	kg	1.0	1.2	1.9	2.2	1.6	n.a.	n.a.	n.a.
Bacon and ham (cured carcass weight)	kg	4.6	5.3	3.2	3.6	6.0	6.9	n.a.	n.a.
Poultry									
Poultry (dressed weight)	kg	n.a.	n.a.	n.a.	8.3	17.1	24.2	r27.9	27.2
Milk and milk products									
Market milk (fluid whole litres)	L	106.4	138.7	128.7	128.2	100.5	101.0	r102.0	103.0
Cheese (natural equivalent weight)	kg	2.0	2.5	2.6	3.5	5.3	9.0	9.3	9.7
Oils and fats									
Butter	kg	14.9	11.2	12.3	9.8	5.1	2.9	r2.7	2.9
Table margarine	kg	0.4	0.4	n.a.	1.5	5.4	6.8	r5.9	5.3
Other margarine	kg	1.8	2.4	2.2	3.4	3.1	2.2	1.9	2.0
Total margarine	kg	2.2	2.8	n.a.	4.9	8.5	9.0	r7.8	7.3
Beverages									
Tea	—	3.1	2.9	2.7	2.3	1.7	1.2	1.0	0.9
Coffee(b)	—	0.3	0.5	0.6	1.2	1.6	2.0	2.3	2.2
Aerated and carbonated waters	L	n.a.	n.a.	n.a.	47.3	67.4	79.9	r104.6	108.1
Beer	L	53.2	76.8	99.7	113.5	133.2	115.4	r99.8	95.4
Wine	L	2.7	5.9	5.0	8.2	14.7	19.1	18.5	18.2
Spirits (litres alcohol)	L	0.5	0.8	0.7	0.9	1.2	1.3	r1.4	1.4

(a) Includes pigmeat for bacon and ham. (b) Coffee and coffee products in terms of roasted coffee.

Source: *Apparent Consumption of Foodstuffs and Nutrients, Australia (4306.0)*.

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Forestry	401
Introduction	401
Forest estate	401
Native forest	401
Plantations	402
Tropical forests	403
Wood and paper products	403
Government administration	405
Commonwealth government initiatives	405
National Forest Policy Statement (NFPS)	405
Plantation initiatives under the NFPS	406
Farm forestry	406
Regional Forest Agreements	406
Wood and Paper Industry Strategy	407
Forestry Industry Structural Adjustment Package	407
National Forests Inventory	407
National Plantations Inventory	407
Tropical timber	407
Pulp mill guidelines	407
Forest and Wood Products Research and Development Corporation	408
CSIRO	408
Fishing	409
Fisheries resources	409
Production, processing and exports and imports of fisheries products	410
Value of fisheries production	410
Processing of fish, crustaceans and molluscs	413
Exports and imports	413
Fisheries legislation and territorial arrangements	414
<i>Fisheries Management Act 1991</i> and the Australian Fishing Zone	414
Australian Fisheries Management Authority	415
Other legislation	415
Fisheries research	416
Aquaculture	416
Recreational fishing	417
Bibliography	418

Forestry

Introduction

Forests are an important sustainable natural resource providing a wide range of indispensable products and benefits to the community.

Forest vegetation cover protects the soil from water and wind erosion, reduces flooding and siltation of water bodies and maintains water quality. Forests provide habitats for a wide variety of native animals and plants. They also act as a sink to absorb greenhouse gases.

The forests and wood products industries based on native and plantation forests contribute substantially to Australia's economy, especially to employment in regional areas. Forests are also valuable ecosystems providing a gene pool of great diversity for scientific investigation; a source of honey, oils, gums, resins and medicines; and a resource base for education, tourism, recreation and other purposes. Forests cannot necessarily provide for all uses at the

same time, but careful management will ensure that forests provide multiple benefits in the long term for the Australian community.

Farm forestry is becoming increasingly important as a potential commercial source of wood. A broad range of programs has been implemented by government and private agencies to promote tree planting on Australian farms.

Forest estate

Native forest

Native forest is defined in this chapter as land dominated by trees with an existing or potential mature height of 20 metres or more, including native stands of cypress pine in commercial use regardless of height. Based on this definition, the total area of native forest was estimated at 40.7 million hectares at 30 June 1993 (about 5% of Australia's land area).

15.1 NATIVE FOREST AREAS, By Forest Type and Ownership — 30 June 1993

	NSW '000 ha.	Vic. '000 ha.	Qld '000 ha.	SA '000 ha.	WA(a) '000 ha.	Tas.(b) '000 ha.	NT '000 ha.	ACT '000 ha.	Aust. '000 ha.
CLASSIFIED BY FOREST TYPE GROUP									
Rainforest	260	16	1 237	—	6	565	203	—	2 287
Eucalypt productivity(c)									
Class I	1 171	544	205	—	186	468	—	—	2 574
Class II	3 658	4 328	1 290	—	2 160	1 901	—	—	13 337
Class III	7 937	538	3 300	—	—	—	—	51	11 826
Tropical eucalypt and paperbark	—	—	4 078	—	—	—	2 450	—	6 528
Cypress pine	1 696	7	1 686	—	—	—	778	—	4 167
Total	14 722	5 433	11 796	—	2 352	2 934	3 431	51	40 719
CLASSIFIED BY OWNERSHIP									
Public ownership(d)									
Category 1	3 257	3 132	3 071	—	1 358	1 306	—	—	12 124
Category 2	3 699	—	6 412	—	2	85	511	—	10 709
Category 3	2 574	1 641	(e)821	—	502	685	339	51	6 613
Total public ownership	9 530	4 773	10 304	—	1 862	2 076	850	51	29 446
Private ownership	5 192	660	1 492	—	490	858	2 581	—	11 273
Total	14 722	5 433	11 796	—	2 352	2 934	3 431	51	40 719

(a) Data previously published for Western Australia's forest were stated as gross forest areas: the areas have now been converted to net areas. All other States and Territories are gross areas. (b) Remapping of the Antarctic beech forests (*Nothofagus cunninghamii*) has resulted in a shift of area figures for the different Tasmanian forest types. (c) Eucalypt forests are grouped into productivity classes in descending order of productivity. No specific indexes of productivity have been developed for these classes and there can be some overlap, especially between States, in the relative productivity levels used to assign particular forest types to productivity classes. (d) Category 1: Forest land managed for multiple use including wood production. Category 2: Crown land either vacant or occupied under lease on which wood harvesting is carried out under government control but is not reserved and managed for that purpose. Category 3: Land on which wood production is excluded (National Parks etc.). (e) Includes 101 500 hectares in World Heritage Area previously included in Category 1.

Source: National Forest Inventory, and State and Territory forest agencies.

The National Forest Policy Statement defines a forest as an area dominated by trees having usually a single stem and a mature or potentially mature stand height exceeding five metres, and with existing or potential projective cover of overstorey strata about equal to or greater than 30%. The National Forest Inventory is presently revising the estimate of the total area of native forest according to the definition in the National Forest Policy Statement.

Of the 40.7 million hectares of native forest at June 1993 (table 15.1), 29.4 million hectares (72%) were publicly owned and 11.3 million hectares (28%) were private land. Of the publicly owned forests, 6.6 million hectares (16%) were in National Parks or in World Heritage areas, 12.1 million hectares (30%) were managed by State forest authorities for various uses, including wood production, and 10.7 million hectares (27%) were vacant or leasehold Crown land. A small but increasing area is covered by plantations. Australia has around 1.1 million hectares of plantations, made up of 964,000 hectares of softwood (mostly radiata pine) and 155,000 hectares of hardwood (table 15.2). Plantations are expanding at about 13,000 hectares a year.

Plantations

Under the National Forest Policy Statement (NFPS) agreed to by the Commonwealth, State and Territory Governments in 1992, Australia is committed to expanding its plantation estate to

provide additional resources for the forestry sector. The Commonwealth Government has supported the expansion of Australia's plantation resource base for many years. For instance, the National Afforestation Program (NAP) was established in 1987-88 as a three year grants program to stimulate an expansion in the commercial hardwood timber resource and to assist in land rehabilitation through broadacre commercial plantations (including farm forestry).

The Government has continued to support and stimulate commercial plantation development on cleared agricultural land through the Farm Forestry Program and the Community Rainforest Reforestation Program. The Government announced the implementation of a range of measures to encourage plantation and farm forestry development in the Wood and Paper Industry Strategy, issued in December 1995.

In July 1996, the Federal Primary Industries Minister, John Anderson, who is also Chairman (Forestry) of the Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA), announced that the third meeting of the Council agreed to a national goal of trebling Australia's forest plantations estate by the year 2020.

15.2 PLANTATION AREAS, Classified By Species — 31 March 1995

Species group	NSW no.	Vic. no.	Qld no.	SA no.	WA no.	Tas. no.	NT no.	ACT no.	Aust. no.
Coniferous									
Pinus radiata	251 354	213 209	3 444	102 291	60 830	80 204	—	14 399	725 731
Pinus elliotii	5 552	8	63 490	—	120	—	—	—	69 170
Pinus pinaster	79	1 313	—	2 156	27 300	5	—	—	30 853
Pinus caribaea	61	3	54 720	—	10	—	2 745	—	57 539
Araucaria species	1 648	—	45 052	—	—	—	—	—	46 700
Other	8 205	2 018	18 945	335	610	648	2 711	408	33 880
Total	266 899	216 551	185 651	104 782	88 870	80 857	5 456	14 807	963 873
Broadleaved									
Eucalyptus species	28 212	18 074	1 359	1 744	45 110	56 140	64	—	150 703
Populus species	894	151	—	—	—	3	—	—	1 048
Other	111	126	210	—	—	2 752	—	—	3 199
Total	29 217	18 351	1 569	1 744	45 110	58 895	64	—	154 950
Total	296 116	234 902	187 220	106 526	133 980	139 752	5 520	14 807	1 118 823

Source: State and Territory forest services.

Tropical forests

Over half of the world's known plant and animal species are found in rainforests. Rainforests are the traditional home of many tribal peoples and also play an important role in contributing to global climatic stability. However, destruction of tropical forests in developing countries is occurring because of activities largely associated with population pressures and poverty.

Australia has only a relatively small area of tropical forest (an estimated 1.4 million hectares out of a total forested area of 41 million hectares), confined to northern and eastern Queensland, the Northern Territory and Western Australia. Much of this forest is already under various forms of protection. For example, the Queensland Wet Tropics World Heritage Area covers almost 890,000 hectares, including most of the tropical forest in North Queensland.

As a developed country with considerable experience and expertise in sustainable forest management, Australia can make a positive contribution to the improvement of forest management practices in developing countries, by providing education, training and technical expertise.

Wood and paper products

Australia's wood and paper products industries are important components of Australia's primary and secondary industries. They are particularly important in providing economic development and employment in many regions of rural Australia. The industries include hardwood and softwood sawmilling, plywood and panels manufacturing, woodchip export and pulp and paper industries. Over 61,000 people are directly employed in growing and harvesting of wood and the manufacture and processing of wood and paper products. The wood and paper products industries contribute about 2% to gross domestic product. In 1993–94, the value of turnover in the wood and paper products industries was \$10.7b, of which wood processing establishments (log sawmilling, timber dressing and other wood product manufacturing) contributed turnover of \$5.8b (table 15.3).

In 1994–95 total roundwood removed from forests rose by 4% to nearly 19.6 million cubic metres. While the removal of broadleaved wood (primarily from native forests) increased by 11% in 1994–95 to 10.9 million cubic metres, the

removal of coniferous wood (mainly from plantations) fell by 3%.

In 1994–95, the value of exports of forest products totalled \$1,004m, of which 56% were woodchips and 22% paper and paperboard products. In the same year, the value of imports of forest products was \$2,999m, of which 53% was paper and paperboard products and 18% sawnwood. This indicates a trade deficit in forest products of \$1,995m in 1994–95. Australia produces 79% of its sawn timber needs, of which native forests provide about 43%, with the balance coming from softwood plantations. Imported sawn timber is mostly Douglas Fir from North America, and Radiata Pine from New Zealand.

The hardwood and softwood sawmilling industries comprise mills of various sizes which process wood into sawn timber and other products such as veneers, mouldings and floorings. The hardwood mills are generally small scale and scattered. The softwood mills are generally of a larger scale and more highly integrated with other wood processing facilities. Australia's production of sawn timber increased by 7.6% in 1994–95 to 3,691,000 cubic metres, of which 57% was softwood.

Other value added timber products include plywood, wood-based panels and reconstituted wood products. Australian wood based panels include particleboard, medium density fibreboard and hardboard made from softwood or hardwood pulp logs, sawmill residues or thinnings.

Pulp and paper mills use roundwood thinnings, low quality logs, harvesting residues and sawmill waste, and recycled paper and paperboard to produce a broad range of pulp and paper products. Around a third of domestically consumed paper is imported. The majority of paper products produced domestically are packaging and industrial papers, newsprint, printing and writing papers, and tissue paper. Each requires different inputs and technologies. Recycled paper is now a major source of fibre in the production of paper and paperboard. Its use has increased from about 34% of fibre input in 1989–90 to 48% in 1993–94, and it is forecast to increase to 55% by 1995–96.

Woodchips are the main source of export earnings for the forestry sector in Australia. In 1994–95 the value of woodchips exported represented 56% of the total value of forest

products exported. Woodchips are mainly used in the production of paper and paper products, and the woodchip export industry uses sawmill residues and timber which is unsuitable for sawmilling and not required by the Australian pulp, paper and reconstituted board industries. Before the advent of the woodchip export industry, much of this material was left in the forest after logging. Considerable quantities of

sawmill waste material, which would otherwise be burnt, are also chipped for local pulpwood-using industries and for export. Until recently, at least 95% of woodchips exported from Australia have been eucalypt, but increasing quantities of softwood woodchips are now becoming available from pine plantations. In 1994-95, 22% of the total value of woodchips exported was from softwood woodchips.

15.3 SUMMARY OF OPERATIONS FOR WOOD PRODUCT MANUFACTURING ESTABLISHMENTS — 1993-94

Species group	Establishments at 30 June no.	Employment at 30 June(a) '000	Wages and salaries(b) \$m	Turnover \$m
Log sawmilling and timber dressing				
Log sawmilling	552	7.5	174.0	886.6
Wood chipping	35	0.8	29.1	367.7
Timber resawing and dressing	132	6.3	159.1	988.3
Total	719	14.6	362.2	2 242.5
Other wood product manufacturing				
Plywood and veneer manufacturing	38	1.8	49.3	273.3
Fabricated wood manufacturing	68	3.8	133.1	797.2
Wooden structural component manufacturing	1 834	17.1	386.9	1 897.2
Wood product manufacturing n.e.c.	986	6.9	137.2	614.3
Total	2 925	29.5	706.6	3 582.0

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors.

Source: Australian Bureau of Statistics.

15.4 PRODUCTION OF WOOD AND SELECTED WOOD PRODUCTS(a)

Commodity	Quantity	1991-92	1992-93	1993-94	1994-95p
Sawn Australian grown timber					
Coniferous	'000 m ³	1 570	1 660	1 898	2 121
Broadleaved	'000 m ³	1 371	1 440	1 533	1 570
Total	'000 m ³	2 941	3 100	3 431	3 691
Hardwood woodchips(a)	'000 t	4 454	4 536	4 612	5 437
Railway sleepers	'000 m ³	100	87	82	84
Plywood	'000 m ³	107	122	138	145
Unlaminated particle board(a)	'000 m ³	642	662	751	845
Medium density fibreboard	'000 m ³	275	318	421	436
Wood pulp(a)	'000 t	1 019	996	996	1 009
Paper and paperboard					
Newsprint(a)	'000 t	404	433	411	423
Printing and writing	'000 t	n.a.	369	386	365
Household and sanitary	'000 t	143	165	170	173
Packaging and industrial	'000 t	n.a.	1 164	1 255	1 312

(a) Excludes production of small single establishment management units with fewer than four persons employed, and establishments engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing.

Source: Australian Bureau of Statistics and Australian Bureau of Agricultural and Resource Economics.

Government administration

Land and forests management is primarily the responsibility of State and Territory Governments. Each State has a forest authority responsible for the management and control of publicly-owned forests, in accordance with the Forestry Acts and Regulations of the State or Territory concerned.

The Department of Primary Industries and Energy (DPIE) and the Department of the Environment, Sport and Territories (DEST) are the two key agencies which have responsibilities relating to forest management at the national level. Close liaison is maintained between the two agencies on relevant issues. DPIE's main responsibilities are the development of a national approach to forest management; providing advice to the Commonwealth Minister responsible for forest matters; administration of export licensing responsibilities in relation to unprocessed timber; liaison with State, national and international organisations concerned with forestry; provision of a Secretariat for the Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA); and management of policy and program initiatives.

DEST has responsibilities for environmental matters relating to forests. DEST provides policy advice to its Minister and the Government on conservation and environmental matters pertaining to Australia's forests, including biological diversity and climate change. The Australian Heritage Commission, the Australian Nature Conservation Agency and the Commonwealth Environment Protection Agency within the Environment Portfolio have assessment, management and monitoring roles in respect of the national estate, endangered species and environmental impacts in Australia's forests.

DPIE and DEST, in close cooperation with the States, Territories and Ministerial Councils, were extensively involved in the development of the National Forest Policy Statement and in the development of the National Forest Inventory.

The MCFFA consists of State, Territory and Commonwealth, and New Zealand Ministers responsible for forestry. The Council is chaired jointly by the Commonwealth Minister for Primary Industries and Energy and the Commonwealth Minister for Resources and Energy. MCFFA, the successor of the Australian

Forestry Council formed in 1964, works to provide leadership and facilitate cooperation at the national level.

Initiatives fostered by the MCFFA are aimed at promoting the enhanced management of the nation's forest resources in the general interest of the community. Most recently it has been involved in the development and implementation of initiatives under the National Forest Policy Statement in cooperation with the Australian and New Zealand Environment and Conservation Council.

Commonwealth government initiatives

National Forest Policy Statement (NFPS)

The NFPS was signed by the Commonwealth and all mainland State and Territory Governments, at the Council of Australian Governments meeting in Perth in December 1992. In 1995 Tasmania also became a signatory.

The Statement provides a policy framework for the future management of Australia's public and private forests and outlines a vision for the ecologically sustainable management of Australia's forests comprising 11 broad national goals in the following areas:

- Conservation — to maintain an extensive and permanent native forest estate in Australia and to manage that estate in an ecologically sustainable manner so as to conserve all values including biological diversity, heritage and Aboriginal and other cultural values.
- Wood production and industry development — to develop internationally competitive and ecologically sustainable wood production and wood products industries.
- Integrated and coordinated decision making and management — to reduce fragmentation and duplication in the land use decision-making process between the States and the Commonwealth.
- Private native forests — to ensure that private native forests are maintained and managed in an ecologically sustainable manner, as part of the permanent native forest estate.

- Plantations — to expand Australia's commercial plantations of softwoods and hardwoods so as to provide an additional, economically viable, reliable and high-quality wood resource for industry and to meet other environmental and economic objectives, in particular the rehabilitation of cleared agricultural land and the improvement of water quality.
- Water supply and catchment management — to ensure the availability of reliable, high-quality water supplies from forested land and to protect catchment values.
- Tourism and other economic and social opportunities — to manage Australia's forests in an ecologically sustainable manner for a range of uses, including tourism, recreation and production of non-wood products.
- Employment, work force education and training — to expand employment opportunities and the skills base of people working in forest management and forest-based industries.
- Public awareness, education and involvement — to foster community understanding of, and support for, ecologically sustainable forest management.
- Research and development — to increase Australia's national forest research and development effort and to ensure that it is well coordinated, efficiently undertaken and effectively applied.
- International responsibilities — to promote nature conservation and sustainable use of forests outside Australia and to ensure that Australia fulfills its obligations under relevant international agreements.

Plantation initiatives under the NFPS

In 1993, under the NFPS, the Commonwealth established two plantations initiatives: the Farm Forestry Program (FFP) and the North Queensland Community Rainforest Reforestation Program (CRRP).

Commonwealth funding of the CRRP and FFP has continued since 1992. The CRRP is a joint initiative, sponsored by Commonwealth, State and local government.

Farm forestry

Farm forestry is defined in the Wood and Paper Industry Strategy as the incorporation of commercial tree growing into farming systems. An objective of both the FFP and the CRRP is to promote commercial wood production on cleared agricultural land so as to provide an additional, reliable, high-quality wood resource for sustainable regional industries, as well as to diversify farm incomes. The programs aim to encourage the integration of farm forestry with agricultural activities and promote appropriate linkages between tree growers and wood processing industries. Other objectives of the programs are to address problems of land degradation and provide for improved water quality and, in the case of the CRRP, to train a work force and landowners to support the long-term practice of rainforest plantation establishment and management.

In 1996, funding of nearly \$15m was allocated to more than 50 regional and national projects under the Commonwealth Government's Farm Forestry Program. In addition, \$3m was provided for the CRRP. The National Forest Policy Statement identified the following National plantation goals:

- to expand Australia's commercial plantations of softwoods and hardwoods so as to provide an additional, economically viable, reliable and high quality wood resource for industry; and
- to increase plantings to rehabilitate cleared agricultural land, to improve water quality, and to meet other environmental, economic or aesthetic objectives.

Regional Forest Agreements

The National Forest Policy Statement outlines a process for the development of Regional Forest Agreements, which are a mechanism by which the Commonwealth and a State Government can reach agreement on the management of forests in a region. A central objective is to remove uncertainty and duplication in government decision making by producing a durable agreement on forest management. An agreement should protect environment and heritage values and provide industry with secure access to resources. The Commonwealth Government has provided an additional \$48m over three years in the 1996-97 Budget to accelerate the Regional Forest Agreement process.

Wood and Paper Industry Strategy

The Commonwealth outlined new plantation initiatives in the Wood and Paper Industry Strategy released in December 1995. The strategy is intended to build upon the Regional Forest Agreement process, and provide for restructuring of the wood and paper industries. The strategy also aims to facilitate a positive environment for investment in downstream processing based on resources from sustainably managed native forests and plantations. The strategy seeks to include specific measures to enhance the development of a viable value adding forests products industry by removing impediments and disincentives to investment. About \$32m has been allocated to the Wood and Paper Industry Strategy in the 1996–97 Budget over the four years 1995–96 to 1999–2000.

Forestry Industry Structural Adjustment Package

The 1996–97 Budget allocated \$98.6m to the Forest Industry Structural Adjustment Package (FISAP) to assist businesses and workers involved in native forest industries to adjust to changes as a result of the interim Deferred Forest Agreements and Regional Forest Agreements.

National Forests Inventory

In many of the debates over forest management, the information base on forest attributes, such as timber, fauna and flora, has been found to be incomplete. Accordingly, in late 1988, the Commonwealth Government initiated a National Forest Inventory (NFI). A State of the Forests Report (SOFR) is being prepared by the NFI, which will include a description of the resource, forest use and management, and an examination of the social forces framing public opinion.

National Plantations Inventory

The need for a National Plantations Inventory (NPI) was highlighted in the Wood and Paper Industry Strategy. The purpose of the NPI is to describe in detail Australia's plantation resource in terms of location, species, age class, and expected regional and national wood flows.

A comprehensive information base will lead to more informed discussion and decision making about the future of Australia's forests by identifying and describing forest communities and their current conservation status, and providing information to enable the planning of efficient, sustainable forest utilisation.

Tropical timber

In June 1992 the Commonwealth Government announced its International Tropical Forest Conservation and Sustainable Land Use Policy. A key aspect of the policy is a commitment to the year 2000 target set by the International Tropical Timber Organisation (ITTO), by which date all tropical timber products entering international trade should be derived from sustainably managed forests.

Other aspects of the policy include support for the conservation of biodiversity, reforestation through agroforestry and plantations, and the provision of technical and scientific assistance to other countries, largely in the Asia–Pacific region, to promote better forest management practices. These policy measures complement initiatives arising from the Rio Earth Summit including the Conventions on Climate Change and Biodiversity, Agenda 21 and The Statement of Principles on Forests.

The Agreement under which the ITTO was established, the International Tropical Timber Agreement 1983, is to be replaced by a successor Agreement, which was successfully negotiated in early 1994. The new Agreement was ratified by Australia in December 1995.

Pulp mill guidelines

In December 1989 the Commonwealth established environmental guidelines for the development of new bleached eucalypt kraft pulp mills. To ensure the effective implementation of the Commonwealth guidelines and to streamline approval processes, the Commonwealth concluded agreements with Tasmania, Western Australia and Victoria.

To ensure that the Commonwealth guidelines remain current with international developments in pulping and bleaching technologies, the Government also announced in December 1989 the establishment of a National Pulp Mills Research Program (NPMRP). The NPMRP is a cooperative venture involving the Commonwealth Government and State Governments, community interest groups, industry and the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Program's principal objectives are the expansion of basic knowledge in pulping of eucalypt woods and bleaching of the pulps; improving the currently available technology; and developing more relevant and superior biological monitoring systems for the receiving waters.

The Commonwealth has released a set of guidelines based on recent international research under the Pulp and Paper Research Program and recent international developments in the wood pulping industry.

Forest and Wood Products Research and Development Corporation

The Forest and Wood Products Research and Development Corporation was established in 1994 as a key initiative under the National Forest Policy Statement to assist the forest industries to improve their international competitiveness and to realise their growth potential. The Corporation has structured its work around four key research programs:

- sustainability and environmental management;
- better structural/building systems;
- process and new product development; and
- plantation and regrowth timber — from forest to market.

The Corporation is jointly funded by industry and the Commonwealth.

CSIRO

Forestry wood and paper research is conducted primarily within the Division of Forestry and Forest Products. The emphasis is on strategic research concerned with commercial production and processing of wood from native eucalypt forests and plantations of eucalypts and softwoods.

CSIRO Forestry and Forest Products Division has its headquarters and main laboratory in Canberra, a forest products laboratory at Clayton, Victoria with other laboratories in Hobart, Tasmania; Mount Gambier, South Australia; and Perth, Western Australia. The Cooperative Research Centre for Temperate Hardwood Forestry is co-located with the Division on the campus of the University of Tasmania. The Cooperative Research Centre for Hardwood Fibre and Paper Science operates from the CSIRO–Monash University site at Clayton. The CSIRO Divisions of Wildlife and Ecology and Plant Industry undertake studies of rainforest ecology from the Tropical Forest Research Centre at Atherton, Queensland.

The research undertaken by CSIRO Forestry and Forest Products is closely aligned to major forest resources and industries: softwood plantations, hardwood plantations, native forests, solid wood processing and production, wood protection, wood composites, and pulp and paper. Important disciplines are tree physiology, nutrition, genetics, chemistry, wood science and engineering. Major projects include genetic improvement, regrowth forest management, later age stand management in softwood plantations, irrigation forestry, processing small hardwood logs, development of wood preservatives and improved pulping technologies.

Sustained high value production has long been a major goal of forest managers and researchers. Australia has endorsed the criteria and indicators for the sustainable management of native forests developed through the Montreal Process. The National Forest Policy Statement and the Wood and Paper Industry Strategy provide the framework for cooperative national action on this issue. The Division is actively involved in research for defining and monitoring ecologically sustainable forest management.

Fishing

Fisheries resources

This section covers Australia's fisheries resources and activities relating to their protection and use, both commercial and recreational.

Australia's fisheries stocks are extremely diverse but, by world standards, its marine ecosystem is relatively unproductive. The Australian Fishing Zone (AFZ) covers an area 16% larger than the Australian land mass and is the third largest fishing zone in the world. However, Australia's fish production is insignificant by world standards. This reflects low productivity of the oceans rather than under-exploitation of the resource. However, while some species are currently overharvested, some fish resources such as albacore and southern whiting are not being used optimally.

Over 3,000 species of marine and freshwater fish and at least an equal number of crustacean and mollusc species occur in and around Australia. Less than 100 of these are commercially exploited. Australia's major commercially exploited species are prawns, rock lobster, abalone, tuna, other fin fish, scallops, oysters and pearls. Australian fishing operators concentrate their efforts on estuarine, coastal, pelagic (surface) species and demersal (bottom living) species that occur on the continental shelf.

In 1993–94, Australians consumed 3.5 kg of edible weight fresh and frozen fish per person, sourced from Australian waters, and 2.1 kg of imported fish. The consumption per person of crustaceans and molluscs (such as prawns, lobsters, crabs and oysters) was 1.5 kg. A further 3.1 kg per person were consumed in the form of prepared seafood products.

The level of fishing effort exerted by the fishing fleet has increased rapidly over the last decade to the point where almost all the major known fish, crustacean and mollusc resources are fully exploited. Some major fisheries such as southern bluefin tuna, gemfish and shark have suffered serious biological depletion.

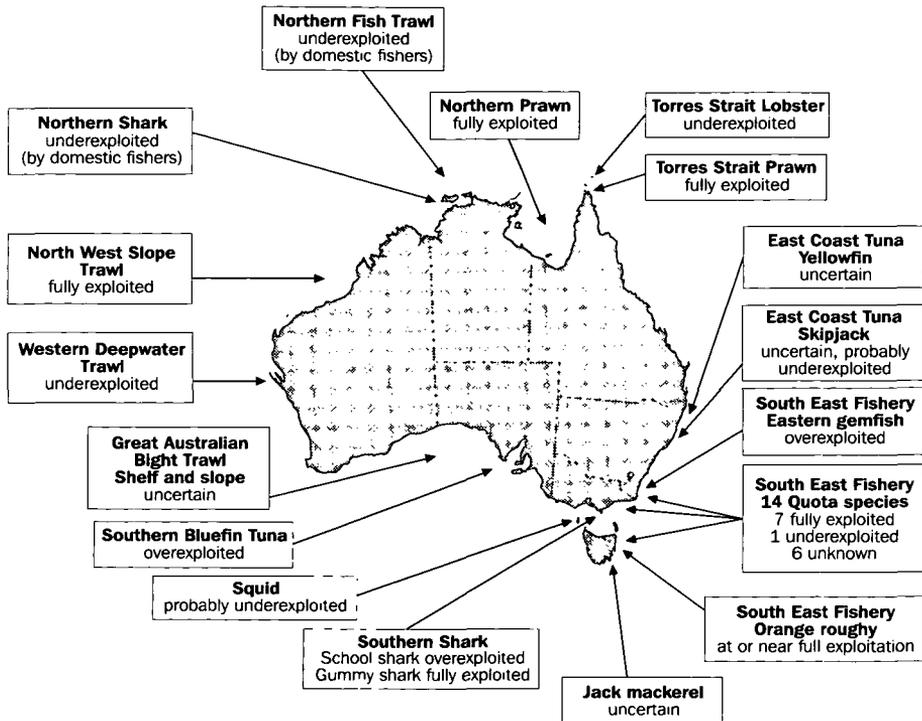
Australia has enjoyed a relatively long history of success in the farming of the Sydney rock oyster. Pearl culture operations and ornamental fish farming are well established. The production of juveniles of several species of fin fish, molluscs and crustaceans has been undertaken for some years, initially for restocking wild populations and subsequently for grow-out operations. As in many other developed countries, there has been a surge of interest and investment in many types of aquatic farms over the last decade. Notable successes are the salmon industry in Tasmania and commercial cultivation of the Pacific oyster, blue mussel and rainbow trout.

Aquaculture, or 'fish farming', is an alternative to harvesting the naturally occurring fish stocks and has considerable potential as a means of ensuring sustainability of harvesting yields. Aquaculture industries are established in all States, with species involved ranging from pearl oysters to freshwater trout. Aquaculture has experienced rapid growth during the past six years, with the value of production rising from \$188m in 1989–90 to \$419m in 1994–95.

Developmental work is taking place in a number of areas including barramundi, freshwater crayfish (yabbies and marron), prawns, mussels and algae. Research is continuing into the hatchery rearing of species such as abalone, scallops, giant clams, flat and pearl oysters. Over half of the established aquaculture output by value goes to markets other than for direct consumption. However, the newer emerging industries are producing mainly food. A strategy for the development of Australian aquaculture is being formulated by a Working Group of Commonwealth and State fisheries agencies.

The status of Australia's Commonwealth or jointly managed fisheries resources is summarised in figure 15.5.

15.5 STATUS OF COMMONWEALTH OR JOINTLY MANAGED FISHERIES RESOURCES



Source: Bureau of Resource Sciences.

Production, processing and exports and imports of fisheries products

Value of fisheries production

Table 15.6 shows the gross value of the Australian commercial fishing industry. As the value of materials used in the course of production is not available, it is not possible to show 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 treated as the principal markets.

The gross value of fisheries production in 1994-95 is estimated to have been \$1,745m (table 15.7). Although this was a 3% rise in value over the previous year it is a much lower rate of increase than the average of 11% from 1989-90 to 1993-94. Between 1993-94 and 1994-95 the main increase in gross value of production occurred in pearls (particularly in Western Australia, up 90%), tuna (7%), prawns (4%) and rock lobster (1%).

The gross value of production in some fisheries fell in 1994–95. Although landings of abalone rose, lower prices depressed the total value of production by 17% to \$148m. Decreased landings depressed the value of scallop production to \$51m. Reflecting increases in production, the gross value of fin fish increased by 3% to \$478m.

Western Australia recorded both the highest increase in gross value of any State (15%) and also the largest aggregate value (\$595m). On the other hand, Victoria recorded both the largest decrease in value of any State (18%) and also the smallest aggregate value of \$86m.

In 1994–95 the gross value of aquaculture production increased significantly, from \$319m in 1993–94 to \$419m in 1994–95, an increase of 31% (table 15.8). Pearl oysters remained the most valuable aquaculture industry and increased in value in 1994–95 by 58% to \$206m. Other aquaculture industries to increase in value included salmon, up 40% to \$67m, and prawns, up 23% to \$28m.

Commonwealth fisheries are those managed for the Commonwealth Government by the Australian Fisheries Management Authority. State Governments manage inland fisheries and aquaculture in addition to those salt water fisheries not managed by the Commonwealth. The distribution of the management of fisheries between the Commonwealth and the States is determined following consultations held under the Offshore Constitutional Settlement Agreement. Australian fisheries production refers to total production from both Commonwealth and State managed fisheries and production from aquaculture (see tables 15.9 and 15.10).

15.6 GROSS VALUE OF FISHERIES PRODUCTION

	Value \$m
1976–77	206
1977–78	233
1978–79	279
1979–80	326
1980–81	330
1981–82	344
1982–83	423
1983–84	449
1984–85	522
1985–86	635
1986–87	702
1987–88	828
1988–89	1 022
1989–90	1 092
1990–91	1 223
1991–92	1 376
1992–93	1 493
1993–94	1 686
1994–95p	1 745

Source: Australian Bureau of Agricultural and Resource Economics and the Australian Fisheries Service.

15.7 GROSS VALUE OF SELECTED MAJOR FISHERIES CATEGORIES (a)

	1992–93 \$m	1993–94 \$m	1994–95p \$m
Prawns	287	316	329
Rock lobster	349	430	435
Tuna	116	108	115
Other fin fish	322	355	363
Abalone	128	178	148
Scallops	88	72	51
Oysters	41	42	42
Pearls	120	130	206
Other(a)	42	55	56
Total	1 493	1 686	1 745

(a) Other fisheries production not elsewhere included.

Source: Australian Bureau of Agricultural and Resource Economics.

15.8 GROSS VALUE OF AQUACULTURE PRODUCTION(a)

	1992-93 \$m	1993-94 \$m	1994-95p \$m
Fish			
Salmon	49.0	48.0	67.0
Tuna	10.2	24.2	24.2
Trout	11.9	38.8	38.6
Other(b)	4.8	5.4	5.3
Total	75.9	116.5	135.1
Crustaceans			
Prawn	14.8	22.5	27.7
Other(c)	2.8	4.5	4.9
Total	17.6	27.1	32.6
Molluscs			
Pearl oyster	119.6	130.2	206.2
Edible oysters	41.2	42.4	42.2
Other(d)	1.3	2.7	2.6
Total	162.0	175.4	251
Total	255.5	318.9	418.7

(a) Excludes aquarium fish, hatcheries production, crocodiles, microalgae, and aquarium worms. (b) Includes eels and other native fish. (c) Includes crabs and brine shrimp. (d) Includes mussels, scallops and giant clams.

Source: Australian Bureau of Agricultural and Resource Economics.

15.9 AUSTRALIAN FISHERIES PRODUCTION, By Category(a)

	1992-93 tonnes	1993-94 tonnes	1994-95p tonnes
Fish			
Tuna	10 220	7 703	7 937
Other	134 958	123 573	129 259
Total	145 179	131 275	137 197
Crustaceans			
Prawns	24 805	22 766	25 259
Rock lobster	18 434	16 770	16 329
Other	5 562	7 543	7 606
Total	48 800	47 080	49 194
Molluscs			
Abalone	4 668	4 673	5 101
Scallops	33 630	24 141	12 199
Oysters	8 561	8 707	8 434
Other	4 940	5 136	6 148
Total	51 798	42 657	31 882
Total	245 777	221 012	218 273

(a) Includes an estimated value for aquaculture production but excludes production from inland commercial fisheries.

Source: Australian Bureau of Agricultural and Resource Economics.

15.10 COMMONWEALTH FISHERIES PRODUCTION, By Fishery and Category

	1992-93 tonnes	1993-94 tonnes	1994-95p tonnes
Northern prawn			
Prawn			
Tiger	2 891	2 806	3 520
Banana	4 058	2 433	4 095
Endeavour	813	794	756
King	49	40	70
Total	7 811	6 073	8 441
Torres Strait			
Prawn			
Tiger	586	533	568
Endeavour	988	1 087	1 051
King	44	48	32
Other	5	8	4
Total	1 622	1 676	1 655
Tropical rock lobster	174	185	180
Spanish mackerel	102	102	70
Total	1 898	1 963	1 905
South East			
Trawl			
Orange roughy	12 023	9 965	6 527
Jackass morwong	848	780	808
Tiger flathead	1 549	1 483	1 585
Gemfish	717	406	260
Blue grenadier	3 039	3 048	3 240
Ocean perch	262	286	255
School whiting	900	1 169	993
Ling	805	959	1 023
Redfish	839	608	1 016
Mirror dory	260	302	292
Blue warehou	968	865	673
Other	7 333	6 261	7 103
Total	29 543	26 132	23 775
Non-trawl	1 551	2 160	2 160
Great Australian Bight			
Orange roughy	432	668	27
King flathead	504	448	1 273
Gemfish	5	15	22
Bight redfish	128	107	164
Jackass morwong	40	40	53
Boarfish	24	28	41
Leatherjacket	44	38	87
Angel shark	64	47	98
Knifejaw	15	10	34
Squid	20	23	70
Other	284	173	334
Total	1 560	1 597	2 202
Southern shark			
School and gummy	5 448	5 136	4 943
Other shark	858	839	798
Total	6 306	5 975	5 741

For footnotes see end of table.

...continued

**15.10 COMMONWEALTH FISHERIES
PRODUCTION, By Fishery and Category —
continued**

	1992-93 tonnes	1993-94 tonnes	1994-95p tonnes
East coast tuna			
Yellowfin	752	679	820
Albacore	156	261	349
Bigeye	23	45	128
Skipjack	397	—	12
Other	52	110	116
Total	1 381	1 095	1 425
East coast purse seine			
Yellowfin	6	27	9
Skipjack	3 855	1 674	1 168
Others	—	114	5
Total	3 861	1 815	1 182
Southern bluefin tuna			
Domestic	1 774	2 415	2 867
Joint venture	2 471	2 012	1 684
Other	650	270	650
Total	4 895	4 697	5 201
Other fisheries(a)	329	353	322
Total production	59 134	51 860	52 354

(a) Includes North West Slope and Kimberley Coast prawn fisheries.

Source: Australian Bureau of Agricultural and Resource Economics.

Processing of fish, crustaceans and molluscs

There is very little value added processing of fish products in Australia. Processing establishments vary in size, scope of operations and sophistication of technologies employed. The majority of establishments undertake only the most basic cleaning, filleting, chilling, freezing and packaging processes, but some do have the capacity for significant product transformation. Much of the value that is added to the catch is

due to correct handling and quick delivery by air to local or overseas markets.

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-chilled to markets.

Exports and imports

Exports of fisheries products come under Commonwealth jurisdiction, while domestic market activity comes under those of the States and Territories.

A significant proportion of Australian fisheries production (edible and non-edible) is exported. In 1994-95 the value of exports was \$1,358m, approximately 78% of the total value of Australian production. The Australian fisheries export industry depends on a limited range of products sold on a few major markets, and in 1994-95 exports to Japan, Hong Kong and Taiwan accounted for approximately 76% of the value of all exports of fisheries products (see table 15.11). In 1994-95 the most valuable exports included rock lobster (\$474m), prawns (\$231m) and pearls (\$211m).

An important element in the maintenance of rock lobster export value has been a shift in product positioning in the export market to live, fresh or chilled product exports in 1994-95, following a 22% growth in the previous year. The value of prawn exports increased by 17% as a result of a 24% increase in volume exported.

Abalone exports fell by \$20m or 11%, despite a 14% increase in volume, while exports of scallop fell only 12% although volume fell by 40%.

15.11 DESTINATION OF EXPORTS OF AUSTRALIAN FISHERIES PRODUCTS

Country	1992-93		1993-94		1994-95p	
	\$m	%	\$m	%	\$m	%
Japan	491	45.3	551	44.5	556	40.9
USA	151	13.9	111	9.0	74	5.4
Taiwan	160	14.7	220	17.8	203	14.9
Hong Kong	162	14.9	232	18.8	269	19.8
Spain	13	1.2	6	0.5	14	1.0
Singapore	28	2.6	39	3.2	41	3.0
France	22	2.0	19	1.5	13	1.0
Thailand	7	0.6	9	0.7	13	1.0
Saudi Arabia	2	0.2	1	0.1	—	—
Other	49	4.5	49	4.0	175	12.9
Total	1 085	100.0	1 237	100.0	1 358	100.0

Source: ABS International Merchandise Trade Statistics.

In the same period, Australia imported \$666m of edible and non-edible fisheries products, 25% of which came from Thailand and 18% from New Zealand (see table 15.12). The most valuable categories of seafood imported

included prawns from Thailand (\$66m), canned fish from Thailand (\$39m) and from the United States (\$33m), and frozen fish fillets from New Zealand (\$36m).

15.12 SOURCE OF AUSTRALIAN IMPORTS OF FISHERIES PRODUCTS

Country	1992-93		1993-94		1994-95p	
	\$m	%	\$m	%	\$m	%
Thailand	104	19.7	131	22.1	166	24.9
New Zealand	94	17.8	104	17.5	117	17.6
Canada	36	6.8	25	4.2	24	3.6
Malaysia	36	6.8	39	6.6	38	5.7
USA	29	5.5	31	5.2	48	7.2
Peru	10	1.9	26	4.4	21	3.2
Japan	24	4.5	22	3.7	20	3.0
Chile	16	3.0	15	2.5	14	2.1
Singapore	12	2.3	14	2.4	13	2.0
South Korea	14	2.6	10	1.7	11	1.7
Indonesia	8	1.5	7	1.2	9	1.4
Other	146	27.6	169	28.5	185	27.8
Total	529	100.0	593	100.0	666	100.0

Source: ABS International Merchandise Trade Statistics.

Fisheries legislation and territorial arrangements

The Commonwealth Parliament has enacted a number of laws governing fisheries in the Australian Fishing Zone (AFZ). Where appropriate arrangements under the Offshore Constitutional Settlement (OCS) have been concluded with the States or the Northern Territory, these laws can also have application in coastal waters.

The fisheries laws of the States and the Northern Territory apply to fishing in inland waters and, in the absence of OCS arrangements, to marine waters up to three nautical miles seaward of the territorial sea baseline. Where appropriate OCS arrangements have been concluded with the Commonwealth, these laws can also cover a part or the whole of the AFZ adjacent to that State or Territory.

Commonwealth and State/Territory fisheries laws enable the management of commercial fisheries. They generally provide for this to be done through licensing regimes, fisheries notices or individual fishery management plans.

Fisheries Management Act 1991 and the Australian Fishing Zone

The *Commonwealth Fisheries Management Act 1991* applies to commercial fishing for swimming and sedentary species in the AFZ, excluding any waters that have been declared excepted waters. The AFZ is the area of waters generally between 3 and 200 nautical miles seaward of the territorial sea baseline of Australia and its external territories, excluding waters falling within the exclusive economic zone of another country, and covers a total of 8.9 million km². The establishment of the AFZ in 1979 brought portions of oceanic tuna stocks, and demersal and pelagic fish stocks previously exploited by foreign fishing vessels, under Australian control.

Fishery management plans are central to the Act and are to contain all essential rules applying to the management of a fishery. A management plan normally operates through a system of statutory fishing rights, which allows long-term access to the fishery. The Act also provides for limited term fishing permits, which are primarily designed for the management of fish resources

that are not yet under a management plan. Individual transferable quotas (ITQs) are used as the preferred tool to achieve a reduction in fishing levels. A particular fishery is assigned a total allowable catch, and the market for ITQs will determine the most efficient allocation of resources.

Australia has an international obligation, under the United Nations Convention on the Law of the Sea, to allow foreign nations access to resources within the AFZ that are surplus to domestic fisheries requirements and where such access does not conflict with Australian management and development objectives. To facilitate the process, the Act allows Australia to make bilateral agreements or joint venture arrangements with the government or commercial interests of another country under which foreign fishing licences will be granted to boats from that country.

In 1996, Japan was the only country maintaining a licensed foreign fishing presence in the AFZ. Japanese vessels fished certain areas of the AFZ under an annually renewable bilateral access agreement between the Japanese Government and the Australian Government. Foreign fishing licences are available under the bilateral access arrangement. The main species caught by Japanese vessels in the AFZ are yellowfin, southern bluefin, and bigeye and albacore tunas.

Australia, Japan and New Zealand are parties to the Convention for the Conservation of Southern Bluefin Tuna (CCSBT), which came into force in 1994. As part of its conservation management responsibilities for the global southern bluefin tuna industry, the CCSBT Commission annually determines a total allowable catch for the fishery and allocates this between the three CCSBT parties in the form of national quotas.

In 1996, Australia had maritime delimitation agreements with Papua New Guinea, the Solomon Islands and France. In addition, a maritime delimitation agreement was being negotiated with Indonesia (a Provisional Fisheries Surveillance and Enforcement Line having been agreed in 1981). Australia has yet to enter into a maritime delimitation agreement with New Zealand.

The Treaty on Fisheries between the Governments of Certain Pacific Island States and the Government of the United States forms the

Schedule to the Act. The effect of this is that United States tuna boats are given treaty licences in accordance with the provisions of the Treaty.

Whales are a protected species in the AFZ.

Australian Fisheries Management Authority

The *Fisheries Administration Act 1991* establishes the Australian Fisheries Management Authority (AFMA) and prescribes its objectives. These are:

- implementing efficient and cost-effective fisheries management on behalf of the Commonwealth;
- ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development, in particular the need to have regard to the impact of fishing activities on non-target species and the marine environment;
- maximising economic efficiency in the exploitation of fisheries resources;
- ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and
- achieving government targets in relation to the recovery of the cost of AFMA.

The Act specifies AFMA's functions, which include a duty to engage in appropriate consultation and to devise and implement management plans, adjustment programs and exploratory/feasibility fishing programs. AFMA is also to establish priorities for management related research and arrange for such research to be undertaken. AFMA's management responsibilities include arrangements with States and Territories. Under the Fisheries Management Act, AFMA is given additional functions in areas such as keeping a register of statutory fishing rights, surveillance and enforcement.

Other legislation

The *Fishing Levy Act 1991*, *Foreign Fishing Licences Levy Act 1991* and *Fisheries Agreements (Payments) Act 1991* enable the imposition of management levies and access fees payable by Australian and foreign fishermen, foreign

governments and foreign commercial interests. The *Statutory Fishing Rights Charge Act 1991* enables a charge to be levied on the grant of new fishing rights

The *Torres Strait Fisheries Act 1984* gives effect in Australian law to the fisheries elements of the Torres Strait Treaty. The Act applies in the area of Australian jurisdiction in the Torres Strait Protected Zone, and in areas outside but near that zone that have been proclaimed in respect of particular fisheries which Australia and Papua New Guinea have agreed to manage jointly under the treaty or which are referred to in the treaty.

Fisheries 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 sustainable utilisation of fisheries resources. 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.

The Fisheries Research and Development Corporation (FRDC) was established in July 1991 by Regulations under the *Primary Industries and Energy Research and Development Act 1989*. Its objectives include:

- increasing the economic, environmental or social benefits to members of the Australian fishing and aquaculture industry and to the community generally by improving the production, processing, storage, transport or marketing of fish and fish products; and
- achieving the sustainable use and the sustainable management of fisheries resources.

FRDC investigates and evaluates the requirements for research and development in relation to the fishing industry; coordinates and funds such research and development activities; and facilitates the dissemination, adoption and commercialisation of results.

FRDC is funded by an annual unmatched grant equal to 0.5% of GVP (the average gross value of fisheries production over the three immediately preceding financial years) and by research levies collected from the fishing industry which the Government matches to a maximum of 0.25% of GVP. In 1995–96, revenue to FRDC totalled some \$12.9m, of which the Government contributed approximately \$10.4m.

Organisations in Australia at present engaged in research into fisheries matters are:

- CSIRO Division of Fisheries Research, which has its headquarters and main laboratory in Hobart, Tasmania, and regional laboratories in Western Australia and Queensland (fisheries science);
- CSIRO Division of Oceanography, which has its headquarters and laboratory at Hobart, Tasmania;
- CSIRO Division of Food Research, which conducts research into handling, storage, processing and transportation of fish at its laboratory in Hobart, Tasmania;
- The Australian Fisheries Service, Department of Primary Industries and Energy, Canberra;
- Bureau of Resource Sciences, Department of Primary Industries and Energy, Canberra;
- Australian Bureau of Agricultural and Resource Economics, Department of Primary Industries and Energy, Canberra;
- State and Territory fisheries departments (research vessels are operated by all States);
- Great Barrier Reef Marine Park Authority (GBRMPA) located in Townsville and Canberra universities; and
- private fishing companies (surveys of fisheries resources, research into handling, processing and marketing).

Aquaculture

Aquaculture is one of Australia's fastest growing rural industries. In 1994–95 the annual production of 23,507 tonnes represented a farmgate value of \$419m. The major sectors represented in this growth are pearls, edible oysters, tuna, salmon and prawns.

Australian aquaculture is expected to continue to show strong growth for the next 10 years and, on current estimates, the value of production will be in excess of \$1b by the end of this period.

In 1994 the National Strategy for Aquaculture in Australia was released, and the first review of this strategy was taking place in 1996. This will determine the progress made in implementing the following key goals identified in this strategy:

- industry structure and organisation;
- relationship between aquaculture and capture fisheries;
- government framework;
- environmental management;
- water and land use planning;
- research and development;
- marketing and product development;
- education and training;
- extension services; and
- quarantine and movement.

The operational responsibility for the development of aquaculture in Australia rests with State and Territory governments. A number of States have in place aquaculture and coastal development plans. These plans take into account the needs of the multiple user groups and provide a focus for aquaculture as an industry and as a legitimate user of water and land resources.

Aquaculture provides a basis for improved biological understanding of Australia's native marine and freshwater species and can be used to re-establish populations of endangered aquatic species. In the future, aquaculture may also be able to improve the catch in both recreational and commercial fisheries through re-stocking programs.

Recreational fishing

In August 1996 the Federal Minister for Resources and Energy launched The National Code of Practice for Recreational and Sport Fishing. This new code will help to conserve fish stocks by encouraging people to take no more than they need and to protect the environment. The code provided guidelines on environmentally responsible fishing and boating practices, and on the humane treatment of fishes. It also calls on people to respect the rights of others, for example by seeking the permission of landholders and traditional owners to enter land.

People fishing for recreation and pleasure reported an estimated catch of 23,152 tonnes of fish, 2,800 tonnes of crabs and 1,400 tonnes of yabbies/marron in the year ending April 1992. On average, every Australian household casting a line or net caught 27.1 kg of seafood.

The pastime of recreational fishing was most popular in New South Wales, with 296,900 households reporting that a member had caught fish for home consumption, followed by 245,900 households in Queensland and 235,500 households in Victoria.

Queensland recreational anglers had the most success by landing nearly 7,300 tonnes (23.5% of the total fish catch) of seafood, compared with just under 6,600 tonnes (21.3%) caught in New South Wales and 5,200 tonnes (16.8%) in Western Australia (table 15.13).

15.13 RECREATIONAL FISHING CATCH, Year Ended April 1992

	NSW tonnes	Vic. tonnes	Qld tonnes	SA tonnes	WA tonnes	Tas. tonnes	NT tonnes	ACT tonnes	Aust. tonnes
Abalone	20.8	36.4	0.2	8.1	32.3	25.1	—	3.3	126.0
Crabs	335.8	51.9	869.6	865.6	648.1	10.2	54.5	5.9	2 841.5
Fish	5 046.9	4 164.4	5 732.1	3 184.7	3 371.8	1 014.7	388.2	248.8	23 151.7
Lobster, crayfish	127.4	46.1	50.0	53.3	357.7	56.9	4.3	3.3	698.9
Mussels	9.9	20.5	2.7	15.6	48.1	21.6	3.9	1.6	123.9
Octopus	79.9	18.6	3.4	10.5	56.3	2.3	—	0.6	171.5
Oysters	132.2	4.8	129.7	11.8	29.3	16.5	2.7	3.0	330.0
Prawns	251.6	119.8	316.0	14.4	117.0	0.9	11.0	4.7	835.6
Scallops	—	149.6	19.5	17.3	3.2	7.5	0.4	0.3	197.7
Squid	96.7	148.6	53.0	330.1	142.5	32.1	2.8	5.7	811.4
Yabbies, marron	399.6	339.6	78.6	215.1	351.2	0.2	3.2	11.0	1 398.5
Other seafood	85.5	72.7	29.5	29.0	35.4	3.2	0.5	0.6	256.3
Total seafood	6 586.3	5 173.1	7 284.3	4 755.5	5 192.9	1 191.1	471.4	288.6	30 943.2

Source: Home Production of Selected Foodstuffs, Australia (7110.0).

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ABS publications

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Apparent Consumption of Foodstuff and Nutrients, Australia (4306.0).

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Manufacturing Industry, Australia (8221.0).

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— *Australian Fisheries Statistics 1995*.

— *Quarterly Forest Products Statistics* (various issues).

Introduction	421
Main features of 1994–95	421
Mineral production	422
Exports	423
Imports	424
Review of selected commodities	424
Gold	424
Iron ore	424
Bauxite and alumina	424
Mineral sands	424
Diamonds	425
Uranium	425
Coal	426
Crude oil and condensate	426
Liquefied petroleum gas	426
Natural gas	427
Oil and gas resources	428
Minerals processing and treatment	428
Mineral resources and geology	429
Mineral exploration	429
Mineral exploration expenditure	429
Drilling methods used in Australia	430
Petroleum exploration expenditure	431
Overseas exploration	431
Administrative and financial arrangements	432
Mineral rights	432
Mining and exploration for other than petroleum — legislation	432
Onshore	432
Offshore	432
Petroleum mining and exploration — legislation	432
Onshore	432
Offshore	433
Mineral royalties	433
Crude oil marketing and pricing arrangements	434
Pricing of liquefied petroleum gas	434
Pricing and export approval system for liquefied natural gas	434

Secondary tax arrangements in the petroleum industry	434
Incentives to encourage petroleum exploration and development	435
Research	435
Australian Geological Survey Organisation (AGSO)	435
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	435
Australian Mineral Industries Research Association Limited	436
Australian Bureau of Agriculture and Resource Economics	436
Bureau of Resource Sciences (BRS)	436
Bibliography	437

Introduction

Mining, as defined in the 1993 edition of the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (1292.0), broadly relates to the extraction of minerals occurring naturally as solids such as coal and ores; liquids such as crude petroleum; or gases such as natural gas.

The mining industry contributed \$16,889m or 4% of Australia's Gross Domestic Product (GDP) in 1994–95.

First stage processing of minerals and mineral extracts, while closely related to the mining industry, is included as part of the manufacturing industry. See *Chapter 18, Manufacturing* for details.

Main features of 1994–95

Table 16.1 provides a summary of the operations of mining industries in 1994–95. Turnover in the mining industry sector remained relatively unchanged at \$28,936m (down less than 1% from 1993–94) while employment in the sector dropped by 2% to 55,348 persons between June 1994 to June 1995.

The mining industries which recorded the largest rises in turnover were Silver-lead-zinc, up \$129m to \$1,064m; and Mineral sands, up \$110m to \$631m. Other industries to show increases in turnover were Other metal ores, up \$389m to \$1,070m; Bauxite, up \$56m to \$856m; and Copper ore, up \$53m to \$1,019m.

Industries that declined in turnover were Coal, down \$531m to \$9,342m; Oil and gas, down \$124m to \$7,681m; Iron ore, down \$99m to \$3,103m; and Gold ore, down \$68m to \$4,169m.

Table 16.2 contains a summary of the operations of mining industries in 1994–95, by State and Territory.

16.1 MINING, Summary of Operations by Industry — 1994–95

	Employment(a) no.	Wages and salaries(b) \$m	Turnover(c) \$m	Stocks		Purchases and selected expenses \$m	Value added \$m	Net capital expenditure \$m
				Open \$m	Close \$m			
Coal mining	25 295	1 830	9 342	720	741	4 226	5 137	1 026
Oil and gas extraction	4 310	330	7 681	213	239	716	6 992	1 227
Metal ore mining								
Iron ore mining	6 090	402	3 103	327	280	1 102	1 954	438
Bauxite mining	1 713	92	856	55	40	288	554	56
Copper ore mining	2 236	133	1 019	140	150	351	678	65
Gold ore mining	8 238	413	4 169	513	571	2 147	2 080	1 005
Mineral sand mining	1 888	81	631	152	142	311	310	70
Silver-lead-zinc ore mining	3 366	185	1 064	146	114	472	561	130
Other(d)	2 212	125	1 070	255	284	451	648	680
Total metal ore mining	25 743	1 431	11 913	1 589	1 582	5 121	6 784	2 445
Total mining 1994–95	55 348	3 590	28 936	2 522	2 562	10 063	18 914	4 698
Total mining 1993–94	56 465	3 626	29 024	2 614	2 517	9 995	18 933	4 186

(a) Includes working proprietors. (b) Excludes amounts drawn by working proprietors. (c) Includes transfers out to other establishments of the same management unit where appropriate. (d) Includes nickel ores, tin ores, uranium ores and non-ferrous metal ores n.e.c.

Source: *Australian Mining Industry (8414.0)*.

16.2 MINING, Summary of Operations by State/Territory — 1994–95

	Employment(a) no.	Wages and salaries(b) \$m	Turnover(c) \$m	Stocks		Purchases and selected expenses \$m	Value added \$m	Net capital expenditure \$m
				Open \$m	Close \$m			
NSW	14 869	1 059	4 589	380	350	1 979	2 580	620
Vic.	2 036	140	3 435	41	52	267	3 179	566
Qld	14 756	964	6 669	707	716	3 124	3 554	677
SA	2 123	107	940	77	89	187	765	68
WA	18 736	1 140	11 817	1 045	1 077	3 982	7 867	2 613
Tas.	1 086	77	371	61	49	149	210	45
NT	1 742	104	1 115	210	229	376	758	110
Aust.	55 348	3 590	28 936	2 522	2 562	10 063	18 913	4 698

(a) Includes working proprietors. (b) Excludes amounts drawn by working proprietors. (c) Includes transfer out to other establishments of the same management unit where appropriate.

Source: *Australian Mining Industry (8414.0)*.

Mineral production

Australian production in the Metallic minerals, Coal, and Oil and gas industries for 1994–95 was valued at \$26,741m, an increase of 4% over the previous year (table 16.3). Metallic minerals production was the largest proportion with 44% of the total, while Oil and gas was 29% of the total and Coal 27%.

The increase in the value of mineral production in 1994–95 was primarily due to growth in Metallic minerals, which rose 8% to \$11,719m.

All States recorded rises in the value of Metallic minerals production, increases in both production and prices of most minerals contributing to that rise.

By value, the two largest components of Metallic minerals production were Gold and Iron ore which accounted for \$4,246m and \$3,020m respectively, for a combined share of 62%.

Western Australia accounted for both the largest share of Metallic minerals production with \$7,908m (67%), and the largest share of total mineral production with \$11,835m (44% of the total).

The value of production of the Oil and gas industry rose to \$7,683m from \$7,423m in 1993–94. This represented an increase of \$260m or 3.5%, primarily due to increased production despite falls in prices for some commodities.

The value of coal production fell 1%, primarily due to lower prices. The total value of the coal industry (excluding Tasmania) was \$7,339m in 1994–95. Queensland and New South Wales are the major coal producing States, with 45% and 44% of production respectively.

In 1994 Australia remained the world's largest producer of bauxite (39% of total world production); diamonds (37%); lead (19%); and zircon, a mineral sands concentrate (56%).

16.3 MINERAL PRODUCTION, Selected Minerals — Australia

	Units	1990-91	1991-92	1992-93	1993-94	1994-95
Metallic minerals						
Bauxite	kt	41 831	34 788	40 946	43 306	45 384
Copper concentrate(a)	kt	1 004	915	1 254	1 322	1 114
Copper precipitate(b)	t	4 384	6 203	8 174	16 192	18 888
Gold bullion (dore)(c)	kg	264 993	259 656	275 331	274 687	298 697
Iron ore(d)	kt	111 475	114 781	115 703	123 631	137 525
Lead concentrate	kt	870	858	856	873	766
Manganese ore(e)	kt	724	375	597	815	n.p.
Mineral sands(f)	kt	1 878	1 954	2 118	2 252	2 375
Uranium concentrate (U ₃ O ₈)(a)	t	2 913	2 901	1 342	1 457	n.a.
Zinc concentrate(g)	kt	1 810	1 927	2 011	1 890	1 699
Total value of metallic minerals(h)	\$m	10 910	10 957	10 920	10 861	11 741
Coal						
Black coal	kt	166 505	176 570	177 970	177 874	191 903
Brown coal	kt	48 169	50 731	47 912	49 684	50 679
Total value of coal(i)	\$m	6 754	7 216	(j)7 585	(j)7 418	(j)7 340
Oil and gas						
Crude oil(k)	ML	29 189	31 984	30 592	29 583	31 301
Natural gas(l)	GL	15 589	16 289	16 631	15 959	17 486
Ethane	GL	175	182	187	202	208
Propane(m)	ML	2 013	2 064	2 078	2 115	1 999
Butane(m)	ML	1 504	1 574	1 651	1 622	1 480
Liquefied natural gas	kt	3 577	4 250	4 922	5 732	6 888
Total value of oil and gas	\$m	8 629	7 812	8 216	7 423	7 683
Total value of metallic minerals, coal, oil and gas	\$m	26 293	25 985	26 721	25 702	26 741

(a) Excludes South Australia. (b) Includes copper concentrate in other forms. (c) Includes alluvial gold. (d) Includes iron ore pellets. (e) Metallurgical grade. (f) Includes ilmenite, beneficiated ilmenite, leucoxene, monazite, rutile and zircon. (g) Includes zinc-lead concentrate. (h) Includes Tasmanian coal production. (i) Excludes Tasmania. (j) Excludes briquettes. (k) Stabilised. Includes condensate. (l) Includes field and plant usage. (m) Excludes refinery production.

Source: Australian Mining Industry (8414.0).

Exports

Australia is the world's largest exporter of black coal, iron ore, alumina, lead, diamonds and mineral sands products, the second largest exporter of zinc and the third largest exporter of aluminium and gold.

Exports of mining products rose in value by 2% in 1994-95 to \$14,904m or 22% of total merchandise exports. This followed a fall of 8% in 1993-94.

The percentage contributions of the major mineral products to total exports have remained stable over the period 1990-91 to 1994-95. Black coal remains the largest single export item and the main mineral exported, with a value of \$6,792m in 1994-95, 10% of total exports. Other major exports were iron ore (\$2,771m, 4% of total exports), crude oil (\$1,726m, 3%), zinc ores (\$404m, 1%) and uranium (\$188m, less than 1%).

Exports of mining products together with basic manufactures of mineral origin rose by 2% in 1994-95. However, as a proportion of total exports they declined slightly from 36% in 1993-94 to 35% in 1994-95.

A significant increase in nickel and aluminium export earnings offset the decline in export earnings from most other mineral resources. The value of nickel exports rose \$340m (58%) to \$925m following increased export volumes and higher world nickel prices. Although aluminium export volumes were reduced as Australian producers maintained production cuts introduced in the first half of 1994, sharply higher aluminium prices in 1994-95 resulted in Australian export earnings rising \$346m (19%) to \$2,169m.

The main minerals with declines in export earnings were gold and coal. The value of gold exports fell \$467m (9%) to \$4,819m, following lower bullion production in Australia and overseas. The value of coal exports fell \$374m (5%) to \$6,792m, despite increased export volumes, because of lower negotiated contract prices with Japanese steel mills and electricity utilities.

Imports

In 1994-95, mining imports were \$2,804m, a rise of 9% on the 1993-94 total of \$2,573m.

With the inclusion of basic manufactures of mineral origin, imports of mineral resources were valued at \$6,141m in 1994-95, a rise of \$350m (6%) on 1993-94. The major contributors to the increase were: crude oil, other refinery feedstock and petroleum refinery products, up \$233m (6.8%) to \$3,678m; and iron ore, ingot steel and ferro alloys, up \$198m (2.1%) to \$1,023m. The major offsetting fall occurred for imports of refined gold, down \$271m (28%) to \$708m.

Review of selected commodities

Gold

Gold production (content of all minerals) in Australia during 1994-95 was 243,213 kg. Western Australia accounted for most production with 77%, followed by Queensland with 11%, the Northern Territory (7%) and New South Wales (4%).

Gold is Australia's second biggest export earning commodity, having overtaken wool in 1990-91. In 1994-95 it accounted for 7% of total exports at a value of \$4,820m. The main markets were Singapore (\$1,573m), Japan (\$1,310m) and Republic of Korea (\$1,004m).

The gold mining industry employed 8,238 people at June 1995, 15% of total employment in the metallic minerals, coal, oil and gas industries, making it the second highest employer in the mining sector behind coal.

Australia accounts for about 11% of estimated world gold production. South Africa is the world's biggest gold producer with 24%.

Iron ore

Iron ore production in 1994-95 was 136.8 million tonnes, of which 94% or 128.7 million tonnes were exported. Iron ore mining employed 6,090 people at the end of June 1995.

Almost 97% of production takes place in Western Australia's Pilbara region. Iron ore is also mined in South Australia and Tasmania.

Iron ore accounted for \$2,771m or 4% of total exports in 1994-95. Japan is Australia's largest market, taking nearly half of its exports (in dollar terms). Other important markets are China (18%), Republic of Korea (15%), Taiwan (5%), the United Kingdom (4%), and Germany (4%).

Bauxite and alumina

Australia is the world's largest bauxite and alumina producer, and the fourth largest aluminium producer.

Bauxite mining employed 1,713 people nationally at June 1995, with mines in Western Australia south of Perth, in the Northern Territory on the Gove Peninsula and in Queensland at Weipa. Generally the bauxite ore is not sold but is processed to alumina for sale or for conversion to aluminium. Alumina production reached 12.9 million tonnes in 1994-95, while refined aluminium production was 1.3 million tonnes.

In 1994-95, alumina ranked fifth in value among major commodity exports with 3% of total exports, 10.3 million tonnes valued at \$2,237m; aluminium ranked sixth with 3% of exports, 0.9 million tonnes valued at \$2,169m.

Japan was the major market for aluminium, taking 34%; Northeast and Southeast Asia together (which includes Japan) accounted for over 92% of Australia's exports.

Mineral sands

Mineral sands are a group of minerals comprising ilmenite, leucocoxene, rutile, monazite and zircon, which are produced from deposits on the east and west coasts of Australia. Australia was the world's largest producer of zircon (56%) in 1994.

The value of production increased by 4% to \$470.9m in 1994-95. For the same period, exports were valued at \$302.4m, a rise of 28% from the 1993-94 value.

Ilmenite, leucosene and rutile are sources of titanium metal and are used in the manufacture of paint and other pigments and as a coating on welding-rod electrodes. Zircon is the major source of zirconium, which is a corrosion resistant metal used in nuclear reactors and chemical processing equipment. Monazite contains certain rare-earth elements and thorium, which is used in incandescent gas mantles and as a fuel in nuclear reactors.

Thorium is a radioactive mineral that is about three times as abundant as uranium, but occurs in fewer geological environments and in lower grade accumulation. Most of the world's resources of thorium occur in monazite, which is produced in Australia from titanium-bearing mineral sands. Australia presently supplies about 65% of the world's traded monazite. Exports from Australia of thorium and thorium-containing ores require the approval of the Minister for Primary Industries and Energy under the *Customs (Prohibited Exports) Regulations*.

Diamonds

Diamonds were first extracted in 1982 in Western Australia.

Australia is now the world's largest producer of diamonds (gem and industrial) with 37% of world production in 1994. Most of this is from the Argyle diamond mine in the Kimberley region of Western Australia. This mine commenced operations in December 1985 and is the world's biggest single producer of diamonds.

In 1994–95, 34.7 mega carats of diamonds (sorted and unsorted) were exported, with a value of \$570m.

Uranium

Australia has about 40% of the world's low-cost uranium reserves (excluding the current and former centrally planned economies). Deposits occur in the Northern Territory, Western Australia, South Australia and Queensland.

Australia's reasonably assured uranium resources, at December 1994, totalled 630,000 tonnes of uranium recoverable at less than \$US80 per kg of uranium.

The Australian Government no longer maintains its three mines policy with regard to uranium mining. However, restrictions on the export of uranium still apply.

The Ranger deposit was discovered in 1969, 250 km east of Darwin, and mining commenced in 1981. There was no uranium production at this mine during 1994–95.

The Olympic Dam deposits were discovered in 1975 and mining commenced in 1988.

Sales of uranium (contained in uranium oxide) for 1994–95 were 2,232 tonnes, with 1,313 tonnes from Ranger and 918 tonnes from Olympic Dam.

Uranium oxide exports in 1994–95 were 4,069 tonnes, valued at \$188m.

All Australian uranium production is exported, in the form of yellow cake, principally for use as fuel for nuclear power stations. Minor quantities are used in medical, industrial and scientific applications.

All exports of Australian uranium are subject to the most stringent safeguards which provide assurance that none of the material is diverted from peaceful uses.

The *Nuclear Non-Proliferation (Safeguards) Act 1987* gives domestic effect to Australia's international nuclear non-proliferation obligations which require domestic legislation. The legislation establishes a system of permits for the possession and transport of nuclear material (defined to cover uranium, thorium and plutonium), and other physical items such as equipment and material used in nuclear reactors. The permit and related provisions also deal with the possession and communication of sensitive information about nuclear technology, in circumstances where that information is not already a matter of public record. The legislation is administered by the Australian Safeguards Office.

Australia has no nuclear power stations.

In 1994 Australia produced 10% of the world's uranium (excluding the current and former centrally planned economies).

Coal

Black coal is currently the largest source of primary energy in Australia. By world standards, in relation to present population and consumption, Australia has ready availability of easily worked deposits of coal. The main black coal fields are located in New South Wales and Queensland, not far from the coast and the main centres of population.

Of Australia's identified resources of black coal, currently estimated at 76 gigatonnes, about 54 gigatonnes are considered to be economically recoverable. They are located largely 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, while small deposits are being worked in Western Australia, South Australia and Tasmania.

Black coal production in 1994-95 was 192 million tonnes, most of it from Queensland (94.5 million tonnes) and New South Wales (88.6 million tonnes). The coal industry was the single largest employer in the mining sector at June 1995, employing 25,295 people.

More than 45% of New South Wales coal production is from underground mines, whereas over 86% of Queensland coal production is from open-cut mines.

Black coal produced in South Australia and Western Australia is used for electricity generation, while coal mined in Tasmania is used for industrial purposes such as steam generation.

Black coal is Australia's biggest export earning commodity at \$6,792m, accounting for 10% of the total value of exports in 1994-95. In 1993-94, it was \$7,166m (11% of total exports). The biggest market for Australian coal in 1994-95 was Japan which bought 65.1 million tonnes for \$3,326m (47% of total sales). The Republic of Korea bought 17.3 million tonnes for \$880m (13%), and Taiwan 8.4 million tonnes for \$399m (6%).

Two-thirds of black coal production, consisting of steaming coal and hard and soft coking coal, is exported.

Australia's Economic Demonstrated Resources (EDR) of brown coal were estimated to be around 41 gigatonnes at December 1994. The main deposits are located in Victoria's Latrobe

Valley (over 39 gigatonnes). 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 to exist at many places along the southern margin of the continent, and as far north as central Queensland. Large deposits are being tested in the Kingston area of South Australia, the Esperance area of Western Australia and at Rosevale in the north-east of Tasmania.

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, in on-site development of power generation, and in briquette and char manufacture.

Crude oil and condensate

Indigenous production of crude oil and condensate in 1994-95, at 31,301 megalitres (539 thousand barrels per day), was slightly higher than production in 1993-94 of 29,583 megalitres. In 1994-95, the Bonaparte Basin produced 1,588 megalitres of crude oil, nearly 6% of the total indigenous oil production. Production of crude oil from the Gippsland Basin accounted for 51% of total indigenous crude oil production. The North West Shelf was the major producer of condensate during 1994-95 with 63% of indigenous production sourced in that region.

Export volumes of crude oil and condensate increased by 16% to 11,434 megalitres in 1994-95 compared with 1993-94. The main markets were Japan, Indonesia and Singapore. Imports of crude oil and condensate increased by 2% to 20,641 megalitres.

Liquefied petroleum gas

Liquefied petroleum gas (LPG) is a valuable co-product of oil and gas production and petroleum refining. The major constituents of LPG are propane and iso- and normal-butane, which are gaseous at normal temperatures and pressures and are easily liquefied at moderate pressures or reduced temperatures. Operations involving LPG are expensive in relation to other liquid fuels because LPG has to be refrigerated or pressurised when transported and stored.

LPG is an alternative transport fuel for high mileage vehicles in urban areas as well as a petrochemical feedstock and domestic fuel.

Identified economically recoverable resources of LPG at December 1994 of 135,000 megalitres were concentrated in Bass Strait, the North West Shelf and the Cooper Basin.

Production of naturally occurring LPG in Australia in 1994–95 was 3,479 megalitres. The major contributors were the Bass Strait fields (2,558 megalitres or 71% of total production) and the Cooper Basin (936 megalitres or 26% of total production). About 33% of domestic LPG production is exported (1,189 megalitres in 1994–95), mainly to Japan.

Natural gas

During 1994–95, 28,176 million cubic metres of natural gas (including liquefied natural gas (LNG)) were produced for domestic consumption and export, an increase of 13% from 1993–94 production. In 1994–95, 10,690 million cubic metres of natural gas from the export phase of the North West Shelf Project were liquefied for shipment. This export earned \$1,201m and was 32% of total Australian natural gas production.

It is estimated that exports of LNG to Japan will continue to expand, rising to a peak of about 7 million tonnes per year by 1995–96.

16.4 OIL AND GAS RESOURCES(a) — December 1994

Basin	Crude oil GL	Gas condensate GL	LPG GL	Sales of gas TL
Demonstrated economic resources(b)				
Gippsland (Vic.)	114	20	36	206
Carnarvon (WA)	123	123	105	958
Cooper/Eromanga (SA/Qld)	10	7	12	83
Amadeus and Bonaparte (WA/NT)	45	4	—	24
Perth (WA)	2	—	—	4
Bower/Surat (Qld)	—	—	—	5
Canning (WA)	—	—	—	—
Bass (Tas.)	2	1	1	3
Otway (Vic.)	—	—	—	9
Total	297	156	154	1 292
Demonstrated sub-economic resources(c)				
Gippsland (Vic.)	18	3	—	36
Bonaparte (WA/NT)	4	4	4	161
Carnarvon (WA)	6	—	—	373
Cooper/Eromanga (SA/Qld)	—	3	4	34
Browse (WA)	—	49	74	625
Perth (WA)	—	—	—	—
Amadeus (NT)	—	—	—	7
Bower/Surat/Adavale (Qld)	—	—	—	1
Bass (Tas.)	1	5	7	7
Otway (Vic.)	—	—	—	4
Total	29	65	90	1 249

(a) Based on the McKelvey classification which subdivides resources in terms of the economic feasibility of extraction and their certainty of occurrence. (b) Demonstrated economic resources are resources judged to be economically extractable and for which the quantity and quality are computed from specific measurements and extrapolations on geological evidence. (c) Demonstrated sub-economic resources are similar to demonstrated economic resources in terms of certainty of occurrence, but are judged to be sub-economic at present.

Source: Department of Primary Industries and Energy.

Oil and gas resources

The prospects of further discoveries of petroleum in Australia are considered to be only modest, the most prospective area being the sedimentary basins off the north-west coast. Consistent with the existing pattern of discoveries, undiscovered oil is likely to be of the light, low sulphur type, and more gas fields than oil fields are considered likely to be found. Assessments by the Bureau of Resource Sciences indicate that there is an average probability of finding at least another 380 giga litres (2,400 million barrels) of crude oil in Australia. This compares with demonstrated economically recoverable resources of 297 giga litres (1,866 million barrels) and

demonstrated sub-economically recoverable resources of 29 giga litres (186 million barrels) as at December 1994.

Minerals processing and treatment

As few minerals can be directly used in the form in which they are mined, most minerals undergo processing and treatment before utilisation.

Table 16.5 shows the production of the main manufactured products of mineral origin during recent years.

16.5 PRODUCTION(a) OF PRINCIPAL MANUFACTURED PRODUCTS OF MINERAL ORIGIN

	Units	1992-93	1993-94	1994-95p
METALS(b)				
Non-ferrous				
Alumina	'000 t	12 221	12 761	12 940
Refined aluminium	'000 t	1 306	1 384	1 285
Refined copper	'000 t	312	351	281
Lead bullion (for export)(c)	'000 t	234	208	176
Refined lead	'000 t	225	220	206
Refined zinc	'000 t	332	316	312
Refined tin	t	258	190	455
Ferrous				
Pig iron	'000 t	6 445	7 209	7 425
Precious				
Refined gold(d)	kg	288 188	307 336	296 626
Refined silver	t	355	379	349
FUELS				
Petroleum products				
Diesel-automotive oil	ML	10 603	11 063	11 365
Industrial and marine fuel	ML	87	95	129
Fuel oil	ML	2 498	2 263	2 431
Petrol	ML	17 728	17 724	17 911
BUILDING MATERIALS				
Clay bricks	mill.	1 722	1 814	1 860
Portland cement	'000 t	6 225	6 733	7 124
CHEMICALS				
Sulphuric acid	'000 t	868	833	n.a.
Superphosphate(e)	'000 t	1 440	1 344	1 590

(a) Some products exclude production of single establishment manufacturing businesses 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 basic iron. (c) Metallic content. (d) Newly won gold of Australian origin. (e) Double and triple superphosphate expressed in terms of single phosphate, that is 9% P equivalent.

Source: Australian Bureau of Agricultural and Resource Economics (non-ferrous, precious metals and petroleum products only).

Mineral resources and geology

Australia has the world's largest economically recoverable resources of lead, mineral sands (ilmenite, rutile and zircon), silver, uranium, zinc and gem/near gem diamonds. In addition, Australia's economic demonstrated resources are within the top six world-wide for bauxite, black coal, cobalt, copper, gold, iron ore, lithium, manganese ore, nickel, rare earths, tantalum and industrial diamonds. Australia has almost all of the world's opal resources, and a significant share of the world's sapphire resources.

The diversity of Australian geology provides the basis for its wide range of economically important minerals and variety of deposit types. Its classified geological settings range from major Precambrian Shields composed of Archaean (older than 2.5 billion years) granite greenstone terrains, through to extensive Proterozoic (2.5 to 0.5 billion years) basins and metamorphic belts, to the younger Palaeozoic fold belts (0.5 to 0.25 billion years). Despite more than a hundred years of exploration, mineralisation is still being discovered in outcrops. However, most significant mineral deposits discovered in the past two decades were hidden beneath cover and this is likely to be the pattern in the future, because prospective rocks in some 80% of the continent are concealed by veneers of deeply weathered rocks or sedimentary strata. The weathering occurred particularly during the Mesozoic and Cainozoic periods (0.25 billion years to the present).

The Archaean and Proterozoic basement rocks, underlying most of the western two thirds of Australia, have been the source of much of the country's mineral wealth to date. Large deposits such as the gold mines of the Kalgoorlie region and the iron ore deposits of the Pilbara region (Western Australia); the base metal deposits at Broken Hill (New South Wales), Mount Isa (Queensland), McArthur River (Northern Territory); the copper-uranium-gold deposit at Olympic Dam (South Australia); and the uranium deposits of the Alligator Rivers area of the Northern Territory, all occur in the Precambrian rock. In eastern Australia, the major deposits are of Palaeozoic age and include the base metal deposits at Elura, Cobar, Woodlawn (New South Wales), Hellyer and Rosebery, the Mount Lyell copper-gold deposit,

and the Renison tin deposit (Tasmania); and Kidston, Mount Leyshon (Queensland) and most other gold deposits. The large black coal deposits in New South Wales and Queensland are of upper Palaeozoic and Mesozoic age. Deposits formed in Tertiary times include the brown coal of Victoria; the oil shales of eastern Queensland; the bauxite of Weipa (Queensland), Gove (Northern Territory) and the Darling Ranges (Western Australia); the lateritic nickel deposits of Queensland and Western Australia; and the mineral sands deposits of the Murray Basin (Victoria).

The continuing discovery of world class deposits in both the established and new mineral provinces confirms Australia's high mineral potential. Major discoveries since 1990 include the Century (zinc), Cannington (lead, zinc, silver) and Ernest Henry (copper-gold) deposits in the major Carpentaria-Mount Isa base metal province, the Cadia (gold-copper) deposit in central western New South Wales, and the Bronzewing (gold) deposit in the Eastern Goldfields of Western Australia.

Australia's most important petroleum basins are under Bass Strait and off north-western Australia. Petroleum has been identified in Australian sediments as old as middle Proterozoic, but the main onshore petroleum accumulations are in sedimentary strata of middle Palaeozoic and younger ages and include the Bowen/Surat, Cooper/Eromanga, Otway and Perth Basins.

Mineral exploration

Exploration consists of the search for new ore occurrences and undiscovered oil or gas, and/or appraisal intended to delineate or extend the limits of known deposits of minerals and oil or gas reservoirs by geological, geophysical, geochemical and other methods. This includes drilling, but excludes activities of a developmental or production nature. Exploration for water is excluded.

Mineral exploration expenditure

Table 16.6 shows expenditure on private mineral exploration other than for petroleum in Australia during the last five years.

16.6 PRIVATE MINERAL EXPLORATION EXPENDITURE (Other than for Petroleum)

State	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
New South Wales	60.6	63.3	60.9	73.6	79.2
Victoria	12.7	12.6	12.2	20.7	31.2
Queensland	124.1	109.9	117.9	140.2	176.0
South Australia	15.5	19.7	21.3	24.7	20.9
Western Australia	324.8	332.8	348.1	453.7	495.5
Tasmania	9.9	7.9	7.8	10.2	14.9
Northern Territory	53.9	57.8	63.5	69.5	75.8
Australia	601.7	604.0	631.8	792.6	893.3

Source: Actual and Expected Private Mineral Exploration, Australia (8412.0).

Drilling methods used in Australia

In 1995, the ABS collected information on methods used for exploration drilling for minerals in Australia.

Private sector companies spent \$322m in direct drilling costs exploring for minerals in Australia in 1994-95. This represents 36% of the total Australian mineral exploration expenditure of \$893m.

Tables 16.7 and 16.8 show metres drilled and expenditure by drilling methods for all areas (including production leases and other areas) by State/Territory.

16.7 TOTAL METRES DRILLED, By State/Territory — 1994-95

Drilling method	NSW '000 metres	Vic. '000 metres	Qld '000 metres	SA '000 metres	WA '000 metres	Tas. '000 metres	NT '000 metres	Aust. '000 metres
Diamond	213.4	44.1	220.9	12.8	791.5	38.2	83.4	1 404.2
Reverse circulation	165.9	49.7	402.7	n.p.	2 992.5	n.p.	193.0	3 845.9
Percussion	42.4	14.3	187.7	n.p.	55.0	n.p.	n.p.	313.3
Rotary air blast	53.7	n.p.	313.0	9.0	2 956.3	n.p.	192.2	3 537.3
Other	28.7	n.p.	27.0	12.6	460.8	—	n.p.	609.3
Total	504.1	119.1	1 151.3	64.9	7 256.2	57.7	556.8	9 710.1

Source: Actual and Expected Private Mineral Exploration, Australia (8412.0).

16.8 TOTAL DRILLING EXPENDITURE, By State/Territory — 1994-95

Drilling method	NSW \$m	Vic. \$m	Qld \$m	SA \$m	WA \$m	Tas. \$m	NT \$m	Aust. \$m
Diamond	17.9	3.8	34.3	n.p.	80.4	n.p.	9.4	151.8
Reverse circulation	4.5	1.5	14.3	n.p.	86.9	n.p.	6.3	114.6
Percussion	1.5	0.3	6.3	n.p.	1.4	—	n.p.	10.0
Rotary air blast	0.7	0.1	5.3	0.1	28.3	—	2.5	37.0
Other	0.3	n.p.	0.7	n.p.	6.7	—	n.p.	8.6
Total	24.8	5.7	61.0	3.2	203.7	4.6	19.2	322.2

Source: Actual and Expected Private Mineral Exploration, Australia (8412.0).

Petroleum exploration expenditure

Petroleum exploration expenditure for all States and Territories for 1994–95 was \$688.8m, an increase of 36% compared to 1993–94.

Expenditure on exploration in production leases increased 49%, while exploration in all other areas increased 34%.

Offshore exploration expenditure increased by 44% to \$519.8m and onshore exploration expenditure increased 17% to \$169m in 1994–95 compared to 1993–94.

Table 16.9 shows expenditure on private petroleum exploration in Australia during the last six years.

16.9 PRIVATE PETROLEUM EXPLORATION EXPENDITURE

	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
Onshore	143.2	217.1	135.3	115.2	144.5	r169.0
Offshore	439.4	365.4	338.8	496.7	362.2	519.8
Total	582.6	582.6	473.9	611.9	506.7	r688.8

Source: Actual and Expected Private Mineral Exploration, Australia (8412.0).

Overseas exploration

Overseas exploration expenditure, by Australian resident companies which are also involved in mineral or petroleum exploration in Australia, increased by 69% from \$255.5m in 1993–94 to \$430.8m in 1994–95.

The largest portion of total overseas exploration expenditure was on petroleum exploration

(\$325.2m). This represented 75% of total overseas exploration expenditure by Australian resident companies.

Table 16.10 shows overseas exploration expenditure for 1994–95.

16.10 OVERSEAS EXPLORATION EXPENDITURE, Of Australian Resident Companies(a) — 1994-95

	North America(b) \$m	Latin America(c) \$m	Papua New Guinea \$m	Indonesia \$m	China \$m	Other Asia \$m	Africa \$m	Other \$m	Total \$m
Petroleum	72.0	57.2	26.8	n.p.	21.2	31.5	n.p.	67.3	325.2
Copper, lead, zinc, silver, nickel and cobalt	n.p.	n.p.	n.p.	n.p.	n.p.	3.9	n.p.	n.p.	21.2
Gold	9.0	6.9	n.p.	10.0	n.p.	11.5	8.1	7.0	64.8
Iron ore	..	..	..	..	..	..	..	..	..
Mineral sands	n.p.	—	..	..	..	n.p.	..	n.p.	1.5
Tin, tungsten, scheelite and wolfram	..	..	..	..	..	..	..	..	..
Uranium	..	..	..	..	..	..	..	..	..
Coal	..	..	..	..	..	n.p.	..	..	n.p.
Construction materials	..	..	..	..	..	n.p.	..	..	n.p.
Bauxite	..	..	..	..	..	n.p.	..	..	n.p.
Diamonds	n.p.	n.p.	..	n.p.	..	n.p.	3.4	4.4	17.7
Other(d)	..	..	..	..	n.p.	..	..	..	n.p.
Total	89.2	70.8	40.6	20.1	23.5	48.4	56.7	81.7	430.8

(a) Excludes overseas subsidiaries of Australian resident companies. (b) Includes Canada. (c) Comprises Mexico, South America, Central America and the Caribbean. (d) Preliminary exploration where the commodity is not yet known.

Source: Actual and Expected Private Mineral Exploration, Australia (8412.0).

Administrative and financial arrangements

Mineral rights

Mineral rights in Australia are held by the State and Territory Governments, and the granting of exploration and mining titles is administered by them under the respective State or Territory legislation. The Commonwealth Government holds rights to minerals on Australia's continental shelf beyond coastal waters of the States and the Northern Territory, and certain prescribed substances in the Northern Territory, within the meaning of the *Atomic Energy Act* (principally uranium). The Commonwealth Government is also able to influence overall development and production activity in the mineral industry by virtue of its constitutional powers with respect to international trade, customs and excise, taxation and foreign investment, through established consultative mechanisms such as the Australian and New Zealand Minerals Energy Council (ANZMEC), the Council of Australian Governments (COAG) and through initiatives for the enhancement of mineral provinces.

Mining and exploration for other than petroleum — legislation

Onshore

Each State and Territory has its own Mining Act and Regulations governing the prospecting for and working of mineral deposits. These Acts and Regulations, although similar in principle, are different in detail.

Rights to explore for minerals are awarded by granting prospecting licences and (for larger areas) exploration licences or exploration permits. Each tenement is granted subject to conditions such as minimum exploration expenditure each year, methods of prospecting and the requirement for progressive relinquishment of area held. The tenure is usually limited. Most States and Territories make provision for a Miner's Right which permits an individual to prospect or fossick for minerals on Crown Land.

Following the 3 June 1992 decision by the High Court of Australia which held that the common law of Australia recognised a form of native land title, the Commonwealth enacted the *Native Title Act 1993*. The Act recognises and protects

native title rights and establishes procedures to determine those rights and to ensure that those rights, where they continue to exist, are taken into account in future land management administration.

Existing rights held by non-Indigenous people are also protected by the Act. While the Act does not provide a veto over activities on Aboriginal land, it does enable Aboriginal people to negotiate in relation to proposed activities. Amendments to the Act to make it more effective were introduced into the Parliament in June 1996.

Offshore

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 of the seabed of coastal waters (i.e., the area landward of three nautical miles from the baseline of the territorial sea) should lie with the States and the Northern Territory and should be governed by their legislation, while the Commonwealth should have responsibility for areas beyond. The *Offshore Minerals Act 1994*, which replaced the *Minerals (Submerged Lands) Act 1981*, provides for the granting and administration of exploration and mining licences in those areas of sea covered by Commonwealth legislation.

Petroleum mining and exploration — legislation

Onshore

In Australia, full control of petroleum mining rights is vested with the relevant State or Territory Government. Any organisation or individual proposing to undertake petroleum exploration or development must first satisfy the relevant government that it has access to the necessary financial and technical resources to undertake the proposed operations.

Offshore

The situation is the same as detailed above for mining exploration and development, with the Commonwealth having sovereignty but administrative responsibility shared between the Commonwealth and the States; in the case of petroleum, under the *Petroleum (Submerged Lands) Act 1967*.

The offshore mining and exploration legislation provides for:

- exploration permits, providing exclusive exploration rights over a specific area; and
- production licences to authorise development and commercial production from discovered fields; and retention leases to allow security of tenure over discoveries not currently regarded as economic to develop.

Offshore projects, except in the area around the North West Shelf Gas Project, are subject to Petroleum Resource Rent Taxation (PRRT) see discussion under *Secondary tax arrangements in the petroleum industry*, below.

The Timor Gap Zone of Co-operation Treaty designates an area of the Continental Shelf between Australia and Indonesia subject to control by a Joint Administration. Revenue collected from petroleum production taxation is

shared between the two nations. The Treaty has provisions to prevent double taxation.

Mineral royalties

Mineral resources are owned by the Crown in Australia, either by the State and Territory Governments, within their borders (and up to three nautical miles offshore), or by the Commonwealth Government in offshore areas outside the three nautical mile limit. Accordingly, royalties are collected by State and Territory Governments for mining onshore and up to three nautical miles offshore and by the Commonwealth outside that limit.

State royalties regulations vary in regard to types of royalties, rates levied and those commodities subject to royalties.

In recent years some State Governments have negotiated special royalty arrangements 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. Examples of this type of royalty agreement are the Argyle Project in Western Australia and the Olympic Dam mine in South Australia. Mineral royalties received by governments in recent years are shown in table 16.11.

16.11 MINERAL ROYALTY RECEIPTS BY GOVERNMENTS(a)

	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
New South Wales	128 966	155 006	141 819	150 380	158 008	158 202
Victoria(a)	60 146	53 359	62 600	57 527	48 564	49 586
Queensland	207 152	226 689	263 406	303 194	301 731	301 669
South Australia	44 004	80 570	71 767	71 344	61 114	52 509
Western Australia(b)	244 330	284 842	308 257	310 582	285 200	287 659
Tasmania	6 394	5 350	4 729	5 795	3 938	8 653
Northern Territory	24 079	28 350	28 265	14 942	28 715	25 848
Commonwealth Government	273 077	361 791	102 459	78 436	100 327	133 390
Total	988 148	1 195 957	983 302	992 200	987 597	1 017 518

(a) Includes royalties on sand and gravel from Crown lands. (b) Includes royalties on brown coal paid by State Electricity Commission. (c) Includes prepaid royalty of \$50m in respect of diamond royalty agreement.

Source: Federal, State and Territory departments responsible for mining.

Crude oil marketing and pricing arrangements

Refiners and producers are free to negotiate the quantities and prices of crude oil they buy and sell. Crude oil producers can export crude oil as an alternative to selling on the domestic market.

Decisions on major refinery investment associated with changes in domestic crude availability have led to a significant program of investment in upgraded plant and equipment.

The price of crude oil used for the purposes of excise tax assessment is the monthly volume-weighted average of realised prices of sales of oil from the area subject to excise.

Pricing of liquefied petroleum gas

As from January 1991 the pricing of LPG became subject to market forces alone. The Australian Competition Consumer Commission (ACCC) ceased to have responsibility for determining the maximum wholesale price of LPG in each capital city, although it maintains a monitoring role.

Pricing and export approval system for liquefied natural gas

The Commonwealth government removed volume controls on LNG exports in November 1991, but a price approval and monitoring system has been maintained to ensure that community returns are safeguarded. The Department of Primary Industries and Energy has responsibility for price monitoring.

Secondary tax arrangements in the petroleum industry

In addition to general taxation arrangements applying to companies in Australia, petroleum production projects are subject to secondary taxes. The type and rate of secondary taxation (resource rent tax, resource rent royalty, or excise and royalties) depends on the location of the petroleum resource, the date of discovery of the petroleum reservoir and the date upon which production commenced.

A profit based Petroleum Resource Rent Tax (PRRT) applies to petroleum projects in the majority of Australia's offshore areas beyond the State's territorial seas. The PRRT is levied at a rate of 40% of net revenues from successful projects which have recovered outlays, plus a threshold rate of return. The North West Shelf

production licence areas and associated exploration permits are excluded. Where RRT applies, it replaces excise and royalties which would otherwise have been levied.

A Resource Rent Royalty (RRR) may be applied to onshore petroleum projects by State Governments. Where RRR is applied the legislation provides for the Commonwealth to waive its crude oil excise whenever the relevant State Government negotiates an acceptable RRR agreement with the project producers and agrees to a satisfactory revenue sharing formula with the Commonwealth.

Excise applies to crude oil production from the North West Shelf projects offshore and all onshore areas (except Barrow Island where a RRR applies).

Crude oil excise is based on the annual level of crude oil sales from individual production areas and is levied as a percentage of the realised price received by producers.

Different excise scales are applicable to oil production depending upon the date of discovery of the production area and the date when the area was first developed. In the case of new offshore and onshore fields the first 30 million barrels of crude oil production are exempt from excise. Production beyond this level is subject to the appropriate excise rate.

Oil discovered before 18 September 1975 (old oil) attracts a higher rate of excise than oil discovered on or after this date (new oil). An intermediate scale also applies to oil produced from old oil fields that were not developed as at 23 October 1984. However, in the case of all onshore fields that commenced production after 1 July 1987, production in excess of 30 million barrels is subject to new oil excise.

A Commonwealth Royalty is also levied on offshore petroleum production from the North West Shelf project area. Proceeds are shared by the Commonwealth with Western Australia. Onshore petroleum rights are vested in the State and Northern Territory Governments and the Commonwealth does not, in general, receive a share of this royalty.

Incentives to encourage petroleum exploration and development

Australia remains under-explored and its full petroleum potential is yet to be determined. Through both macro-economic policies and micro-economic reform, the Commonwealth Government has introduced measures to encourage investment to ensure that Australia's potential is realised.

Key government initiatives specific to the petroleum industry include:

- the offshore exploration strategy, which includes a program of regularly releasing exploration areas on which companies can bid;
- the Petroleum Resource Rent Tax (PRRT) reforms (see *Secondary tax arrangements in the petroleum industry*, above);
- development of a national gas strategy, which aims to free up domestic gas markets;
- deregulation of the crude oil and LPG markets, which removed controls on prices and restrictions on sale of these commodities within and outside Australia; and
- accelerated depreciation and investment allowance arrangements under company tax.

In the 1995 Budget the Commonwealth Government set the rate of company tax in Australia at 36%. This rate of taxation is significantly lower than the peak rate of 49% which applied during the 1987 and 1988 financial years.

Research

Research into exploration, mining, ore-dressing and metallurgy is conducted by government bodies, universities, private enterprise, and by the combined efforts of all these. A summary of the main organisations and their functions follows.

Australian Geological Survey Organisation (AGSO)

The Australian Geological Survey Organisation (AGSO), formerly called the Bureau of Mineral Resources, Geology and Geophysics, is Australia's national geoscientific agency.

The primary mission of AGSO is to build a national geoscientific mapping effort to

encourage economically and environmentally sustainable management of Australia's minerals, energy, soil and water resources.

Its role is to improve the quality, extent and accessibility of the geoscience knowledge base to underpin the development of a more competitive and diversified Australian mineral and petroleum exploration industry. It also aims to improve the management of Australia's natural resources consistent with the principles of ecologically sustainable development, while at the same time developing effective strategies to mitigate the effects of natural geological hazards.

AGSO provides expert professional geoscientific advice on minerals, petroleum, ground water, coastal and marine issues and seismological and geological hazard analysis to support the development of management principles and land use strategies. AGSO also contributes to Commonwealth Government involvement in international geoscientific activities and development assistance programs, and actively pursues commercial geoscientific projects in collaboration with Australian industry and other organisations.

AGSO's activities include regional mapping and analysis of major mineral provinces and petroleum basins, regional environmental mapping (including land resources such as soils and ground water), airborne magnetic and radiometric surveying, onshore and offshore seismic surveying, the operation of geophysical observatories and the development of an accessible National Geoscience Information System.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

Research and development activities of CSIRO are designed to play a major contributing role in the development of sustainable and competitive minerals and energy industries in Australia.

This is achieved by the provision of research, development and service capabilities to support existing and emerging industries as well as providing for the next generation of technology, products and processes. At the same time

CSIRO endeavours to bring about safe and ecologically sustainable development through research and advice on environmental issues related to client industries. In addition, by working closely with industry, government and other organisations, CSIRO helps transform research outcomes into new or improved business opportunities including, where appropriate, the championing of individual projects.

Minerals research by the CSIRO is primarily undertaken within the Minerals and Energy Alliance, and involves a number of elements of the work program of the research sectors of this alliance.

See *Chapter 24, Science and technology* for more information on the CSIRO.

Australian Mineral Industries Research Association Limited

The Association provides high quality development and management of jointly funded research projects for the benefit of the Association's members. Membership includes all the largest Australian mineral and coal companies, smaller exploration companies, and suppliers of services to the industry. It sustains an active involvement in four Co-operative Research Centres and was appointed in 1992 to manage the Australian Coal Association Research Program.

Australian Bureau of Agriculture and Resource Economics

Established 51 years ago, the Australian Bureau of Agricultural and Resource Economics (ABARE) is the largest research agency in Australia undertaking applied economic research into commodities.

ABARE undertakes specific research projects on behalf of a wide range of clients and deals directly with a variety of industry groups, Australian and international agencies and research organisations, and Commonwealth and State Government departments.

ABARE assists clients by:

- deriving supply and demand projections;
- assessing the outlook for commodity prices;
- examining patterns of national and world production and consumption;
- analysing the impact of economic policies;

- developing analytical computer programs and economic policies;
- undertaking regional and environmental economic assessments; and
- providing economic assessments of factors affecting the competitiveness of the economic sector.

The organisation is based on two research groups, Agriculture and Natural Resources and Minerals and Energy, where staff are involved in economic research on issues affecting the full range of major minerals, energy, agricultural and natural resources industries, as well as on climate change, and including macroeconomic, microeconomic and trade issues relating to these industries.

Bureau of Resource Sciences (BRS)

BRS provides scientific analysis and advice to support the sustainable competitive growth of Australia's resource based industries.

BRS's Mineral Resources and Energy Branch provides expert scientific analyses and technical advice on identified mineral resources, mineral resource potential, exploration, mining activity and technologies, and the sustainable development of mineral resources. It undertakes a range of activities including: mineral resource assessments; exploration analyses; appraisals of mineral resource potential; integrated analyses of diverse mineral, mining and environmental information; mineral resource audits; financial modelling of mineral projects; and assignments to advise on mineral resource developments in emerging nations.

The Branch also maintains two large databases which are accessed by Commonwealth and State government departments, the mining industry and the wider community. The mineral occurrence location database (MINLOC) contains information on more than 47,000 Australian mineral occurrences, and MINRES, a mineral resources database, contains comprehensive information on the mineral resources of over 1,500 of Australia's mineral deposits. The organisation is based on two research groups, Agriculture and Natural Resources, and Minerals and Energy, where staff are involved in economic research on issues affecting the full range of major minerals, energy, agricultural and natural resources industries, as well as on climate change, and including macroeconomic, microeconomic and trade issues relating to these industries.

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Other publications

Other organisations which produce statistics in this field include the Australian Bureau of Agricultural and Resource Economics, the Department of Primary Industries and Energy, the Joint Coal Board and the Australian Institute of Petroleum. 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 mining and energy fields also publish or make available a significant amount of information.

Introduction	441
Energy resources	441
Energy supply, conversion and end use	444
Electricity and gas operations	445
Energy use and the environment	449
Renewable energy resources	450
Solar	450
Wind	450
Biomass	451
Wood	451
Bagasse	451
Ethanol	451
Administrative arrangements	451
Bibliography	452

Introduction

The energy sector encompasses all activities associated with the production, transformation, distribution, and use of energy. It is a major contributor to the Australian economy, accounting for about 5% of the Gross Domestic Product (GDP), 16% of total export income, and over 2% of total employment. Energy is a vital input to other sectors of the economy such as the transport, agriculture, and household sectors, and affects the conduct of economic activities and the standard of living of the Australian people. Due to its influence on all sectors, the efficiency with which energy is produced, transformed and used affects Australia's economic performance and international competitiveness. In recent years there have been growing community concerns about the environmental effects from the exploitation and use of Australia's energy resources.

Australia's energy consumption has increased, on average, by 2.7% per annum over the last 20 years. This increase in energy consumption reflects the country's pace of economic and population growth, and a shift towards energy intensive industries. Changing needs and priorities in the domestic and international markets have also resulted in major restructuring of the energy industry, and the introduction of new policy directions. These and several other energy issues were discussed in previous Year Books.

Information on the extraction of energy and other mineral resources in Australia is presented in *Chapter 16, Mining*. The present chapter focuses on key energy issues, which include an overview of Australia's current energy situation, the production, conversion, and consumption of both renewable and non-renewable energy resources, and the environmental implications of energy use.

Energy resources

Australia has abundant reserves of coal, natural gas and uranium to meet both its short and long-term domestic energy needs, and it is a major exporter of certain commodities. Crude oil and condensates are the only energy commodities where total reserves are limited. Australia also has the resource potential to develop a wide range of renewable energy technologies. These include both traditional renewables such as hydro-electricity, firewood and bagasse (the crushed remains of sugar cane), and new technologies including solar, wind, tidal, and geothermal energy. In energy terms, Australia is well placed compared to other countries. It is currently one of only five Organisation of Economic Cooperation and Development (OECD) countries that are net energy exporters (the other four are Canada, Norway, the Netherlands and the United Kingdom). It is also:

- the world's largest exporter of black coal, accounting for around one-third of the world seaborne coal trade;
- a major uranium producer and exporter, and;
- an exporter of liquefied petroleum gas (LPG), liquefied natural gas (LNG), and other petroleum products.

Recent estimates of Australia's identified economic energy resources are presented in table 17.1. At current production levels, the estimated life spans of these resources range from less than two decades for crude oil to over 800 years for brown coal. Black coal and uranium each have estimated life spans of several hundred years. With the exception of crude oil, Australia's energy consumption is unlikely to be constrained by resource availability in the near future.

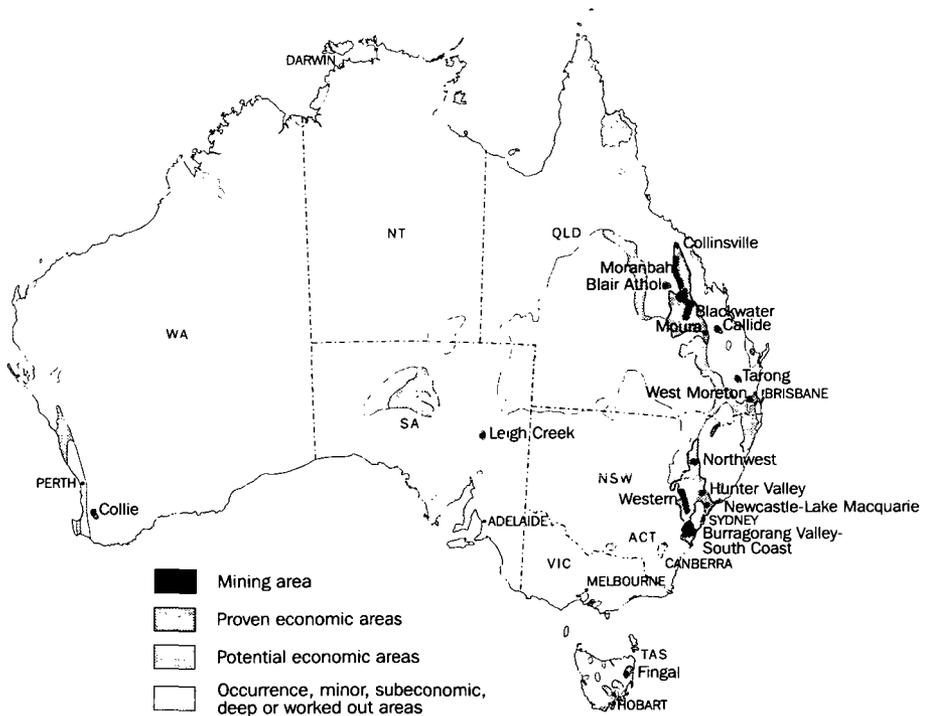
17.1 AUSTRALIA'S IDENTIFIED ENERGY RESOURCES

	Unit	Demonstrated resources		Inferred resources	Production 1993-94
		Economic	Subeconomic		
Black coal(a)	Gt	52	5	very large	0.18
Brown coal(a)	Gt	41	3	165	0.05
Petroleum(b)					
Crude oil(c)	Gt	382	106	n.a.	28.67
Natural gas	Tt	950	1 088	n.a.	26.35
LPG(d)	Gt	131	83	n.a.	3.70
Shale oil	Gt	—	4 564	40 468	0.00
Uranium	kt	631	76	(e)2 600	2.33

(a) As at December 1993. (b) As at January 1992. (c) Includes condensates. (d) Naturally occurring.
 (e) A 75% probability of undiscovered potential resources.

Source: Bush, Holmes and Ho Trieu 1995.

17.2 AUSTRALIAN BLACK COAL RESOURCES, 1994



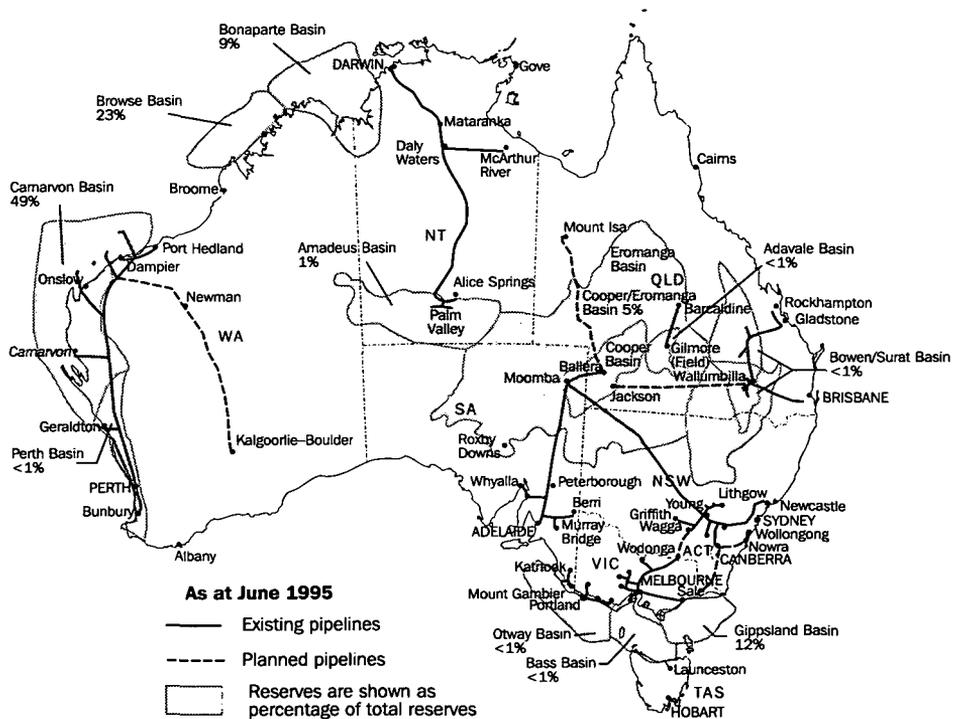
Source: AUSLIG 1996.

Figures 17.2 and 17.3 illustrate the locations of Australia's extensive black coal resources, natural gas reserves and pipeline networks.

Crude oil is the liquid equivalent of natural gas. Both are petroleum products which have resulted from the decomposition of plant and animal life deposited millions of years ago in mud and silt on the floors of ancient seas and lakes. These sedimentary layers were transformed over time to oil and gas and other

forms of petroleum, through a combination of chemical and bacterial action, heat and the tremendous pressure exerted by the overlying rocks. This common origin explains why crude oil and natural gas formations co-exist, as shown in these maps. Australia's most important oil-bearing sedimentary basins are found in the Bass Strait, the Timor Sea, the North West Shelf, and the Cooper–Eromanga Basin of southern Queensland.

17.3 AUSTRALIAN NATURAL GAS RESERVES, 1995



Source: AGA 1995, p. 66.

Australia's energy production from non-renewable fuels is shown in table 17.4. New South Wales and Queensland supply 98% of black coal. Western Australia and Victoria are the leading sources of crude oil (83%) and natural gas (75%).

In 1994–95 energy accounted for 16% of the value of all Australian exports. About 70% of all energy products are exported. Coal is the leading export commodity with a 10% share of the total exports (table 17.5). Exports of liquefied natural gas have increased following the deregulation of the energy industry in the mid 1980s.

17.4 ENERGY PRODUCTION FROM NON-RENEWABLE FUELS — 1993-94

	Petajoules	%
Black coal	4 787	54.5
Uranium	1 293	14.7
Crude oil	1 061	12.1
Natural gas	1 054	12.0
Brown coal	487	5.5
LPG	100	1.1
Total	8 781	100

Source: Bush, Holmes and Ho Trieu 1995.

17.5 EXPORTS OF ENERGY PRODUCTS — 1994-95

	\$m	% of total exports
Coal, whether or not pulverised but not agglomerated	6 889	10
Gas, natural and manufactured	1 335	2
Petroleum oils and oils obtained from bituminous minerals, crude	1 644	2
Petroleum products	1 307	2
Uranium and thorium ores and concentrates	188	—

Source: Foreign Trade, Australia: Merchandise Exports (5424.0).

Energy supply, conversion and end use

Compared with its vast energy resources, Australia's energy production and consumption are relatively low, estimated to be about 3% of the world's non-renewable primary fuel production and about 1% of primary energy consumption. However, Australia's energy intensity (i.e. energy used per unit of output), is higher than for many other countries.

Table 17.6 shows trends in Australia's energy supply, conversion, and consumption for the period 1982-83 to 1993-94. Energy production

increased by 34%, from 6,730 petajoules to 9,036 petajoules. This increase was due mainly to the increase in energy exports, which almost doubled during the 12 years. Net domestic supply accounted for about 29% of the increase in production. Imports of energy products rose by 60% to meet a growing domestic demand for certain energy products, particularly crude oil.

17.6 FLOW ACCOUNT FOR ENERGY SUPPLY, CONVERSION AND CONSUMPTION

	1988-89 petajoules	1989-90 petajoules	1990-91 petajoules	1991-92 petajoules	1992-93 petajoules	1993-94 petajoules
SUPPLY						
Production	8 570.6	8 923.8	9 299.4	9 603.2	8 981.0	9 035.7
Imports	619.7	625.6	625.2	672.8	860.4	890.9
Exports	-5 584.2	-5 257.4	-6 785.8	-6 517.7	-5 584.0	-6 414.1
Stock change(a)	225.9	-346.4	807.9	245.5	-178.4	661.6
Total supply	3 832.1	3 945.2	3 946.6	4 003.2	4 079.2	4 174.2
CONVERSION						
Coke ovens	50.9	29.8	36.0	36.0	31.9	28.9
Briquetting	0.3	0.3	0.3	0.5	0.2	0.5
Petroleum refining	11.7	13.9	13.3	13.2	13.2	13.6
Gas manufacturing	0.2	0.3	0.4	0.8	0.7	0.3
Electricity generation	973.4	991.0	993.2	1 020.0	1 019.9	1 045.8
Other conversion	28.8	61.6	60.3	55.8	41.2	43.0
Own fuel use	181.6	181.2	180.8	184.2	189.3	188.2
Total conversion	1 246.9	1 278.1	1 284.3	1 310.5	1 296.4	1 320.3
Net supply(b)	2 585.0	2 667.1	2 662.5	2 693.5	2 783.6	2 853.5
END USE						
Agriculture	58.1	57.6	58.4	58.5	60.3	62.3
Mining	130.7	162.8	167.8	173.5	192.3	196.1
Iron and steel	97.5	99.1	95.7	90.9	95.7	96.3
Chemical	126.1	129.8	132.9	135.7	128.6	130.1
Other industry	638.8	645.1	642.6	643.4	657.5	679.0
Construction	41.5	41.0	37.2	38.7	41.6	42.8
Road transport	792.8	808.9	791.3	801.4	828.8	849.9
Rail transport	31.1	30.7	30.5	31.1	29.4	29.5
Air transport	114.2	109.4	122.7	131.0	140.1	145.3
Water transport	60.1	56.3	49.1	48.8	45.6	47.7
Commercial	141.7	150.8	156.4	157.8	164.5	169.1
Residential	302.0	323.0	328.6	334.4	347.1	349.3
Others(c)	50.4	52.7	49.3	48.3	52.1	56.0
Consumption	2 585.0	2 667.1	2 662.5	2 693.5	2 783.6	2 853.5

(a) Includes discrepancies. (b) After conversion industrial sector use and losses. Equals total final energy consumption. (c) Includes lubricants, greases, bitumen and solvents.

Source: ABARE 1995.

Electricity and gas operations

In 1994-95 Australia's total electricity generation increased by 2%, from 161,813 kWh in 1993-94 to 165,063 kWh (table 17.7). Electricity consumption reached 140,527 kWh (85% of total generated), of which New South

Wales and Victoria used 35% and 23% respectively. The number of customers and total electricity consumed are shown in tables 17.8 and 17.9. They were approximately proportional to the State/Territory populations.

17.7 ELECTRICITY GENERATION(a)

Financial year	NSW(b) mill. kWh	Vic. mill. kWh	Qld mill. kWh	SA(c) mill. kWh	WA mill. kWh	Tas. mill. kWh	Aust. mill. kWh
1991-92	55 566	38 305	28 923	10 026	14 626	8 968	156 413
1992-93	57 794	37 576	30 404	10 227	15 007	8 864	159 872
1993-94	57 792	37 019	31 831	10 560	15 755	8 855	161 813
1994-95	60 016	36 043	33 517	10 044	16 756	8 688	165 063

(a) Statistics relate to generation of electricity within each State and take no account of interchange between States. (b) Includes the ACT. (c) Includes the NT.

Source: *Manufacturing Production, Australia, Energy Products (8368.0)*.

17.8 ELECTRICITY, Number of Customers — 30 June 1995

	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Residential	2 372 174	1 735 723	1 223 711	616 298	615 921	198 663	49 545	112 762	6 924 797
Commercial	267 837	174 306	131 862	86 242	90 564	41 001	9 647	11 944	960 942
Industrial	(a)4 001	88 397	55 141	(b)	(b)	(b)	(b)	(b)	(b)
Other	28 889	3 937	128	1 616	149	212	34	9	34 974
Total	2 672 901	2 002 363	1 410 842	704 156	706 634	239 876	59 226	124 715	7 920 713

(a) The classification of 'Industrial' used in New South Wales differs from that used in other States. (b) See the figure for 'Commercial'. One figure is given to include both 'Commercial' and 'Industrial'.

Source: Electricity Supply Association of Australia.

17.9 ELECTRICITY CONSUMPTION — Year Ended 30 June 1995(a)

	NSW mill. kWh	Vic. mill. kWh	Qld mill. kWh	SA mill. kWh	WA mill. kWh	Tas. mill. kWh	NT mill. kWh	ACT mill. kWh	Aust. mill. kWh
Residential	16 077	8 933	7 727	3 375	2 937	1 751	331	1 041	42 172
Commercial	8 218	7 784	6 354	5 810	7 761	6 274	858	1 193	95 274
Industrial	23 807	15 570	11 645	(b)	(b)	(b)	(b)	(b)	(b)
Other	1 546	547	771	71	75	20	13	38	3 081
Total	49 648	32 834	26 497	9 256	10 773	8 045	1 202	2 272	140 527

(a) Figures do not include internal usage by supply authorities or consumption on unread meters at 30 June. (b) See the figure for 'Commercial'. One figure is given to include both 'Commercial' and 'Industrial'.

Source: Electricity Supply Association of Australia.

Table 17.10 presents a summary of operations and selected performance ratios for the electricity industry in 1994–95. Most of the items reported showed a slight decrease from their values in the previous year.

Australia's natural gas reticulation and transmission systems reached 76,352 km in 1994–95 (table 17.11). This represents an

increase of 1,692 km from 1993–94. About 370,000 terajoules of natural gas were sold to 2.8 million customers, yielding \$2,350m (tables 17.12 to 17.14). A summary of operations and selected performance ratios for Australia's gas industry is presented in table 17.15. As is the case for electricity, many measures related to gas utility operations fell slightly from their values in 1993–94.

17.10 ELECTRICITY ESTABLISHMENTS, Summary of Operations and Performance Ratios — 1994-95

	Unit	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Income and expenditure										
Turnover	\$m	7 807.6	5 953.9	3 877.3	913.6	1 313.8	520.1	288.6	243.7	20 918.6
Plus closing stock	\$m	404.4	96.3	65.1	53.9	109.8	13.7	13.1	6.9	763.2
Less opening stock	\$m	430.6	112.7	62.2	65.0	78.8	14.7	13.5	6.6	784.1
Less purchases and expenses	\$m	4 590.8	3 574.6	2 170.2	312.8	588.9	77.2	167.5	158.9	11 640.9
Value added	\$m	3 186.4	2 362.6	1 658.4	587.7	755.9	441.8	115.6	85.1	9 193.5
Trading profit	\$m	2 534.6	2 004.8	994.2	506.0	775.8	348.9	67.6	122	7 353.9
Earnings before interest and tax	\$m	977.5	1 233.7	632.7	200.1	445.6	169.5	18.1	21.5	3 698.7
Operating profit before tax	\$m	326.4	403.0	333.2	124.0	161.7	-19.3	-4.5	12.4	1 336.9
Assets and liabilities										
Total value of assets	\$m	21 634.5	17 348.1	8 563.8	2 427.4	3 174.6	4 105.8	1 130.5	1 553.1	59 937.8
Total value of liabilities	\$m	8 257.9	14 938.4	3 664.6	964.6	2 573.1	2 043.3	322.4	155.9	32 920.2
Net worth	\$m	13 376.6	2 409.6	4 899.1	1 462.8	601.5	2 062.5	808.1	1 397.2	27 017.4
Selected performance ratios										
Trading profit margin	—	34.2	34.7	41.9	56.3	50.3	74.2	28.1	38.6	38.7
Liquidity ratio	—	0.8	0.7	1.0	0.7	1.5	0.5	1.2	0.7	0.7
Debt to assets	—	38.9	86.6	43.1	40.8	84	49.9	29.1	10.1	55.7
Employment details										
Establishments at 30 June	no.	28	19	19	5	4	1	3	1	80
Employment at 30 June	no.	17 661	6 916	8 317	2 806	3 678	1 720	549	739	42 386
Wages and salaries	\$m	776.4	468.1	323.5	127.9	169.6	75.1	24.3	35.8	2 000.7

Source: *Electricity and Gas Operations, Australia (8208.0)*.

17.11 NATURAL GAS RETICULATION AND TRANSMISSION, Mains Laid and Mains in Use — 1994-95

	NSW km	Vic. km	Qld km	SA km	WA km	Tas. km	NT km	ACT km	Aust. km
CONSTRUCTION MAINS LAID									
Reticulation mains									
Low and medium pressure	579	35	118	(a)-12	185	n.a.	—	108	1 013
High pressure	51	344	1	86	10	n.a.	5	10	507
Transmission — high pressure	336	55	240	174	—	n.a.	322	—	1 127
Total	966	434	359	248	195	n.a.	327	118	2 647
TOTAL PIPELINE NETWORK IN USE									
Reticulation mains									
Low and medium pressure	18 237	9 845	3 218	3 420	8 840	n.a.	—	2 838	46 398
High pressure	1 652	12 559	86	2 861	528	n.a.	24	184	17 894
Transmission — high pressure	2 043	2 187	1 362	1 609	2 648	n.a.	2 211	—	12 060
Total	21 932	24 591	4 666	7 890	12 406	n.a.	2 235	3 022	76 352

(a) Low pressure mains were replaced with high pressure reticulation mains.

Source: *Australian Gas Association, Annual Survey of Distributors, Pipeliners and Producers.*

17.12 NATURAL GAS OPERATIONS OF UTILITIES, By State/Territory, Terajoules Sold — 1994-95

	NSW(a)	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Residential	13 346	74 641	1 477	7 300	6 194	n.a.	1	2 399	105 358
Commercial	10 742	20 310	1 190	3 100	1 835	n.a.	65	2 231	39 473
Industrial	73 821	76 116	8 490	28 100	39 281	n.a.	—	140	225 948
Total	97 909	171 067	11 157	38 500	47 310	n.a.	66	4 770	370 789

(a) Excludes the ACT but includes Albury.

Source: Australian Gas Association, Annual Survey of Distributors, Pipeliners and Producers.

17.13 NATURAL GAS OPERATIONS OF UTILITIES, By State/Territory, Number of Customers — 1994-95

	NSW(a)	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Residential	644 807	1 264 446	118 759	304 134	334 970	n.a.	92	49 253	2 716 461
Commercial	22 139	34 885	3 838	7 002	6 320	n.a.	54	1 401	75 639
Industrial	2 309	4 185	527	1 252	234	n.a.	n.a.	4	8 511
Total	669 255	1 303 516	123 124	312 388	341 524	n.a.	146	50 658	2 800 611

(a) Excludes the ACT but includes Albury.

Source: Australian Gas Association, Annual Survey of Distributors, Pipeliners and Producers.

17.14 NATURAL GAS OPERATIONS OF UTILITIES, By State/Territory, Revenue — 1994-95

	NSW(a) \$m	Vic. \$m	Qld \$m	SA \$m	WA \$m	Tas. \$m	NT \$m	ACT \$m	Aust. \$m
Residential	161.8	680.6	27.2	92.5	92.6	n.a.	n.a.	24.6	1 079.3
Commercial	98.2	129.0	14.9	21.8	26.0	n.a.	0.8	20.1	310.8
Industrial	371.7	281.8	59.8	103.4	141.7	n.a.	n.a.	1.2	959.6
Total	631.7	1 091.4	101.9	217.7	260.3	n.a.	0.8	45.9	2 349.8

(a) Excludes the ACT but includes Albury.

Source: Australian Gas Association, Annual Survey of Distributors, Pipeliners and Producers.

17.15 GAS ESTABLISHMENTS, Summary of Operations and Performance Ratios

	Unit	1993-94	1994-95
Income and expenditure			
Turnover	\$m	2 437.4	2 803.0
Plus closing stocks	\$m	58.6	763.0
Less opening stocks	\$m	64.2	784.2
Less purchases and selected expenses	\$m	1 553.8	1 913.6
Value added	—	1 634.7	9 193.8
Trading profit	\$m	844.2	798.9
Earning before interest and tax	\$m	413.2	370.0
Operating profit before tax	\$m	326.6	316.6
Assets and liabilities			
Total value of assets	\$m	3 009.6	3 015.9
Total value of liabilities	\$m	1 826.7	1 432.8
Net worth	\$m	1 182.9	1 583.1
Selected performance ratios			
Trading profit margin	—	35.1	29.4
Liquidity ratio	—	0.6	0.8
Debt to assets	—	61.8	48.2
Employment details			
Establishments at 30 June	no.	29	22
Employment at 30 June	no.	7 685	7 094
Wages and salaries	\$m	315	297.5

Source: *Electricity and Gas Operations, Australia (8208.0)*.

Energy use and the environment

The energy sector is the leading producer of air pollutants and emissions of greenhouse gases. Compared with most industrialised countries in Europe or North America, Australia is generally well placed in terms of environmental impacts of energy use because of its lower population densities and the lower sulphur content of its indigenous crude oil and coal. Nevertheless, many Australian urban areas, particularly capital cities, suffer from air pollution problems such as lead and photochemical smog. Australian greenhouse gas emissions are regarded as significant, ranked seventeenth in total world emissions, and fourth in per capita emissions in which energy related activities are major contributors.

In the energy industry, air pollutants and greenhouse emissions generally fall into two broad categories: emissions resulting from fuel combustion, and emissions not related to combustion for energy, otherwise referred to as 'fugitive fuel emissions'. The fugitive emissions are generated from those sources associated with production, transmission, storage and distribution of fuel, and also from mining. In the oil and natural gas systems, emissions can occur in many ways, such as from venting, flaring and system leakage in production; and from evaporation, system or equipment leakage in

transmission, storage and distribution systems. Fuel combustion emissions make up the bulk of all emissions.

Wood fuels and bagasse also release air pollutants and greenhouse gases into the atmosphere during combustion, especially carbon dioxide, carbon monoxide, methane and sulphur dioxide.

Among the environmental impacts resulting from the production, conversion and consumption of energy, the most serious are the enhanced greenhouse effect, acid rain and urban air quality. There is scientific evidence to suggest that the constant release into the atmosphere of vast quantities of carbon dioxide, methane and nitrous oxide from fuel combustion will exacerbate the greenhouse effect (i.e. the atmosphere's natural capacity to trap some of the sun's energy that is re-radiated from the earth's surface), resulting in a net warming of the lower atmosphere. Any change in climate due to an enhanced greenhouse effect will have a substantial impact on Australia's environment, its terrestrial and aquatic ecosystems, primary and secondary production activities, human settlements and health, and short-term climatic conditions.

Some atmospheric pollutants that are released into the atmosphere during energy combustion undergo chemical changes to form sulphuric and nitric acids, which may fall as acid rain. Evidence from field studies suggests that acid rain is presently not a major problem in Australia, and the presence of any such problem is likely to be highly localised rather than regional or national in scope.

Urban air quality is a serious problem in many Australian cities. Air pollution, resulting mainly from fossil fuel combustion by vehicles and industries, affects human health and urban micro-climates. Recent policy initiatives, including the introduction of emission control on vehicles and industries, have led to an improvement in air quality in some areas.

Further information about the environmental impact of energy use in Australia is presented in *Chapter 13, Environment*.

Renewable energy resources

Renewable energy consists of energy sources that are, or can be, used at a rate that enables them to continue to be used indefinitely. Such resources include hydro-electric power, solar, wind, geothermal, and ocean or tidal energy, biomass (which includes wood and bagasse), and ethanol from manure and crop residues.

Despite significant recent technological gains, coupled with increasing concerns about the environmental costs of fossil fuel use, Australia's renewable energy consumption remains relatively low. High production costs relative to conventional energy sources, and problems of storage, continue to constrain the economic use of these resources. Solar power technologies have the best potential for making a large contribution to energy consumption in the short and long-term. The supply costs of these technologies are expected to fall by 68–80% in the next 20–30 years. Wind and hydro-electric power also have good potential.

On a regional basis, the types of renewable energy consumed vary according to the resources that are available. In Tasmania, for example, 75% of all renewable energy is from hydro electricity, whereas in Queensland most of the renewable energy is from bagasse used to power the sugar refineries. Wood is used by 18% of Australian households for space heating, while

solar energy is used by 5% of households to provide domestic hot water. Solar power is also used for drying crops and extracting salt.

One of the best prospects for using renewable energy technologies to generate electricity in the short to medium term is in remote areas where the cost of conventional fuels is high. Presently there are more than 10,000 Australian households and 300 communities, mainly in remote areas, that generate their own electricity.

Solar

The two main applications of solar energy to generate power in Australia are photovoltaics and solar thermal technologies. Photovoltaic (solar) cells currently provide electricity for remote telecommunication stations, navigational aids, and water pumps. Telstra is a leading user of photovoltaic cells to provide power supply systems for its remote and rural area telecommunication program. The cost of photovoltaic technologies is expected to decline considerably in the next 10–20 years, increasing the prospects for their more extensive use.

Solar thermal technologies are used to convert solar energy to electricity, as well as to provide space heating and hot water for domestic and commercial uses. Australia has a well established domestic solar water heater industry. At June 1994, domestic solar water heaters were installed on some 300,000 or 5% of Australian houses. In Western Australia 25% of the households have solar water heaters installed, while in the Northern Territory the figure is 58%.

Passive solar design is another means of using solar technology throughout Australia. Careful attention to building design, materials and orientation can greatly decrease heating and cooling requirements (and increase comfort) for a modest increase in construction costs over those for conventional buildings. Passive solar design principles have shown that solar energy can meet up to 90% of normal household space heating needs.

Wind

Of the renewable energy technologies to emerge in the last 10–15 years, wind farms are probably the most promising and lowest cost option for large-scale power supplies. Australia's best wind resources are located in coastal regions of southern Australia, particularly in Tasmania, South Australia and Western Australia. These areas have low levels of solar radiation but high

and consistent wind speeds. Southern Australia alone has sufficient wind energy resources to provide at least 10% of Australia's electricity needs, if those resources could be harnessed.

The largest commercial wind energy system in Australia is found at Esperance on the south-west coast of Western Australia where the State Energy Commission has commissioned a 2.5 megawatt wind farm that provides about 14% of the town's power needs. In Victoria, a wind turbine has been installed at Breamlea, south-west of Melbourne, which produces about 100,000 kWh per year.

Wider use of windpower is constrained by such factors as variations in wind speeds, aesthetic value, noise, bird movements and interference with telecommunications systems.

Biomass

Wood

In Australia wood is used for industrial boilers and dryers, metallurgical processes, cooking, and home heating. About six megatonnes of firewood are currently used annually in Australia, equivalent in energy terms to about 100 petajoules. The main sources of wood fuels are forestry residues, sawlogs, pulplogs, and occasionally forest logging.

Solid wood fuels in Australia are mainly firewood, woodchips, fuel pellets, charcoal and wood wastes. Wood is also processed to yield ethanol and methanol as liquid fuels. Under high temperatures (approximately 900°C in the presence of oxygen), wood is gasified to produce combustible gases such as carbon monoxide, hydrogen and methane.

Bagasse

Bagasse is the fibrous residue from the production of sugar, and is used as fuel to provide process energy in sugar mills in New South Wales and Queensland. It is burnt and the heat is converted into electricity, providing about 70 petajoules. Bagasse is the second largest renewable energy source used in Australia, after wood fuel. It is also an important feedstock for fuel ethanol production.

Ethanol

In March 1994 the Commonwealth Government launched a \$3.94m Ethanol Research and Development Program as part of its lead

abatement strategy. The aim of the program is to encourage ethanol production through improved technologies and its use in vehicle fuel blends. Traditionally, ethanol has been produced from expensive feedstocks such as sugar and grains. This program focuses on the use of low cost feedstocks such as forestry wastes, sawdust, cereal straws, cotton trash and municipal tree trimmings.

Ethanol has a high blending research octane number, ranging from 105–120, which makes it a useful partial substitute for lead in petrol. It also has the potential to reduce lead and greenhouse gas emissions. The goal of the Ethanol Research and Development Program is to encourage the establishment of a sustainable ethanol transport fuel industry in Australia, and to eventually serve as a viable economic competitor to petroleum-based fuels. However, cost of production has made it uneconomic at current oil prices. The cost of production of ethanol from traditional feedstocks (sugar and grain) is about 70–80 cents per litre, compared to about 23 cents per litre for petrol. Presently there are over 90 petrol stations throughout New South Wales and Victoria selling a fuel ethanol blend.

Administrative arrangements

The Commonwealth Minister for Primary Industries and Energy has portfolio responsibility for national energy policy matters, including the commercial development of hydrocarbon fuels and minerals. The Department of Primary Industries and Energy provides support for a number of advisory bodies including the Energy Research and Development Corporation, the Australian Minerals and Energy Council, the National Energy Consultative Council, the National Oil Supplies Advisory Committee, the National Petroleum Advisory Committee, the National Fuels Emergency Consultative Committee, and the Australian Coal Industry Council.

The Department is also responsible for the implementation of action required from Australia's membership of the International Energy Agency and for the national system of accounting for control of nuclear materials under Australia's Agreement with the International Atomic Energy Agency.

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The following organisations also produce energy statistics:
 - the Australian Bureau of Agricultural and Resource Economics;
 - the Australian Institute of Petroleum;
 - the Electricity Supply Association of Australia;
 - the Department of Primary Industries and Energy; and
 - the Joint Coal Board

State government departments and instrumentalities are also important sources of energy data, particularly at the regional level. A number of private corporations and other entities operating within the energy field also publish or make available a significant amount of information.

Introduction	455
Manufacturing trends	455
Structure of the manufacturing industry	456
Turnover	456
Employment	457
Labour costs	458
Industrial disputes	458
Trade union membership	459
Capital expenditure	459
Sales and output	460
Company profits	461
Principal manufactured commodities	461
Price indexes	462
Concentration within the manufacturing industry	463
Manufacturing technology	464
Research and experimental development	464
Commonwealth government authorities	465
Bibliography	466

Introduction

Manufacturing broadly relates to the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand.

The manufacturing industry is an important sector of the Australian economy, contributing about 15% of Australia's gross domestic product (GDP) and about 13% of employment. However, despite significant increases in the value of the manufacturing industry's gross product (increasing more than 20% over the past 10 years), the industry's share of GDP has fallen over the past 20 years from around 20% to its current 15%.

Similarly, employment in the manufacturing industry has fallen from around 1.25 million persons 20 years ago to 932,000 at June 1995.

This chapter presents a range of data about the manufacturing sector as a whole, and about broad categories of manufacturing industry. These categories are referred to as 'subdivisions'.

Some data are provided from the annual manufacturing survey, for which the latest results relate to 1994–95, while others are derived from various monthly and quarterly surveys for which the latest annualised results relate to 1995–96.

Manufacturing trends

Movements in the level of manufacturing activity at constant prices described below are based on the quarterly index of industrial production.

Manufacturing production in 1995–96 was 11% higher than five years earlier, 26% higher than 10 years earlier and 37% higher than 15 years earlier.

Over the period from 1990–91 to 1995–96, the index of manufacturing production fell initially but then increased steadily (table 18.1).

Generally, production for the individual subdivisions of the manufacturing industry has also grown over the five years to 1995–96. Large growth over the period was recorded for Wood and paper product manufacturing (14%), Petroleum, coal, chemical and associated product manufacturing (18%), Metal product manufacturing (14%), Machinery and equipment manufacturing (15%) and Other manufacturing (21%).

The only subdivision which did not grow over the five years to 1995–96 was the Textiles, clothing, footwear and leather manufacturing industry. Production in this industry has fallen steadily since 1988–89, and in 1995–96 is almost 18% below the level of 1990–91.

18.1 MANUFACTURING INDUSTRY GROSS PRODUCT, Indexes(a)

Industry subdivision	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96
Food, beverages and tobacco manufacturing	102.2	102.1	103.9	106.7	109.9	111.7
Textiles, clothing, footwear and leather manufacturing	96.5	91.4	87.6	89.0	86.1	79.5
Wood and paper product manufacturing	95.5	94.6	100.0	103.6	111.7	109.2
Printing, publishing and recorded media	97.1	90.1	95.7	100.0	100.1	99.7
Petroleum, coal, chemical and associated product manufacturing	104.3	102.4	104.0	114.5	122.6	123.3
Non-metallic mineral product manufacturing	89.2	86.8	94.6	96.8	106.1	96.9
Metal product manufacturing	98.6	97.7	96.6	100.1	107.4	112.2
Machinery and equipment manufacturing	96.3	91.4	91.7	100.0	107.3	110.6
Other manufacturing	83.4	80.2	79.6	85.2	101.6	100.8
Total manufacturing	97.7	95.0	96.3	101.5	107.4	108.3

(a) Average 1989–90 prices. Reference base year 1989–90 = 100.0.

Source: *Quarterly Indexes of Industrial Production, Australia (8125.0)*.

Structure of the manufacturing industry

At 30 June 1995 manufacturing establishments in Australia employed 932,100 persons. During 1994-95 those establishments paid \$29,851m in wages and salaries and recorded \$193,823m in turnover (table 18.2).

The manufacturing subdivisions with the most persons employed at 30 June 1995 were Machinery and equipment manufacturing (202,800), Food, beverages and tobacco manufacturing (163,100) and Metal product manufacturing (147,400). Of the manufacturing subdivisions, Non-metallic mineral product manufacturing (39,000) was the smallest employer, accounting for only 4.2% of manufacturing employment. Further

information on manufacturing employment is contained in table 18.4.

Food, beverages and tobacco was the largest contributor to total manufacturing turnover. Its turnover of \$41,010m was 21% of the total for manufacturing. Other subdivisions making major contributions were Machinery and equipment manufacturing (20%), Metal product manufacturing (18%) and Petroleum, coal, chemical and associated product manufacturing (16%). Further information on manufacturing turnover is contained in table 18.3. Further information on sales of goods produced (the major component of turnover for manufacturers) is shown in table 18.11.

18.2 SUMMARY OF OPERATIONS OF THE MANUFACTURING INDUSTRY(a) — 1994-95

Industry subdivision	Employment at 30 June(b) '000	Wages and salaries(c) \$m	Turnover \$m	Turnover per person employed \$'000
Food, beverages and tobacco manufacturing	163.1	5 015	41 010	251
Textiles, clothing, footwear and leather manufacturing	76.6	1 913	9 786	128
Wood and paper product manufacturing	63.8	1 952	11 360	178
Printing, publishing and recorded media	94.2	3 157	13 621	145
Petroleum, coal, chemical and associated product manufacturing	91.1	3 431	30 462	334
Non-metallic mineral product manufacturing	39.0	1 312	8 951	230
Metal product manufacturing	147.4	5 129	34 691	235
Machinery and equipment manufacturing	202.8	6 681	38 189	188
Other manufacturing	54.0	1 261	5 754	107
Total manufacturing	932.1	29 851	193 823	208

(a) Division C of the Australian and New Zealand Standard Industrial Classification (ANZSIC). (b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

Source: *Manufacturing Industry, Australia, Preliminary (8201.0)*.

Turnover

Turnover figures include sales of goods whether produced by the establishment or not, together with: transfers out of goods to other establishments of the same business; bounties and subsidies on production; all other operating revenue from outside the enterprise (such as commission, repair and service revenue and rent, leasing and hiring revenue); and capital work done for own use or for rental or lease. Receipts from interest, royalties, dividends, and sales of fixed tangible assets are excluded

New South Wales (34%) and Victoria (32%) together accounted for almost two-thirds of

national manufacturing turnover in 1994-95. New South Wales contributed 46% of the national turnover of the Printing, publishing and recorded media industry, and 25% to 40% of the national turnover of the remaining manufacturing industries. Victoria contributed 46% of the national turnover of the Textiles, clothing, footwear and leather manufacturing industry, 40% of the national turnover of the Machinery and equipment manufacturing industry and 20% to 35% of the national turnover of the remaining manufacturing industries. Although Queensland accounted for only 14% of national manufacturing turnover, it contributed 22% of national turnover for

Non-metallic mineral product manufacturing and 21% for Food, beverages and tobacco manufacturing. Similarly South Australia, which

accounted for 9% of national manufacturing turnover, contributed 19% of national turnover for Machinery and equipment manufacturing.

18.3 MANUFACTURING INDUSTRY TURNOVER — 1994-95

Industry subdivision	NSW \$m	Vic. \$m	Qld \$m	SA \$m	WA \$m	Tas. \$m	NT \$m	ACT \$m	Aust. \$m
Food, beverages and tobacco manufacturing	12 050	12 791	8 620	3 270	2 812	1 284	111	73	41 010
Textiles, clothing, footwear and leather manufacturing	3 284	4 478	638	819	345	210	4	7	9 786
Wood and paper product manufacturing	3 596	3 169	1 735	975	709	1 097	19	60	11 360
Printing, publishing and recorded media	6 324	4 054	1 413	650	752	166	36	225	13 621
Petroleum, coal, chemical and associated product manufacturing	12 073	10 562	3 545	1 310	2 717	235	16	3	30 462
Non-metallic mineral product manufacturing	2 992	1 970	1 980	529	1 108	249	68	55	8 951
Metal product manufacturing	13 135	7 784	5 932	2 641	3 908	816	458	18	34 691
Machinery and equipment manufacturing	10 494	15 462	3 070	7 173	1 637	252	35	66	38 189
Other manufacturing	1 824	1 732	1 048	420	606	63	13	48	5 754
Total manufacturing	65 772	62 002	27 982	17 787	14 595	4 372	760	554	193 823

Source: Manufacturing Industry, Australia, Preliminary (8201.0).

Employment

New South Wales (33%) and Victoria (32%) dominate manufacturing employment in Australia, accounting for almost two-thirds of national manufacturing employment as at 30 June 1995. In all industries, New South Wales and Victoria are the two largest employing States. However, different industries predominate, in terms of employment, in different States (table 18.4).

New South Wales manufacturing establishments employ 40% of persons in Printing, publishing and recorded media, and 37% of those in the Metal product manufacturing industry. Some

46% of all persons employed by Textiles, clothing, footwear and leather manufacturers are located in Victoria.

Queensland establishments employ 21% of persons in Food, beverages and tobacco manufacturing and 19% of those in Non-metallic mineral product manufacturing. South Australia accounts for 15% of employment in the Machinery and equipment manufacturing industry.

For further information on employed wage and salary earners and the characteristics of the manufacturing labour force, refer to *Chapter 6, Labour*.

18.4 MANUFACTURING INDUSTRY EMPLOYMENT — June 1995

Industry subdivision	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT '000	ACT '000	Aust. '000
Food, beverages and tobacco manufacturing	47.0	46.7	34.2	15.8	12.4	5.9	0.5	0.5	163.1
Textiles, clothing, footwear and leather manufacturing	24.5	35.5	5.7	5.1	3.7	1.9	0.1	0.1	76.6
Wood and paper product manufacturing	20.5	16.5	11.5	6.2	4.6	3.9	0.1	0.4	63.8
Printing, publishing and recorded media	38.0	28.6	12.1	5.0	6.3	1.9	0.5	1.9	94.2
Petroleum, coal, chemical and associated product manufacturing	33.6	35.5	8.9	6.3	5.8	0.9	0.1	0.0	91.1
Non-metallic mineral product manufacturing	12.2	9.6	7.6	2.8	5.5	1.0	0.3	0.2	39.0
Metal product manufacturing	54.2	36.4	25.6	11.8	14.7	3.4	1.2	0.2	147.4
Machinery and equipment manufacturing	63.7	70.9	22.8	29.6	12.3	2.6	0.3	0.6	202.8
Other manufacturing	15.6	16.2	10.9	4.3	5.7	0.8	0.1	0.4	54.0
Total manufacturing	309.3	295.8	139.3	86.9	71.1	22.2	3.2	4.2	932.1

Source: Manufacturing Industry, Australia, Preliminary (8201.0).

Labour costs

Major labour costs in the manufacturing industry increased by 6.5% between 1991-92 and 1993-94. In both years, earnings comprised

around 88% of total labour costs for the manufacturing industry, which is comparable with the proportion for all industries.

18.5 MAJOR LABOUR COSTS OF MANUFACTURING INDUSTRY

Type of labour cost	1991-92 \$m	1993-94 \$m	1993-94	
			Distribution of labour costs	
			Manufacturing %	All industries %
Earnings	26 907	28 468	87.7	88.4
Other labour costs				
Payroll tax	1 367	1 441	4.4	3.5
Superannuation	1 142	1 432	4.4	5.6
Workers' compensation	893	948	2.9	1.8
Fringe benefits tax	183	184	0.6	0.7
Total other labour costs	3 585	4 005	12.3	11.6
Total major labour costs	30 492	32 473	100.0	100.0

Source: *Labour Costs, Australia* (6348.0).

Total labour costs per employee in 1993-94 of \$36,570 represented an increase of 4.0% over 1991-92 costs per employee. For 1993-94, the total labour costs per employee in the

manufacturing industry were substantially higher than the average of \$32,755 per employee for all industries.

18.6 AVERAGE LABOUR COST PER EMPLOYEE IN MANUFACTURING INDUSTRY

Type of labour cost	1991-92 \$	1993-94	
		Manufacturing \$	All industries \$
Earnings	31 036	32 058	28 957
Other labour costs			
Payroll tax	1 576	1 623	1 131
Superannuation	1 318	1 613	1 829
Workers' compensation	1 030	1 068	598
Fringe benefits tax	211	208	240
Total other labour costs	4 135	4 512	3 798
Total major labour costs	35 171	36 570	32 755

Source: *Labour Costs, Australia* (6348.0).

Industrial disputes

There were 156 industrial disputes in the manufacturing industry during the calendar year 1995. These disputes involved over 86,000 employees and resulted in the loss of almost 160,000 working days (table 18.7). Compared to experience in 1994, this represented a small fall (5%) in the number of disputes, but increases of 72% in employees involved and 30% in working days lost. However, the number of disputes, employees involved and working days lost in 1995 were all

substantially below the 1993 experience (down 8%, 51% and 33% respectively).

Manufacturing industry accounted for 24% of all disputes during 1995 compared to 29% in 1994. Manufacturing industry employees involved in disputes were 25% of all employees involved in disputes during 1995, a marked increase on the 19% recorded in 1994. Manufacturing industry disputes were responsible for 29% of working days lost during 1995, which was also higher than in 1994 (25% of working days lost).

18.7 INDUSTRIAL DISPUTES

Year	Unit	Manufacturing	All industries
TOTAL INDUSTRIAL DISPUTES			
1993	no.	170	610
1994	no.	164	560
1995	no.	156	643
EMPLOYEES INVOLVED DIRECTLY AND INDIRECTLY			
1993	'000	175.4	489.2
1994	'000	50.2	265.1
1995	'000	86.1	344.3
WORKING DAYS LOST			
1993	'000	238.1	635.8
1994	'000	123.2	501.0
1995	'000	159.9	547.6

Source: *Industrial Disputes, Australia* (6322.0).

Trade union membership

Between 1982 and 1986, a fall in the proportion of manufacturing employees with trade union membership, coupled with a contraction in manufacturing industry employment, resulted in a decrease in union membership of nearly 90,000 persons in this industry. The number of

manufacturing employees with union membership fell a further 123,800 persons (23%) between 1986 and 1994, resulting in an overall fall of 213,400 persons (34%) between 1982 and 1994. Despite this large fall in membership numbers, manufacturing industry continues to have a higher rate of union membership than the average for all industries (table 18.8).

The number of trade union members in all industries decreased between 1982 and 1994. In percentage terms membership followed a downward trend similar to that in manufacturing.

Although 45% of permanent manufacturing employees belonged to a trade union in 1994, only 16% of casual employees were members. Membership rates for permanent female employees were significantly lower than for permanent male employees. The membership rate for casual manufacturing employees was higher than the all industries average (table 18.9).

18.8 EMPLOYEES WITH TRADE UNION MEMBERSHIP

Period	Manufacturing		All industries	
	Employees '000	Proportion of total employment %	Employees '000	Proportion of total employment %
March–May 1982	635.0	53.9	2 567.6	49.5
August 1986	545.4	51.2	2 593.9	45.6
August 1988	546.7	48.5	2 535.9	41.6
August 1990(a)	520.9	46.1	2 659.6	40.5
August 1992	455.3	44.4	2 508.8	39.6
August 1994	421.6	40.8	2 283.4	35.0

(a) Includes persons aged 70 years and over.

Source: *Trade Union Members, Australia* (6325.0).

18.9 TRADE UNION MEMBERS — August 1994

Employees	Manufacturing %	All industries %
MALES		
Permanent	47.3	43.0
Casual	15.8	14.8
Total	44.3	37.9
FEMALES		
Permanent	35.6	38.8
Casual	16.0	14.5
Total	30.7	31.3
PERSONS		
Permanent	44.6	41.3
Casual	15.9	14.7
Total	40.8	35.0

Source: *Trade Union Members, Australia* (6325.0).

Capital expenditure

New capital expenditure in the manufacturing industry rose by 29% between 1993–94 and 1995–96. Increases were recorded for all subdivisions although some were very small. Industries with the greatest increases were Metal product manufacturing (83%) and Wood and paper product manufacturing (80%).

The level of private new capital expenditure in 1995–96 was lower than in 1994–95 in six of the nine manufacturing subdivisions, with strong increases in the other three. Largest falls were in Printing, publishing and recorded media (40%) and Textiles, clothing, footwear and leather manufacturing (35%). Both of these decreases

followed strong rises in 1993–94. Largest increases were in Metal product manufacturing

(51%) and Wood and paper product manufacturing (40%).

18.10 PRIVATE NEW CAPITAL EXPENDITURE IN MANUFACTURING INDUSTRY

Industry subdivision	1993–94 \$m	1994–95 \$m	1995–96 \$m
Food, beverages and tobacco manufacturing	1 973	2 046	2 014
Textiles, clothing, footwear and leather manufacturing	238	367	240
Wood and paper product manufacturing	592	764	1 068
Printing, publishing and recorded media	567	1 126	670
Petroleum, coal, chemical and associated product manufacturing	1 202	1 757	1 502
Non-metallic mineral product manufacturing	587	877	697
Metal product manufacturing	1 159	1 402	2 116
Machinery and equipment manufacturing	1 308	1 326	1 566
Other manufacturing	187	191	188
Total manufacturing	7 815	9 856	10 061

Source: *Private New Capital Expenditure, Australia, Actual and Expected Expenditure (5626 0)*.

Sales and output

At average 1989–90 prices, output (sales adjusted for changes in the level of stocks) by private manufacturing businesses increased by just under 1% between 1994–95 and 1995–96. Five manufacturing subdivisions rose slightly, with Metal product manufacturing and Machinery and equipment manufacturing showing the largest rises (each 4%). The remaining four subdivisions recorded falls between 1994–95 and 1995–96, two of these substantial, namely Textiles, clothing, footwear and leather manufacturing (10%) and Non-metallic mineral product manufacturing (8%).

The largest contributors to manufacturing output were Food, beverages and tobacco manufacturing (23%), Machinery and equipment manufacturing (19%), Metal product manufacturing (19%) and Petroleum, coal, chemical and associated product manufacturing (16%).

At average 1989–90 prices, the value of sales by private manufacturing businesses in 1995–96 was 0.3% higher than for 1994–95. In general, changes in sales from 1994–95 to 1995–96 and industry contributions to total manufacturing sales were the same as described for output. However, falls in sales for Non-metallic mineral product manufacturing (8%) and Textiles, clothing, footwear and leather manufacturing (7%) were less pronounced than falls in output.

At average 1989–90 prices, the value of stocks held by private manufacturing businesses at June 1996 was 5.8% higher than at June 1995. Stocks held rose in all manufacturing subdivisions except Textiles, clothing, footwear and leather manufacturing where they fell by 15%. Largest rises in stocks were for Printing, publishing and recorded media (13%) and Other manufacturing (15%). All other subdivisions rose by between 5% and 10%.

18.11 SALES AND OUTPUT(a), Private Manufacturing Businesses

Industry subdivision	1994-95	1995-96	1994-95	1995-96
	Sales of goods produced \$m	Sales of goods produced \$m	Output of goods \$m	Output of goods \$m
Food, beverages and tobacco manufacturing	35 770	35 822	35 710	36 228
Textiles, clothing, footwear and leather manufacturing	7 488	6 979	7 509	6 754
Wood and paper product manufacturing	9 724	9 423	9 678	9 542
Printing, publishing and recorded media	6 793	6 801	6 818	6 889
Petroleum, coal, chemical and associated product manufacturing	24 287	24 335	24 695	24 579
Non-metallic mineral product manufacturing	9 221	8 466	9 264	8 528
Metal product manufacturing	28 387	29 510	28 603	29 760
Machinery and equipment manufacturing	28 712	29 651	28 813	29 901
Other manufacturing	4 580	4 508	4 542	4 577
Total manufacturing	154 962	155 495	155 632	156 758

(a) Average 1989-90 Prices. Output is calculated as sales of goods produced minus opening stocks plus closing stocks.

Source: *Stocks, Manufacturers' Sales and Expected Sales, Australia (5629.0)*.

Company profits

Profits before income tax earned by manufacturing companies fell by 19% between 1994-95 and 1995-96, following a rise of 18% from 1993-94. Profits fell between 1994-95 and 1995-96 in all but two manufacturing subdivisions and these two, namely Food, beverages and tobacco manufacturing and Petroleum, coal, chemical and associated product manufacturing, each grew by only 1%. The largest fall was for Textile, clothing, footwear and leather manufacturing (51%),

five other subdivisions recording falls in excess of 20%.

Industry subdivisions contributing most to manufacturing industry profits for 1995-96 were Food, beverages and tobacco manufacturing (22%), Petroleum, coal, chemical and associated product manufacturing (18%), Machinery and equipment manufacturing (17%) and Metal product manufacturing (16%).

18.12 PROFITS BEFORE INCOME TAX, Manufacturing Companies

Industry subdivision	1993-94	1994-95	1995-96
	\$m	\$m	\$m
Food, beverages and tobacco manufacturing	2 130	2 236	2 258
Textiles, clothing, footwear and leather manufacturing	380	470	230
Wood and paper product manufacturing	913	983	740
Printing, publishing and recorded manufacturing	1 134	1 411	1 083
Petroleum, coal, chemical and associated product manufacturing	1 633	1 781	1 798
Non-metallic mineral product manufacturing	1 047	1 134	731
Metal product manufacturing	1 895	2 363	1 616
Machinery and equipment manufacturing	1 402	2 169	1 750
Other manufacturing	122	64	42
Total manufacturing	10 655	12 611	10 247

Source: *Company Profits, Australia (5651.0)*.

Principal manufactured commodities

Table 18.13 shows the total production of selected manufactured commodities.

Of the 25 commodities shown, production of 16 commodities was lower in 1995-96 than in

1994-95, including six commodities for which production was more than 10% lower. The largest falls in production were for clay building bricks (22%), woollen woven fabrics (20%) and

18.13 SELECTED COMMODITIES PRODUCED BY MANUFACTURING ESTABLISHMENTS (a)

Commodity	Unit of quantity	1992-93	1993-94	1994-95	1995-96
Confectionery					
Chocolate based	t	105 681	110 910	110 398	114 211
Other	t	68 671	68 324	71 974	72 830
Beer(b)	mill. L	1 805	1 752	1 788	1 742
Tobacco and cigarettes(c)	t	24 001	23 273	23 083	20 390
Woven fabric(d)					
Man-made fibre	'000 m ²	185 060	184 885	185 171	149 066
Cotton (including towelling)	'000 m ²	41 410	49 864	51 938	63 886
Wool (including blanketing)	'000 m ²	8 343	7 893	8 189	6 523
Yarn(d)					
Cotton	t	27 436	33 780	37 643	36 955
Wool	t	18 167	21 016	23 093	20 063
Textile floor coverings	'000 m ²	42 106	46 910	47 258	42 683
Newsprint	'000 t	433	411	423	445
Non-laminated particle board(e)	'000 m ³	660	752	846	804
Plastics in primary form(f)	'000 t	1 065	1 147	1 240	1 222
Portland cement	'000 t	6 225	6 733	7 124	6 397
Clay bricks for structural purposes	mill.	1 722	1 814	1 860	1 458
Ready mixed concrete	'000 m ³	14 548	15 267	15 892	14 556
Basic iron, spiegeliesen and sponge iron (g)	'000 t	6 445	7 209	7 449	7 553
Blooms and slabs of iron or steel(g)	'000 t	6 218	7 627	7 807	7 950
Motor vehicles					
Cars and station wagons	'000	275	298	301	303
Vehicles for goods and materials(h)	'000	15	23	27	25
Domestic refrigerators	'000	393	460	408	414
Domestic clothes washing machines(i)	'000	308	326	305	297
Electric motors	'000	2 847	2 990	3 099	2 850
Electricity	mill. kWh	159 872	161 813	165 063	167 543
Gas(j)	TJ	568 820	587 013	629 406	620 889

(a) Data in this table exclude operations by single establishment enterprises employing fewer than four persons. (b) Includes ale, stout and porter. Excludes extra light beer containing less than 1.15% but more than 0.5% by volume of alcohol. (c) Source: Australian Tobacco Marketing Advisory Committee, until April 1995. (d) Includes mixtures predominantly of the fibre named. (e) Includes board for subsequent conversion to other purposes. Excludes fibreboard and fibre paperboard. (f) Includes liquid, paste, powder, granules, flakes, blocks, irregular shapes, lumps and similar forms. (g) Comprises production of BHP Steel only. (h) Includes utilities, panel vans and prime movers for semi-trailers. Excludes off-highway trucks (for example, dump wagons), materials handling trucks (for example, forklift trucks) and semi-trailers. (i) Household or laundry-type, each of a dry linen capacity not exceeding 10kg. (j) Available for issue through mains. Includes natural gas.

Source. ABS manufacturing production publications (8301.0, 8357.0 to 8363.0 and 8367.0 to 8369.0).

woven fabrics of man-made fibres (almost 20%). The largest increases in production in 1995-96 over 1994-95 were for cotton woven fabrics (23%) and newsprint (5%).

However, comparison of production in 1995-96 with production three years earlier shows that production for 16 commodities was higher in 1995-96. The largest increase was for cotton woven fabrics (54%). The largest fall was for woven fabrics of man-made fibres (19%).

Price indexes

The ABS compiles two price indexes relating to the manufacturing sector: the Price Indexes of Materials Used in Manufacturing Industries; and the Price Indexes of Articles Produced by Manufacturing Industries (see *Chapter 27, Prices* for more details). Tables 18.14 and 18.15 set out index numbers for selected components of those indexes.

18.14 PRICE INDEXES, Materials Used in Manufacturing Industries(a)(b)

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Food, beverages and tobacco	97.9	100.0	104.3	107.7	111.0	111.7
Textiles and textile products	90.2	87.0	88.1	89.9	103.0	100.9
Knitting mills and clothing	101.6	104.5	108.1	107.7	109.2	111.4
Footwear	101.6	99.8	99.4	102.4	109.5	111.7
Leather and leather products	88.1	85.3	93.2	99.6	101.9	95.1
Sawmilling and timber products	104.7	104.5	109.2	115.3	111.3	114.0
Paper and paper products	101.5	96.3	95.6	89.7	95.8	108.3
Printing and publishing	101.7	102.5	103.3	102.7	101.1	114.1
Petroleum and coal products	130.9	112.6	121.7	101.9	100.2	103.5
Chemicals	103.2	106.2	105.7	103.5	107.8	113.8
Rubber and plastics	100.3	100.3	104.5	106.9	118.8	122.0
Non-metallic mineral products	110.3	115.2	116.6	109.8	114.3	113.6
Basic metal products	99.3	95.4	94.7	87.6	94.0	99.4
Fabricated metal products	102.3	101.3	100.9	100.8	104.4	108.7
Transport equipment and parts	102.4	101.9	108.0	115.0	116.2	115.1
Electronic equipment and other machinery	102.4	99.8	101.8	102.7	106.4	107.8
Other manufacturing	103.2	103.4	106.3	111.5	112.3	112.9
All materials	104.0	101.4	106.4	104.7	107.6	110.0

(a) Reference base year 1989-90 = 100.0. (b) The index is on a net basis and relates in concept only to materials that enter Australian manufacturing industry from other sectors of the Australian economy or from overseas.

Source: *Price Indexes of Materials Used in Manufacturing Industries, Australia (6411.0)*.

18.15 PRICE INDEXES, Articles Produced by Manufacturing Industries(a)(b)

Industry	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Food, beverages and tobacco	109.5	112.3	116.2	120.5	123.0	125.9
Textiles	103.4	102.9	101.8	102.2	105.6	106.3
Clothing and footwear	112.0	114.9	116.1	117.1	118.3	121.4
Wood, wood products and furniture	112.7	114.2	116.5	122.5	126.1	127.1
Paper, paper products and printing	111.0	117.3	119.9	122.0	125.2	132.9
Chemicals and chemical products	109.3	109.9	111.1	110.3	113.6	117.0
Petroleum products	150.1	134.3	143.9	127.2	120.9	125.0
Non-metallic mineral products	117.2	119.3	119.3	120.8	124.2	124.6
Basic metal products	106.2	99.9	100.6	99.8	107.2	109.9
Fabricated metal products	113.7	114.3	114.7	114.8	116.2	119.2
Transport equipment	109.9	112.7	116.0	119.1	120.7	122.3
Other machinery and equipment	107.0	107.0	109.3	109.9	111.2	112.4
Miscellaneous manufacturing products	106.4	107.8	109.6	112.4	116.1	119.7
All Manufacturing Industry Index	111.2	111.6	114.3	115.5	118.1	121.1

(a) Reference base year 1988-89 = 100.0. (b) For a full description of Division C, Manufacturing and the subdivisions within the Manufacturing Division, see Australian Standard Industrial Classification (ASIC) (1201.0), 1983 edition.

Source: *Price Indexes of Articles Produced by Manufacturing Industry, Australia (6412.0)*.

Concentration within the manufacturing industry

Concentration statistics provide information on the extent to which particular groups of related enterprises contribute to economic activity in individual industries. They are an indicator of the degree of competition existing between enterprise groups engaged in an industry.

In 1993-94, the most concentrated manufacturing industries, in terms of the share

of employment accounted for by the largest four groups of related enterprises, were Non-metallic mineral product manufacturing (40%) and Wood and paper product manufacturing (21%). The industries with the lowest levels of concentration were Petroleum, coal, chemical and associated product manufacturing (9%) and Other manufacturing (5%).

18.16 CONCENTRATION OF EMPLOYMENT, Manufacturing Establishments — June 1994

Industry subdivision	Enterprise groups ranked by turnover							
	Largest 4		5-8		9-12		Remainder	
	'000	%	'000	%	'000	%	'000	%
Food, beverages and tobacco manufacturing	18.3	11	11.7	7	10.3	6	123.9	76
Textiles, clothing, footwear and leather manufacturing	7.5	10	4.3	6	1.9	3	62.0	82
Wood and paper product manufacturing	12.7	21	4.8	8	2.9	5	41.2	67
Printing, publishing and recorded media	16.2	18	7.2	8	3.6	4	61.0	69
Petroleum, coal, chemical and associated product manufacturing	7.6	9	5.8	7	3.1	4	71.8	81
Non-metallic mineral product manufacturing	15.2	40	4.1	11	1.8	5	17.1	45
Metal product manufacturing	28.0	19	7.3	5	6.8	5	103.5	71
Machinery and equipment manufacturing	22.7	12	13.1	7	6.5	3	153.2	78
Other manufacturing	2.8	5	1.3	2	1.0	2	48.9	91
Total manufacturing	43.3	5	35.4	4	35.4	4	797.0	86

Source: *Manufacturing Industry, Australia* (8221.0).

Manufacturing technology

The proportion of manufacturing establishments employing 10 or more people which use advanced manufacturing technologies increased by about one-quarter to 41% in the three-year period to December 1991. Over the same period, the proportion of manufacturing establishments using Total Quality Control/Management (TQC/TQM), increased by more than half to 24%. By 1996, a further 9% of manufacturers intended introducing advanced manufacturing technologies and 25% intended introducing TQC/TQM. In December 1991, the most widely used advanced manufacturing technology was computer-aided design and/or engineering.

Tables containing relevant data appear in *Year Book Australia, 1995*.

Research and experimental development

Research and experimental development (R&D) activity in the business context is defined as systematic investigation or experimentation involving innovation or technical risk, the outcome of which is new knowledge, with or

without a specific practical application or new or improved products, processes, materials, devices or services. R&D activity also extends to modifications to existing products/processes.

Total expenditure on R&D by manufacturing enterprises in 1994-95 increased by 13.5% over 1993-94. With the exception of Wood and paper product manufacturing, all manufacturing industries recorded increases, most notably Motor vehicle and part and other transport equipment manufacturing (25%) and Electronic and electrical equipment and appliance manufacturing (21%). R&D expenditure for Wood and paper product manufacturing fell by 26%, but this followed an increase of 132% from 1992-93 to 1993-94.

Enterprises in the Electronic and electrical equipment and appliance industry accounted for 23% of all manufacturing research and development expenditure in 1994-95. Motor vehicle and part and other transport equipment manufacturing (18%), Petroleum, coal, chemical and associated product manufacturing (16%) and Metal product manufacturing (16%) were also major contributors to R&D expenditure.

18.17 EXPENDITURE ON RESEARCH AND DEVELOPMENT, Manufacturing Enterprises

Industry subdivision	1993-94 \$m	1994-95 Type of expenditure				Total \$m
		Capital expenditure \$m	Labour costs(a) \$m	Other current expenditure \$m		
Food, beverages and tobacco manufacturing	140.2	16.3	65.5	59.7		141.6
Textile, clothing, footwear and leather manufacturing	17.0	4.6	8.9	13.5		26.9
Wood and paper product manufacturing	103.0	9.0	15.0	52.5		76.5
Printing, publishing and recorded media manufacturing	10.8	2.3	8.7	4.1		15.1
Petroleum, coal, chemical and associated product manufacturing	272.2	39.0	127.5	143.3		309.8
Non-metallic mineral product manufacturing	31.3	7.6	18.2	19.4		45.3
Metal product manufacturing	294.2	26.1	105.9	177.6		309.5
Motor vehicle and part and other transport equipment manufacturing	269.8	16.6	123.5	198.0		338.1
Photographic and scientific equipment manufacturing	102.6	9.3	59.1	54.6		123.0
Electronic and electrical equipment and appliance manufacturing	371.5	40.6	222.0	188.4		451.0
Industrial machinery and equipment manufacturing	72.2	4.7	38.7	30.0		73.5
Other manufacturing	14.6	1.4	9.6	7.3		18.3
Total manufacturing	1 699.5	177.6	802.6	948.4		1 928.6

(a) Includes wages and salaries, payroll tax, payments to contract staff on the payroll, fringe benefits tax and workers compensation, holiday pay, long service leave payments, sick pay, employer contributions to superannuation and pension schemes.

Source: Research and Experimental Development, Business Enterprises, Australia (8104.0).

Commonwealth government authorities

Year Book Australia, 1994 contains an outline of the role and responsibilities of the Industry Commission, the Bureau of Industry Economics, and the Department of Industry, Technology and Regional Development, the industry-related responsibilities of which are now the responsibility of the Department of Industry, Science and Tourism.

The Productivity Commission is in the process of being formed by merging functions of the Bureau of Industry Economics, the Economic Planning and Advisory Commission and the Industry Commission. The main activities of the Productivity Commission are likely to fall into five broad categories:

- major projects linked to public enquiries, task forces and program evaluations commissioned by government;

- performance monitoring of economic infrastructure and government service provision related to the Council of Australian Governments agenda;
- domestic and international benchmarking of economic infrastructure and government provided services;
- review of regulation through the Office of Regulation Review and related research; and
- a complementary program of research encompassing projects of varying duration, form and subject matter.

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19

Construction and housing

Introduction	469
Construction	469
<i>Trends in the construction industry</i>	469
Residential building	471
New houses	472
New other residential building	472
Conversions, etc.	474
Value of residential building	474
Non-residential building	474
Building activity at constant prices	475
Price indexes of materials used in building	476
Price index of materials used in house building	476
Price index of materials used in building other than house building	476
Engineering construction	477
Labour costs	478
Industrial disputes	479
Trade union membership	480
Housing	481
Types of dwellings	481
Number of bedrooms	481
Home ownership and renting	482
Accessibility and affordability of housing	484
Housing costs	484
House price indexes	485
Housing finance	486
Government initiatives	488
Regional development	488
Ministerial Working Group on Regional Affairs	488
Understanding Our Regions	488
Recognising Leadership	488
Australian Institute of Health and Welfare	488
Commonwealth–State Housing Agreement	489
Bibliography	491

Introduction

The construction industry has a major influence on every Australian. It provides the homes in which we live, the places in which we work and play, our schools and hospitals, and the infrastructure such as roads, water and electricity supply, and telecommunications, essential for our day to day living. A number of other sectors of the Australian economy are also affected by the construction industry, most notably the manufacturing, wholesale and retail trade and finance sectors.

Housing satisfies the essential needs of people for shelter, security and privacy. Shelter is recognised throughout the world as a basic human right.

This chapter contains information on industry activity involved in construction, ranging from house building to large-scale construction such as roads, power plants and other public facilities. It also focuses on housing and associated characteristics, and thereby provides an insight into both the supply of and demand for housing.

The chapter concludes with an outline of main government activities in the field of housing.

Construction

The construction sector engages in three broad areas of activity: residential building (houses, flats, etc.), non-residential building (offices, shops, hotels, etc.), and engineering construction (roads, bridges, water and sewerage, etc.). Construction activity is undertaken by both the private and public sectors in Australia. The private sector is engaged in all three categories of construction, whereas the public sector plays a key role in initiating and undertaking engineering construction activity. The public sector has a minor role in residential and other building activity.

In 1995–96 the construction industry contributed about 6% to the gross product of all industries, as measured by production based Gross Domestic Product at average 1989–90 prices. It employed 600,000 people, either as employees or as self employed contractors, which was 7% of the employment of all industries.

The ABS conducts construction industry surveys periodically to provide measures of the structure and operations of the construction industry as a whole. For the most recent survey period, 1988–89, two collections were undertaken: the Construction Industry Survey of private sector construction establishments and a survey of construction activities undertaken by public sector enterprises. 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. Detailed statistics for 1988–89 are contained in *Year Book Australia 1994*. The next Construction Industry Survey will be undertaken in respect of 1996–97.

The annual Economic Activity Survey provides aggregate data on structure and performance for broad industry sectors, including Construction. Results for 1994–95 and the previous three years are published in *Business Operations and Performance, Australia, 1994–95* (8140.0). Selected results are also included in *Chapter 12, Industry overview*.

The ABS also conducts regular monthly and quarterly collections to provide more up-to-date measures of activity in the construction industry. This section presents some recent and detailed statistics obtained from these ongoing statistical collections.

Trends in the construction industry

Trends over recent years in the level of activity of the construction industry as a whole are shown below.

In the 1995–96 financial year, estimated construction activity at average 1989–90 prices (original terms) was \$38,893m. This was 1% below the 1994–95 estimate of \$39,423m. A fall of 17% in residential building activity from \$17,407m in 1994–95 to \$14,450m in 1995–96 more than offset increases in non-residential construction activity. Non-residential building activity rose by 13% from \$10,216m in 1994–95 to \$11,497m in 1995–96. Engineering construction rose by 10% from \$11,800m in 1994–95 to \$12,947m in 1995–96 (table 19.1 and graph 19.2).

19.1 CONSTRUCTION ACTIVITY, At Average 1989-90 Prices

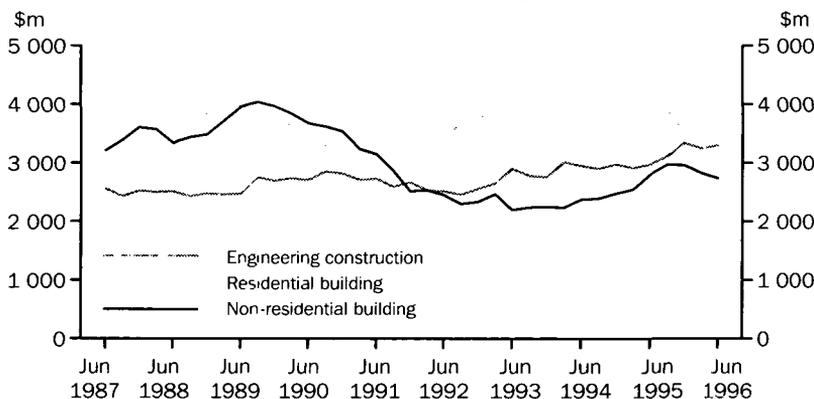
Financial year	Residential building \$m	Non-residential building \$m	Engineering construction \$m	Total construction \$m
1990-91	12 834	13 588	11 128	37 550
1991-92	12 916	10 386	10 339	33 641
1992-93	15 154	9 285	10 626	35 065
1993-94	16 677	9 112	11 510	37 298
1994-95	17 407	10 216	11 800	39 423
1995-96	14 450	11 497	12 947	38 893

Source: *Building Activity, Australia (8752.0)* and *Engineering Construction Activity, Australia (8762.0)*.

The area of construction with the largest contribution to total activity in 1995-96 was residential building with 37% of the total, while engineering construction and non-residential building accounted for 33% and 30% respectively.

By contrast, in 1994-95 residential building accounted for 44% of total construction, engineering construction and non-residential building accounting for 30% and 26% respectively.

19.2 CONSTRUCTION ACTIVITY, At Average 1989-90 Prices



Source: *Building Activity, Australia (8752.0)* and *Engineering Construction Activity, Australia (8762.0)*.

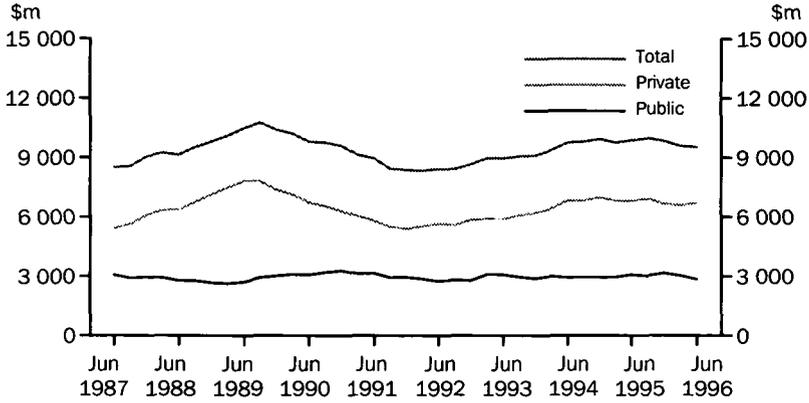
Of the \$38,893m of construction expenditure in 1995-96, \$26,875m (69%) was work done for the private sector. Of this, \$13,873m (52%) was on residential building, \$8,396m (31%) on non-residential building and the remaining \$4,606m (17%) on engineering construction.

Public sector construction expenditure showed a different pattern, with \$8,341m (69%) out of a total expenditure of \$12,018m being spent on engineering construction. Non-residential

building (\$3,101m) accounted for 26% of total expenditure, with the remaining \$577m (5%) being spent on residential building.

Construction activity for the public sector has remained relatively constant (graph 19.3) at around \$3,000m each quarter over the last eight years. The volatility evident in the total construction series is most affected by the private sector construction activity series.

19.3 CONSTRUCTION ACTIVITY, At Average 1989–90 Prices



Source: *Building Activity, Australia (8752.0)* and *Engineering Construction Activity, Australia (8762.0)*.

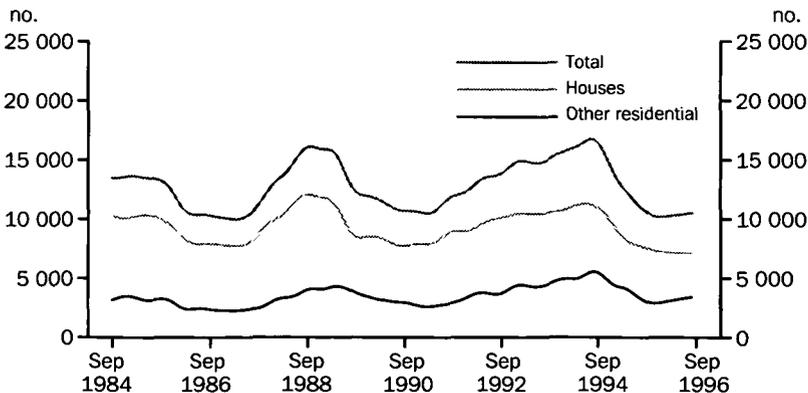
Residential building

Residential building involves the construction of dwelling units, which comprise new houses, new other residential buildings (flats, apartments, villa units, townhouses, duplexes, etc.), and dwellings created as part of alterations and additions to existing buildings (including conversions to dwelling units) and as part of the construction of non-residential buildings.

As can be seen from graph 19.4, the trend for total dwelling unit approvals went through a

period of steady growth for three and a half years from February 1991, peaking in July 1994. The trend then declined continuously to December 1995, to a level almost 40% below the July 1994 peak. The trend for total dwelling units approved was relatively flat between December 1995 and June 1996. Approvals for separate houses, which account for about 70% of all dwelling units approved, followed a similar pattern, although they were still showing a slight decline to June 1996.

19.4 NUMBER OF DWELLING UNITS APPROVED, Trend Estimates

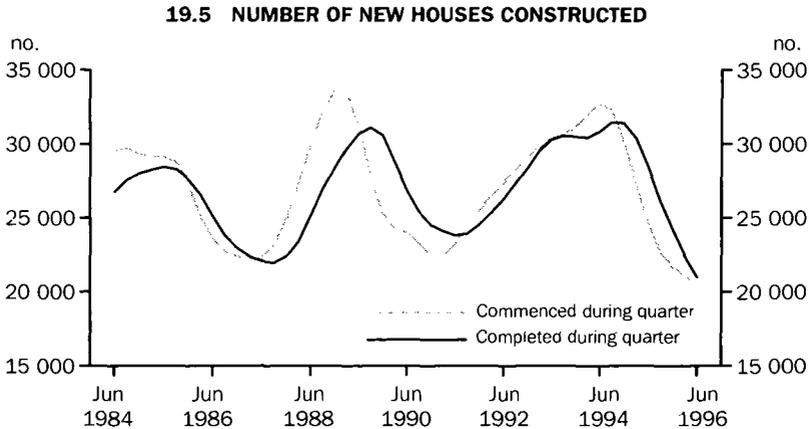


Source: *Building Approvals, Australia (8731.0)*.

New houses

Graph 19.5 illustrates the approximately four year cyclical pattern of new house commencements. Lows were recorded in 1986–87, and 1990–91, with peaks in 1984–85, 1988–89 and 1993–94. Throughout 1992–93 and 1993–94, new house construction was in a growth phase, the number of commencements

peaking in the June quarter 1994. New house commencements have since fallen in each quarter of 1994–95 and 1995–96, apart from a small increase in the March quarter 1996. House completions generally follow a similar pattern to commencements.



Source: *Building Activity, Australia* (8752.0).

Table 19.6 shows that the number of new houses approved in 1995–96 was 87,418, a fall of 24% from the 1994–95 figure of 115,019. Private sector approvals dominated, contributing 98% to the total number of new houses approved.

The estimated number of new houses commenced in 1995–96 was 86,184, a fall of 25% from the number in 1994–95 of 114,577.

New house completions (94,049) fell by 23% from the number in 1994–95 of 122,006.

New other residential building

The level of activity of other residential building construction is highly variable and does not follow the regular pattern experienced in house construction. This is because of the generally larger size of other residential building construction jobs and the extent of speculative building of private townhouses, flats, home units and similar residential building projects.

Table 19.6 shows that in 1995–96, 35,135 new other residential dwelling units were approved

(a fall of 33% from the 1994–95 figure of 52,225). Of the 35,135 new other residential dwelling units approved, 31,273 (89%) were owned by the private sector. In 1995–96 approvals of public sector owned new other residential dwelling units (3,862) were 21% fewer than in 1994–95 (4,870). Of the 35,135 new other residential dwelling units approved in 1995–96, 57% were semi-detached, row or terrace houses, townhouses, etc., while 43% were flats, units or apartments, etc. These proportions were almost identical to those in 1994–95.

It is apparent that there has been an increase in new other residential building activity in recent years, both in absolute terms and as a percentage of total housing activity. The number of approvals of new other residential dwelling units, expressed as a proportion of total dwelling unit approvals, has risen from 26% in 1991–92, to 27% in 1992–93, 29% in 1993–94 and 31% in 1994–95. However, in 1995–96, this proportion fell back to 29% of total dwelling unit approvals.

The number of new other residential dwelling units commenced in Australia during 1995–96 was 35,965, a fall of 31% from the number in 1994–95 of 51,911.

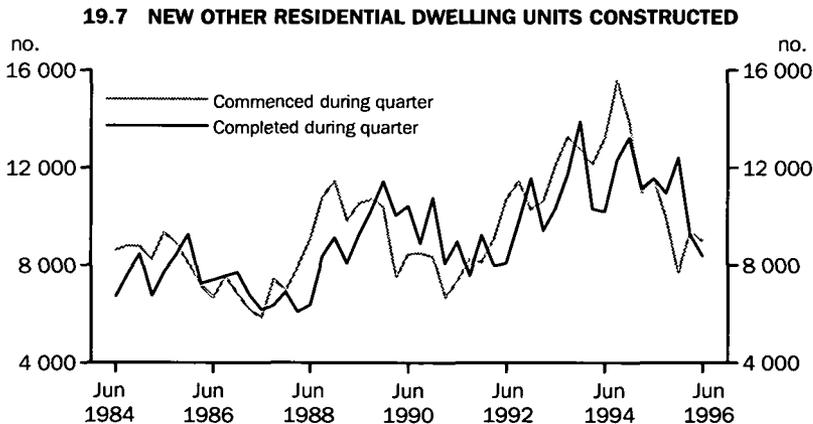
New other residential dwelling unit completions in 1995–96 totalled 40,953, a fall of 15% from the 1994–95 figure of 48,202.

19.6 RESIDENTIAL BUILDING — 1995–96

	New houses no.	New other residential building no.	Conversions, etc. no.
Private sector			
Approved	85 663	31 273	1 873
Commenced	84 207	31 503	2 279
Completed	91 708	36 431	2 872
Public sector			
Approved	1 755	3 862	143
Commenced	1 977	4 462	123
Completed	2 341	4 522	53
Total			
Approved	87 418	35 135	2 016
Commenced	86 184	35 965	2 402
Completed	94 049	40 953	2 925

Source: *Building Approvals, Australia (8731.0)* and *Building Activity, Australia (8752.0)*.

Graph 19.7 shows a time series of new other residential dwelling units commenced and completed.



Source: *Building Activity, Australia (8752.0)*.

Conversions, etc.

Apart from the construction of new residential buildings, dwellings can be created as part of alterations and additions to existing buildings (including conversions to dwelling units) and as part of the construction of non-residential buildings.

Table 19.6 shows that 2,016 such dwelling units were approved in 1995-96, a fall of 48% from the 1994-95 figure of 3,840

The number of dwelling units commenced in Australia during 1995-96 as part of alterations and additions to existing buildings (including conversions to dwelling units) and as part of the construction of non-residential buildings was 2,402, 33% fewer than the 3,583 commenced in 1994-95. Of these dwellings commenced in 1995-96, 1,032 (43%) were in New South Wales and 905 (38%) in Victoria

Dwelling unit completions as part of alterations and additions to existing buildings (including conversions to dwelling units) and as part of the construction of non-residential buildings totalled 2,925 in 1995-96, a fall of 2% from the 1994-95 figure of 2,990.

Value of residential building

As table 19.8 shows, approvals for total new residential building were valued at \$12,106m in 1995-96, 22% below the 1994-95 figure of \$15,471m. New house approvals were valued at \$8,800m, 20% below the 1994-95 figure of \$10,943m. The value of new house approvals in 1995-96 represented 73% of the total value of new residential building approvals, compared with 71% in 1994-95. The value of new other residential building approvals in 1995-96 was \$3,306m, a fall of 27% from the 1994-95 value of \$4,528m. Approvals for alterations and additions to residential buildings totalled \$2,284m in 1995-96, a 6% fall from the 1994-95 figure (\$2,433m).

The value of work done on new residential buildings in 1995-96 was \$13,107m, making up 49% of the total value of building work done. The value of work done on alterations and additions to residential buildings was \$2,561m.

19.8 VALUE OF RESIDENTIAL BUILDING — 1995-96

	Approved \$m	Work done \$m
New residential buildings		
New houses	8 800	9 381
New other residential buildings	3 306	3 726
Total new residential buildings	12 106	13 107
Alterations and additions to residential buildings(a)	2 284	2 561

(a) Valued at \$10,000 or more.

Source: *Building Approvals, Australia (8731.0)* and *Building Activity, Australia (8752.0)*.

Non-residential building

The value of non-residential building approved in Australia in 1995-96 was \$10,728m, a 12% increase over the 1994-95 figure of \$9,615m (table 19.9). The value of approvals increased in all categories except Entertainment and recreational, which fell by \$231m (20%). In percentage terms, the largest rise was in the

approval of Other business premises which increased from \$1,158m to \$1,720m, a rise of 49%. Other significant rises were in Offices, up \$329m to \$1,801m (22%), Health, up \$130m to \$766m (20%) and Factories which rose by \$119m to \$989m (14%).

19.9 VALUE OF NON-RESIDENTIAL BUILDING

	1994-95		1995-96	
	Approved \$m	Work done \$m	Approved \$m	Work done \$m
Hotels, etc.	611	481	658	629
Shops	1 803	1 908	1 811	2 032
Factories	870	880	989	997
Offices	1 472	1 682	1 801	1 744
Other business premises	1 158	1 268	1 720	1 635
Educational	1 203	1 137	1 255	1 259
Religious	73	75	86	84
Health	636	862	766	737
Entertainment and recreational	1 167	901	936	1 377
Miscellaneous	621	552	706	723
Total non-residential building(a)	9 615	9 746	10 728	11 217

(a) Valued at \$50,000 or more.

Source: *Building Approvals, Australia (8731.0)* and *Building Activity, Australia (8752.0)*.

The total value of work done on non-residential building in 1995-96 was \$11,217m, an increase of 15% over the 1994-95 figure of \$9,746m. This follows a 14% increase from 1993-94 to 1994-95. All categories of non-residential building recorded increases in the value of work done in 1995-96, except Health which fell by 15%. Significant increases were recorded in the categories of Entertainment and recreational (53%), Hotels, etc. (31%), Miscellaneous (31%), Other business premises (29%), Factories (13%), Religious (12%) and Education (11%). There were also small increases in the categories Shops (6%) and Offices (4%).

Building activity at constant prices

Estimates of the value of building (residential and non-residential) work done at average 1989-90 prices are presented in table 19.10.

Constant price estimates measure changes in value after the direct effects of price changes have been eliminated.

At average 1989-90 prices, the value of building work done fell by \$1,676m (6%) to \$25,947m in 1995-96, following a rise of 7% in 1994-95.

This fall was entirely due to declining residential building activity in 1995-96. The value of work done on new houses fell by 20% to \$8,396m, the value of work done on new other residential buildings fell by 16% to \$3,768m and the value of work done on alterations and additions to residential buildings fell by 4% to \$2,286m. On the other hand, the value of work done on non-residential buildings increased by 13% from \$10,216m in 1994-95 to \$11,497m in 1995-96.

19.10 VALUE OF BUILDING WORK DONE, At Average 1989-90 Prices

	New residential building			Alterations and additions to residential buildings \$m	Non-residential building \$m	Total building \$m
	Houses \$m	Other residential buildings \$m	Total \$m			
1990-91	8 213	2 582	10 795	2 040	13 588	26 423
1991-92	8 530	2 445	10 975	1 941	10 386	23 302
1992-93	9 822	3 273	13 095	2 061	9 285	24 441
1993-94	10 652	3 844	14 497	2 180	9 112	25 788
1994-95	10 523	4 508	15 032	2 375	10 216	27 623
1995-96	8 396	3 768	12 164	2 286	11 497	25 947

Source: *Building Activity, Australia (8752.0)*.

Price indexes of materials used in building

Two price indexes measure the changes in prices of selected materials used in the construction of buildings, one for materials used in house building, the other for materials used in building other than house building.

Price index of materials used in house building

The All groups index (weighted average of the six State capital cities) increased by 0.3% (0.3 index points) from 1994-95 to 1995-96. This follows a 3.0% (3.4 index points) increase in the previous financial year (table 19.11)

Increases were recorded in the index in Hobart (up 2.9%), Adelaide (up 1.8%) and Sydney (up 0.8%). The index fell in the other States with Melbourne down 0.4%, Brisbane down 0.7% and Perth down 0.5%.

19.11 PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING, Six State Capital Cities(a)(b)

Financial year	Weighted average of six State capital cities	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart
1990-91	104.6	104.8	103.5	105.8	105.6	105.0	104.8
1991-92	104.9	105.0	102.8	107.9	106.0	104.5	108.0
1992-93	106.9	106.8	105.7	110.2	106.9	106.3	109.9
1993-94	112.0	111.3	112.1	113.5	109.1	117.1	112.8
1994-95	115.4	115.0	115.9	115.9	112.7	118.8	117.3
1995-96	115.7	115.9	115.4	115.1	114.7	118.2	120.7

(a) Reference base year 1989-90 = 100.0. (b) The separate city indexes measure price movement within each city individually. They do not compare price levels between cities.

Source: Price Index of Materials Used in House Building, Six State Capital Cities (6408.0).

Price index of materials used in building other than house building

The All groups index (weighted average of six State capital cities) increased by 2.1% (or 2.3 index points) from 1994-95 to 1995-96. This follows a 2.7% (2.9 index points) increase between 1993-94 and 1994-95 (table 19.12). The index rose in all States, with the largest increases

occurring in Perth (up 2.8%) and Hobart (up 2.6%). Sydney and Melbourne both recorded 2.0% increases, while the index rose by 1.9% in Brisbane. The smallest rise of all capital cities was in Adelaide, where the index rose by 1.6%.

19.12 PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING, Six State Capital Cities(a)(b)

Financial year	Weighted average of six State capital cities	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart
1990-91	105.1	105.6	104.5	104.8	105.3	105.5	103.9
1991-92	105.7	107.1	103.4	107.4	105.4	105.2	107.1
1992-93	106.0	106.5	104.4	108.9	105.1	105.7	108.2
1993-94	107.5	107.0	106.7	110.1	107.9	107.1	110.1
1994-95	110.4	110.3	108.9	112.9	110.9	110.1	112.2
1995-96	112.7	112.5	111.1	115.0	112.7	113.2	115.1

(a) Reference base year 1989-90 = 100.0. (b) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Source: Price Index of Materials Used in Building Other than House Building (6407.0).

Table 19.13 shows index numbers for selected materials used in building other than house building, over the six years 1990–91 to 1995–96.

19.13 PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING(a)

Material	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96
Structural timber	102.6	100.3	107.1	127.1	128.3	120.5
Clay bricks	103.5	105.0	106.2	107.8	111.0	110.0
Ready mixed concrete	109.4	106.0	103.5	106.7	112.4	108.2
Steel decking cladding and sheet products	105.2	106.6	108.4	107.5	108.9	110.9
Structural steel	102.0	100.7	101.2	104.3	105.3	109.3
Reinforcing steel bar fabric and mesh	106.4	105.8	109.2	112.7	111.5	112.0
Aluminium windows	101.8	99.5	99.1	99.7	105.4	108.4
Conductors (mains cable and circuitry)	114.3	113.6	109.2	99.2	114.2	127.5
Lamps and light fittings	99.9	100.8	101.0	102.7	104.2	106.9
Non-ferrous pipes and fittings	102.0	100.8	104.6	102.4	118.1	129.4
Builders' hardware	104.9	109.8	112.6	115.3	116.6	119.5
Paint and other coatings	108.5	116.7	118.2	119.9	123.3	129.1
All Groups	105.1	105.7	106.0	107.5	110.4	112.7

(a) Reference base year 1989–90 = 100.0.

Source: *Price Index of Materials Used in Building Other Than House Building, Six State Capital Cities and Canberra (6408.0)*.

Engineering construction

This section contains estimates of engineering construction activity in Australia for both public and private sector organisations. These estimates, together with the preceding data on residential and non-residential building, complete the picture of construction activity in Australia.

The total value of engineering construction work done during 1995–96 was \$14,595m, a \$1,580m (12%) rise on the 1994–95 estimate of \$13,015m (table 19.14). Engineering construction work done for the public sector rose by \$332m (4%) to \$9,457m and work done for the private sector increased by \$1,248m (32%) to \$5,138m.

Overall, significant expenditure occurred in the categories Roads, highways and subdivisions (30% of the total value of engineering construction work done), Telecommunications (19%), Heavy industry (15%) and Electricity generation, transmission and distribution (9%).

In terms of work done for the public sector, engineering construction activity centred around the categories Roads, highways and subdivisions, which accounted for 34% of total public sector activity (up from 33% in 1994–95), Telecommunications which was 28% (up from 24% in 1994–95), Railways which was 11% (up from 10% in 1994–95) and Electricity generation, transmission and distribution which was 9% (down from 14% in 1994–95).

In terms of work done for the private sector, major construction activity was undertaken in the categories Heavy industry, which rose by \$520m to \$2,156m and accounted for 42% of total private sector expenditure in 1995–96, and Roads, highways and subdivisions, which fell by \$11m to \$1,098m but still accounted for 21% of total private sector expenditure. Other categories to record significant increased activity were Electricity generation, transmission and distribution (up \$310m to \$473m) and Telecommunications (up \$120m to \$193m).

19.14 VALUE OF ENGINEERING CONSTRUCTION WORK DONE

	1994-95			1995-96		
	For the private sector \$m	For the public sector \$m	Total \$m	For the private sector \$m	For the public sector \$m	Total \$m
Roads, highways and subdivisions	1 109	3 005	4 114	1 098	3 238	4 335
Bridges	6	270	276	33	192	225
Railways	29	951	980	62	1 003	1 065
Harbours	25	81	107	23	81	104
Water storage and supply	267	460	727	255	375	630
Sewerage and drainage	72	538	611	149	480	629
Electricity generation, transmission and distribution	163	1 280	1 444	473	882	1 355
Pipelines	171	129	300	269	321	590
Recreation	326	139	465	391	180	571
Telecommunications	73	2 202	2 275	193	2 626	2 819
Heavy industry	1 636	62	1 697	2 156	66	2 222
Other	12	9	22	38	14	52
Total	3 890	9 125	13 015	5 138	9 457	14 595

Source: *Engineering Construction Activity, Australia (8762.0)*.

Labour costs

Average labour costs per employee in the construction industry increased by 4.8% between 1991-92 and 1993-94 to \$35,357. Labour costs per employee continued to be higher than the all industries average of \$32,755, primarily due to higher earnings, superannuation and workers' compensation costs (table 19.15).

The percentage distribution of labour costs remained fairly constant between 1991-92 and 1993-94 with earnings accounting for 87.6% of total labour costs. Superannuation accounted for 5.6%, payroll tax 3.1% and workers' compensation 3.1% (table 19.16).

19.15 AVERAGE LABOUR COSTS PER EMPLOYEE, Construction Industry

	1991-92		1993-94	
	Construction \$	All industries \$	Construction \$	All industries \$
Earnings	29 516	27 404	30 990	28 958
Other labour costs				
Superannuation	2 012	1 521	1 977	1 829
Payroll tax	930	1 079	1 106	1 131
Workers' compensation	1 086	582	1 090	598
Fringe benefits tax	206	219	195	240
Total other labour costs	4 233	3 401	4 368	3 797
Total labour costs	33 749	30 805	35 357	32 755

Source: *Labour Costs, Australia (6348.0)*.

19.16 LABOUR COSTS, Construction Industry — 1993-94

	% of total labour costs	
	Construction	All industries
Earnings	87.6	88.4
Other labour costs		
Superannuation	5.6	5.6
Payroll tax	3.1	3.5
Workers' compensation	3.1	1.8
Fringe benefits tax	0.6	0.7
Total other labour costs	12.4	11.6
Total labour costs	100.0	100.0

Source: *Labour Costs, Australia* (6348.0).

Industrial disputes

Of the 643 industrial disputes during 1995, 29 or 5% affected the construction industry. As was noted earlier, employment in the construction industry accounts for 7% of employment in all industries. These 29 disputes involved (either

directly or indirectly) 46,800 construction industry employees and resulted in the loss of 42,700 working days. This represents 8% of the total number of working days lost due to all industrial disputes in Australia in 1995.

19.17 INDUSTRIAL DISPUTES WHICH OCCURRED DURING 1995, Construction Industry

	Units	Construction	All industries
Total industrial disputes	no.	29	643
Employees involved (directly and indirectly)	'000	46.8	344.3
Working days lost	'000	42.7	547.6

Source: *Industrial Disputes, Australia* (6322.0).

Table 19.18 shows that, Australia wide, the construction industry recorded an average of 115 working days lost per thousand employees, 46% higher than the all industries average of 79 working days lost per thousand employees. Victoria and Queensland were the most strike affected States with 205 and 200 working days lost per thousand construction industry employees, respectively. Western Australia followed with 179 working days lost per thousand of its construction industry employees. Tasmania, the Northern Territory and the Australian Capital Territory had very little or no strike activity in the construction industry.

19.18 WORKING DAYS LOST DUE TO INDUSTRIAL DISPUTES, Construction Industry — 1995(a)

	Construction per '000 employees	All industries per '000 employees
NSW	19	48
Vic.	205	72
Qld	200	148
SA	25	28
WA	179	150
Tas.	—	22
NT	—	48
ACT	2	9
Aust.	115	79

(a) The basis for the calculation of working days lost per thousand employees was changed in January 1995 to use estimates of employees taken from the ABS Labour Force Survey only.

Source: *Industrial Disputes, Australia* (6321.0).

Trade union membership

In the last 10 years, the proportion of construction industry employees who are trade union members has fallen from almost a half in 1986 to less than a third in 1995.

In 1986, 48% of construction industry employees were trade union members. In more recent years, this percentage fell to 42% in 1992, 35% in 1993, 34% in 1994 and 31% in 1995.

This fall in trade union membership was not restricted to the construction industry. As table 19.20 shows, in all industries the estimated average trade union membership has also been falling steadily from 40% in 1992 to 38% (1993), 35% (1994), 33% (1995).

As might be expected, in the construction industry in 1995, permanent employees who were male were most likely to belong to trade unions with 41% of this category belonging to a union. Female employees in the construction industry were less likely to belong to trade

unions with only 11% of permanently employed females being trade union members (table 19.19).

19.19 EMPLOYEES WHO WERE TRADE UNION MEMBERS, Construction Industry — August 1995

	Construction %	All industries %
Males		
Permanent	41.0	40.5
Casual	14.4	14.8
Total	33.8	35.7
Females		
Permanent	11.3	35.8
Casual	2.4	13.8
Total	7.8	29.1
Total		
Permanent	38.0	38.6
Casual	12.4	14.2
Total	30.6	32.7

Source: Trade Union Members, Australia (6325.0.40.001).

19.20 EMPLOYEES WHO WERE TRADE UNION MEMBERS, Construction Industry

	Units	Construction	All industries
August 1992			
Number of members	'000	123.9	2 508.8
Proportion of employees who are in trade unions	%	42.4	39.6
August 1993			
Number of members	'000	110.1	2 376.9
Proportion of employees who are in trade unions	%	35.3	37.6
August 1994			
Number of members	'000	113.4	2 283.4
Proportion of employees who are in trade unions	%	34.1	35.0
August 1995			
Number of members	'000	105.1	2 251.8
Proportion of employees who are in trade unions	%	30.6	32.7
Total number of employees	'000	343.1	6 882.2

Source: Trade Union Members, Australia (6325.0.40.001).

Housing

The adequacy or otherwise of housing is an important component of individual well-being. Housing also has an enormous significance in the national economy, with its influence on investment levels, interest rates, building activity and employment.

This part of the chapter provides a profile of the various aspects of housing in Australia, based on information from the 1994 Australian Housing Survey and from periodic surveys. Care should be taken when comparing statistics from different sources because of differences in the timing and conceptual bases of individual statistical collections.

Types of dwellings

The separate house is the most popular type of dwelling in Australia, making up 79% of all dwellings. Tasmania has the highest proportion of separate houses (85%) and the Northern

Territory the lowest (63%). All other States and the Australian Capital Territory are in the range 76 to 82%.

Flats or apartments are the next most common type of dwelling. About 12% of dwellings in Australia are of this type. South Australia (6%) and Western Australia (7%) have relatively low percentages of flats or apartments. The Northern Territory with 25% has the highest proportion of flats or apartments.

Semi-detached, row or terrace houses and town houses comprise 8% of dwellings in Australia. South Australia and Western Australia are the only States which have more semi-detached type housing than flats or apartments, while the Australian Capital Territory has equal proportions of each type (9%). In South Australia there are over twice the proportion of semi-detached dwellings (16%) than of flats or apartments (6%).

19.21 NUMBER OF DWELLINGS, By State/Territory — 1994

	Separate house '000	Semi-detached/row or terrace house/ townhouse '000	Flat/ unit/apartment '000	Other '000	Total '000
New South Wales	1 705.3	183.4	343.9	*4.6	2 237.2
Victoria	1 344.8	98.8	212.7	*1.3	1 657.6
Queensland	985.0	54.9	150.7	*3.4	1 194.1
South Australia	457.0	93.0	35.4	*2.5	587.9
Western Australia	521.3	71.1	45.2	*3.1	640.7
Tasmania	155.3	9.7	17.7	*0.5	183.3
Northern Territory	42.0	6.4	16.6	*1.4	66.5
Australian Capital Territory	89.9	10.4	10.3	—	110.6
Australia	5 300.7	527.9	832.5	16.8	6 677.9

Source: 1994 Australian Housing Survey.

Number of bedrooms

One indicator of dwelling size is the number of bedrooms. In 1994 over half of all dwellings in Australia had three bedrooms (53%). About 61% of separate houses had three bedrooms, while two bedroom dwellings were more common in semi-detached homes and flats and apartments (52% and 64% respectively).

Over a third of three bedroom dwellings only had two persons living in them (36%), a further 23% of three bedroom dwellings had three

persons, and 19% had four persons. About 16% of three bedroom dwellings had only one person living in them.

Information on the incidence of other types of rooms such as bathrooms, toilets, laundries and lounge/dining/family rooms is available from the 1994 Australian Housing Survey.

19.22 NUMBER OF DWELLINGS, By Dwelling Structure and Number of Bedrooms — 1994

No. of bedrooms	Separate house '000	Semi-detached/row or terrace house/townhouse '000	Flat/unit/apartment '000	Other '000	Total '000
Bedsitter	*3.6	*1.7	15.0	5.7	26
One bedroom	65	53.7	193.0	6.4	318
2 bedrooms	757	274.9	533.0	*3.9	1 569
3 bedrooms	3 241	184.4	87.0	*0.8	3 513
4 or more bedrooms	1 234	13.3	4.4	—	1 252
Total	5 301	527.9	832.5	16.8	6 678

Source: 1994 Australian Housing Survey.

Home ownership and renting

In 1994, of the 6,677,900 households in Australia, 70% either owned or were purchasing their dwelling. A further 28% of households rented their dwellings. Only 6% of households

were renting from public housing, while 21% of households were renting from 'other' landlords including real estate agents, private landlords and employers.

19.23 DWELLING STRUCTURE, By Tenure Type — 1994

Tenure type	Separate house '000	Semi-detached/row or terrace house/townhouse '000	Flat/unit/apartment '000	Other '000	Total '000
Owner	2 501.8	137.7	143.0	11.3	2 793.9
Purchaser	1 719.9	89.2	79.9	*1.3	1 890.3
Renter					
Public	222.6	93.7	98.5	—	414.8
Private	653.5	177.5	439.2	*1.3	1 271.4
Total(a)	975.5	290.4	576.7	*2.6	1 845.1
Rent free	80.2	7.3	18.4	*1.6	107.4
Other	23.2	*3.4	14.5	—	41.2
Total	5 300.7	527.9	832.5	16.8	6 677.9

(a) Includes a small number of 'other' landlord types (total 158 900).

Source: 1994 Australian Housing Survey.

Around 90% of owners and purchasers lived in separate houses. Of renter households, 53% lived in separate houses and 31% lived in flats, units or apartments.

Almost 34% of households who owned their own home were couples with no children. Another 30% of owners were couple households with dependent or non-dependent children. One parent households accounted for 6% of

owners and lone person households made up 24% (based on table 19.24).

The majority (81%) of couple households owned or were buying their dwelling, with only 18% renting. This compares with one parent families of whom 49% owned or were buying their home, 21% were renting government housing and 26% were renting privately.

19.24 TENURE, By Type of Household — 1994

Type of household	Owner '000	Purchaser '000	Public renter '000	Private renter '000	Total renter(a) '000	Rent- free '000	Other '000	Total '000
Couple only	942.9	401.3	47.6	221.8	296.8	20.9	*3.3	1 665.2
Couple with dependants or non-dependants	848.1	1 021.5	91.5	264.3	401.3	29.3	5.4	2 305.5
One parent	165.2	115.9	118.9	148.6	281.7	8.4	*3.1	574.2
Lone person	670.9	219.7	133.7	339.6	511.0	41.7	19.7	1 463.0
Other	166.8	131.9	23.1	297.1	354.3	7.3	9.6	670.0
Total	2 793.9	1 890.3	414.8	1 271.4	1 845.1	107.4	41.2	6 677.9

(a) Includes a small number of 'other' landlord types (total 158 900).

Source: 1994 Australian Housing Survey.

The pattern of different types of tenure varies across States and Territories.

Victoria had the highest proportion of home ownership with 74% of dwellings either being

purchased or owned outright. The Northern Territory and the Australian Capital Territory have 43% and 64% respectively.

19.25 TENURE, By State/Territory — 1994

State/Territory	Owner '000	Purchaser '000	Renter				Other '000	Total '000
			Public '000	Private '000	Total(a) '000	Rent-free '000		
NSW	984.6	577.7	157.0	425.2	630.6	32.0	12.3	2 237.2
Vic.	733.6	498.6	61.0	307.4	392.1	24.0	9.2	1 657.6
Qld	469.1	335.2	49.0	270.1	359.4	21.4	8.9	1 194.1
SA	241.8	167.4	65.6	83.3	163.3	11.4	*4.0	587.9
WA	241.4	205.3	40.3	120.7	178.8	10.7	4.6	640.7
Tas.	82.8	46.5	13.3	31.0	47.6	4.9	*1.4	183.3
NT	9.5	19.5	14.2	11.9	34.9	*2.4	*0.1	66.5
ACT	31.1	40.1	14.2	21.9	38.3	*0.6	*0.5	110.6
Aust.	2 793.9	1 890.3	414.8	1 271.4	1 845.1	107.4	41.2	6 677.9

(a) Total renters includes a small number of 'other' landlord types (total 158 900).

Source: 1994 Australian Housing Survey.

Accessibility and affordability of housing

Housing costs

Housing costs are considerably smaller for home owners than for purchasers and renters. In 1994, the average housing cost was \$38 per week for an owner, and over 80% had housing costs of less than \$50 per week.

Households who were purchasing their home had the highest housing costs, spending an average of \$220 per week. Private renters had significantly higher housing costs (\$141) than public renters (\$62).

19.26 HOUSING COSTS, By Tenure Type — 1994(a)

Weekly housing costs	Owner '000	Purchaser '000	Public renter '000	Private renter '000	Total renter(b) '000	Total '000
\$1-\$49	2 070.8	54.9	182.4	27.1	252.9	2 378.6
\$50-\$99	308.5	173.4	164.1	222.2	439.8	921.6
\$100-\$149	86.9	299.8	45.0	522.8	593.9	980.7
\$150-\$199	32.7	364.3	12.8	316.8	339.8	736.9
\$200-\$299	21.9	508.3	0.5	106.8	111.6	641.7
\$300-\$399	7.9	177.3	—	21.2	21.2	206.4
\$400-\$599	3.8	90.1	0.4	10.1	10.5	104.4
\$600 or more	0.5	37.6	—	3.0	3.0	41.1
Total	2 532.9	1 705.7	405.3	1 229.9	1 772.7	6 011.4

(a) Includes only households with stated housing costs. (b) Includes a small number of 'other' landlord types (total 158 900).

Source: 1994 Australian Housing Survey.

Table 19.27 shows that almost three quarters (74%) of all households with stated housing costs paid 25% or less of their income on housing costs. Nearly all owners (93%) paid 25% or less of their income on housing costs, while 62% of renters and 59% of purchasers paid 25%

or less. Purchasers had higher incomes than renters, with 32% of purchasers (12% of renters) falling within the highest income quintile (i.e. the highest 20% of units when ranked according to income).

19.27 HOUSEHOLDS(a), Tenure Type — 1994

Housing costs as a proportion of income	Weekly income quintile					Total '000
	Lowest '000	2nd '000	3rd '000	4th '000	Highest '000	
OWNER						
25% or less	526.2	546.6	433.6	410.7	444.6	2 361.7
More than 25%	123.0	34.3	9.6	*2.2	*2.1	171.2
More than 30%	105.5	23.3	4.7	*1.1	*1.6	136.2
More than 40%	79.1	10.6	*2.8	*0.8	*1.2	94.5
Total	649.2	580.9	443.2	412.9	446.7	2 532.9
PURCHASER						
25% or less	16.2	45.2	157.0	334.2	451.8	1 004.4
More than 25%	78.2	133.8	231.6	168.1	89.7	701.3
More than 30%	72.8	113.6	166.2	96.2	45.3	494.1
More than 40%	63.3	71.2	67.0	36.6	17.4	255.5
Total	94.3	179.0	388.5	502.3	541.5	1 705.7
PUBLIC RENTER						
25% or less	143.5	111.3	58.1	21.1	5.9	339.9
More than 25%	46.8	17.3	*1.4	—	—	65.4
More than 30%	19.9	7.5	—	—	—	27.4
More than 40%	10.3	*1.5	—	—	—	11.9
Total	190.3	128.5	59.5	21.1	5.9	405.3
PRIVATE RENTER						
25% or less	11.5	58.1	184.1	223.9	168.0	645.7
More than 25%	202.8	252.4	102.3	21.8	4.9	584.3
More than 30%	196.5	191.4	39.4	13.3	*1.5	442.2
More than 40%	169.1	92.7	6.2	*3.6	**0.6	272.2
Total	214.4	310.6	286.4	245.8	172.8	1 229.9
TOTAL RENTER(b)						
25% or less	172.5	184.3	267.9	274.4	201.4	1 100.6
More than 25%	260.7	272.9	110.4	22.9	5.3	672.2
More than 30%	224.2	201.0	43.4	13.6	*1.9	484.1
More than 40%	187.6	96.2	6.8	*3.6	*0.6	294.8
Total	433.2	457.2	378.3	297.3	206.7	1 772.7
TOTAL						
25% or less	714.9	776.2	858.5	1 019.3	1 097.7	4 466.6
More than 25%	461.9	441.0	351.5	193.2	97.1	1 544.7
More than 30%	402.5	337.9	214.4	110.8	48.8	1 114.4
More than 40%	330.0	178.1	76.7	40.9	19.2	644.9
Total	1 176.8	1 217.2	1 210.0	1 212.6	1 194.9	6 011.4

(a) Households with stated housing costs. (b) Includes a small number of 'other' landlord types (total 158 900).

Source: 1994 Australian Housing Survey.

House price indexes

The price indexes of established houses and project homes over recent years are shown in tables 19.28 and 19.29.

Darwin, Sydney and Hobart were the only capital cities where the price index of established houses for 1995–96 was higher than for 1994–95. As in the previous three years, Darwin recorded the highest increase (6%). In Sydney and Hobart, established house prices for 1995–96 rose 2% and 1% respectively. For each

of the cities the price increase for 1995–96 was lower than in the preceding two years.

Established house prices in 1995–96 in Melbourne, Brisbane, Adelaide, Perth and Canberra fell in 1995–96 compared to 1994–95. Adelaide recorded the largest fall of 3% followed by Canberra and Brisbane with falls of about 2%. In 1994–95 prices increased in all of the cities except Canberra.

Project home prices rose in 1995–96 in all capital cities except Adelaide and Canberra. Darwin recorded the largest increase of almost 4%. In Canberra the project home price index fell by nearly 4%. All capital cities except Canberra recorded increases in project home prices in 1994–95.

The price index of materials used in house building is discussed earlier in this chapter (see table 19.11).

19.28 PRICE INDEX NUMBERS FOR ESTABLISHED HOUSES(a)

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra
INDEX NUMBER								
1992–93	105.3	93.1	134.9	110.1	98.4	116.6	133.6	134.2
1993–94	108.8	95.2	138.0	109.1	104.7	122.5	155.7	134.4
1994–95	113.7	97.9	139.3	111.7	109.0	129.0	178.1	130.4
1995–96	115.8	97.6	136.8	108.3	108.2	129.8	188.0	127.8
CHANGE FROM PREVIOUS YEAR (%)								
1993–94	3.3	2.3	2.3	-0.9	6.4	5.1	16.5	0.1
1994–95	4.5	2.8	0.9	2.4	4.1	5.3	14.4	-3.0
1995–96	1.8	-0.3	-1.8	-3.0	-0.7	0.6	5.6	-2.0

(a) Reference base year 1989–90 = 100.0.

Source: *House Price Indexes: Eight Capital Cities (6416.0)*.

19.29 PRICE INDEX NUMBERS FOR PROJECT HOMES(a)

	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Darwin	Canberra
INDEX NUMBER								
1992–93	103.6	100.4	108.8	105.4	92.8	114.1	111.4	131.8
1993–94	105.8	103.9	110.1	111.4	96.2	117.7	118.6	132.7
1994–95	107.9	105.8	112.5	114.6	100.0	121.3	125.2	129.2
1995–96	110.2	107.3	113.7	112.8	101.6	123.4	129.9	124.7
CHANGE FROM PREVIOUS YEAR (%)								
1993–94	2.1	3.5	1.2	5.7	3.7	3.2	6.5	0.7
1994–95	2.0	1.8	2.2	2.9	4.0	3.1	5.6	-2.6
1995–96	2.1	1.4	1.1	-1.6	1.6	1.7	3.8	-3.5

(a) Reference base year 1989–90 = 100.0.

Source: *House Price Indexes: Eight Capital Cities (6416.0)*.

Housing finance

Table 19.30 presents statistics of secured housing finance commitments made by significant lenders to individuals for the construction or purchase of dwellings for owner occupation.

In 1995–96, a total of \$43,620m was committed for the purchase of 451,465 dwellings. The value of housing loans increased by 3% from 1994–95 to 1995–96, while the number of loans recorded a slight increase. The number of loans was 17% lower than the 1993–94 peak of 544,485. In

1995–96, 81% of the money was used to purchase or refinance established dwellings, 14% to finance construction of new dwellings and the remainder (5%) was used to purchase newly erected dwellings.

Banks continued to be the predominant lenders. In 1995–96, the number of finance commitments made by banks decreased by 4% to 382,446 (85% of all borrowers, down from 88% in the previous year).

The number of finance commitments made to individuals by permanent building societies in 1995–96 fell by 10% to 24,125 (5% of all borrowers). The number of finance commitments to individuals made by other lenders in 1995–96 increased by 69% to 44,894 (10% of all borrowers, up from 6% last year),

indicating the growing popularity of alternative mortgage providers.

In 1995–96, the average borrowing from banks was \$96,300, from permanent building societies \$92,700, from other lenders \$101,800, and from all types of lenders \$96,600.

19.30 HOUSING FINANCE FOR OWNER OCCUPATION, By Type of Lender

	Unit	Type of lender			Total
		Banks	Permanent building societies	Other lenders	
CONSTRUCTION OF DWELLINGS					
Dwelling units					
1990–91	no.	52 256	4 979	5 890	63 125
1991–92	no.	60 229	7 372	6 941	74 542
1992–93	no.	80 015	4 848	5 454	90 317
1993–94	no.	89 498	5 504	3 907	98 909
1994–95	no.	r73 597	4 464	3 717	r81 778
1995–96	no.	56 537	3 339	4 289	64 165
Value of commitments					
1990–91	\$m	3 043.9	372.9	404.4	3 821.2
1991–92	\$m	3 749.5	564.4	514.3	4 828.3
1992–93	\$m	5 637.8	402.9	409.4	6 450.1
1993–94	\$m	7 325.2	510.8	317.8	8 153.8
1994–95	\$m	r6 495.4	429.2	350.8	r7 275.3
1995–96	\$m	5 334.2	340.1	395.5	6 069.8
PURCHASE OF NEWLY ERECTED DWELLINGS					
Dwelling units					
1990–91	no.	10 117	2 260	4 034	16 411
1991–92	no.	11 925	3 481	4 360	19 766
1992–93	no.	16 310	1 394	2 876	20 580
1993–94	no.	22 290	1 666	1 276	25 232
1994–95	no.	r19 228	990	1 440	r21 658
1995–96	no.	18 344	470	2 007	20 821
Value of commitments					
1990–91	\$m	773.2	201.5	345.5	1 320.3
1991–92	\$m	949.8	310.3	376.1	1 636.2
1992–93	\$m	1 420.4	127.5	202.4	1 750.3
1993–94	\$m	2 101.1	156.7	110.6	2 368.4
1994–95	\$m	r1 985.7	98.8	140.2	r2 224.6
1995–96	\$m	1 917.1	49.1	212.5	2 178.5
PURCHASE OF ESTABLISHED DWELLINGS					
Dwelling units					
1990–91	no.	155 369	29 853	28 963	214 185
1991–92	no.	225 969	36 859	22 170	284 998
1992–93	no.	306 474	23 347	12 420	342 241
1993–94	no.	378 975	28 992	12 377	420 344
1994–95	no.	305 249	21 271	r21 392	r347 912
1995–96	no.	307 565	20 316	38 598	366 479
Value of commitments					
1990–91	\$m	11 320.0	2 283.4	2 030.8	15 634.3
1991–92	\$m	17 563.0	2 922.6	1 588.4	22 073.9
1992–93	\$m	25 928.1	1 810.8	838.6	28 577.5
1993–94	\$m	34 076.8	2 330.2	902.8	37 309.8
1994–95	\$m	28 844.0	1 854.8	2 107.3	32 806.1
1995–96	\$m	29 562.8	1 847.1	3 961.7	35 371.7

...continued

19.30 HOUSING FINANCE FOR OWNER OCCUPATION, By Type of Lender —
continued

	Unit	Type of lender			Total
		Banks	Permanent building societies	Other lenders	
TOTAL					
Dwelling units					
1990-91	no	217 742	37 092	38 887	293 721
1991-92	no	298 123	47 712	33 471	379 306
1992-93	no	402 799	29 589	20 750	453 138
1993-94	no	490 763	36 162	17 560	544 485
1994-95	no	r398 074	26 725	r26 549	r451 348
1995-96	no	382 446	24 125	44 894	451 465
Value of commitments					
1990-91	\$m	15 137.2	2 857.9	2 780.7	20 775.7
1991-92	\$m	22 262.3	3 797.3	2 478.8	28 538.4
1992-93	\$m	32 986.4	2 341.3	1 450.4	36 778.0
1993-94	\$m	43 503.1	2 997.7	1 331.1	47 831.9
1994-95	\$m	r37 325.0	2 382.7	2 598.2	r42 306.0
1995-96	\$m	36 814.1	2 236.3	4 569.5	43 620.0

Source. *Housing Finance for Owner Occupation, Australia (5609.0)*.

Government initiatives

The Commonwealth Government has developed an integrated set of policies for housing and urban development which are aimed at expanding the range and supply of secure, affordable and appropriate housing choices accessible to all Australians. Some of these are outlined below.

Regional development

The Minister for Transport and Regional Development released the statement *Rebuilding Regional Australia* in conjunction with the 1996-97 Budget. Some of the initiatives announced in that statement are outlined below.

Ministerial Working Group on Regional Affairs

A Ministerial working group has been established comprising Ministers whose portfolios have greatest impact on regional Australia.

Chaired by the Minister for Transport and Regional Development, its task is to ensure that the needs and performance of regional areas are understood and responded to. In particular it will provide a focus for the facilitation of major projects in regional Australia which have national significance, and for improved access by regions to services that are important to their economic development.

Understanding Our Regions

The Government has indicated that it will improve access by regions to sources of data held by the Commonwealth which are relevant to their economic performance. The intention is to create an incentive among regions to improve overall economic performance as well as in marketing of regions to potential investors.

Recognising Leadership

The Commonwealth Government has identified regional leadership as a key component of economic innovation, vigour and self reliance. A range of measures will be proposed to lift regional leadership skills. This will take place in concert with the States and Territories.

Australian Institute of Health and Welfare

The Institute's role is to gather, analyse and disseminate national data on health and welfare services, including housing assistance, in order to support planning and policy making by government and community organisations. In 1995 the Institute published *Australia's Welfare 1995: Services and Assistance* which contains a chapter on housing assistance and services. Included in this chapter were assessments of population changes and their impact on housing requirements, estimates of housing need, a statistical profile of recipients of various forms of housing assistance and analysis of housing assistance outcomes.

In September 1995, the National Data Collection Agency was established at the Institute with the purpose of providing all Supported Assistance Accommodation Program (SAAP) stakeholders with access to accurate and reliable information for use in service delivery planning, program monitoring and assessing program outcomes. A continuous data collection commenced in July 1996, involving data on all homeless people using SAAP services. Two related data collections will also be undertaken. A two-week census of persons who are not provided with requested services was conducted in October 1996. Another census of casual clients receiving only one-off assistance will be conducted over two weeks in May 1997.

Commonwealth–State Housing Agreement

While most Australians are able to house themselves without government assistance, such assistance remains important for various population groups, especially low income

earners. The *Housing Assistance Act 1989* provided the legislative basis for the Commonwealth's provision of financial assistance to the States and Territories for housing and related purposes up to 30 June 1996. The Commonwealth-State Housing Agreement (CSHA), incorporated into the Act, set out the terms for the provision of housing assistance for rental housing, home purchases and other specific housing programs. Details of the assistance provided under the CSHA are set out in table 19.31. The Commonwealth Government and State/Territory Governments have negotiated a new outcomes-based CSHA, which started on 1 July 1996. Negotiations are continuing on longer term reforms to make housing assistance more effective and accountable by clarifying Commonwealth and State roles and responsibilities.

19.31 COMMONWEALTH PAYMENTS TO STATES/TERRITORIES UNDER THE CSHA — 1995–96

	NSW '000	Vic. '000	Qld '000	WA '000	SA '000	Tas. '000	ACT '000	NT '000	Aust. '000
Untied grants	257 356	185 812	137 217	70 714	50 508	29 617	18 182	13 510	762 916
Pensioner Rental Housing Program	18 520	10 882	9 791	4 153	3 945	1 429	523	523	49 766
Aboriginal Rental Housing Program	17 777	3 638	30 405	15 862	8 342	1 392	—	19 669	97 085
Mortgage and Rent Assistance Program	10 481	7 734	5 574	2 956	2 537	815	520	297	30 914
Crisis Accommodation Program	14 803	9 921	7 150	7 096	4 554	2 164	753	476	46 917
Community Housing Program	24 257	18 843	13 540	7 119	6 159	2 258	1 161	1 016	74 353
Total	343 194	236 830	203 677	107 900	76 045	37 675	21 139	35 491	1 061 951

Source: Department of Social Security.

Commonwealth housing assistance provided under the CSHA is complemented by financial assistance for housing through a number of other programs which include:

- Rent assistance — a tax free allowance paid by the Departments of Social Security and Veterans Affairs to pensioners, beneficiaries and low income recipients who pay rent (other than to a public housing authority), lodging, board and lodging, or site rent fees.
- Supported Accommodation Assistance Program — funds a range of transitional

supported accommodation and related support services to assist people who are homeless, or at imminent risk of homelessness, and in crisis, to achieve a greater independence. Capital housing funds for this initiative are available under the Crisis Accommodation Program (CAP) within the Commonwealth State Housing Agreement.

- Residential care for older people — provides funding to a range of organisations that provide suitable accommodation for older people.

- Disabilities Services Program — under the Commonwealth State Disability Agreement the State Government is responsible for the administration of accommodation and other support services.
- Housing assistance programs for Aboriginal and Torres Strait Islander peoples — a range of programs administered by the Aboriginal and Torres Strait Islander Commission.

A housing authority exists in each State and Territory which is responsible for home construction, home loans, and the provision of homes on a rental basis, as follows:

New South Wales — Department of Housing;

Victoria — Department of Human Services;

Queensland — Department of Public Works and Housing;

South Australia — South Australian Housing Trust;

Western Australia — Homeswest;

Tasmania — Department of Community and Health Services;

Northern Territory — Department of Lands, Housing and Local Government; and

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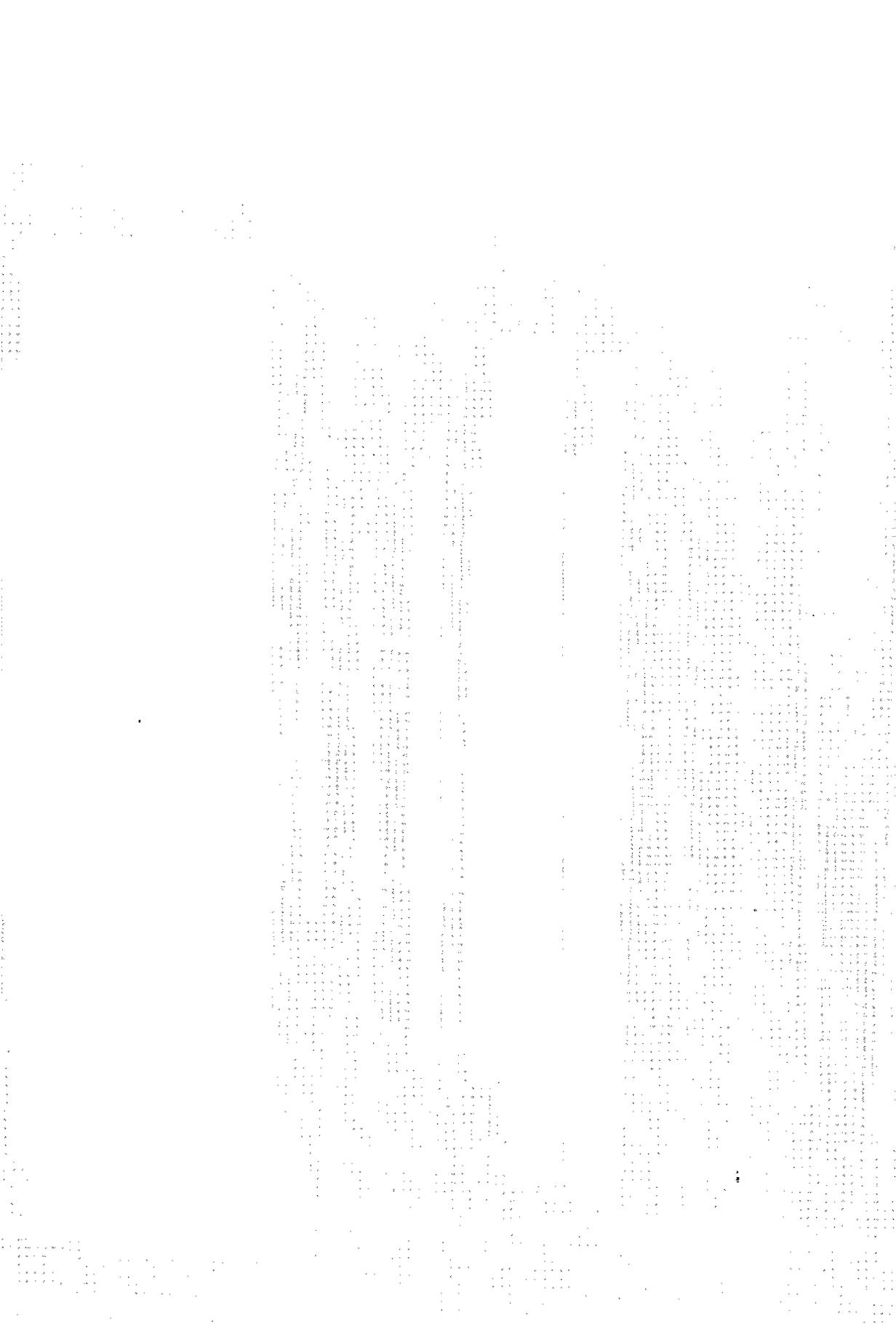
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Introduction	495
An overview	495
Statistics for selected service industries	497
Real estate agents 1992–93	498
Computer services 1992–93	498
Legal and accounting services 1992–93	499
Architectural, consultant engineering and surveying services 1992–93	500
Film and video production and distribution 1993–94	500
Motion picture exhibition 1993–94	501
Radio and television services 1993–94	501
Private medical practice industry 1994–95	502
Sports industries 1994–95	502
Gambling services 1994–95	503
Clubs (hospitality) and pubs, taverns and bars 1994–95	503
Bibliography	505



Introduction

The service industries sector is a significant and growing component of the Australian economy. It is now clearly the major element in terms of numbers of businesses, employment and output. This chapter presents an overview of the service industries sector and provides more detailed information for a range of selected service industries which have recently been covered in the rotating program of ABS service industries surveys.

For the purposes of this chapter the service industries sector has been defined as all industries other than the goods producing industries (agriculture, mining and manufacturing), the utilities (electricity, gas and water supply) and the construction industry. In terms of the Australian and New Zealand Standard Industrial Classification (ANZSIC) the service industries cover the wholesale and retail trade, accommodation, cafes and restaurants,

transport and storage, communications, finance and insurance, property and business services, government administration and defence, education, health and community services, cultural and recreational services and personal and other services.

An overview

The service industries sector of the Australian economy is its largest component in terms of number of businesses, employment and gross product.

Of the estimated 923,000 private sector businesses in Australia in 1994–95, some 589,000 or 64% were in the service industries. For small businesses (those with less than 20 employees) the proportions are similar, service industries accounting for 64% of the 887,000 small businesses in Australia (table 20.1).

20.1 NUMBER OF BUSINESSES — 1994–95

	Unit	Small businesses	Other businesses	Total
Agriculture	'000	101.5	8.9	110.4
Mining	'000	2.5	0.3	2.8
Manufacturing	'000	67.9	1.5	69.4
Electricity, gas and water supply	'000	0.1	0.0	0.1
Construction	'000	149.7	1.8	151.5
Service industries				
Wholesale trade	'000	50.0	3.9	53.9
Retail trade	'000	134.7	4.0	138.7
Accommodation, cafes and restaurants	'000	25.4	3.1	28.5
Transport and storage	'000	44.1	1.4	45.5
Communication services	'000	8.0	0.0	8.0
Finance and insurance	'000	20.7	1.1	21.8
Property and business services	'000	131.4	3.9	135.3
Education	'000	15.6	1.1	16.7
Health and community services	'000	53.5	2.8	56.3
Cultural and recreational services	'000	27.2	1.0	28.2
Personal and other services	'000	55.0	0.9	55.9
Total	'000	565.6	23.0	588.6
Total — all industries	'000	887.3	35.5	922.8
Businesses in service industries as a percentage of all businesses	%	63.7	64.8	63.8

Source: *Small Business in Australia 1995* (1321.0).

As table 20.2 shows, in terms of employment the service industries sector is even more dominant, accounting for 72% of employment at August 1996. Total employment in the sector was 6,015,000 persons, of whom 4,242,000 were in

full time employment and 1,773,000 in part time employment. The high proportion (29%) of part time employment is a feature of the service industries. In the remainder of the economy part

time employment accounts for only 13% of employment.

20.2 EMPLOYED PERSONS, By Industry

	Full time employment			Part time employment			Total employment		
	1986(a) '000 persons	1996(a) '000 persons	increase %	1986(a) '000 persons	1996(a) '000 persons	increase %	1986(a) '000 persons	1996(a) '000 persons	increase %
Agriculture	330	319	-3.4	87	103	18.7	417	422	1.2
Mining	94	87	-7.5	1	4	185.7	96	91	-4.7
Manufacturing	1 031	1 012	-1.9	87	107	23.2	1 118	1 119	0.1
Electricity, gas and water	135	66	-51.6	2	3	36.4	138	69	-50.2
Construction	435	510	17.2	61	93	51.5	497	603	21.5
Service industries									
Wholesale trade	381	423	10.9	46	71	55.6	427	495	15.8
Retail trade	652	706	8.3	306	533	74.2	958	1 238	29.3
Accommodation, cafes and restaurants	140	212	52.0	100	166	66.4	240	379	58.0
Transport and storage	349	341	-2.4	36	52	43.6	386	393	1.9
Communication	144	144	0.4	14	20	40.6	158	164	4.1
Finance and insurance	272	263	-3.5	35	50	41.3	307	312	1.6
Property and business services	359	621	73.1	97	192	98.3	455	813	78.5
Government administration and defence	304	320	5.5	22	52	132.0	326	372	14.1
Education	336	404	20.2	136	186	36.7	473	590	25.0
Health and community services	389	473	21.5	182	293	60.8	572	766	34.0
Cultural and recreational services	88	111	26.3	39	78	100.5	127	189	49.0
Personal and other services	169	224	32.7	58	81	40.6	227	305	34.7
Total	3 583	4 242	18.4	1 071	1 773	65.6	4 653	6 015	29.3
Total all industries	5 609	6 236	11.2	1 310	2 083	59.1	6 919	8 320	20.3
	%	%	..	%	%	..	%	%	..
Service industries as a percentage of all industries	63.9	68.0	..	81.7	85.1	..	67.3	72.3	..

(a) At August.

Source: Labour Force, Australia (6203.0).

Since August 1986, employment in service industries has increased 29%, full time employment increasing 18%, and part time 66%. In contrast, over the same period employment has increased marginally (1%) in agriculture, is virtually unchanged in manufacturing and declined 5% in mining. All the goods producing industries have recorded a decline in full time employment in the period.

Within the service industries the major employing industry is retail trade with 1,238,000 persons employed, representing 15% of all employment. The industry showing the greatest growth since 1985 is property and business services, where employment has increased 79%, from 455,000 persons to 813,000 persons.

Industry output or gross product (at average 1989-90 prices) of the services sector in 1994-95 was \$239,130m and accounted for 64% of the gross product of all industries, as shown in table 20.3. Since 1985-86 there has been an increase of 36% in the gross product (at average 1989-90 prices) of the service industries sector. The goods producing sector has not performed as well; while mining and manufacturing recorded increases of 35% and 31% respectively, agriculture's gross product fell 1% in the period. As a result the share of the economy, as measured by gross product, held by service industries has increased from 62% to 64% in the period 1985-86 to 1994-95.

The largest contributor to the service industries sector was the wholesale trade industry, which had a gross product of \$40,941m, representing 17% of service industries gross product. The

next largest was property and business services with a gross product of \$33,698m, 14% of the total for the service industries sector.

20.3 GROSS PRODUCT AT AVERAGE 1989-90 PRICES, By Industry

	1985-86 \$m	1994-95 \$m	% increase
Agriculture	13 736	13 558	-1.3
Mining	13 352	17 967	34.6
Manufacturing	49 473	64 623	30.6
Electricity, gas and water	10 350	13 449	29.9
Construction	23 022	27 033	17.4
Service industries			
Wholesale trade	31 830	40 941	28.6
Retail trade	24 814	30 008	20.9
Accommodation, cafes and restaurants	5 634	7 892	40.1
Transport and storage	16 631	23 724	42.6
Communication	6 047	13 467	122.7
Finance and insurance	15 274	17 034	11.5
Property and business services	23 170	33 698	45.4
Government administration and defence	11 593	15 226	31.3
Education	13 812	19 153	38.7
Health and community services	15 493	22 042	42.3
Cultural and recreational services	6 436	9 106	41.5
Personal and other services	5 089	6 839	34.4
Total	175 823	239 130	36.0
Total — all industries(a)	285 756	375 760	31.5
	%	%	..
Service industries as a percentage of all industries	61.5	63.6	..

(a) Excludes ownership of dwellings, import duties and imputed bank service charge.

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

Statistics for selected service industries

As part of its strategy to extend and improve statistics in respect of the services sector, the ABS has been increasing its collection activity for the sector, and introduced an annual program of collections starting with the reference year 1991-92. However, due to the diversity and large number of service industries, the program covers only some industries each year, and it will take a number of years before all industries in the sector are surveyed.

For 1991-92, surveys were conducted of the hospitality industries (comprising accommodation; pubs, bars and taverns; cafes and restaurants; licensed clubs; and casinos) and the motor vehicle hire industry. For 1992-93, surveys were undertaken of real estate agents and a range of business services, specifically computer services, legal and accounting services, advertising services, market research

services, business management services, architectural services, surveying services and consultant engineering services.

For 1993-94, surveys of film production and distribution, motion picture exhibition and radio and television services were undertaken. For 1994-95, the surveys covered the private medical practice industry and the sport, recreation and gambling industries, including clubs (hospitality), pubs, taverns and bars.

Results for a selection of these collections are presented below.

20.4 REAL ESTATE AGENTS INDUSTRY — 1992-93

	1986-87	1992-93	increase
	no.	no.	%
Number of businesses	5 091	7 265	42.7
Employment	persons	persons	%
Males	22 940	27 296	19.0
Females	18 119	24 626	35.9
Total	41 059	51 922	26.5
	\$m	\$m	%
Gross income	2 163.1	2 842.8	31.4
Operating profit before tax	283.1	216.0	-23.7
	%	%	..
Operating profit/gross income	13.1	7.6	..

Source: *Real Estate Agents Industry, Australia, 1992-93* (8663.0).

Real estate agents 1992-93

The real estate agents industry was first surveyed by the ABS in respect of 1986-87, and again in respect of 1992-93.

At 30 June 1993, there were 7,265 businesses in the real estate agents industry (table 20.4). These businesses had a total employment of 51,922 persons, a 27% increase on the employment recorded at June 1987. In the same period female employment increased by 36%, and at June 1993 represented 47% of total employment in the industry.

Gross income of the industry in 1992-93 was \$2,843m, an increase of 31% since 1986-87. The main sources of income were income from sales of property (61.4% of gross income) and property management (23.4%). Operating profit before tax declined 24% from \$283m in 1986-87 to \$216m in 1992-93. As a result the ratio of operating profit to gross income declined five

percentage points from 13% in 1986-87 to 8% in 1992-93.

Computer services 1992-93

The computer services industry consists of businesses involved in providing data processing services, information storage and retrieval services, computer maintenance services and computer consultancy services. In 1992-93 there were 4,900 businesses in the industry, with a total employment of just over 30,000 persons

The industry generated a gross income of \$4,100m, the largest component being the computing consulting industry which accounted for 67% of gross income. After deduction of expenses, the operating profit before tax for the computer services industry was \$365m, which represented a ratio of operating profit to gross income of 8.9%.

20.5 COMPUTER SERVICES INDUSTRY — 1992-93

	Businesses at 30 June 1993 no.	Employment at 30 June 1993 no.	Gross income \$m	Operating profit before tax \$m	Operating profit/gross income %
Data processing services	262	2 049	147.9	15.5	10.5
Information storage and retrieval services	67	636	103.8	10.8	10.4
Computer maintenance services	242	4 778	1 085.2	92.5	8.5
Computer consultancy services	4 323	22 599	2 763.8	246.2	8.9
Total computer services industry	4 894	30 062	4 100.7	365.0	8.9

Source: *Computing Services Industry, Australia, 1992-93* (8669.0).

Legal and accounting services 1992-93

In 1992-93 there were over 17,500 businesses in the legal and accounting services industry. There were 8,850 businesses in the legal services industry and 8,700 businesses in the accounting services industry (table 20.6). At 30 June 1993 the two industries combined had a total employment of 123,108 persons, an increase of 17.4% since June 1988. During the same period

male employment in the two industries increased 24.1% while female employment increased only 12.4%. In spite of the smaller increase, female employment accounted for the majority (54.4%) of total employment, due to the strength of female employment in the legal services industry.

20.6 LEGAL AND ACCOUNTING SERVICES INDUSTRY

	1987-88	1992-93	Increase
LEGAL SERVICES			
	no.	no.	%
Businesses	6 459	8 850	37.0
Employment	persons	persons	%
Male	20 301	24 941	22.9
Female	35 062	38 167	8.9
Total	55 363	63 108	14.0
	\$m	\$m	%
Gross income	3 079	5 144	67.1
Operating profit before tax	826	1 666	101.7
	%	%	..
Operating profit/gross income	26.8	32.4	..
ACCOUNTING SERVICES			
	no.	no.	%
Businesses	6 048	8 699	43.8
Employment	persons	persons	%
Male	24 910	31 161	25.1
Female	24 569	28 839	17.4
Total	49 479	60 000	21.3
	\$m	\$m	%
Gross income	2 339	4 086	0.7
Operating profit before tax	412	829	101.0
	%	%	..
Operating profit/gross income	17.6	20.3	..
ACCOUNTING AND LEGAL SERVICES			
	no.	no.	%
Businesses	12 507	17 549	40.3
Employment	persons	persons	%
Male	45 211	56 102	24.1
Female	59 631	67 006	12.4
Total	104 842	123 108	17.4
	\$m	\$m	%
Gross income	5 418	9 230	70.4
Operating profit before tax	1 238	2 494	101.5
	%	%	..
Operating profit/gross income	22.8	27.0	..

Source: *Legal and Accounting Services, Australia 1992-93 (8678.0)*.

Businesses in the legal profession generated gross income of \$5,144m during 1992-93. This resulted in an operating profit before tax of \$1,666m, which represented a return of 32.4% on gross income, an increase of 5.6 percentage points since 1987-88.

The accounting industry recorded an operating profit of \$829m on gross income of \$4,086m. This represented a return of 20% on gross income, a 4.2 percentage point increase since 1987-88.

Architectural, consultant engineering and surveying services 1992-93

For 1992-93 the ABS surveyed a selection of the technical business services industries, including architectural services, consultant engineering services and surveying services. These three industries combined had employment of 51,376 persons at 30 June 1993, led by consultant engineering services with employment of 28,208 persons (table 20.7).

20.7 ARCHITECTURAL, CONSULTANT ENGINEERING AND SURVEYING SERVICES — 1992-93

	Businesses at 30 June 1993 no.	Employment at 30 June 1993 no.	Gross income \$m	Operating profit before tax \$m	Operating profit/gross income %
Architectural services	4 409	16 204	955.7	92.3	9.7
Consulting engineering services	5 454	28 208	2 357.7	155.7	6.6
Surveying services	1 175	6 964	486.7	47.6	9.8
Total	11 038	51 376	3 800.1	295.6	7.8

Source: *Selected Technical Services, Australia 1992-93 (8676.0)*.

Sales of goods and services by the three industries were \$3,800m, with the consultant engineering services industry again the largest, accounting for 62% of all income. Operating profit before tax for the three industries was \$296m, with consultant engineering services the major contributor with just over half. However, in terms of operating profit to gross income margins, the consultant engineering services industry showed the lowest return, with an operating profit to gross income margin of 6.6% compared to 9.7% and 9.8% recorded by the architectural services and surveying services industries respectively.

Film and video production and distribution 1993-94

The film and video production industry covers those businesses mainly engaged in the production of motion pictures on film or video tape for theatre or television projection. The film and video distribution industry includes businesses mainly engaged in leasing or wholesaling motion pictures on film or video tape to organisations for exhibition or sale. The

two industries are relatively small, accounting for only 1,248 businesses in 1993-94 with total employment of just under 7,000 persons (table 20.8).

In 1993-94 the film and video production industry spent \$463m on the production of films and videos. This comprised \$184m on productions for television, \$143m on other productions, including \$87.3m on 29 feature films, and \$135.4m on the production of commercials and advertisements.

The gross income of the film and video production industry in 1993-94 was \$608m. The major sources of income were the production of commissioned works (\$239.8m), post production services (\$101.8m) and sales of rights for completed works (\$121.2m). However, after taking into account expenses, the industry recorded a net loss of \$98m.

In contrast, the film and video distribution industry generated an operating profit of \$40m from a gross income of \$641m, which represented a return of 6.2%.

20.8 FILM AND VIDEO PRODUCTION AND DISTRIBUTION INDUSTRIES — 1993-94

	Unit	Film and video production	Film and video distribution	Total
Businesses	no.	1 179	69	1 248
Employment	persons	5 998	981	6 979
Gross income	\$m	607.7	640.6	1 248
Operating profit before tax	\$m	-98.1	39.6	-58.5
Operating profit/gross income	%	-16.1	6.2	-4.7

Source: *Film and Video Production and Distribution, Australia 1993-94 (8679.0)*.

Motion picture exhibition 1993-94

The motion picture exhibition industry comprises businesses mainly engaged in screening motion pictures on film or tape. There were only 224 businesses in this industry in 1993-94, an increase of 22 on the number operating in 1986-87. Table 20.9 shows that these businesses employed over 5,700 persons at 30 June 1994, a significant increase (28%) on the number employed at 30 June 1987.

During 1993-94 the industry had a gross income of \$635m. The main source of income was box office receipts (\$448m) generated from 61.6 million paid admissions to cinemas and drive ins. After total expenses of \$560m, the industry returned a profit of \$75m which represented a return on gross income of 11.8%, an increase of nearly five percentage points on the return achieved in 1986-87.

20.9 MOTION PICTURE EXHIBITION INDUSTRY

	Unit	1986-87	1992-93	% increase
Businesses	no.	202	224	10.9
Employment	persons	4 472	5 729	28.1
Gross income	\$m	259.6	635.3	44.7
Total expenses	\$m	241.1	560.1	32.3
Operating profit before tax	\$m	18.5	75.1	6.5
Operating profit/gross income	%	7.1	11.8	..
Admissions	'000s	..	61 604	..

Source: *Motion Picture Exhibition, Australia 1993-94 (8654.0)*.

Radio and television services 1993-94

While small in numbers (314), businesses in the radio and television services industries generated nearly \$3,500m in gross income in 1993-94. The major source of income for these businesses, the sale of airtime, accounted for approximately \$2,500m or 71% of income (table 20.10).

After expenses, the operating profit before tax of the radio and television industries was \$395m, representing a return on gross income of 11.4%. The radio services industry achieved a return of only 2.2%, whereas the television services industry achieved a return of 14.1%.

The radio and television industries employed over 19,300 persons at 30 June 1994.

20.10 RADIO AND TELEVISION SERVICES — 1993-94

	Unit	Radio services	Television services	Total
Businesses	no.	268	46	314
Employment	persons	7 164	12 211	19 375
Income from sale of airtime	\$m	478.4	1 993	2 471.7
Gross income	\$m	799.6	2 676.3	3 475.9
Operating profit before tax	\$m	17.7	376.9	394.6
Operating profit/gross income	%	2.2	14.1	11.4

Source: *Radio and Television Services, Australia 1993-94* (8680.0).

Private medical practice industry 1994-95

The ABS conducted its first survey of the private medical practice industry in respect of 1994-95. There were 22,298 businesses in the industry, with slightly more general practice medical businesses than specialist medical businesses. The 22,298 businesses had employment of 106,134 persons, including 33,987 medical practitioners, at 30 June 1995 (table 20.11).

The private medical practice industry generated gross income of \$7,241m in 1994-95, specialist medical businesses accounting for 61% (\$4,405m) of the total. The operating profit before tax of medical practice businesses was \$1,850m, specialist medical businesses again accounting for the bigger share (58%). The industry recorded an operating profit/gross income ratio of 25.6%.

20.11 PRIVATE MEDICAL PRACTICE INDUSTRY — 1994-95

	Unit	General practice medical businesses	Specialist medical businesses	Total
Businesses	no.	11 933	10 364	22 298
Employment				
Medical practitioners	persons	20 825	13 161	33 987
Other	persons	33 832	38 316	72 147
Total	persons	54 657	51 477	106 134
Gross income	\$m	2 836.3	4 404.6	7 240.9
Operating profit before tax	\$m	778.2	1 072.1	1 850.3
Operating profit/gross income	%	27.4	24.3	25.6

Source: *Private Medical Practice Industry, Australia, 1994-95* (8685.0).

Sports industries 1994-95

The sports industries cover businesses involved in horse and dog racing, operations of sports grounds and facilities, other sports and services to sports. These industries were surveyed by the ABS for the first time in respect of 1994-95.

There were 5,066 businesses in the sports industries in 1994-95. These businesses had a total employment of 58,414 persons at 30 June 1995 (table 20.12). There were a further

112,877 volunteers in these industries at the end of June 1995.

The sports industries generated \$2,517m in income during 1994-95 and had an operating profit before tax of \$169.7m. This represented an operating profit/gross income ratio of 6.7%. A factor affecting this ratio is the existence of many non profit organisations in the industry.

20.12 SPORTS INDUSTRIES — 1994–95

	Businesses at 30 June 1995 no.	Employment at 30 June 1995 no.	Gross income \$m	Operating profit before tax \$m	Operating profit/gross income %
Horse and dog racing	898	14 118	789.2	50.6	6.4
Sports ground and facilities n.e.c.	1 581	21 563	796.3	49.0	6.2
Sports and services to sports n.e.c.	2 588	22 732	931.6	70.1	7.5
Total	5 066	58 414	2 517.0	169.7	6.7

Source: *Sports Industries, Australia, 1994–95 (8686.0)*.

Gambling services 1994–95

The gambling services industries include businesses mainly engaged in operating lotteries, lotto operations, casino operations and other gambling services such as totalisator and bookmaker operations.

As table 20.13 shows, the 2,041 businesses in the gambling services industries in 1994–95 had employment of 32,062 persons at the end of June 1995. Total income of the industry was

\$15,511m which, after expenses of \$14,225m including \$1,695m in gambling taxes, levies and other gambling related payments to government bodies, resulted in an operating profit before tax of \$1,291m. This profit represented a return of 8.3% on gross income. The lotteries industry recorded the highest operating profit/gross income ratio with a return of 19.2%, while casinos recorded a return of 6.5%.

20.13 GAMBLING SERVICES — 1994–95

	Businesses at 30 June 1995 no.	Employment at 30 June 1995 no.	Gross income \$m	Operating profit before tax \$m	Operating profit/gross income %
Lotteries	178	2 006	4 134.4	793.2	19.2
Casinos	14	15 837	1 650.5	107.4	6.5
Gambling services n.e.c.	1 849	14 219	9 726.3	390.6	4.0
Total	2 041	32 062	15 511.1	1 291.2	8.3

Source: *Sports Industries, Australia, 1994–95 (8684.0)*.

Clubs (hospitality) and pubs, taverns and bars 1994–95

The clubs (hospitality) and pubs, taverns and bars industries are two key elements of the hospitality industry. The clubs (hospitality) industry covers businesses which mainly provide hospitality services to members on the premises, while pubs, taverns and bars cover businesses which mainly sell alcoholic beverages for consumption on the premises. There were 7,609 businesses in these two industries combined. The businesses in the clubs (hospitality) and pubs, taverns and bars industries had employment of 133,973 at the end of June 1995 (table 20.14). This represented a small (0.6%) increase on employment in the industries at end June 1992.

Gross income of the two industries in 1994–95 was \$11,177m, an increase of 15% on gross income in 1991–92. While sales of meals and alcohol increased only marginally (1.3%) in the period, takings from gambling increased by 80.5% and in 1994–95 accounted for 26.2% of gross income. After deduction of expenses the industries recorded an operating profit before tax of \$687m. This represented an operating profit/gross income ratio of 6.1%, with clubs recording 9.1% and pubs, taverns and bars recording 4.0%. These compare to 1991–92 operating profit/gross income ratios of 2.8%, 4.7% and 1.7% respectively.

20.14 CLUBS (HOSPITALITY) AND PUBS, TAVERNS AND BARS

	1991-92	1994-95	% increase
CLUBS (HOSPITALITY)			
	no.	no.	%
Businesses	3 811	3 284	-13.8
	persons	persons	%
Employment	60 424	62 536	3.5
	\$m	\$m	%
Sales of meals and alcohol	1 710.2	1 729.8	1.1
Takings from gambling	1 441.9	2 355.3	63.3
Gross income	3 810.5	4 729.4	24.1
Operating profit before tax	178.2	429.1	140.8
	%	%	%
Operating profit/gross income	4.7	9.1	.
PUBS, TAVERNS AND BARS			
	no.	no.	%
Businesses	4 347	4 325	-0.5
	persons	persons	%
Employment	73 526	71 437	-2.8
	\$m	\$m	%
Sales of meals and alcohol	5 209.6	5 278.2	1.3
Takings from gambling	181.8	576.1	216.9
Gross income	5 911.6	6 390.1	8.1
Operating profit before tax	97.9	258.2	163.7
	%	%	%
Operating profit/gross income	1.7	4.0	.
CLUBS (HOSPITALITY) AND PUBS, TAVERNS AND BARS			
	no.	no.	%
Businesses	8 158	7 609	-6.7
	persons	persons	%
Employment	133 950	133 973	0.6
	\$m	\$m	%
Sales of meals and alcohol	6 919.8	7 008.0	1.3
Takings from gambling	1 623.7	2 931.4	80.5
Gross income	9 722.1	11 176.5	15.0
Operating profit before tax	276.1	687.3	146.8
	%	%	%
Operating profit/gross income	2.8	6.1	.

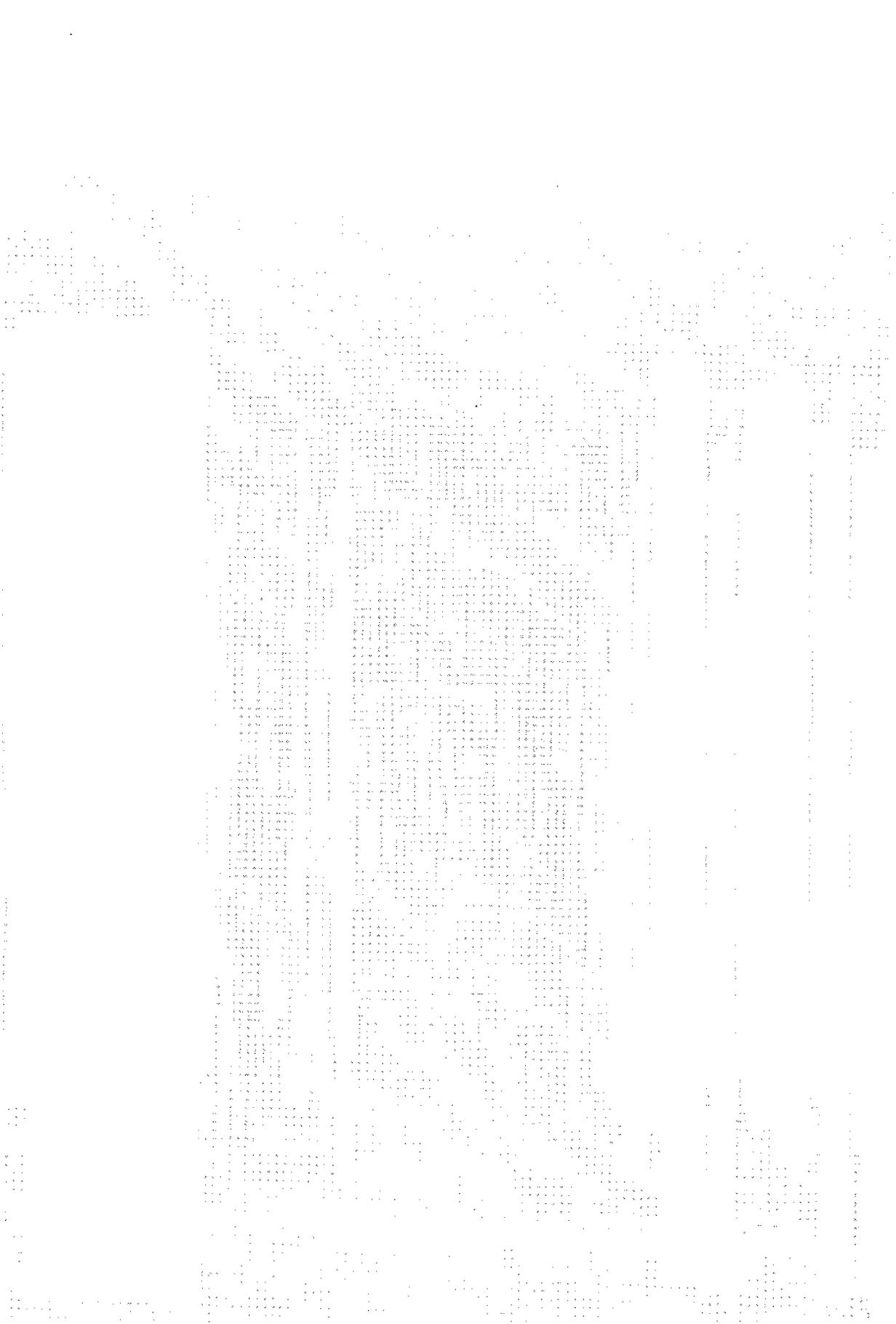
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Introduction	509
Economic importance	509
Domestic tourism	510
International inbound tourism	512
Characteristics	512
Expenditure	514
Inbound tour operators	515
Australia's tourism marketing expenditure overseas	516
International outbound tourism	516
Tourist accommodation	518
Bibliography	521



Introduction

Tourism encompasses most short-term travel away from the normal place of work and residence, including travel undertaken for business and pleasure.

It is defined by the World Tourism Organisation (WTO) as: 'the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes.'

This identifies 'tourism' as being more than just leisure travel. It also encompasses travel for business, health, education, religious and other reasons.

Tourism comprises both domestic and international travel. Its economic effects are both to generate economic activity and to transfer such activity across the country. As it involves the consumption or purchase by tourists — or 'visitors' in the WTO terminology — of any good or service, its economic impact ranges over many sectors of the economy. The impact of tourism is most directly felt by sectors such as transport and tour operators, accommodation establishments, theme parks and attractions, entertainment and arts venues, museums and historical sites, restaurants, travel agents and souvenir retailers. However, other sectors also benefit both directly and indirectly from tourism demand.

Tourism also draws on services provided by the Commonwealth Government, the State and Territory Governments and local government organisations without direct charge to tourists. These include the construction and maintenance of roads, airports, harbours, railways and national parks, tourism promotion, immigration and customs services, information services and the provision of a large number of recreational facilities.

While tourism has been an economic factor in Australia for a very long time, in recent times it has grown to the extent that it is now recognised as a major contributor to total economic activity. International tourism has experienced substantial growth in the past decade or so. This has focused the need for improved standards of facilities and service, and has contributed to a recognition that tourism covers a sophisticated set of economic

activities with great potential for future domestic and export earnings.

Because of Australia's island status far from most of its international source markets, tourism in this country will continue to be dominated by domestic tourism for the foreseeable future. Despite high annual growth rates, international tourism still only accounts for around a quarter of total tourism activity. While international tourism is forecast to continue to enjoy significantly higher growth rates than domestic tourism, it will be well into the next century before it matches the level of activity of domestic tourism.

Economic importance

It is estimated by the Bureau of Tourism Research that expenditure by tourists directly contributed 6.6% to Gross Domestic Product in 1993–94, and accounted directly for some 536,000 jobs (6.9% of total employment).

In 1993–94, domestic tourism expenditure was an estimated \$32.5b. In addition, \$3.8b was spent domestically by Australians prior to departure on overseas visits. In 1995–96, international tourism to Australia generated export earnings of \$14.1b. This accounted for 12.8% of Australia's total export earnings and 63.1% of services exports.

While growth in tourism flows to Australia in the mid to late 1980s was at almost twice the international growth rate in tourism flows to all countries, Australia's share of world tourism is still small, accounting for only around 0.5% of total international visitor arrivals in all countries. Because Australia is a long-haul destination for most international visitors, this share is never likely to be large. However, starting from a low base, there is still considerable potential for growth.

The number of international visitors to Australia increased at a rate of 25% per year from 1984 to 1988. However, 1989 saw a 7.5% decrease in arrivals to 2.1 million following the strong contributions of Expo 88 and the Bicentennial to the growth in 1988, but also reflecting the

adverse impact of the disruption to domestic airline services in late 1989. Arrivals recovered by 6.5% to 2.2 million in 1990 and thereafter

increased to new record levels of 2.4 million in 1991, growing by double digit rates in most years to reach 3.7 million in 1995. Visitors from Asia have contributed increasingly to this upward trend.

The domestic travel market was relatively stagnant in the late 1980s and experienced an overall small downward trend in visitor nights during the early 1990s. Because of changes in survey methods, it is not possible to compare the latest figures, for 1994-95, with earlier figures.

Domestic tourism

In 1995, Australian residents, 15 years of age and over, spent a total of 251.8 million nights visiting other parts of the country (table 21.1). Each trip took an average of four nights, and each person in the population group made an average of four trips. Residents of the Australian Capital Territory were the most frequent travellers (average of six trips), while residents of the Northern Territory tended to stay away for the longest period (average of seven nights).

21.1 SUMMARY OF PERSON TRIPS AND NIGHTS AWAY(a) — 1995

State/Territory of origin	Estimated population as at 30 June 1995 '000	Person trips '000	Average trips per person	Total nights away '000	Nights away per person
New South Wales	4 818	19 680	4	81 370	4
Victoria	3 561	15 619	4	63 706	4
Queensland	2 557	11 437	4	50 631	4
South Australia	1 173	4 195	4	18 088	4
Western Australia	1 345	5 090	4	22 581	4
Tasmania	367	1 695	5	6 353	4
Northern Territory	126	509	4	3 310	7
Australian Capital Territory	238	1 453	6	5 721	4
Australia	14 186	59 679	4	251 760	4

(a) For persons aged 15 years and over.

Source: Domestic Tourism Monitor, Bureau of Tourism Research.

As table 21.2 shows, 'pleasure/holiday', as the main purpose of trip, accounted for the biggest proportion of visitor nights (42%), followed by 'visiting friends/relatives' (29%). 'Business trips' accounted for 14% of all visitor nights, while 'other' reasons accounted for 15%.

New South Wales was the most popular destination, accounting for nearly a third of all visitor nights. Queensland was the next most popular destination, attracting a quarter of all visitor nights, while Victoria accounted for nearly a fifth of all visitor nights.

21.2 VISITOR NIGHTS, Main Purpose of Trip — 1995

State/Territory	All business '000	Pleasure/holiday '000	Visiting friends/relatives '000	Other '000	Total '000
New South Wales	9 854	34 168	23 389	11 498	78 909
Victoria	5 829	20 597	14 374	7 341	48 140
Queensland	8 441	26 789	18 461	8 732	62 422
South Australia	2 069	6 125	5 050	2 726	15 970
Western Australia	5 237	9 301	7 282	3 899	25 719
Tasmania	974	3 640	1 768	1 391	7 772
Northern Territory	1 602	2 268	621	441	4 931
Australian Capital Territory	1 123	1 487	1 526	871	5 007
Other and not known	648	1 236	767	236	2 889
Australia	35 776	105 612	73 238	37 135	251 760

Source: Domestic Tourism Monitor, Bureau of Tourism Research.

As table 21.3 shows, in 1995 the most frequently used accommodation by domestic travellers was the house/flat of friends or relatives (43% of visitor nights), followed by hotels or motels with bathroom facilities in the guest room (18%) and caravan parks or camping grounds (14%). This

pattern, to varying degrees, was reflected in most States/Territories, although a greater proportion of visitors to Victoria, South Australia, Western Australia and the Northern Territory stayed in caravan parks or camping grounds.

21.3 VISITOR NIGHTS, Type of Accommodation Used — 1995

All accommodation used	NSW '000	Vic. '000	Qld '000	SA '000	WA 00	Tas. '000	NT '000	ACT '000	Other and not known '000	Aust. '000
Hotel/motel with facilities	14 438	7 410	13 280	2 406	3 711	2 127	1 077	1 349	67	45 865
Hotel/motel without facilities	1 296	637	1 085	227	701	165	108	130	28	4 376
Guest house/private hotel	1 638	1 026	883	234	524	208	49	76	0	4 636
Caravan/tent/cabin/camping	11 347	7 560	6 978	2 843	3 762	1 114	1 530	388	108	35 629
Rented house/flat	5 826	2 589	6 437	1 133	1 317	405	172	262	0	18 142
Friends'/relatives' house/flat	35 216	21 276	26 527	7 180	11 404	2 675	1 144	2 419	139	107 979
Own holiday house/flat	3 161	3 954	2 616	841	756	461	64	12	5	11 870
Farm	1 482	1 052	734	224	651	44	108	14	0	4 310
Boat/cabin cruiser	190	306	760	187	55	16	5	0	50	1 569
Hostel	832	435	664	60	248	141	39	83	0	2 501
Other/not stated	3 482	1 896	2 457	637	2 591	416	634	274	2 493	14 882
Total	78 909	48 140	62 422	15 970	25 719	7 772	4 931	5 007	2 889	251 760

Source: Domestic Tourism Monitor, Bureau of Tourism Research.

Intrastate visits account for the majority of total domestic tourism visitor nights (60%). It is a particularly important component of domestic tourism for Western Australia and Victoria, where around 70% of domestic visitor nights are accounted for by residents of the State (table 21.4).

In terms of numbers of visitor nights, net beneficiaries from domestic tourism (i.e. where inbound interstate visitor nights are greater than

outbound interstate visitor nights) are Queensland, Western Australia, Tasmania and the Northern Territory. While Queensland is the biggest relative net beneficiary, with nearly twice as many inbound nights as outbound nights, Victoria is the biggest relative net contributor, with twice as many outbound nights as inbound nights.

21.4 VISITOR NIGHTS, By State/Territory of Origin by States/Territories Visited — 1995

State of origin	State/Territory visited									Aust. '000
	NSW '000	Vic. '000	Qld '000	SA '000	WA '000	Tas. '000	NT '000	ACT '000	Not known and other '000	
NSW	50 986	6 535	13 403	2 058	2 288	1 077	1 097	2 881	1 047	81 370
Vic.	11 231	33 151	10 046	3 001	2 428	1 280	853	983	735	63 706
Qld	8 799	3 055	34 454	441	967	912	804	532	668	50 631
SA	2 319	2 493	1 613	9 271	771	422	603	384	211	18 088
WA	1 100	883	731	603	18 429	226	388	58	162	22 581
Tas.	657	789	726	76	202	3 754	5	115	28	6 353
NT	361	355	637	313	448	16	1 125	46	8	3 310
ACT	3 456	880	813	209	185	86	56	7	29	5 721
Aust.	78 909	48 140	62 422	15 970	25 719	7 772	4 931	5 007	2 889	251 760

Source: Domestic Tourism Monitor, Bureau of Tourism Research.

International inbound tourism

Characteristics

In 1995, the number of international visitors to Australia grew strongly, continuing the high growth experienced since the mid-1980s. The total number of visitors in 1995 was 3,725,800, representing an increase of 10.8% on 1994 and continuing the double digit growth rates of recent years (table 21.5).

21.5 INBOUND VISITORS

Year	Visitors no.	Change(a) %
1989	2 080 300	-7.5
1990	2 214 900	6.5
1991	2 370 400	7.0
1992	2 603 300	9.8
1993	2 996 200	15.1
1994	3 361 700	12.2
1995	3 725 800	10.8

(a) From previous year.

Source: *Overseas Arrivals and Departures, Australia* (3401.0).

The range of countries which are significant sources of visitors is widening, with the result that the degree of dependence on the traditional source countries of Europe and North America is lessening. Particularly large increases are being experienced from some of the rapidly developing South-East Asian countries, although some of these increases are from a low base.

As table 21.6 shows, Japan continued to be Australia's most important market. It accounted for 21% of total visitors in 1995. This was followed by New Zealand (14%), the United Kingdom (9%) and the United States (8%).

The largest category of international visitors during 1995 was those arriving for 'holiday' purposes, accounting for just over 60% of all visitor arrivals. In addition to these visitors, another 19% arrived for the purpose of 'visiting friends/relatives'. About 12% arrived for

'business' purposes or to attend a 'convention/conference'. Arrivals for 'education' purposes are increasing and in 1995 accounted for nearly 3% of total visitor arrivals.

For most 'main purpose of trip' categories, New Zealand was the main source of visitors. The exceptions were 'holiday' visitors, where Japan provided nearly a third (31%) of all such visitors, and 'education' visitors, where Indonesia was the source of 11% of all such arrivals.

'Holiday' visitors were the largest category of visitors from almost all source countries/regions. The exceptions were visitors from the United Kingdom and the Middle East and North Africa, for whom 'visiting friends/relatives' was the largest purpose category.

The long distances most international visitors have to travel to Australia contributes to a relatively long stay in this country. In 1995, nearly 40% of visitors stayed for more than two weeks, while 20% stayed for more than a month (table 21.7). The relatively high number of visitors who are visiting friends or relatives (nearly three-quarters of whom stayed for more than two weeks) also contributed to the relatively long stay. Visitors arriving for 'education' purposes also tend to be long stayers, but their numbers are relatively small.

Visitor arrivals are seasonal and numbers fluctuate somewhat during the year. In 1995, the most arrivals were in December, with 11% of total arrivals, while the fewest arrivals were in May, with nearly 7% of total arrivals (table 21.8). However, seasonality is not as strong as for arrivals to many other destination countries.

Outside December and May, the proportions of total arrivals only ranged from 7% to 9%. A number of factors contribute to the relative lack of seasonality, primarily the attractive climate in many parts of the country throughout the whole year, and the wide diversity of source countries of visitors to Australia.

21.6 INBOUND VISITORS, By Country/Region of Residence and Main Purpose of Trip — 1995

Country/region of residence	Main purpose of trip							Visitors no.	Change on 1994 %
	Convention/conference '000	Business '000	Visiting friends/relatives '000	Holiday '000	Employment '000	Education '000	Other and not stated '000		
New Zealand	17.1	90.8	164.2	227.9	4.8	3.2	30.4	538.4	12.1
Other Oceania	4.1	8.9	22.2	43.9	0.8	7.1	21.9	108.8	2.8
Germany	1.4	8.5	19.5	88.6	0.4	1.7	4.2	124.2	1.2
United Kingdom	4.9	26.9	162.8	134.0	4.8	1.6	12.9	347.9	3.8
Other Europe	8.8	27.4	72.0	147.9	2.8	5.3	15.8	279.9	6.3
Indonesia	3.4	8.2	12.1	89.4	0.7	11.1	9.9	135.0	27.7
Malaysia	4.4	7.6	20.6	63.5	0.2	7.6	4.3	108.2	13.8
Singapore	3.7	16.5	21.3	146.5	0.3	7.4	6.6	202.4	7.9
Hong Kong	2.4	12.8	28.5	75.5	0.2	8.1	4.2	131.7	20.3
Japan	3.2	32.0	14.5	696.5	0.9	8.7	27.0	782.7	8.5
Korea	3.0	9.7	10.5	129.0	0.1	8.5	7.1	168.0	51.6
Taiwan	1.4	6.5	7.8	123.3	0.1	4.9	7.8	152.0	6.7
Other Asia	9.9	27.5	35.0	87.5	1.3	11.8	19.4	192.3	26.9
USA	16.5	63.0	57.3	141.9	3.0	7.8	15.4	304.9	5.2
Other America	3.1	7.7	24.8	33.9	0.9	1.8	4.7	77.0	7.1
Middle East and North Africa	0.8	2.3	11.5	10.4	0.1	0.4	3.2	28.7	20.1
Other Africa	1.5	4.7	15.0	17.2	0.2	0.7	3.0	42.2	-0.9
Not stated	0.0	0.1	0.5	0.6	0.0	0.1	0.3	1.6	-33.3
Total	89.7	361.0	700.1	2 257.5	21.7	97.8	198.0	3 725.8	10.8

Source: Overseas Arrivals and Departures, Australia (3401.0).

21.7 INBOUND VISITORS, By Intended Length of Stay and Main Purpose of Trip — 1995

Intended length of stay	Main purpose of trip							Visitors no.	Proportion of total %
	Convention/conference '000	Business '000	Visiting friends/relatives '000	Holiday '000	Employment '000	Education '000	Other and not stated '000		
Under 1 week	30.4	164.0	67.2	802.3	2.1	3.4	75.3	1 144.7	30.7
1 week and under 2 weeks	40.4	106.1	123.8	814.3	1.6	7.1	65.0	1 158.2	31.1
2 weeks and under 1 month	15.6	50.2	211.6	368.0	1.2	7.0	22.0	675.6	18.1
1 month and under 2 months	2.6	18.7	159.5	151.9	1.9	6.1	12.0	352.7	9.5
2 months and under 3 months	0.3	6.8	51.1	39.0	1.3	6.9	4.9	110.2	3.0
3 months and under 6 months	0.3	9.0	57.1	44.0	3.2	17.5	7.5	138.7	3.7
6 months and under 12 months	0.1	6.1	30.0	37.9	10.4	49.8	11.4	145.7	3.9
Total	89.7	361.0	700.1	2 257.5	21.7	97.8	198.0	3 725.8	100.0

Source: Overseas Arrivals and Departures, Australia (3401.0).

21.8 INBOUND VISITORS, By Month and Main Purpose of Trip — 1995

Month	Main purpose of trip							Visitors no.	Proportion of total %
	Convention/conference '000	Business '000	Visiting friends/relatives '000	Holiday '000	Employment '000	Education '000	Other and not stated '000		
January	3.1	21.1	54.8	189.2	2.4	12.4	20.8	303.8	8.2
February	8.6	29.1	55.0	185.8	1.6	20.4	18.6	319.1	8.6
March	7.6	33.6	56.3	194.0	1.9	4.2	16.0	313.5	8.4
April	5.6	26.8	62.8	175.4	1.9	6.8	14.8	294.2	7.9
May	6.8	29.9	38.1	150.6	1.7	3.8	13.9	244.8	6.6
June	6.6	25.3	48.1	157.3	1.9	5.8	16.5	261.4	7.0
July	9.5	33.7	53.4	193.7	1.9	19.6	17.9	329.7	8.8
August	7.9	40.4	44.8	190.7	1.7	4.6	14.9	304.9	8.2
September	9.5	28.8	52.6	154.7	1.8	5.5	15.7	268.6	7.2
October	12.1	33.7	57.3	191.7	1.9	7.6	16.2	320.7	8.6
November	9.5	36.3	63.8	212.6	1.7	3.6	15.5	342.9	9.2
December	3.1	22.1	113.2	261.8	1.5	3.5	17.0	422.3	11.3
Total	89.7	361.0	700.1	2 257.5	21.7	97.8	198.0	3 725.8	100.0

Source: Overseas Arrivals and Departures, Australia (3401.0).

New South Wales is by far the most popular State for all categories of international visitors. In 1995, 37% of all nights spent by international visitors were spent in New South Wales. Queensland was the next most popular State,

accounting for 23% of all international visitor nights. Victoria accounted for 18% of international visitor nights, and Western Australia 10% of international visitor nights (table 21.9).

21.9 INBOUND VISITOR NIGHTS, By State/Territory and Main Purpose of Trip — 1995

State/Territory	Main purpose of trip				Total '000	Total %
	Holiday '000	Visiting friends/relatives '000	Business '000	All other reasons '000		
New South Wales	11 890	5 919	2 421	9 336	29 566	37.2
Victoria	3 870	4 515	1 249	4 632	14 267	18.0
Queensland	10 415	4 718	601	2 369	18 103	22.8
South Australia	1 216	842	178	594	2 829	3.6
Western Australia	3 019	2 210	576	2 360	8 165	10.3
Tasmania	616	684	14	366	1 679	2.1
Northern Territory	1 852	182	116	372	2 522	3.2
Australian Capital Territory	548	648	149	958	2 303	2.9
Not stated	2	43	0	0	45	0.1
Australia	33 428	19 761	5 303	20 988	79 479	100.0

Source: International Visitor Survey, Bureau of Tourism Research.

Expenditure

In 1995 international visitors to Australia each spent an average of \$1,936. Highest spenders were visitors from Indonesia who each spent an average of \$3,409. On average, visitors from Scandinavia, Canada, Hong Kong, Malaysia, Other Europe and Germany were high spenders. The lowest average expenditure, \$1,160 per visitor, was by visitors from New Zealand (table 21.10).

On average, food, drink and accommodation accounted for over a third of expenditure, while just under a third of expenditure was on shopping (table 21.11). High spenders on food, drink and accommodation tended to be from Europe and North America, while visitors from Asian countries tended to direct a high proportion of expenditure on shopping. Persons visiting for 'other' reasons (e.g. education,

21.10 AVERAGE VISITOR EXPENDITURE, By Country of Residence and Expenditure Item — 1995

Country of residence	Items of expenditure						Total \$
	Transport \$	Food, drink and accommodation \$	Shopping \$	Entertainment and gambling \$	Capital goods \$	Other \$	
New Zealand	136	457	377	58	50	81	1 160
Germany	663	1 131	486	98	30	213	2 578
United Kingdom	405	957	357	125	38	130	1 991
Scandinavia	720	1 324	512	157	70	179	2 881
Other Europe	576	1 111	445	112	102	268	2 612
Indonesia	254	1 024	880	260	188	750	3 409
Malaysia	178	684	565	133	121	1 016	2 696
Singapore	178	573	541	218	136	499	2 141
Hong Kong	300	723	549	95	462	608	2 737
Japan	133	261	888	48	26	55	1 410
Korea	130	457	840	53	39	491	2 009
Taiwan	108	451	804	63	53	458	1 938
Thailand	166	643	756	70	29	452	2 117
Other Asia	184	571	554	71	44	379	1 801
USA	461	1 060	371	93	33	234	2 251
Canada	584	1 271	370	164	59	303	2 752
Other countries	238	639	581	67	54	238	1 818
All countries	269	659	592	92	69	259	1 936

Source: *International Visitor Survey, Bureau of Tourism Research.*

employment, health) were the highest spenders on average, followed by business visitors. Relatively high expenditure on food, drink and accommodation contributed to an

overall high average expenditure by business visitors. Holiday visitors were the highest spenders on shopping (table 21.11).

21.11 AVERAGE VISITOR EXPENDITURE, By Main Purpose of Trip — 1995

Expenditure items	Main purpose of trip				Total \$
	Holiday \$	Visiting friends and relatives \$	Business \$	All other reasons \$	
Transport	267	193	303	367	269
Food, drink and accommodation	505	459	1 145	1 358	659
Shopping	660	486	353	634	592
Entertainment and gambling	88	81	70	153	92
Capital goods	32	114	122	144	69
Other	87	129	156	1 496	259
All items	1 631	1 462	2 147	4 152	1 936

Source: *International Visitor Survey, Bureau of Tourism Research.*

Inbound tour operators

Of the total 2.2 million overseas 'holiday' visitors who arrived in Australia during 1994-95, inbound tour operators handled 1.5 million (69%). These overseas visitors coming to Australia on package tours paid a total of \$1.2b to Australian inbound tour operators for the Australian content of their tour.

Passengers from Japan accounted for 46% of the total passengers involved and 54% of the total value of gross invoices (i.e. all amounts received

for ground content, e.g. coach transfers, accommodation, meals, cruises, etc. received in Australia). Passengers from Asia (excluding Japan) represented 31% of total passengers and accounted for 22% of the total value of gross invoices.

The Americas accounted for 8% of passengers and 8% of the total value of gross invoices, Europe (including the United Kingdom and Ireland) for 8% of passengers and 10% of gross

invoices, and New Zealand and the South Pacific for 2% of passengers and 1% of the total value of gross invoices.

At 30 June 1995, inbound tour operators employed 2,900 persons full time and 470 persons part time in Australia. In addition, they employed 250 persons full time overseas.

Australia's tourism marketing expenditure overseas

During 1994-95 Australian tourism-related organisations spent more than \$265m on marketing their products overseas. Of this total expenditure, 27% was directed towards the United Kingdom and Europe, 26% towards the Japanese market, 20% towards the United States and Canada, and 20% towards Asia (excluding Japan).

Of the total \$265m, the majority (71%) was independent expenditure, while 15% was spent in cooperation with the Australian Tourism Commission and 14% was in cooperation with other organisations.

Of the total tourism marketing expenditure overseas by Australian tourism-related organisations, 20% was by inbound tour operators, 14% by accommodation operators, 14% by State tourism authorities, and 4% by coach operators.

International outbound tourism

While the numbers of foreign visitors coming to Australia has grown rapidly in recent years, the number of Australian residents visiting overseas has also increased (table 21.12). However, the increase has been smaller, and since around the mid-1980s the numbers of inbound visitors have generally been higher than the numbers of outbound visitors. Consequently, tourism has been improving the net positive contribution of the travel item to Australia's balance on current account.

21.12 AUSTRALIANS TRAVELLING ABROAD

Year	no.	change %
1989	1 989 800	17.2
1990	2 169 900	9.1
1991	2 099 400	-3.2
1992	2 276 300	8.4
1993	2 267 100	-0.4
1994	2 354 300	3.8
1995	2 518 600	7.0

Source: Overseas Arrivals and Departures, Australia (3401.0).

Australians travel abroad to visit a wide variety of main destinations. As table 21.13 shows, the most popular main destination is New Zealand, which was the main destination for 15% of Australian residents visiting overseas in 1995. This was followed by the United States, the main destination for over 12%, and the United Kingdom, the main destination for nearly 11% of Australian residents visiting abroad. In Asia, Indonesia was the most popular main destination country (9%), while other Australian visitors to Asia chose a wide variety of countries as their main destination.

Nearly a half (45%) of Australian residents visiting abroad in 1995 went for 'holiday' purposes, while a further 26% went to 'visit friends/relatives'. For all destination countries/regions, the largest category of Australian visitors was 'holiday', except in the Philippines and Other Asia where 'visiting friends/relatives' was the largest category. Other destinations which attracted a relatively high proportion of Australians 'visiting friends/relatives' were New Zealand, the United Kingdom and Other Europe.

Australians travelling for 'business' purposes accounted for 17% of Australian outbound travellers. Their main destinations were New Zealand, the United States, Other Asia and Hong Kong.

21.13 AUSTRALIANS TRAVELLING ABROAD, By Main Destination and Main Purpose of Trip — 1995

Country/region of residence	Main purpose of trip							Total '000	change on 1994 %
	Convention/conference '000	Business '000	Visiting friends/relatives '000	Holiday '000	Employment '000	Education '000	Other and not stated '000		
Fiji	2.7	7.3	10.2	49.9	1.3	0.8	2.4	74.6	3.0
New Zealand	13.6	75.4	125.1	132.0	6.4	4.1	14.8	371.4	14.7
Other Oceania	2.9	19.4	13.3	55.3	11.9	2.6	5.0	110.3	4.4
Italy	1.5	5.1	16.9	24.5	0.6	0.8	1.0	50.3	2.0
United Kingdom	6.9	28.2	87.5	126.1	5.8	3.3	7.6	265.4	10.5
Other Europe	8.7	28.4	85.3	87.9	4.3	4.8	8.4	227.9	9.0
Indonesia	6.1	27.4	12.1	163.9	5.8	2.3	4.6	222.2	8.8
Malaysia	2.8	21.7	22.7	34.1	3.4	0.6	3.3	88.6	3.5
Philippines	1.1	7.5	23.5	17.0	0.5	0.2	1.7	51.5	2.0
Singapore	4.6	27.6	15.7	38.2	4.9	1.3	2.7	95.0	3.8
Thailand	2.5	12.3	8.4	47.9	1.7	0.9	1.7	75.3	3.0
China	1.8	15.8	14.9	16.6	1.5	1.1	1.3	52.9	2.1
Hong Kong	4.5	41.8	36.7	59.6	7.4	2.1	4.8	156.9	6.2
Other Asia	4.6	45.8	74.2	51.3	6.6	5.4	8.6	196.6	7.8
USA	29.3	57.7	42.6	166.5	4.7	5.3	7.9	314.0	12.5
Other America	4.1	5.3	21.5	25.9	1.0	1.1	2.5	61.4	2.4
Mid. East and North Africa	0.8	4.3	21.7	21.0	2.5	0.9	2.9	54.0	2.1
Other Africa	1.9	6.5	12.1	16.1	1.1	0.5	1.6	39.9	1.6
Not stated	0.4	1.3	0.5	6.7	0.9	0.1	0.6	10.5	0.4
Total	100.8	438.8	644.7	1 140.4	72.2	38.2	83.5	2 518.6	100.0

Source: Overseas Arrivals and Departures, Australia (3401.0).

The relatively long distances for Australian residents travelling to other countries are reflected in the relatively long periods of stay abroad. In 1995, only 10% stayed abroad less than a week, while nearly 40% stayed away for over a month (table 21.14). In addition to distances involved in getting to destination

countries, the high proportion of Australians 'visiting friends/relatives' also contributed to long periods of stay, as such travellers traditionally tend to stay in destination countries longer than other types of visitors. In 1995, nearly 60% of such visitors stayed away for over a month.

21.14 AUSTRALIANS TRAVELLING ABROAD, Intended Length of Stay and Main Purpose of Trip — 1995

Intended length of stay	Main purpose of trip							Total '000	Proportion of total %
	Convention/conference '000	Business '000	Visiting friends/relatives '000	Holiday '000	Employment '000	Education '000	Other and not stated '000		
Under 1 week	21.2	131.5	29.1	70.8	5.5	3.5	9.8	271.4	10.8
1 week and under 2 weeks	41.2	120.2	76.7	344.9	7.1	7.0	18.4	615.5	24.4
2 weeks and under 1 month	28.6	94.5	166.5	345.0	11.6	7.2	17.6	671.1	26.6
1 month and under 2 months	7.5	43.4	181.0	202.7	8.4	4.6	10.9	458.4	18.2
2 months and under 3 months	1.2	17.7	84.1	76.0	5.9	3.3	5.5	193.8	7.7
3 months and under 6 months	0.8	18.0	69.7	60.9	10.3	4.2	7.9	171.8	6.8
6 months and under 12 months	0.3	13.5	37.6	40.1	23.5	8.3	13.4	136.6	5.4
Total	100.8	438.8	644.7	1 140.4	72.2	38.2	83.5	2 518.6	100.0

Source: Overseas Arrivals and Departures, Australia (3401.0).

While the numbers of Australian residents departing for visits abroad varies from month to month, there are not great seasonal fluctuations. Table 21.15 shows that the largest number of departures in 1995 was in December (11%),

followed by September (10%). In general, the Australian winter months were more popular than the summer months for departing to other countries.

21.15 AUSTRALIANS TRAVELLING ABROAD, By Month of Departure and Main Purpose of Trip — 1995

Month	Main purpose of trip							Total '000	Proportion of total %
	Convention/conference '000	Business '000	Visiting friends/relatives '000	Holiday '000	Employment '000	Education '000	Other and not stated '000		
January	4.7	29.3	40.8	73.4	7.4	3.9	6.6	166.1	6.6
February	5.6	35.0	35.5	62.7	5.2	2.4	5.6	151.9	6.0
March	9.5	39.4	46.1	85.4	4.4	2.3	7.4	194.6	7.7
April	9.1	37.2	54.7	98.0	5.2	2.9	7.5	214.6	8.5
May	11.7	39.0	50.8	87.7	4.3	1.7	6.6	201.7	8.0
June	9.0	38.4	61.0	105.1	4.5	3.7	7.6	229.4	9.1
July	8.1	35.5	55.4	114.5	9.6	3.1	7.5	233.6	9.3
August	8.7	34.4	43.0	88.5	12.8	3.4	6.7	197.5	7.8
September	11.7	41.0	52.1	131.3	4.7	6.3	7.4	254.6	10.1
October	9.3	43.0	40.0	89.7	5.0	1.7	5.3	194.0	7.7
November	8.9	41.3	57.8	77.3	4.9	3.9	7.1	201.1	8.0
December	4.5	25.5	107.4	126.9	4.3	2.9	8.0	279.5	11.1
Total	100.8	438.8	644.7	1 140.4	72.2	38.2	83.5	2 518.6	100.0

Source: *Overseas Arrivals and Departures, Australia (3401.0)*.

Tourist accommodation

As shown in table 21.16, at December 1995 there were 169,630 rooms available in Australia in hotels, motels and guest houses with facilities. This was an increase of nearly 2% over availability at December 1994. The number of holiday flats, units and houses available for short-term letting increased by 5% (to 39,249) over the same period. At December 1995, there were 27,070 beds available in 'visitor hostels' in Australia, an increase of 4% over December 1994. The capacity of caravan parks in Australia remained virtually unchanged over this period.

During 1995 the supply of hotel, motel and guest house accommodation in Australia grew more slowly than demand. While the number of guest rooms available increased by 2% in the year to 31 December 1995, the number of room nights occupied increased by 4%. The comparative rates for 1994 were 0.1% for rooms available and 6% for room nights occupied. While the supply of holiday flats, units and houses increased by 5% over the year ended 31 December 1995, demand in terms of unit nights occupied increased by 7%. For visitor hostels, the number of bed nights occupied over the same period increased by 9%, and in

caravan parks the number of site nights occupied rose marginally (0.5%).

In the year ended 31 December 1995, the average length of stay in licensed hotels with facilities was 2.3 days, for motels etc. 1.9 days, for visitor hostels it was 2.6 days but for holiday flats, units and houses it was 5.2 days.

New South Wales is the State with the most commercial tourist accommodation available. At December 1995, just over a third (31% or 57,407 guest rooms) of Australia's tourist accommodation capacity in hotels, motels and guest houses with facilities was in New South Wales. Nearly a half (45% or 25,686 guest rooms) of the New South Wales capacity was concentrated in the Sydney Statistical Division. Queensland had 25% (42,161 guest rooms), and Victoria had 18% (29,798 guest rooms) of Australia's accommodation capacity.

21.16 TOURIST ACCOMMODATION — 1995(a)

	Unit	March quarter	June quarter	September quarter	December quarter
Licensed hotels with facilities(b)					
Establishments	no.	1 127	1 133	1 127	1 134
Guest rooms	no.	67 120	67 487	67 854	68 329
Bed spaces	no.	178 791	179 449	179 650	181 171
Room occupancy rates	%	64.2	61.0	64.5	66.2
Bed occupancy rates	%	40.2	37.0	40.4	41.3
Gross takings from accommodation	\$'000	434 817	421 806	470 960	491 670
Motels, etc.(b)					
Establishments	no.	3 689	3 706	3 712	3 722
Guest rooms	no.	100 256	100 265	101 058	101 301
Bed spaces	no.	303 641	303 927	306 655	307 458
Room occupancy rates	%	54.1	52.8	56.8	55.2
Bed occupancy rates	%	33.0	31.0	34.0	33.0
Gross takings from accommodation	\$'000	341 838	334 322	380 667	372 109
Total hotels and motels etc.(b)					
Establishments	no.	4 816	4 839	4 839	4 856
Guest rooms	no.	167 376	167 752	168 912	169 630
Bed spaces	no.	482 432	483 376	486 305	488 629
Room occupancy rates	%	58.1	56.1	59.9	59.7
Bed occupancy rates	%	37.5	33.3	36.4	36.0
Gross takings from accommodation	\$'000	776 655	756 128	851 627	863 780
Caravan parks(c)					
Establishments	no.	2 706	2 701	2 710	2 708
Powered sites	no.	203 987	203 401	203 995	203 922
Unpowered sites	no.	67 656	67 939	67 965	67 451
Cabins, flats etc.	no.	16 336	16 458	16 817	17 091
Total capacity	no.	287 979	287 798	288 777	288 464
Site occupancy rates(d)	%	45.4	43.2	44.1	42.9
Gross takings from accommodation	\$'000	121 550	106 447	115 014	119 268
Holiday flats, units and houses(b)					
Flats, units etc.					
One bedroom	no.	8 303	8 394	8 398	8 440
Multiple bedroom	no.	29 706	29 774	29 991	30 809
Total flats, units etc.	no.	38 009	38 168	38 389	39 249
Bed spaces	no.	165 704	166 262	167 188	171 118
Unit occupancy rates	%	56.3	45.0	56.3	54.1
Gross takings from accommodation	\$'000	133 221	97 999	127 963	134 843
Visitor hostels(e)					
Establishments	no.	427	432	438	441
Bed spaces	no.	25 660	26 049	26 397	27 070
Bed occupancy rates	%	47.1	44.4	47.1	47.0
Gross takings from accommodation	\$'000	13 819	13 351	14 888	15 203

(a) A tourist accommodation establishment is defined as an establishment which predominantly provides short-term accommodation (i.e., for periods of less than two months) available to the general public. (b) For definitions see Tourist Accommodation, Australia (8635.0). (c) Includes long-term caravan parks. For definitions see Tourist Accommodation, Australia (8635.0). (d) Caravan park sites etc. permanently reserved but only casually occupied by their tenants have been recorded continuously as site nights occupied irrespective of whether the tenants of individual sites were in residence on any particular night. (e) 'Backpacker' accommodation.

Source: *Tourist Accommodation, Australia (8635.0)*.

Estimates of the origin of guests staying in hotels, motels and guest houses in Australia during 1994–95 indicate that overseas visitors accounted for 23% of room nights occupied in these establishments. This compares with 37% for interstate visitors and 40% for intrastate visitors (based on table 21.17).

Queensland and the Northern Territory had the highest proportions of overseas visitor nights to total visitor nights, each having 29%. Next highest were New South Wales with 25% and Western Australia with 20%, followed by Victoria (17%), the Australian Capital Territory (13%), South Australia (12%) and Tasmania (9%). The strong popularity of New South Wales and

Queensland is reflected in the fact that 70% of overseas guest nights were spent in these States.

The Australian Capital Territory, Tasmania and the Northern Territory were the most

dependent on interstate visitors, who accounted for a half or more of those guest nights. At the other end of the scale, in New South Wales and Queensland, interstate visitors accounted for only a third of total guest nights.

21.17 GUEST NIGHTS — 1994-95

State/Territory	Origin of guests			Total '000
	Intrastate '000	Interstate '000	Overseas '000	
New South Wales	5 076	3 949	2 963	11 988
Victoria	2 511	2 158	986	5 655
Queensland	3 616	3 045	2 715	9 385
South Australia	845	902	233	1 980
Western Australia	1 425	1 128	643	3 196
Tasmania	326	638	89	1 053
Northern Territory	241	576	332	1 149
Australian Capital Territory	36	706	110	852
Total	14 076	13 111	8 071	35 258

Source: *Experimental Estimates of the Origin of Guests, Hotels, Motels and Guest Houses, Australia, 1994-95* (9501.0).

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Introduction	525
Road transport	525
Length of the road system	525
Registered motor vehicles	525
Registrations of new motor vehicles	527
Use of motor vehicles	528
Drivers' and riders' licences	529
Road traffic accidents	530
Rail Transport	530
Government railways	530
Non-government railways	532
Water Transport	533
The Australian fleet	533
Coastal shipping cargo	533
Air Transport	534
International activity	534
International scheduled passenger service operators	534
International non-scheduled services	534
International traffic	534
Domestic activity	536
Major domestic airlines as at 30 June 1995	536
Regional operators	536
Scheduled domestic services	537
Other aviation matters	537
Airports	537
Air transport registrations and licences in force in Australia	537
Accidents and casualties	537
Government Transport Organisations	538
General	538
Australian Transport Council	538
Australian Road Transport Advisory Committee	538
Bureau of Transport and Communications Economics	538
Road and Rail	538
AUSTROADS	538
ARRB Transport Research Ltd	538
National Road Transport Commission	539

Water	539
ANL Limited	539
Australian Maritime Safety Authority (AMSA)	539
Air	539
Airservices Australia	539
Civil Aviation Safety Authority	539
Federal Airports Corporation	540
International organisations	540
International agreements	540
Multiple designation and the International Air Services Commission	540
Bibliography	541

Introduction

Transport can be described broadly as the movement of goods or persons from an origin to a destination. It is one of the most fundamental aspects of an advanced economy. Buildings cannot be constructed without transportation of materials and persons, food must travel to get from farms to shops, and persons must travel to get to and from work, recreation and other facilities. Transport has enormous economic and social impact, generates substantial employment and contributes significantly to Gross Domestic Product, with numerous support industries ranging from automotive manufacturers to travel agencies. There are also social costs of transport — such as road accidents, traffic

congestion, fuel emissions, aircraft noise pollution and shipping oil spills. Information about all aspects of transport and its support industries is vital to effective planning by governments and industry.

Road transport

Length of the road system

The most recent available information on lengths of roads open for general traffic in Australia is shown in table 22.1 below. The information is classified according to broad surface groups as defined by the respective States and Territories.

22.1 LENGTHS OF ROADS OPEN FOR GENERAL TRAFFIC — 30 June

Surface of roads	NSW(a) 1996 km	Vic.(b) 1996 km	Qld 1995 km	SA 1996 km	WA(c) 1996 km	Tas.(d) 1996 km	NT(e) 1996 km	ACT 1996 km
Bitumen or concrete	84 120	71 608	64 306	25 900	44 758	9 971	6 113	2 411
Gravel, crushed stone or other improved surface	95 840	50 231	48 806	—	50 238	12 399	6 208	91
Formed only	(f)	37 381	45 831	69 433	32 590	1 699	4 597	—
Cleared only	n.a.	(g)	17 049	—	16 226	0	3 010	—
Total	179 960	159 220	175 992	95 333	143 812	24 069	19 928	2 502

(a) Excludes Lord Howe Island, forestry controlled roads or crown roads. (b) Excludes roads coming under the responsibility of the State Electricity Commission and Forests Commission. (c) Excludes approximately 25 300 kilometres of forestry roads. (d) Forestry roads have been reclassified from cleared only to gravel. (e) Excludes roads in towns and Local Government Areas. There have been some roads transferred to Local Government Areas since 1992, 8 200 kilometres of roads on Aboriginal land, and 1 400 kilometres of park roads. (f) Included in gravel, crushed stone or other improved surface. (g) Included with Formed only.

Source: Derived mainly from Road and Traffic Authorities and local government sources in each State and Territory.

Registered motor vehicles

Censuses of registered motor vehicles have been conducted in respect of 31 December 1955 and 1962; 30 September 1971, 1976, 1979, 1982, 1985, 1988 and 1991; 30 June 1993 and 31 May 1995.

As shown in table 22.2, the number of motor vehicles (excluding motor cycles) steadily increased in every Motor Vehicle Census since 1982. The number of motor cycles fluctuated over this period, falling substantially from 1982 to 1991 before increases in 1993 and 1995.

There were 10,947,530 motor vehicles (excluding tractors, plant and equipment,

caravans and trailers) registered in Australia at 31 May 1995 (table 22.3). This represents an increase of 443,380 vehicles (4.2%) since 30 June 1993.

Table 22.4 shows the average age of vehicle by type of vehicle. The average age of the total motor vehicle fleet increased by 0.2 years, from 10.4 years in 1993 to 10.6 years in 1995. Over 82% (9,006,133) of all vehicles on register are five or more years old. The average age of buses fell, in contrast to the average age of other vehicles which increased.

22.2 MOTOR VEHICLES ON REGISTER

Motor Vehicle Census Years	Passenger vehicles(a) '000	Light commercial vehicles(b), trucks, non-freight carrying trucks, buses(c) '000	Total (excludes motor cycles) '000	Motor cycles '000
1982	6 233.4	1 617.4	7 850.8	366.9
1985	6 734.2	1 863.9	8 598.1	361.6
1988	7 158.8	1 955.2	9 114.0	304.0
1991(d)	7 860.7	1 953.4	9 814.1	284.1
1993	8 279.4	1 935.9	10 215.3	288.8
1995	8 628.8	2 022.1	10 650.9	296.6

(a) Formerly described as motor cars and station wagons. From 1 July 1991 includes forward control passenger vehicles of less than 10 seats. (b) Combination of utilities and panel vans. From 1 July 1991 includes cab chassis vehicles 3.5 tonnes gross vehicle mass or less. (c) Formerly 'Other truck type vehicles'. (d) From 1 July 1991 some vehicles were reclassified from rigid trucks into light commercial vehicles and from buses into passenger vehicles.

Source: Motor Vehicle Census, Australia (9309.0).

22.3 MOTOR VEHICLE CENSUS — 31 May 1995

State/Territory	Passenger vehicles '000	Light commercials '000	Trucks				Motor cycles '000	Total(a) '000
			Rigid '000	Articulated '000	Non-freight carrying '000	Buses '000		
NSW	2 684.8	430.8	103.1	15.0	9.5	13.5	75.8	3 332.5
Vic.	2 315.3	357.8	84.7	16.5	11.3	13.8	70.6	2 869.9
Qld	1 513.3	340.0	63.6	11.7	6.7	9.3	68.3	2 012.9
SA	777.2	115.3	26.5	5.3	6.4	3.5	28.6	962.8
WA	885.5	187.2	43.0	6.7	8.6	7.1	37.2	1 175.5
Tas.	237.1	57.2	11.1	1.6	3.5	2.1	7.2	319.9
NT	58.9	21.5	2.8	1.1	0.3	1.9	3.9	90.4
ACT	156.6	17.5	2.7	0.3	0.8	0.9	5.0	183.8
Aust.	8 628.8	1 527.2	337.4	58.3	47.0	52.2	296.6	10 947.5

(a) Excludes tractors, plant and equipment, caravans and trailers.

Source: Motor Vehicle Census, Australia (9309.0).

22.4 AVERAGE AGE OF VEHICLE — 31 May 1995 and 30 June 1993

Type of vehicle	State of registration 1995								Aust. 1995 years	Aust. 1993 years
	NSW years	Vic. years	Qld years	SA years	WA years	Tas. years	NT years	ACT years		
Passenger vehicles	9.4	10.9	10.2	11.6	10.5	11.9	9.3	9.9	10.4	10.2
Light commercial vehicles	10.2	12.0	10.9	12.1	11.1	12.4	9.7	10.0	11.1	10.9
Rigid trucks	12.1	15.1	12.4	16.0	15.0	15.3	10.8	9.8	13.7	12.8
Articulated trucks	10.7	11.6	10.7	10.2	12.5	10.2	10.8	8.8	11.1	10.7
Non-freight carrying trucks	14.0	15.4	13.9	15.1	17.1	16.3	14.1	15.5	15.2	14.3
Buses	8.3	10.0	8.6	10.8	7.6	12.3	5.0	7.2	8.9	9.2
Motor cycles	9.5	9.8	10.6	9.3	10.7	10.3	8.5	9.6	10.0	9.4
Total	9.6	11.2	10.4	11.8	10.8	12.1	9.4	9.9	10.6	10.4

Source: Motor Vehicle Census, Australia (Supplementary ABS statistics).

The number of registered motor vehicles (excluding motor cycles) per 1,000 of population has generally followed the same

trend as the total number of motor vehicles. The figure of 606 vehicles per 1,000 of population in 1995 was the highest recorded (table 22.5).

22.5 MOTOR VEHICLES(a) ON REGISTER PER 1,000 OF POPULATION

States/Territories	Motor Vehicle Census Years					
	1982	1985	1988	1991	1993	1995
NSW	509	529	524	525	529	545
Vic.	531	575	598	622	642	637
Qld	591	579	567	569	593	614
SA	559	622	616	637	638	653
WA	582	628	608	653	665	679
Tas.	568	607	634	643	661	676
NT	467	472	(b)389	507	497	520
ACT	472	499	511	556	591	604
Aust.	540	567	567	582	595	606

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

(b) 1988 data understated the number of vehicles on register.

Source: Motor Vehicle Census, Australia (9309.0).

Registrations of new motor vehicles

Annual registrations of new vehicles processed by motor vehicle registration authorities in all States and Territories are shown in tables 22.6

and 22.7. The fall in total vehicles (excluding motor cycles) in 1995–96 was the first since 1991–92.

22.6 REGISTRATIONS OF NEW MOTOR VEHICLES — 1990–91 to 1995–96

Year	Passenger vehicles(a) no.	Light commercial vehicles(b) no.	Trucks				Buses no.	Total (excludes motor cycles) no.	Motor cycles no.
			Rigid no.	Articulated no.	Non-freight carrying(c) no.				
1990–91	430 874	72 395	29 173	2 142	1 648	6 222	542 454	20 506	
1991–92(d)	437 075	67 804	9 924	1 634	787	3 848	521 072	16 675	
1992–93	449 843	74 748	9 780	2 199	708	4 230	541 508	17 513	
1993–94	475 981	80 720	9 812	3 147	795	3 814	574 269	17 425	
1994–95	528 502	88 840	11 392	4 815	867	4 493	638 909	20 505	
1995–96	531 778	86 666	9 726	2 909	1 074	4 376	636 529	22 345	

(a) Formerly described as motor cars and station wagons. From 1 July 1991 includes forward control passenger vehicles of less than 10 seats. (b) Combination of utilities and panel vans. From 1 July 1991 includes cab chassis vehicles 3.5 tonnes gross vehicle mass or less. (c) Formerly 'Other truck type vehicles'. (d) From 1 July 1991 some vehicles were reclassified from rigid trucks into light commercial vehicles and from buses into passenger vehicles.

Source: Motor Vehicle Registrations, Australia (9304.0) and unpublished statistics.

22.7 REGISTRATIONS OF NEW MOTOR VEHICLES, By State/Territory — 1995-96

State/Territory	Passenger vehicles no.	Light commercial vehicles(a) no.	Trucks				Total (excludes motor cycles) no.	Motor cycles no.
			Rigid no.	Articulated no.	Non-freight carrying no.	Buses no.		
NSW	188 733	26 758	3 528	785	421	1 069	221 294	6 744
Vic.	129 866	17 219	1 976	859	308	766	150 994	5 921
Qld	98 609	21 292	2 200	594	122	993	123 810	4 297
SA	36 067	5 763	475	243	96	251	42 895	1 684
WA	51 319	10 838	1 116	304	76	828	64 481	2 441
Tas.	10 702	2 155	216	71	49	69	13 262	412
NT	5 428	1 684	143	43	2	360	7 660	505
ACT	11 054	957	72	10	0	40	12 133	341
Aust.	531 778	86 666	9 726	2 909	1 074	4 376	636 529	22 345

(a) Combination of utilities and panel vans. Includes cab chassis vehicles 3.5 tonnes gross vehicle mass or less.

Source: Unpublished ABS statistics on new motor vehicle registrations.

Use of motor vehicles

The Survey of Motor Vehicle Use has been undertaken periodically by the ABS since 1963, including every three years between 1976 and 1991, and in 1995. The following are some of the main findings from the 1995 survey.

Motor vehicles in Australia are estimated to have travelled a total of 166,514 million kilometres in the 12 months ended September 1995, a rise of 11% over the corresponding period in 1991. Of the total distance travelled, 34% was for business purposes, 24% for travel to and from work and 43% for private purposes. Passenger vehicles accounted for 74% of total distance travelled, freight carrying vehicles (including light commercial vehicles, rigid trucks and articulated

trucks) 24%, motor cycles and buses both 1% (based on table 22.8).

The average distance travelled in the 12 months by all vehicles (including vehicles which reported zero distance travelled) was 15,200 km, an increase of about 2% over the 12 months ended September 1991. Table 22.9 shows the average kilometres travelled by different types of vehicle, and where they travelled.

Load carrying vehicles performed 119,227 million tonne-kilometres (table 22.10), vehicles registered in New South Wales, Victoria and Queensland accounting for about 70% of the total (27,713, 30,571 and 25,666 million tonne-kilometres, respectively).

22.8 TOTAL KILOMETRES TRAVELLED, Year Ended 30 September 1995

Type of vehicle	Business			Purpose		
	Laden mill. km	Unladen mill. km	Total mill. km	Total to and from work mill. km	Private mill. km	Total mill. km
Passenger vehicles	..	..	26 116	33 158	64 417	123 691
Motor cycles	..	..	177	579	769	1 526
Light commercial vehicles	11 558	4 342	(a)16 918	5 190	5 642	27 751
Rigid trucks	4 740	1 650	6 391	209	125	6 725
Articulated trucks	3 778	1 285	5 063	24	7	5 094
Other truck types	..	..	241	3	5	249
Buses	..	..	1 406	24	49	1 479
Total	20 076	7 277	56 312	39 188	71 015	166 514

(a) Includes total business travel for some light commercial vehicles where the laden and unladen business kilometres could not be obtained.

Source: Survey of Motor Vehicle Use, Australia, Preliminary (9202.0).

22.9 AVERAGE KILOMETRES TRAVELLED(a), Year Ended 30 September 1995

Type of vehicle	Area of operation(b)					
	Capital city(c) '000 km	Provincial urban '000 km	Other areas of State or Territory '000 km	Total within State of registration '000 km	Interstate '000 km	Australia '000 km
Passenger vehicles	10.7	6.6	6.7	14.1	3.7	14.7
Motor cycles	5.1	2.7	3.1	5.2	2.9	5.4
Light commercial vehicles	14.7	11.1	11.7	17.4	5.8	18.0
Rigid trucks	21.5	14.8	12.1	19.9	10.6	20.5
Articulated trucks	30.6	24.2	52.3	67.0	70.9	89.9
Non-freight carrying types	21.4	11.6	8.6	16.0	5.1	16.1
Buses	26.4	14.6	21.3	30.9	16.9	32.8
Total	11.4	7.3	8.0	14.9	4.9	15.6

(a) As this table relates to actual vehicle usage, vehicles which travelled zero distance are excluded from the calculation of averages. (b) Includes the average distance travelled by all vehicles registered in a State/Territory within the specified area. (c) Includes all of the ACT in Capital City and all of the NT in other areas of State or Territory.

Source: Survey of Motor Vehicle Use, Australia, preliminary (9202.0).

22.10 TOTAL TONNE-KILOMETRES(a), Year Ended 30 September 1995

Type of vehicle	State of registration									
	NSW mill. t-km	Vic. mill. t-km	Qld mill. t-km	SA mill. t-km	WA mill. t-km	Tas. mill. t-km	NT mill. t-km	ACT mill. t-km	Aust. mill. t-km	
Light commercial vehicles	1 217	1 202	1 246	330	582	105	43	74	4 799	
Rigid trucks	7 737	5 599	5 291	1 749	3 473	630	305	259	25 044	
Articulated trucks	18 758	23 770	19 129	10 362	11 201	2 081	3 583	500	89 384	
Total	27 713	30 571	25 666	12 442	15 256	2 816	3 932	833	119 227	

(a) Total tonne-kilometres is the product of reported average load and total business kilometres travelled while laden.

Source: Survey of Motor Vehicle Use, Australia, Preliminary (9202.0).

Drivers' and riders' licences

22.11 DRIVERS' AND RIDERS' LICENCES

Type of licence	NSW no.	Vic. no.	Qld(a) no.	SA no.	WA no.	Tas. no.	NT no.	ACT no.
30 JUNE 1995								
Motor vehicle	3 794 336	2 894 132	n.a.	818 081	n.a.	263 577	118 542	r180 266
Motor cycle	346 820	179 080	336 189	15 464	n.a.	147	19 045	r154
Combined	(b)343 129	—	2 007 507	r141 211	—	27 955	—	r21 685
Total	4 141 156	3 073 212	(c)2 007 587	974 756	r1 137 096	291 679	137 587	r202 105
30 JUNE 1996								
Motor vehicle	3 861 662	2 928 250	n.a.	829 094	n.a.	267 448	97 169	185 201
Motor cycle	354 550	186 154	(b)341 357	15 351	n.a.	158	46	137
Combined	(b)351 096	—	2 056 996	134 053	—	28 729	(b)97 215	21 804
Total	4 216 212	3 114 404	2 056 996	978 498	1 154 165	296 335	97 215	207 142

(a) Queensland figures for 1996 are as at 2 April 1996. (b) Not included in the total. (c) The difference between Total and Combined licences is Motor cycle licences only.

Source: Motor Registry in each State and Territory.

Road traffic accidents

The number of persons killed in Australia as a result of road traffic accidents fell significantly between 1990 and 1994. However, there was a significant rise in 1995. Large rises in Victoria,

Queensland, South Australia and the Northern Territory more than accounted for falls in the other States and the Australian Capital Territory.

22.12 ROAD TRAFFIC ACCIDENTS INVOLVING FATALITIES

Year	NSW no.	Vic. no.	Qld no.	SA no.	WA no.	Tas. no.	NT no.	ACT no.	Aust. no.
ACCIDENTS INVOLVING FATALITIES									
1990	702	492	346	187	181	63	54	24	2 049
1991	585	435	362	166	187	65	60	16	1 876
1992	578	365	364	142	171	56	42	18	1 734
1993r	518	381	357	191	190	47	40	11	1 735
1994	557	346	367	145	195	51	36	15	1 712
1995	563	371	408	163	194	53	56	14	1 822
PERSONS KILLED									
1990	797	548	399	226	196	71	68	26	2 331
1991	663	503	395	184	207	75	67	17	2 113
1992	649	396	416	165	200	74	54	20	1 974
1993r	581	435	396	218	209	58	44	12	1 953
1994	647	378	422	159	211	59	41	17	1 934
1995	620	418	456	181	209	57	61	15	2 017

Source: Federal Office of Road Safety, Road Fatality Statistics.

22.13 ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a) — 1994

State/Territory	Persons killed no.	Persons injured no.	Per 100,000 of population(b)		Per 10,000 motor vehicles registered(c)	
			Persons killed no.	Persons injured no.	Persons killed no.	Persons injured no.
NSW	647	6 287	10.7	103.9	2.0	19.3
Vic.	378	6 023	8.4	134.6	1.3	21.4
Qld	422	4 576	13.2	143.2	2.1	23.2
SA	159	1 514	10.8	103.1	1.7	16.5
WA	211	2 660	12.4	156.4	1.8	23.3
Tas.	59	523	12.5	110.8	1.9	16.5
NT	41	386	24.0	225.7	4.5	42.0
ACT	17	185	5.6	61.7	0.9	10.1
Aust.	1 934	22 154	10.8	124.2	1.8	20.7

(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) Estimated resident population at 30 June 1994. (c) Number of motor vehicles (excluding tractors, plant and equipment) on register at 30 June 1994.

Source: Federal Office of Road Safety.

Rail Transport

Government railways

The seven government owned railway systems are operated by:

- the State Rail Authority of New South Wales;
- the Public Transport Corporation Victoria (operating V/Line and The Met);
- Queensland Rail;
- the Western Australian Government Railways (Westrail and Transperth);

- the State Transport Authority of South Australia (Transadelaide);
- National Rail Corporation Ltd; and
- the Australian National Railways Commission (operating as Australian National).

The Australian National system includes routes in more than one State, and the Victorian system extends into New South Wales. Therefore the system route-kilometres shown in table 22.14 do not represent route-kilometres exclusively within each State and Territory.

Australian National is managed as three separate businesses: AN Freight (mainland freight); AN

Tasrail (Tasmanian freight); and AN Passenger and Travel (mainland passenger services and an Adelaide travel agency).

The National Rail Corporation was incorporated as a commercial operating company in September 1991 with a charter to take over all interstate rail freight business and related functions and assets from government-owned railways. This transfer was to occur over a three-year Transition Period ending on 31 January 1996. Its shareholders are the Commonwealth Government, and the Governments of New South Wales, Victoria and Western Australia. Commercial operations began on 5 April 1993.

22.14 GOVERNMENT RAILWAYS, Route-Kilometres Operated

30 June	NSW km	Vic. km	Qld km	SA(a) km	WA km	Australian National km	Australia km
1990	7 747	5 196	10 107	125	5 554	r6 761	r35 490
1991	9 810	5 179	10 015	125	5 554	6 612	37 295
1992	9 810	5 179	10 011	120	5 554	6 559	37 233
1993	9 810	5 107	9 797	120	5 583	6 235	36 652
1994	9 810	5 107	9 357	120	5 583	6 235	36 212
1995	9 810	4 917	9 452	112	5 583	6 152	36 026

(a) Suburban only. Country routes were transferred to Australian National in 1978.

Source: Various rail authorities and the Rail Industry Council.

Tables 22.15 and 22.16 show information on aspects of the performance of the government railways. The information relating to passenger

journeys, freight-tonnes carried, and freight tonne-kilometres refers only to operations for which revenue was received.

22.15 GOVERNMENT RAILWAYS, Passenger Journeys(a)

	NSW	Vic.	Qld	SA	WA	Australian National	Australia
	'000	'000	'000	'000	'000	'000	'000
1993-94							
Suburban	234 800	100 955	38 393	8 720	r(b)22 500	—	n.a.
Country(c)	2 100	r6 196	947	—	246	223	9 712
1994-95							
Suburban	250 000	105 360	37 026	8 400	(b)23 500	—	n.a.
Country(c)	2 200	6 390	895	—	247	191	9 923

(a) Based on ticket sales making allowances for periodical tickets. (b) Journeys made on the Transperth system may involve more than one mode (bus, train, ferry) and passengers are able to transfer within a mode or between modes. Therefore, patronage by mode is estimated in terms of passenger boardings. (c) Inter-system traffic is included in the total for each system over which it passes.

Source: Various rail authorities, the Rail Industry Council and the Australian Bureau of Statistics.

22.16 GOVERNMENT RAILWAYS

Year	NSW	Vic.	Qld	WA	Australian National	National Rail	Australia
FREIGHT CARRIED ('000 t)							
1989-90	53 700	10 250	82 543	24 906	14 132	n.a.	185 531
1990-91	58 266	9 659	82 965	24 410	13 189	n.a.	188 489
1991-92	57 341	r8 492	90 658	25 890	r13 083	n.a.	r195 464
1992-93	61 597	9 646	90 303	r26 523	13 899	1 200	r203 168
1993-94	65 500	r7 579	92 092	27 726	14 942	8 800	r216 639
1994-95	65 200	(a)5 716	96 807	29 317	(b)7 846	10 100	214 986
NET TONNE-KILOMETRES (mill.)							
1989-90	14 100	3 672	22 579	4 872	r8 112	n.a.	r53 335
1990-91	14 222	3 700	22 869	4 583	7 789	n.a.	53 163
1991-92	13 811	2 704	24 719	4 878	7 799	n.a.	53 911
1992-93	14 813	3 678	24 614	4 970	8 480	n.a.	56 555
1993-94	16 200	r4 212	25 175	5 447	9 159	13 900	r74 093
1994-95	15 300	(a)1 790	26 498	6 235	(b)1 500	16 714	68 037
FREIGHT EARNINGS (\$'000)							
1989-90	667 000	172 603	1 062 988	235 983	282 638	n.a.	r2 421 212
1990-91	783 602	164 175	1 124 800	235 420	275 294	n.a.	2 583 291
1991-92	789 236	135 393	1 154 813	r254 617	266 194	n.a.	r2 600 251
1992-93	815 336	151 311	1 192 523	248 314	276 553	60 800	r2 744 837
1993-94	(c)688 796	158 747	1 101 688	269 494	276 324	443 400	r3 000 897
1994-95	637 438	(a)111 243	1 161 128	277 361	(b)213 490	479 700	2 880 360

(a) The substantial falls in Victoria are attributed to the effects of the drought on the haulage of grain. (b) The substantial falls by Australian National are attributed to National Rail's new role as an interstate freight carrier. (c) In 1993-94 and subsequent years the revenue from the National Rail Corporation is included in Intersystem Recoveries. Prior to 1993-94 this revenue was included in freight revenue.

Source: Various rail authorities and the Rail Industry Council.

Non-government railways

Statistics shown in table 22.17 relate to non-government railways with a route distance exceeding two kilometres and which operate

outside industrial estates, harbour precincts, mines and quarries.

22.17 ACTIVITIES OF NON-GOVERNMENT RAILWAYS

Year	Iron ore railways	Sugar tramways	Coal railways(a)	Other non-government railways	Total(a)
TONNES CARRIED (mill.)					
1990-91	113.6	22.2	7.9	14.2	158.0
1991-92	111.1	18.6	9.3	12.0	150.8
1992-93	112.9	26.0	8.5	11.8	159.2
1993-94	117.5	29.3	8.7	11.5	167.0
1994-95	121.6	31.8	7.9	12.1	173.4
1995-96	97.3	34.4	5.7	8.6	146.0
TONNE-KILOMETRES (mill.)					
1990-91	34 533	400	114	299	35 347
1991-92	34 362	334	123	259	35 078
1992-93	34 929	468	117	253	35 767
1993-94	36 849	527	r123.0	248	37 747
1994-95	37 177	572	111	250	38 110
1995-96	29 950	620	80	178	30 827

(a) Includes transfers to and from government railways.

Source: Bureau of Transport and Communications Economics, Transport Indicators Unit.

Water Transport

The Australian fleet

New South Wales and Queensland between them account for 58% of ships registered in Australia. The majority of these ships are used for non-commercial purposes (based on table 22.18).

Of the 71 ships which comprise the major Australian trading fleet (2,000 dead weight tonnes and over), 61% operated on coastal routes (based on table 22.19).

Coastal shipping cargo

Table 22.20 shows the gross weight of shipping cargo loaded at an Australian port for discharge at another Australian port. Both interstate and intrastate cargo movements are included. Cargo loaded or to be discharged at an overseas port is excluded.

22.18 SHIPS REGISTERED(a) IN AUSTRALIA — 30 June 1995

Location	Recreational no.	Fishing no.	Government no.	Nature of registration			Total no.
				Demise chartered(b) no.	Other(c) no.		
New South Wales	1 537	277	4	8	230	2 056	
Victoria	537	197	—	3	118	855	
Queensland	1 289	667	26	3	356	2 341	
South Australia	244	279	1	—	39	563	
Western Australia	518	405	1	1	122	1 047	
Tasmania	200	217	4	1	54	476	
Northern Territory	218	52	1	—	23	294	
Australia	4 543	2 094	37	16	942	7 632	

(a) Any Australian ship longer than 24 metres must be registered. Any Australian ships travelling overseas must be registered regardless of length. A ship less than 24 metres may be registered, but this is not required by law.
 (b) A demise chartered ship is a foreign owned ship chartered by way of a charter party to an Australian based operator, who is an Australian national and who under the charter party has whole possession and control of the ship, including the right to appoint the master and crew of the ship. (c) Relates to vessels used for commercial purposes.

Source: Department of Transport and Regional Development.

22.19 SUMMARY OF THE AUSTRALIAN TRADING FLEET OF SHIPS 150 GROSS TONNES OR MORE — 30 June 1995

Ships	Number	DWT(a)	Gross tonnes
Major Australian fleet(b)			
Coastal			
Australian owned and registered	37	1 088 625	779 828
Overseas owned, Australian registered	3	56 475	33 722
Overseas owned and registered	3	14 185	8 866
Coastal fleet	43	1 159 285	822 416
Overseas			
Australian owned and registered	21	1 568 736	1 185 807
Overseas owned, Australian registered	5	440 357	263 386
Overseas owned and registered	2	27 625	22 662
Overseas fleet	28	2 036 718	1 471 855
Major Australian fleet	71	3 196 003	2 294 271
Other trading ships			
Australian owned and registered	14	7 620	4 623
Australian trading fleet	85	3 203 623	2 298 894

(a) Dead weight tonnage. (b) 2 000 DWT and over.

Source: Department of Transport and Regional Development.

22.20 COASTAL CARGO LOADED AND DISCHARGED, Gross Weight — 1994-95

Port	Loaded '000 t	Discharged '000 t
New South Wales		
Sydney	56	2 432
Botany Bay	756	3 765
Newcastle	338	5 157
Port Kembla	2 603	7 742
Other	1 205	100
Total	4 957	19 196
Victoria		
Melbourne	1 859	3 471
Geelong	1 219	971
Hastings	5 248	917
Other	33	653
Total	8 360	6 011
Queensland		
Brisbane	1 830	4 188
Gladstone	1 418	8 718
Other	9 307	2 287
Total	12 555	15 193
South Australia		
Adelaide	785	1 772
Port Stanvac	691	230
Other	5 640	1 381
Total	7 117	3 384
Western Australia		
Fremantle	1 874	1 546
Other	9 406	1 208
Total	11 280	2 753
Tasmania		
Hobart	560	968
Burnie	1 016	705
Devonport	1 061	603
Launceston	312	1 266
Other	1 250	57
Total	4 200	3 599
Northern Territory		
Darwin	79	259
Other	642	71
Total	721	330
Total all ports	49 190	50 466

Source: Department of Transport and Regional Development.

Air Transport

International activity

International scheduled passenger service operators

At 31 December 1995, 49 international airlines were operating regular scheduled passenger air services to and from Australia. The carriers and

contracting states are shown in the following table

Air France and Lufthansa withdrew from Australia in late 1995, while AOM French Airlines, Asiana Airlines, Egypt Air and Kiwi Travel International Airlines began services after 30 June 1995. Vietnam Airlines commenced scheduled operations in early 1996.

Air Zimbabwe, American Airlines and Canadian Airlines International (CAI) operate to and from Australia through a code-share arrangement with Qantas. Virgin Atlantic Airways serves Australia through a code-share arrangement with Malaysia Airlines.

Polynesian Airlines also operates services on behalf of Cook Islands International.

Qantas, which now includes Australian Airlines, operates international and domestic flights. See the *Domestic activity* section for details of the Qantas fleet. British Airways purchased 25% of Qantas Airways Limited on 10 March 1993. The company was floated on the Australian Stock Exchange on 22 June 1995.

Ansett Australia operated its first international flight in its own right on 11 September 1993.

International non-scheduled services

Passenger and freight charter policies in Australia encourage in-bound tourism and freight carriage by non-scheduled services, particularly over routes not served by the scheduled carriers

International traffic

Particulars of scheduled international airline traffic to and from Australia during 1994-95 are shown in tables 22.21 and 22.22. Note that 'Australia' includes Norfolk Island. These figures do not include traffic between Norfolk Island and other parts of Australia. Statistics relating to the operations of Australia's regular overseas services include all stages of Qantas and Ansett flights linking Australia with overseas countries. Ansett commenced international mail handling during 1994-95. Table 22.23 shows freight tonnes carried between overseas and Australian cities (city pairs). Table 22.24 shows the number of airline passengers (passenger traffic) passing through Australia's international airports.

22.21 SCHEDULED INTERNATIONAL AIRLINE TRAFFIC TO AND FROM AUSTRALIA(a) — 1994-95

Type of traffic	Flights(b)(c) no.	Passengers no.	Freight tonnes	Mail tonnes
Traffic to Australia				
Qantas Airways Limited	10 067	2 350 902	80 611	2 586
Ansett Australia	708	117 248	2 836	568
Other airlines	19 724	3 367 654	167 793	7 412
All airlines	30 499	5 835 804	251 240	10 566
Traffic from Australia				
Qantas Airways Limited	10 003	2 307 986	95 862	5 364
Ansett Australia	710	118 632	3 528	47
Other airlines	19 444	3 311 514	193 819	2 214
All airlines	30 157	5 738 132	293 208	7 625

(a) Australia and Norfolk Island. (b) Includes Qantas flights using aircraft leased from other airlines and vice versa. (c) The difference between in/out numbers arises because some outward flights are operated as non-scheduled, and thus not counted in the above table.

Source: Department of Transport and Regional Development.

22.22 OPERATIONS OF AUSTRALIA'S SCHEDULED OVERSEAS AIRLINE SERVICES(a)

	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
Hours flown	140 172	148 706	163 332	174 568	188 818	201 653
Kilometres flown ('000)	109 102	115 783	127 421	136 533	160 520	168 865
Passengers						
Embarkations	3 947 544	4 078 669	3 880 533	4 468 149	5 222 783	5 817 263
Passenger-kilometres ('000)	26 516 771	27 054 999	26 774 074	28 396 869	33 189 062	37 341 545
Freight						
Tonnes uplifted	130 635	146 937	155 638	172 790	197 249	218 194
Tonne-kilometres ('000)	929 458	1 072 999	1 131 729	1 140 519	1 269 456	1 430 425
Mail						
Tonnes uplifted	5 988	5 963	6 992	8 324	8 737	10 031
Tonne-kilometres ('000)	61 049	59 398	75 110	70 488	7 342	81 950

(a) 1994-95 data are unavailable.

Source: Department of Transport and Regional Development.

22.23 FREIGHT CARRIED BY CITY PAIRS

	1992-93 tonnes	1993-94 tonnes	1994-95 tonnes
Auckland/Sydney	37 151	39 250	44 541
Los Angeles/Sydney	30 156	29 765	33 686
Singapore/Sydney	29 728	30 794	32 730
Hong Kong/Sydney	24 999	24 343	31 882
Singapore/Melbourne	19 028	23 319	28 571
Hong Kong/Melbourne	16 031	19 466	27 499
Tokyo/Sydney	19 379	23 502	23 176
Auckland/Melbourne	19 757	22 293	22 742
Singapore/Perth	18 084	17 918	19 065
Auckland/Brisbane	9 394	11 078	11 299
Other City Pairs	209 104	234 609	269 256
All City Pairs	432 810	476 336	544 448

Source: Department of Transport and Regional Development.

22.24 PASSENGER TRAFFIC THROUGH AUSTRALIAN INTERNATIONAL AIRPORTS

Airport	1992-93	1993-94	1994-95
	no. of passengers	no. of passengers	no. of passengers
Sydney	4 647 515	5 019 004	5 603 058
Melbourne	1 788 700	1 871 604	1 931 251
Brisbane	1 428 860	1 599 086	1 838 023
Perth	949 578	1 068 373	1 156 050
Cairns	600 147	688 115	641 377
Adelaide	213 495	216 626	212 937
Darwin	96 459	113 889	138 398
Christmas Island(a)	—	11 476	27 031
Norfolk Island	17 722	16 262	15 189
Hobart	8 837	8 285	7 362
Port Hedland	4 878	3 699	1 649
Townsville(b)	2 874	5 557	1 611
Total	9 759 065	10 621 976	11 573 936

(a) International operations commenced November 1993. (b) International operations ceased March 1991, recommenced November 1992 and ceased again in October 1994.

Source: Department of Transport and Regional Development.

22.25 DOMESTIC AIRLINE ACTIVITY

	Unit	1989-90	1990-91	1991-92	1992-93	1993-94 ^(c)	1994-95 ^(c)
Domestic airlines							
Passengers(a)	'000	10 363.7	14 738.5	18 476.2	18 577.8	19 997.3	23 422.8
Passenger kilometres performed	mill.	9 962.9	14 495.9	19 059.9	18 997.0	21 114.5	25 268.9
Revenue passenger load factor	%	72.1	70.8	78.4	76.7	77.2	72.5
Cargo tonnes(b)	'000	98.5	139.6	137.9	144.1	153.1	n.a.
Cargo tonne-kilometres(b)	mill.	93.4	140.7	156.0	170.9	185.4	n.a.
Total tonne-kilometres	mill.	990.0	1 445.4	1 871.4	1 880.7	2 085.7	n.a.
Revenue weight load factor	%	59.4	56.9	61.3	60.2	61.6	n.a.
Hours flown	'000	192.2	281.7	336.7	356.5	373.5	n.a.
Aircraft movements	'000	255.1	374.9	427.0	448.8	453.3	520.4
Regional airlines							
Passenger	'000	1 497.9	1 798.3	2 049.0	2 336.6	2 705.0	2 964.8
Cargo tonnes(b)	'000	2.4	2.7	2.6	2.4	2 400.0	2 451.0

(a) Measurement has been changed to passengers on board and adjusted for previous years. (b) Includes freight and mail. (c) Data for this period comprises all activity by major Australian-registered airlines over flight stages within Australia, following a change in the definition of 'domestic traffic' from 1 July 1993. Data for all periods prior to 1 July 1993 comprises domestic airline activity only.

Source: Department of Transport and Regional Development.

Domestic activity

The Commonwealth Government deregulated domestic aviation in Australia and opened the nation's interstate air services to free competition from 31 October 1990.

Major domestic airlines as at 30 June 1995

The Ansett group's fleet consisted of 75 aircraft, including two Boeing 747, six Boeing 767, 21 Boeing 737, five Boeing 727, 12 A320-200 Airbus and 12 British Aerospace 146 jet aircraft. Regional airlines in the Ansett Group are Kendall Airlines, Aeroperican and Skywest Airlines.

Qantas operated a fleet of 31 Boeing 747, 22 Boeing 767, 35 Boeing 737, four A300 Airbus and eight British Aerospace 146 jet aircraft. Regional airlines in the Qantas Group are Eastern Australia Airlines, Southern Australia Airlines, Sunstate Airlines and Airlink. The Qantas Group operated 38 aircraft, the largest regional fleet in Australia.

Regional operators

At 30 June 1995, 42 regional operators provided regular public transport air services to 207 ports in Australia.

The aircraft used by regional operators are predominantly in the six to nine seats category,

such as the Piper PA31 and Cessna 310, 402 and 404 series. However, an increasing number of larger types are in use. These include the DeHavilland Canada Dash 8 and SAAB 340 which are in the 34–36 seats category. During 1994–95, regional operators carried an estimated three million passengers.

Scheduled domestic services

Statistics on all major domestic airline services and the number of domestic airline passengers passing through airports are shown in tables 22.25 and 22.26.

22.26 SCHEDULED PASSENGER UPLIFTS AND DISCHARGES BY MAJOR DOMESTIC AIRLINES AT PRINCIPAL AIRPORTS(a)

	1989–90(b) no.	1990–91 no.	1991–92 no.	1992–93 no.	1993–94 no.	1994–95p no.
Sydney	5 498 325	7 634 518	9 994 443	10 042 288	r10 657 301	11 614 000
Melbourne	4 630 505	6 419 173	8 148 589	8 111 724	r8 632 378	9 630 000
Brisbane	2 698 617	3 915 302	5 072 744	5 138 452	r5 504 192	6 167 400
Adelaide	1 418 113	2 023 096	2 558 172	2 552 132	r2 733 862	2 870 000
Perth	1 052 379	1 563 444	2 082 912	1 943 759	2 240 634	2 522 000
Canberra	671 904	1 058 814	1 267 366	1 260 161	1 359 901	1 452 800
Coolangatta	645 989	1 075 000	1 478 093	1 543 469	1 682 179	1 775 000
Cairns	545 493	826 738	1 184 098	1 183 902	1 358 377	1 590 000
Hobart	429 012	566 303	666 515	689 112	727 177	796 000
Townsville(c)	379 769	418 412	379 756	446 276	389 410	432 000
Launceston(d)	268 641	348 009	401 947	402 114	458 963	456 000
Darwin	302 213	402 549	452 621	478 715	553 179	625 600

(a) The unit of measurement is passengers on board. (b) Data are severely affected by pilots' dispute. (c) Prior to August 1989, Townsville formed part of the major route to/from Cairns, accounting for the large number of passengers transiting this port. Services are now more direct, with far less transit activity at Townsville airport. (d) Launceston data was inflated with transiting passengers on the Hobart route.

Source: Department of Transport and Regional Development.

Other aviation matters

In addition to scheduled services, a wide range of other activities is undertaken by the aviation industry, including business flying, aerial agriculture, charter, training and private flying. Charter operations and training have, in recent years, made up almost 50% of general aviation hours flown. Charter operations involve the use of aircraft in non-scheduled operations for the carriage of passengers and cargo for hire or reward.

Airports

At 30 June 1996, there were 275 licensed airports in Australia and its external territories. Of these, 12 were operating as international airports servicing scheduled international airlines. The majority of licensed airports were owned and operated by local councils, State government departments and private companies. The remaining airports were owned and operated by the Federal Airports Corporation and the Department of Defence.

Air transport registrations and licences in force in Australia

At 14 December 1995, there were 9,633 aircraft registered in Australia.

At 27 June 1996, there were 29,682 holders of a current aeroplane pilot licence, including 19,076 private pilots, 6,061 commercial and senior commercial pilots and 4,545 air transport pilots. In addition there were 2,058 holders of a current helicopter pilot licence of whom 463 were private pilots, 1,222 commercial and senior commercial pilots and 373 air transport pilots. There were also 85 commercial balloon, 894 flight engineer and 51 navigator licences in force.

Accidents and casualties

As table 22.27 shows, while the number of air transport accidents rose slightly in 1995 over 1994, the number of fatalities declined.

22.27 AIR TRANSPORT(a), Accidents and Fatalities(b)

Domestic airlines	Accidents no.	Fatalities no.
1990	344	81
1991	323	54
1992	310	61
1993r	319	67
1994	268	64
1995	273	51

(a) Includes airlines, general aviation and sport aviation.

(b) Includes Australia-registered aircraft accidents occurring overseas and foreign-registered aircraft accidents occurring in Australia.

Source: Department of Transport and Regional Development — Bureau of Air Safety Investigation.

Government Transport Organisations

General

Australian Transport Council

The Australian Transport Council was established on 11 June 1993, subsuming the functions of the Australian Transport Advisory Council, and incorporates meetings of the Ministerial Council for Road Transport.

It comprises Commonwealth, State and Territory ministers responsible for transport, roads and marine and ports matters. The New Zealand and Papua New Guinea Ministers for Transport, along with the Australian Local Government Association, are also represented on the Council as observers.

The Council meets bi-annually and its primary role is to review and coordinate various aspects of transport policy, development and administration. The Council initiates discussion and reports on issues raised by Council members, and provides advice to governments on the coordination and integration of all transport and road policy issues at a national level.

Australian Road Transport Advisory Committee

The Australian Road Transport Advisory Committee was established in April 1990 as part of the continuing push to reform the land transport sector.

Its function is to provide the Minister for Transport with direct industry based advice on all aspects of the road transport industry. The specialist advice from the Committee also assists

with the task of integrating road and rail with other forms of transport.

Bureau of Transport and Communications Economics

The Bureau of Transport and Communications Economics is a centre for applied economic research in the Commonwealth Department of Transport and Regional Development. It undertakes studies and investigations that contribute to an improved understanding of the factors influencing the efficiency and growth of the transport and communications sector and the development of effective transport and communication policies.

Road and Rail

AUSTROADS

AUSTROADS, the national association of road transport and traffic authorities, provides strategic direction for the development, management and use of Australia's road system through consultation and discussion with peak bodies which have a stake in the road industry. Its functions are: coordination of research; and preparation of guides and standards for improvements in, and harmonisation of, practices within an agreed national policy framework. Its membership comprises the six Australian State and Territory road authorities, the Commonwealth Department of Transport and Regional Development, the Australian Local Government Association and Transit New Zealand.

ARRB Transport Research Ltd

ARRB Transport Research is a leading provider of value added technology and research services addressing land transport problems. The company's National Strategic Research Program, performed under contract to AUSTROADS, keeps Australia at the leading edge of developments in the road transport industry.

ARRB Transport Research employs over 140 people who form a multi-disciplinary pool of scientists, engineers, and specialist technical and support staff for infrastructure design, asset management, construction quality, materials testing, traffic operations, safety analysis, environmental sustainability, and freight issues.

The company has headquarters in Melbourne, with extensive laboratory and testing facilities and an office in Perth to service customers in Western Australia and the Indian Ocean Rim.

In addition to addressing Australia's transport problems, ARRB Transport Research has a rapidly growing export business with products sold in over 60 countries.

National Road Transport Commission

The National Road Transport Commission was established as the result of the Special Premiers' Conference in 1991. Its charter, derived from Intergovernmental Agreements on Heavy Vehicles (1991) and Light Vehicles (1992), is to develop nationally uniform or consistent policies and practices for road transport. All States, both Territories and the Commonwealth are parties to these agreements.

The National Road Transport Commission's task is to develop a national package of transport laws that improve transport efficiency, enhance road safety and reduce costs of administration. The Commission is bound to consult with the Commonwealth Government and the State and Territory Governments, representatives of industry (including the road transport industry) and other interested persons, bodies and organisations. This includes people who live in rural or remote areas of Australia.

Water

ANL Limited

ANL Limited was incorporated as a public company on 1 July 1989, taking over all the assets, liabilities and operations of the former Australian Shipping Commission. All shares in ANL Limited are currently held by the Commonwealth Government.

ANL is an integrated international and domestic shipping operation participating in both blue-water and shore-based shipping activities, either in its own right or in joint venture

arrangements with private sector interests. ANL has a focus on liner (container) trades, both domestic and international. Australasia is the geographic focus of ANL's activities.

As at 30 June 1996, the ANL Limited fleet consisted of 11 vessels. The fleet comprised three vehicle deck cargo ships totalling 35,445 deadweight tonnes (DWT), four cellular container ships totalling 105,284 DWT and four bulk carriers totalling 216,285 DWT.

Australian Maritime Safety Authority (AMSA)

The AMSA is a government business enterprise established under the *Australian Maritime Safety Authority Act 1990* on 1 January 1991. AMSA is responsible for maritime safety regulatory activities in Australia and provision of the Australian marine navigational aids network. It operates the Marine Rescue Co-ordination Centre, which coordinates major maritime search and rescue activities in Australian waters. It is also responsible for oil pollution prevention and clean up, and for the registration of Australian vessels.

Air

Airservices Australia

Airservices Australia and the Civil Aviation Safety Authority were established by the Commonwealth Parliament in July 1995, replacing the former Civil Aviation Authority, an independent government business enterprise established under the *Civil Aviation Act 1988*.

The function of Airservices Australia is to provide cost-effective services for Australia's aviation industry. These include: air traffic control; aeronautical information services; airport rescue and fire fighting; search and rescue; and navigation services. Airservices regards the safety of air navigation as its most important consideration. It is also required to act in a manner that ensures, as far as practicable, that the environment is protected from the effects of aircraft operations.

Airservices Australia has a prominent role in the implementation of the global Communications, Navigation and Surveillance/Air Traffic Management (CNS/ATM) system, which uses satellite technology to provide a more efficient air traffic system.

Civil Aviation Safety Authority

The Civil Aviation Safety Authority maintains, enhances and promotes the safety of civil aviation in the interests of the Australian public. The Civil Aviation Safety Authority's focus is to work with industry to reduce aviation safety risks, the priority being the protection of fare paying passengers. This is achieved through effective safety regulation and by encouraging a greater acceptance by industry of its obligation to maintain high safety standards.

Federal Airports Corporation

The Federal Airports Corporation is a Commonwealth Government business enterprise which owns, manages and develops Australia's major airports. It provides infrastructure, ensures the safety and security of persons using the airports and oversees commercial activities in those airports. This includes arrangements with airlines and other operators for the use of airports and for leasing of property and the letting of business concessions. The Corporation is required to be financially self-supporting. It has been established with a capital base and debt/equity ratio determined by the Commonwealth Government.

International organisations

Australia is one of the 184 members (as at 20 February 1994) of the International Civil Aviation Organisation (ICAO) and is a member of the governing Council. Australia is also represented on the 15 member Air Navigation Commission which is responsible for drawing up international standards and procedures for the safety and efficiency of air navigation. In addition, Australia participates in the Commonwealth Air Transport Council, the South Pacific Regional Civil Aviation Council, the Airport Operators Council International, and the International Civil Airports Association.

International agreements

As at 30 June 1996, Australia has air services agreements with 42 countries. Of these agreements, 38 have full treaty status and renegotiation of capacity and route rights has occurred under most of these to accommodate traffic growth on international routes to and from Australia. The other four agreements, with Chile, Kuwait, Macau and Malta, will be

upgraded to treaty status once the draft agreements are incorporated into domestic law.

Australia also has seven air service arrangements which are of less than treaty status. These agreements and arrangements enable airlines of both Australia and its bilateral partners to operate a network of international air services to and from Australia.

Multiple designation and the International Air Services Commission

The then Prime Minister announced a range of reforms to aviation policy in February 1992. These reforms included the introduction of multiple designation of Australia's international air services. Multiple designation enables Australian carriers, in addition to Qantas, to operate international services. At present three Australian carriers have been allocated rights to operate scheduled international air services: Qantas, Ansett and National Jet Systems. A detailed analysis of overseas practices and views of the major Australian carriers was undertaken to develop the necessary legislative and administrative framework to implement multiple designation. The framework provides a mechanism for the allocation of international aviation capacity and route entitlements.

As a result of these reforms, the International Air Services Commission was established on 1 July 1992. Its role is to allocate the capacity negotiated under air services agreements and arrangements between Australia's international carriers. The Commission determines the merits of competing claims according to a strict public benefit test laid down by the Government. This test includes matters such as tourism and trade, route economies, competition policy benefits and broader national interests. The Commission reports separately to Parliament.

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Introduction	545
Telecommunication services within Australia	545
Carriers	546
Telstra	546
Optus	547
Vodafone	548
Service providers	548
Mobile phones	549
Household use of communications and related technologies	549
Postal communications	550
Australian Postal Corporation	550
Bibliography	552
Special Article — Household adoption of digital technologies	553

Introduction

The communication services industries encompass telecommunications, postal and courier services. These industries comprise Division J Communication Services of the Australian and New Zealand Standard Industrial Classification (ANZSIC). Communication Services is among the fastest growing industry sectors in Australia. It is estimated to have contributed between 3 and 4% to Australia's Gross Domestic Product in 1995–96.

Separate industry details for telecommunications, postal and courier services are not available from the ABS. Selected data from external sources for the telecommunications and postal services

industries are included in this chapter under the appropriate headings; however no data are available on courier services.

Information on radio and television broadcasting, including the role of the National Transmission Agency, the Australian Broadcasting Corporation, the Special Broadcasting Service and commercial radio and television services, is included in *Chapter 11, Culture and recreation*.

Table 23.1 shows key measures of industry structure and performance for the Communication Services Division compiled from the ABS's annual Economic Activity Survey.

23.1 COMMUNICATION SERVICES INDUSTRIES — Structure and Performance

	Unit	1990-91	1991-92	1992-93	1993-94	1994-95
Industry structure						
Operating businesses	no.	300	300	700	1 200	1 600
Employment	'000	127	124	114	116	124
Income statement						
Sales of goods and services	\$m	13 612	15 157	15 589	17 189	19 373
Less cost of sales	\$m	4 270	4 743	5 610	6 223	7 275
Trading profit	\$m	9 342	10 415	9 979	10 965	12 098
Plus interest	\$m	318	212	112	97	148
Plus other operating income	\$m	-20	85	371	167	245
Less labour costs	\$m	4 221	5 048	5 146	5 486	6 355
Less depreciation	\$m	1 891	2 190	2 182	2 338	2 538
Less other operating expenses	\$m	83	42	75	171	195
Earnings before interest and tax	\$m	3 446	3 432	3 059	3 235	3 403
Less interest expenses	\$m	1 313	1 261	917	761	605
Operating profit before tax	\$m	2 133	2 171	2 142	2 473	2 799
Total assets	\$m	26 909	26 189	27 913	26 529	31 461
Total liabilities	\$m	14 915	15 431	14 704	13 344	17 256
Net worth	\$m	11 994	10 758	13 209	13 185	14 205
Capital expenditure	\$m	3 315	4 161	3 821	3 296	2 332
Gross operating surplus	\$m	5 440	5 570	5 120	5 669	6 045
Industry gross product	\$m	9 661	10 618	10 266	11 155	12 400

Source: *Business Operations and Industry Performance, Australia (8140.0)*.

Telecommunication services within Australia

The telecommunication services industry is defined to comprise those businesses mainly engaged in providing telecommunication services to the public, by wire, cable or radio.

As the ABS currently has no data separately available on this industry, selected data from external sources have been included in this section.

The section describes the industry in broad terms and distinguishes carriers from service providers. Statistics on the operations of the two general carrier organisations are included along with selected statistics on market shares in the basic voice services market, the resale revenue of service providers, and market shares in the digital and analogue mobile phone markets. ABS statistics on the household use of selected communications technologies are also provided.

An article discusses the adoption of digital technologies by households, based on analysis of data from an ABS survey of households.

Carriers

There are currently two licensed general telecommunications carriers in Australia, Telstra and Optus, and three mobile carriers, Telstra, Optus and Vodafone. This situation is to change from mid-1997 when restrictions on the number of carriers are to be removed as part of new, pro-competitive regulatory arrangements. Along with carriers, the industry also includes a number of service providers/resellers operating under the AUSTEL class licence system as well as a number of consultancy businesses.

Telstra

Telecom Australia and the Overseas Telecommunications Corporation merged on 1 February 1992 to operate as Australian and Overseas Telecommunications Corporation Ltd. The merged entity was renamed Telstra Corporation Ltd on 13 April 1993. Telstra is a general carrier, fully owned by the Commonwealth of Australia. It operates similarly to private sector companies, is profit driven and subject to the same taxation and government charges as a private sector company. Telstra reports to the Australian Stock Exchange and to the Australian Securities Commission as a public company. Telstra provides both domestic and international services in competition with the other licensed carriers.

Telstra operates a full range of telecommunications facilities including:

- network access;
- equipment on customer premises;
- services for local, long distance and international calling and for cellular mobiles;

- advanced business and value added services ;
- operator assisted and directory services and products;
- pay-phones;
- payment cards;
- operator-assisted services;
- data services;
- broadband, broadcast and maritime services;
- Internet access;
- fault repair services; and
- billing services.

Telstra has introduced new telecommunications services and has moved to enter new markets such as pay TV and multimedia. Telstra is rolling out its broadband cable network which provides a platform for new services (including interactive on-line services). Telstra's cable rollout is aimed at passing more than four million homes by 1999. The cable network is expected to be one of the most advanced of its kind in the world and one of the first to deploy leading edge digital technology offering the capacity for a new generation of services and applications in education, commerce, government services, leisure and other industries.

Telstra's cable TV services are provided by FOXTEL, a joint venture between Telstra and News Limited. The service offers more than 20 channels of movies, sports, news, children's and multicultural programs. Telstra's broadband network is also being used to provide high speed Internet access using cable modem technology.

Telstra has also established 'Telstra on Australia', an Internet service provider, and introduced 'Big Pond', a range of products designed to make the Internet easily available to Australia's PC users.

Telstra is taking a leading role in the development of common architecture for delivery of multimedia services and standards for providing video on demand and interactive services. The standards and specifications are being developed by an international group, the Digital Audio Visual Council (DAVIC), and will be used by telephone, cable and other information

23.2 TELSTRA — SUMMARY OF FINANCIAL RESULTS

Item	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
Revenue	12 229	12 656	13 363	14 081
Expenses (including abnormals)	11 570	10 662	10 835	11 676
Operating profit before tax	658	1 994	2 528	2 405
Income tax	345	1 090	823	650
Operating profit (after tax and minority interest)	300	905	1 699	1 753
Dividends	478	674	738	944
Capital expenditure	3 015	2 589	2 466	3 222
Total assets	22 827	23 160	21 139	24 083
Debt	8 922	7 717	5 901	6 149
Shareholders' equity	9 905	10 886	10 756	11 727

Source: Telstra Annual Report 1995.

delivery companies as a catalyst for creating open networks and systems for broadband distribution of video programming and other interactive activities.

Table 23.2 shows key financial results for Telstra over the four financial years 1991-92 to 1994-95.

Telstra's dividend to the Commonwealth Government increased from \$738m to \$944m in 1994-95. Together with interest and taxes, the Commonwealth Government received \$2,472m from Telstra's operations during 1994-95.

Telstra employed 76,322 full-time staff at 30 June 1996.

Optus

In November 1991, the Government announced that Optus Communications Pty Ltd would be the second general telecommunications carrier. Optus is a publicly listed company whose services include:

- services for long distance and international calling and for cellular mobiles;
- operator services;
- video and data services;
- broadcast services;
- value added network services;
- business services such as centrex, virtual private networks, and enhanced toll-free services;
- satellite services;
- private leased line services; and
- billing services.

Optus commenced mobile, long distance and international calling services in competition with

Telstra during 1992. In September 1994 it introduced a satellite-based mobile communications system. The provision of Optus services is based on its optical fibre cable network, its digital cellular mobile network and the national satellite system, together with interconnection rights to other carriers' networks (on a payment basis).

Optus is a participant in the Optus Vision joint venture which is continuing the process of rolling out an overhead optical fibre network which will support pay TV, FM radio, video on demand, local telephone access and calls, and interactive services.

Table 23.3 shows key financial results for Optus for the year 1995-96. These results feature a first annual profit of \$60m and earnings before interest, tax, depreciation and amortisation of \$456m (with depreciation, amortisation and interest expenses accounting for \$397m in total).

23.3 OPTUS — SUMMARY OF FINANCIAL RESULTS

Item	1995-96 \$m
Revenue	1 944
Expenses	1 488
Gross earnings	456
Depreciation, amortisation and interest	397
Operating profit before tax	60
Capital expenditure	661
Total assets	2 800
Shareholders' equity	2 000

Source: Optus Communications.

Optus revenue for 1995-96 of \$1,944m represented a 36% increase over the 1994-95

result of \$1,435m. The main contributors to revenue were:

- long distance (42%);
- mobile services (39%);
- business network services (12%); and
- mobile equipment (7%).

Payments for connections to other networks such as Telstra and overseas carriers reduced as a proportion of revenue as more calls were earned on the Optus network. Carrier payments were equivalent to 34% of revenue for 1995-96, down from 40% for the previous year.

Optus now has an asset base of \$2.8b. Capital expenditure for 1995-96 was \$661m (excluding investment in Optus Vision). To date, Optus has invested \$3.5b in licence payments and capital projects.

Optus Vision began offering pay TV services on 20 September 1995 and local call services on 28 June 1996. Optus Communications' direct investment in Optus Vision was \$372m at 30 June 1996, which is more than half of the \$605m it has committed to invest in Optus Vision by June 1997.

Vodafone

Vodafone is licensed to provide mobile telecommunications services, which it commenced in 1993. The company has highlighted its position as a specialist supplier of digital mobile communications.

The services offered by Vodafone as part of its mobile service include:

- directory assistance;
- message taking;
- call forwarding; and
- call barring.

As the holder of a mobile carrier licence, Vodafone installs and operates its own facilities for the provision of cellular mobile services. The facilities include base stations, switches, towers and cable. Vodafone uses Telstra facilities to access the fixed network.

Service providers

AUSTEL's class licences allow any person to provide a range of telecommunication services without requiring suppliers of a service to apply for an individual licence, provided that they

comply with the provisions of the licence. The Service Providers Class Licence (SPCL) allows any person to use telecommunications capacity acquired from Telstra or Optus, or in defined circumstances derived from non-carrier infrastructure, to supply a range of local or national telecommunication services to consumer and commercial markets, including public switched voice, data and value-added services, and private network services.

Resale involves the acquisition of telecommunications capacity in the form of services from a carrier and the supply of these services to third parties. A switchless reseller uses the carriers' switches and tariffed services to provide a similar type of service. A switched reseller has its own switches and network facilities, and leases line capacity from the carrier. It is able to supply additional services which significantly change the nature or characteristics of the service acquired from the carrier. Table 23.4 shows the revenue from the resale of telecommunication services in 1995 and 1996.

23.4 RESALE REVENUE

Item	1995	1996
	\$m	\$m
Total resale revenue	500	700
less margin to carriers	-400	-560
Net value resale	100	140

Source: Paul Budde Communications Pty Ltd, *Telecommunications Strategies Report 1996-97*.

According to Paul Budde Communications Pty Ltd, the number of telephone service providers (resellers) dropped from around 100 in 1995 to between 30 and 40 in 1996, with the top 10 companies enjoying a 90% market share.

23.5 MARKET SHARES FOR BASIC VOICE SERVICES (INCLUDING MOBILE)

Item	1995	1996
	%	%
Operators		
Telstra	93	87
Optus	5	10
Vodafone and resellers	2	3
Total	100	100

Source: Paul Budde Communications Pty Ltd, *Telecommunications Strategies Report 1996-97*.

Mobile phones

The digital mobile market is expected to be a major growth area in 1997 and beyond due to deregulation of the telecommunications market and the expected entry of more competitors. Tables 23.6 and 23.7 show the approximate market shares for both digital and analogue services.

23.6 DIGITAL MOBILE MARKET — July 1996

Item	Subscribers no.	Market share %
Telstra	350 000	38
Optus	350 000	38
Vodafone	220 000	24
Total	920 000	100

Source: Paul Budde Communications Pty Ltd, *Telecommunications Strategies Report 1996-97*.

23.7 ANALOGUE MOBILE MARKET

Period	Subscribers no.	Telstra MobileNet %	Optus %
July 1995	2 068 331	70.3	29.7
August 1995	2 126 595	70.0	30.0
September 1995	2 185 272	69.9	30.1
October 1995	2 299 388	71.0	29.0
November 1995	2 357 420	70.7	29.3
December 1995	2 549 243	70.6	29.4

Source: Telstra MobileNet.

The Government has announced its commitment to phasing out the Analogue Mobile Phone Service (AMPS) mobile phone network by 1 January 2000, subject to appropriate safeguards, including possible retention of spectrum in rural areas with inadequate mobile coverage.

Currently the overall coverage for digital mobiles, based on the Global System for Mobile Communications (GSM), is comparable with that for analogue mobiles, and is beginning to overtake analogue's coverage. Analogue is available to 91% of the Australian population. According to advice from the carriers, GSM digital coverage is: Telstra 90% and Optus 86%. Vodafone reported 78% population coverage in June 1996 and expects to achieve 80% population coverage by the end of 1996. Optus and Vodafone have digital coverage at some locations currently not covered by Telstra. While user numbers are currently higher for AMPS (2.7 million) than for digital (1.2 million), the number of digital users is growing at a much greater rate than the number of analogue users.

Household use of communications and related technologies

In February 1996 the ABS conducted a survey which sought to measure the uptake of information and telecommunications technologies by households. The results for selected communications technologies are shown below.

23.8 HOUSEHOLDS OWNING/PAYING FOR SELECTED COMMUNICATIONS TECHNOLOGIES — February 1996

	Unit	Capital cities	Remainder of Australia	Total Australia
Facsimile machine				
Dedicated line	%	3.0	3.0	3.0
Other connection	%	7.4	5.8	6.8
Total households	%	9.9	8.1	9.2
Mobile phone	%	27.5	18.5	24.1
Car phone	%	4.3	4.3	4.3
Cordless phone	%	15.0	10.8	13.4
Answering machine	%	29.5	18.6	25.4
Pager	%	3.1	1.4	2.4
Voice mail	%	4.0	*1.2	3.0
Pay TV(a)	%	4.1	*1.3	3.0
None of the above	%	47.3	61.0	52.4
Telephone connected	%	97.8	95.2	96.8
Total number of households	'000	4 173	2 472	6 645

(a) Pay TV services are not widely available in all areas of Australia.

Source: Household Use of Information Technology, February 1996 (8128.0).

Of particular note in table 23.8 is the high uptake rate for mobile phones (2.4% Australia wide). The proportion of capital city households with a mobile phone is appreciably higher, 27.5% than the proportion of such households in the remainder of Australia, 18.5%.

Answering machines also appear to be popular with householders, demonstrated by the 25% uptake Australia wide. Again, the difference between capital city dwellers and the remainder is pronounced, with 29.5% and 18.6% uptake respectively. In comparison to answering machines, voice mail services are not highly popular, with just 3% of households subscribing.

While nearly 97% of households had a telephone connected, over 52% of households did not own or pay for any of the other technologies listed in the table.

Postal communications

Australian Postal Corporation

The Australian Postal Corporation (trading as Australia Post) is a government business enterprise owned by the Commonwealth of Australia. It operates under the *Australian Postal Corporation Act 1989*. Australia Post is

independent of Government funding, achieves a substantial profit from its activities and pays a full range of taxes and charges as well as allocating 60% of its after-tax profits as a dividend to the Government.

Australia Post offers letter and parcel delivery services within Australia and internationally. It also provides a range of related services including: electronic bulk mail handling, advertising mail, bill payment, money order and banking services, express delivery services and philatelic products and services.

Australia Post's legal obligations require it to:

- provide Australians with a universal letter service;
- carry standard letters within Australia at a uniform price;
- ensure that the letter service meets the social, industrial and commercial needs of the community;
- perform its functions according to sound business practice; and
- perform its functions consistent with general policies of the Commonwealth Government.

Financial and other operating statistics are shown in the tables below.

23.9 AUSTRALIAN POSTAL CORPORATION — Profit and Loss Statement

	1990-91 \$'000	1991-92 \$'000	1992-93 \$'000	1993-94 \$'000	1994-95 \$'000
Revenue					
Mail services	1 966.6	2 099.9	2 211.2	2 321.7	2 487.3
Philatelic sales	41.5	41.4	38.6	45.1	47.6
Commission on agency services	89.9	91.5	99.8	115.5	142.7
Postal money order services	21.6	25.8	24.8	25.3	26.2
Other revenue	63.8	51.5	46.2	60.8	79.6
Total	2 183.5	2 309.8	2 420.5	2 568.4	2 783.4
Expenditure					
Labour and related expenditure	1 323.3	1 331.5	1 346.4	1 380.2	1 441.2
Carriage of mail by contractors	172.2	172.3	167.3	177.8	190.9
Accommodation	124.1	120.8	114.9	111.9	115.8
Stores and supplies	106.1	119.2	119.7	148.7	145.8
Depreciation	54.3	69.5	92.9	81.4	105.7
Interest	2.4	3.5	2.6	4.9	18.3
Ongoing restructuring costs(a)	..	..	53.5	64.2	42.1
Post Office agents and Licensees(a)	..	..	65.7	101.5	119.3
Other operating expenditure	254.9	317.1	211.1	213.9	271.2
Total	2 037.3	2 133.9	2 174.1	2 284.5	2 450.3
Operating profit	146.2	175.9	246.4	283.9	333.1

(a) Not separately itemised before 1992-93 but included in 'Other operating expenditure' as appropriate.

Source: Australian Postal Corporation.

23.10 AUSTRALIAN POSTAL CORPORATION — Persons Engaged in Providing Postal Services

	30 June 1995							30 June 1994	
	HQ	NSW/ACT	Vic./Tas.	Qld	SA/NT	WA	Sprintpak	Aust.	Aust.
Full-time staff									
Permanent	466	11 818	8 933	4 174	2 355	2 279	125	30 150	29 551
Temporary	9	615	426	145	71	205	..	1 471	1 579
Total full-time staff	475	12 433	9 359	4 319	2 426	2 484	125	31 621	31 130
Part-time/casual staff									
Part-time staff	3	1 685	1 314	751	340	408	..	4 501	4 204
Casual	..	409	229	212	232	179	46	1 307	1 034
Total part-time/casual	3	2 094	1 543	963	572	587	46	5 808	5 235
Agency									
Post Office agents	..	3	1	2	..	..	..	6	325
Other full-time	..	13	..	2	..	..	..	15	162
Other part-time	..	7	..	..	..	..	..	7	145
Total agency engagements	..	23	1	4	..	..	..	28	632
Mail contractors	..	1 324	732	1 192	392	278	..	3 918	3 960
Total	478	15 874	11 635	6 478	3 390	3 349	171	41 375	40 960

Source: Australian Postal Corporation.

23.11 AUSTRALIAN POSTAL CORPORATION — Mail Delivery Network and Post Offices

	30 June 1995						30 June 1994
	NSW/ACT	Vic./Tas.	Qld	SA/NT	WA	Aust.	Aust.
Households receiving mail	2 428 415	1 876 000	1 289 002	665 330	655 806	6 914 553	6 733 176
Businesses receiving mail	269 047	212 676	139 415	68 011	66 308	755 457	738 768
Total delivery points	2 697 462	2 088 676	1 428 417	733 341	722 114	7 670 010	7 471 944
Australia Post Outlets	1 296	1 296	746	538	441	4 317	4 342

Source: Australian Postal Corporation.

23.12 AUSTRALIAN POSTAL CORPORATION — Total Postal Articles Handled

	1990-91 million	1991-92 million	1992-93 million	1993-94 million	1994-95 million
Posted in Aust. for delivery in Aust.	2 976.7	3 019.2	3 135.2	3 317.9	3 529.9
Posted in Aust. for delivery overseas	111.4	112.7	130.1	146.0	146.4
Posted overseas for delivery in Aust.	126.7	133.3	150.4	147.3	151.4
Total articles through mail network	3 214.8	3 265.2	3 415.7	3 611.3	3 827.7

Source: Australian Postal Corporation.

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Household adoption of digital technologies

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Introduction

There is strong private and public sector interest in the diffusion of consumer technologies. Forecasts are often attempted — and are often wrong.

In the case of networked, online services, forecasts are particularly difficult, not least because of the dynamic and complex relationship between supply and demand forces which applies to all services delivered via a network infrastructure (see BTCE, 1995).

In the private sector, attempts at forecasting generally focus on identifying the socio-demographic characteristics of households which are most likely to enter the market in the short term. Public sector attention also encompasses that group least likely to be able to access commercially provided digital technologies — a group sometimes described as an information underclass.

In response to concerns about development of such a group, the Bureau of Transport and Communications Economics (BTCE) initiated a project in 1996 called *Access to Information and Communications Services*. This project aims to develop an analytical framework for examining the rationale and costs of public policies to minimise barriers to accessing online services from home. The central research questions are:

- Are particular community groups likely to miss out on commercial provision of particular online services?
- If so, should their lower levels of take-up be a concern for government?
- What would it cost to assure their access?
- Who should pay, and by what means?

The analysis presented here of ABS data on digital technologies in the home seeks to address the first of these questions, and thereby

to demonstrate the value of linking responses to several innovative ABS survey questions by means of a simplified, diagrammatic form of multivariate analysis called a tree diagram.

The ABS survey

The first ABS household survey on the use of information technology (IT) in the home was carried out in 1994. The results indicated marked differences in adoption of computers between households of different socio-demographic types. For example, at that time 47% of households in the top income quintile had a computer, compared with only 5% of those in the lowest quintile (ABS, unpublished data).

In response to strong private and public sector interest in its data, the Small Business, Science and Technology Section of the ABS then embarked on an expanded household survey program. At the end of a four-stage survey cycle the 1996 data set will consist of 12,000 observations. The first results, from the February 1996 sample of 3,000 households, were published in September (ABS, 1996). This article is based on analysis of previously unpublished results from a combined data set consisting of the February and May 1996 survey results.

Digital connectivity

As a first step in the analysis presented here, the estimated 6.6 million Australian households were classified into one of four groups, on the basis of the presence or absence of the three technologies currently required to access digital services from home:

- the telephone,
- the personal computer, and
- the modem.

The relative sizes of these four groups are shown in table S3.1, which highlights the fact that the majority of Australian households are not yet 'being digital' — to use the phrase coined by one commentator on the information economy (Negroponte, 1995).

S3.1 DIGITAL CONNECTIVITY

Digital connectivity category	Functional capabilities	Estimated number of households ('000)	%
Telephone unconnected			
No telephone, no computer, no modem	No telecommunication	222	3.4
Telephone connected			
Telephone, no computer, no modem	Voice communication	4 380	66.4
Digital unconnected(a)			
Telephone, computer, no modem	Voice communication and stand-alone computing	1 512	22.9
Digital connected			
Telephone, computer, modem	Voice/data communication and networked computing	486	7.4
All households	—	6 600	100.0

(a) Digital unconnected total includes 42 000 households which had a computer but which did not know if they had a modem.

Source: BTCE estimates, based on unpublished ABS data.

Indeed, the February/May 1996 data set indicates that the nearly 70% of all households lacked at least two of the three prerequisites for accessing digital data from home, namely computers and modems.

The February/May 1996 results show that the proportion of households which had already become digital was 30.3%, compared with 23% two years earlier. Are such increases, of the order of 10–15% per year, likely to be sustained? What proportion of Australian households might be expected to be digital in two years time?

To answer these questions, it is tempting to try to look into the future using straight line projections. For example, if the changes observed over the last two years were projected into the next two years, we would see:

- an increase in the proportion of households which use a computer at home from 30.3% to 40.1% in 1998; and
- an increase in the proportion of households with a computer and modem from 7.4% to 14.0%.

However the history of diffusion of many new consumer technologies suggests that straight-line projections are unlikely to be very good predictors. This is mainly because not all products achieve the rapid growth associated with mass market take-up, so that the diffusion curve only acquires its familiar S-shape in the case of stable and successful products or services, such as the VCR. The availability of only two data points (for 1994 and 1996) means that it is not yet possible to identify changes in the rate of growth in adoption, and therefore to

identify the current stage of market diffusion of digital technologies. Without this information, estimates of future demand can only be carried out through comparison with analogous products (see BTCE 1994).

With such caveats in mind, the projection frame proposed for this BTCE analysis is deliberately short (i.e. 1996–98). The purpose of the projection is not to generate forecasts as such — an assessment of market developments likely to influence take-up rates is beyond the scope of the analysis — but rather:

- to assess the potential for aggregate household use of digital technology to increase significantly in the short term; and
- to identify the characteristics of groups most likely to be left behind in the transition to a digital era.

Analysis

The pool from which new computer-using homes will be drawn is the four and half million or so households which the February/May data set indicates did not use a computer (i.e. 70% of 6.6 million households).

Growth scenarios have been based on links between responses by these non-digital households to three ABS survey questions which relate to:

- intention to spend on computer equipment in the next 12 months;
- reason why a household does not have a computer or modem; and

- interest in specified online services.

These questions are each briefly described in the following section.

Intention to spend

In these surveys, the ABS asked whether anyone in the household planned to purchase, upgrade or replace any of their computer equipment, including software, within the next 12 months or two years. The predictive power of responses to this question from the February/May 1996 surveys can be gauged by comparing the actual penetration rate in February 1996 with the rate that would have been achieved if non-computer households which in February 1994 reported plans to purchase actually acquired a computer. The actual penetration rate achieved in February 1996 was 29.6% and the rate that would have occurred if the plans to purchase within the next 12 months from February 1994 were fully realised was 31.3%. By contrast, spending intentions at February 1994 with a two year period, rather than one year period, significantly overstated actual penetration, since they yield a predicted rate of 37.2%.

Comparisons of 1994 and 1996 data sets suggest therefore that householders predict more accurately their actual purchase of computer equipment over the shorter of the two time frames.

When the combined February/May data set is considered in a similar way, the 12 month spending intentions question yields a penetration of 31.6%, compared with the actual penetration rate of 30.3%.

Reasons for not having computer and/or modem

The 1996 ABS survey sought, for the first time, information about reasons for householders' decisions not to acquire computers or modems. Respondents in households without a computer (or in the case of modems, with a computer but no modem) were asked to nominate one main reason for non-adoption from the following list:

- Costs too high
- Computers a bad influence
- No one in household interested
- No one in household knows how to use one
- Have no use for one
- Have access to a computer elsewhere

- Other (specify)

These stated reasons offer some clues into factors which would need to change for households to acquire either a computer or a modem. The BTCE's analysis of non-computer using households involves grouping together households for which there is a stated lack of interest, or perceived lack of use for a computer, or a lack of skills, and distinguishing this group from those which state that cost, or access elsewhere (e.g. in the workplace) is the reason for not having a home computer. This division is based on the following two assumptions.

First, households for whom a lack of interest in, or perceived lack of use for, computers is the main barrier must be viewed as much less likely to purchase computers and/or modems even if costs fall.

Second, households for whom cost is the main barrier to equipment acquisition may be assumed to be willing to purchase computers or modems in principle, but to be subject to a binding financial constraint. Such constraints are likely to weaken as the costs of computing equipment fall in real terms, standards become established and a greater emphasis on the residential market by suppliers makes purchasing easier (and less risky) for consumers.

On the basis of these two assumptions, responses to the question about stated reasons for lack of past purchases are used in the analysis as an additional filter on the division of the non-digital population into those who intend to spend and those who do not.

Interest in online services

Information was also sought for the first time in the 1996 survey on interest in a range of online services. All households, irrespective of whether or not they used a computer, were asked whether they would consider using a television or computer for home-based shopping, banking, gambling and/or staying in touch with people or finding things out via electronic mail (e-mail). They were asked to ignore cost considerations for the purpose of the exercise.

The ABS survey aimed to avoid associations with particular technology platforms by asking respondents to consider whether they would be interested in the services delivered by means of a television or computer.

Tree analysis

The various permutations of responses to the three questions referred to above can be examined systematically using tree analysis.

In this analysis, the more important the attribute, the closer it is to the top of the diagram (see Aitkin 1982 for a discussion of an Australian application of this form of analysis, which is useful for depicting complex relationships between socio-demographic attributes which are themselves strongly co-correlated. See Sonquist, Baker and Morgan 1971 for the methodology.) Therefore, since intention to spend already has demonstrated predictive power, households were first divided using responses to this question as the first discriminant.

The best ordering of the other two ABS questions — both of which were asked for the first time in 1996 — could not be determined without analysis to test the extent to which binary division of each group, using the response to a particular survey question, reduced variance in the sample. However, such statistical analysis is not readily carried out without access to data in electronic format. Therefore, reason for non-adoption was ranked as the second discriminant, on the basis that these responses are based on past, actual behaviour — in contrast to interest in online services, which is necessarily speculative about future interest in services which are likely to be unfamiliar to most households.

The next section presents the results of the tree analysis and is followed by a description of how the results may be used to assess the likelihood of different groups of households acquiring computers in the short term.

Results

In diagram S3.2, a classification of non-computer using households is depicted, in which they are grouped on the basis of spending intentions, reason for not having a computer at home and interest in online services. At each branch of the tree, the number of households and the

proportional split between the two branches at the same horizontal level is shown.

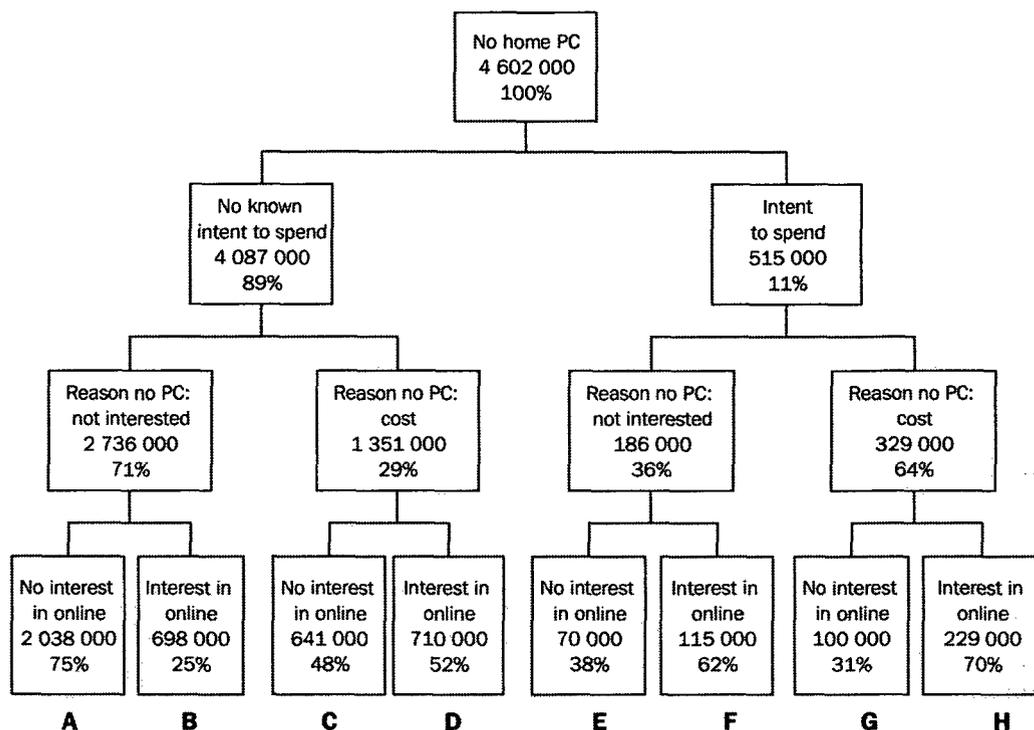
Figure S3.2 shows how the 70% of households which the February/May data set indicates did not have a computer at home responded to the three ABS questions considered here. For example, working down the left hand side of the tree:

- nine out of ten of these households did not intend to spend anything on computer equipment in the next 12 months;
- more than two-thirds of this group with no spending intentions cited one of a number of reasons relating to lack of interest in computers as the reason for not having one at home;
- around three-quarters of this group which had no spending intentions and also lacked interest in computers, expressed no interest in any of the four specified online services, regardless of cost and the choice of either TV or PC delivery platform (Cell A in diagram S3.2).

In general, a stated intention to spend on computers seems to be linked with a response which cites cost or access elsewhere as the reason for not having acquired a computer to date: households with spending intentions are more than twice as likely to give this reason than those with no spending intentions (i.e. 64% compared with 29%).

However, the nature of links between future spending intentions and reasons for past non-adoption on the one hand and interest in online services on the other is not always so clear cut (and will be the topic of further BTCE analysis). For example, Cell B contains households which were interested in at least one online service — despite lack of computer expenditure plans and despite citing lack of interest as the main reason for not having acquired a computer. This group of around 0.7 million households therefore looks likely to include households which might seek to access services through a TV set-top box combination rather than through a PC/modem.

S3.2 STATED PAST AND FUTURE MARKET BEHAVIOUR OF NON-COMPUTER USING HOUSEHOLDS



Source: BTCE estimates, based on unpublished ABS data.

Probability of acquiring a computer

Table S3.3 summarises a systematic allocation of each cell in diagram S3.2 into groups with descending likelihood of acquiring a computer over the next two years. The percentages shown in the final column highlight the relatively small

size of those groups which have been assigned the highest probability of acquiring computers (eg 3.5% in Cell H, compared with 30.9% in Cell A).

S3.3 SCENARIOS FOR GROWTH IN COMPUTER-USING HOUSEHOLDS

Intend to spend	Cost as main barrier	Interest in online services	Cell identifier (see S3.2)	Likelihood of acquiring PC in two years	Proportion of all households (%)
Yes	Yes	Yes	H	Most likely	3.5
Yes	Yes	No	G		1.5
Yes	No	Yes	F		1.7
Yes	No	No	E		1.1
No	Yes	Yes	D		10.8
No	Yes	No	C		9.7
No	No	Yes	B		10.6
No	No	No	A	Least likely	30.9

Source: BTCE estimates, based on unpublished ABS data.

Diffusion scenarios

In developing growth scenarios, the existing population of home computer users (nearly two million households) is used as a lower bound on the likely penetration in 1998. Scenarios of higher adoption are then derived by adding in groups which have different combinations of spending intentions, reasons for non-adoption

and levels of interest in online services, as summarised in table S3.4. Households most likely to acquire a computer are assumed to be those reporting plans to spend on computer equipment within the next 12 months; table S3.4 shows that over half a million households were in this category.

S3.4 POTENTIAL FOR GROWTH IN HOUSEHOLD COMPUTER USE — 1996-98

Household characteristics	Cell identifier (see S3.2)	Number of households(a) '000	Cumulative total '000	Proportion of households using PCs at Feb/May 96 %
Households with computers as at Feb/May 96	—	1998	1998	30.3
Households without computers - Planning computer expenditures	E+F+G+H	515	2513	38.1
Not planning computer expenditures -				
Cost reason no computer; interested online services	D	710	3223	48.8
Cost reason no computer; not interested online services	C	641	3864	58.6
Lack of interest reason no computer; interested online services	B	698	4562	69.1
Lack of interest reason no computer; not interested online services	A	2038	6600	100

(a) Household numbers shown to the nearest thousand, hence small rounding errors.

Source: BTCE estimates based on unpublished ABS data.

If all these non-computer-using households currently planning to make computer expenditures within 12 months were to acquire a computer by 1998, the household computer penetration rate would rise from 30.3% to 38.1% (compared with an estimate of 40.1% from straight line projection). Higher penetration would imply the addition of households with no current plans for computer expenditures.

In this analytical framework, those least likely to acquire a computer are those with no known computer spending intentions; which report lack of interest in computers as the reason for not having one at home and which are currently uninterested in using online services. More than two million households satisfied these criteria (i.e. around 30% of all Australian households).

To reiterate, the reason why this latter (very large) group has not acquired and does not intend to acquire digital technology is not cost-based. Rather it is based on lack of interest in both computers and the online services which they deliver to the home. This suggests that a realistic upper bound on household penetration of digital technologies is 70%, in the medium term at least (although of course, the least likely

group might become willing to acquire digital technologies if, or when, a large proportion of everyday transactions like bill paying becomes available significantly more cheaply or conveniently online).

If the cost constraint were to be reduced — as is possible through economies of scale as computers achieve more widespread adoption — the scenario analysis suggests that penetration could increase by a further 10% or so to around 49%.

In the short term, a scenario in which a majority rather than a minority of Australian households became digital could only take place if price reductions were combined with more compelling applications than those described to survey respondents, or alternatively higher awareness of their relevance.

In the longer term, increasing IT literacy within Australia will also affect the degree of penetration of computers into homes.

The next step in the analysis is to examine the socio-demographic characteristics of the half million or so households identified as most

likely to become digital, and compare these characteristics with those of the two million or so households least likely to do so.

Future diffusion pathways

As noted above, the two projection methods discussed (i.e. straight-line projections and those based on the tree analysis) generate very similar results at the aggregate level, (40.1% and 38.1%, respectively). However, when the most likely and least likely groups identified using the tree analysis are examined more closely, it is clear that different types of households have very different propensities to become digital.

Table S3.5 shows, for example, that households in the lowest income quintile constituted only 6.2% of the most likely group, but were 34.9% of the least likely group. The table also shows how these two groups are distributed between households of different structure: clearly, those with children are much more strongly concentrated in the most likely group (they make up almost half of the group), while households which included people over the age of 60 years are poorly represented (less than 3%), but make up more than half of the least likely group. Households in non-metropolitan areas and those without a home business are both relatively over-represented in the least likely group.

S3.5 CHARACTERISTICS OF HOUSEHOLDS MOST AND LEAST LIKELY TO ADOPT COMPUTERS BETWEEN 1996 AND 1998

Household characteristics	Households most likely to acquire a PC by 1998(a)		Households least likely to acquire a PC by 1998(b)	
	'000	share(c) %	'000	share(c) %
Household income quintile(d)				
Low	28	6.25	595	34.9
Lower middle	83	18.4	557	32.6
Middle	98	21.7	281	16.5
Upper middle	127	28.2	156	9.1
High	115	25.5	119	6.9
Household structure(e)				
Couple without children	76	14.7	197	9.7
Couple with children	240	46.5	298	14.6
Single parent	58	11.2	96	4.7
Single person	65	12.7	222	10.9
Older person(s)	14	2.7	1 068	52.4
Group/extended family	62	12.1	157	7.7
Location of household				
Metropolitan	362	70.4	1 154	56.6
Non-metropolitan	153	29.6	884	43.4
Presence of home business				
Home business	95	18.5	178	8.7
No home business	420	81.5	1 860	91.3
Total	515	100.0	2 038	100.0

(a) Households where a computer was not used at home at Feb/May 1996 but which intended to spend on computers or computing equipment within 12 months. (b) Households where a computer was not used at home at Feb/May 1996; which had no plans for computer or computer-related expenditure; which claimed that lack of interest in computers, lack of use for a computer, or lack of skills to use one were the reasons for the household not having a computer; and which expressed no interest in online services. (c) Proportion of households most/least likely to acquire a computer originating from each category. (d) Does not add to 100% because excludes households not classified to a quintile (no income recorded); see St Clair et al (1996) for income ranges. (e) See St Clair et al (1996) for composition of each household structure grouping.

Source: BTCE estimates, based on unpublished ABS data.

What if all the households in the most likely group were to acquire a computer over the next two years? What would the penetration rates be among the groups listed in table S3.5?

Table S3.6 shows that by 1998 penetration rates could exceed 50% among upper middle and high income households, at a time when those in the lowest income quintile could still have penetration rates closer to 10%. Similarly, more than 50% of households consisting of couples

with children could have a computer by 1998, by which time less than 10% of households made up of older people could be similarly equipped.

When compared with similar disaggregations for the February/May 1996 data, the estimates in table S3.6 of the distribution of computer-using households in 1998 suggest a continuing steady increase in take-up among lower-middle and middle income households. This would result in

a slight narrowing of disparities along income lines (i.e. from a 6.4 fold disparity between penetration in the lowest and highest income groups, to a 5.9 fold disparity), as take-up among these groups increases faster than among high income households — albeit from a lower base. This would be inconsistent with findings in the United States where such disparities are reported to be widening (RAND 1995).

S3.6 MOST LIKELY COMPUTER PENETRATION IN HOUSEHOLDS, By 1998

Household characteristics	Households with a PC at Feb/May 1996		Households most likely to acquire a PC by 1998(a)		Most likely PC penetration(b)	
	'000	%	'000	'000	%	
Household income quintile(c)						
Low	85	8.5	28	113	11.3	
Lower middle	225	16.8	83	308	23.1	
Middle	341	28.7	98	439	37.0	
Upper middle	485	44.3	127	612	55.9	
High	530	54.5	115	645	66.4	
Household structure						
Couple without children	268	34.5	76	344	44.3	
Couple with children	1 092	45.4	240	1 332	55.4	
Single parent	176	30.1	58	234	39.9	
Single person	138	19.2	65	203	28.4	
Older person(s)	104	7.3	14	118	8.3	
Group/extended family	221	31.8	62	283	40.7	
Location of household						
Metropolitan	1 403	62.2	362	1 765	43.0	
Non-metropolitan	595	37.8	153	748	30.0	
Presence of home business						
Home business	489	50.7	95	584	60.6	
No home business	1 509	26.8	420	1 929	34.2	
Total	1 998	30.3	515	2 513	38.1	

(a) The group of households most likely to acquire a computer by 1998 as that group without a PC at February/May 1996, which indicated an intention to spend on computers or computing equipment within 12 months. (b) The most likely PC penetration in households by 1998 is formed by summing the groups which had a PC at February/May 1996 and the group most likely to acquire a PC by 1998. (c) Does not add to 100% because excludes households not classified to a quintile (no income recorded) — see St Clair et al (1996) for income ranges.

Source: BTCE estimates, based on unpublished ABS data.

Propensity to acquire modems

A tree analysis can also be used to develop scenarios for the adoption of networked computers, i.e. to identify the groups least and most likely to become digital connected.

To use online services, households currently need both a computer and a modem. Households with a computer and modem are not necessarily users of online services; for some households, this equipment may be used to remotely access work- or education-related databases. However, for the purposes of this analysis, the terms modem owner and online

service user are used interchangeably. Almost half a million households already own both equipment items. Common sense suggests that the one and a half million or so households which currently use a computer at home, but which do not have a modem, are prime candidates for acquiring a modem.

In a similar analysis to that used to identify the households most likely to adopt computers, a tree analysis can be used to develop scenarios for the size and composition of the digital connected group in two years time.

Households most likely to acquire a modem were assumed to be those which currently have a computer, which plan to spend on computers or computer-related equipment within the next 12 months and which are interested in online services. This group consisted of around 365,000

households. Adding these to the households which already have a computer and modem as at February/May 1996 would give an aggregate penetration rate of 12.9%, with a socio-demographic breakdown as shown in table S3.7.

S3.7 MOST LIKELY MODEM PENETRATION IN HOUSEHOLDS, By 1998

Household characteristics	Households with PC and modem at Feb/May 1996		Households most likely to acquire a modem by 1998(a)		Most likely modem penetration(b)	
	'000	%	'000	'000	%	
Household income quintile(c)						
Low	21	2.1	9	30	3.0	
Lower middle	29	2.2	27	56	4.2	
Middle	61	5.1	68	129	10.9	
Upper middle	109	9.9	94	203	18.5	
High	177	18.2	108	285	29.3	
Household structure						
Couple without children	91	11.7	39	130	16.7	
Couple with children	236	9.8	212	448	18.6	
Single parent	21	3.6	23	44	7.5	
Single person	41	5.7	36	77	10.8	
Older person(s)	27	1.9	8	35	2.5	
Group/extended family	69	9.9	46	115	16.5	
Location of household						
Metropolitan	382	9.3	278	660	16.0	
Non-metropolitan	103	4.1	87	190	7.6	
Presence of home business						
Home business	137	14.2	109	246	25.5	
No home business	348	6.2	256	604	10.7	
Total	486	7.4	365	851	12.9	

(a) The group of households most likely to acquire a modem by 1998 is that group with a PC, but no modem, at February/May 1996, which indicated an intention to spend on computers of computing equipment within 12 months and which were interested in on-line services. (b) The most likely modem penetration in households by February 1998 is formed by summing the group which had a modem at February/May 1996 and the group most likely to acquire a modem by 1998. (c) Does not add to 100% because excludes households not classified to a quintile (no income recorded); see St Clair et al (1996) for income ranges.

Source: BTCE estimates, based on unpublished ABS data.

This table suggests that the digital connected group is likely to continue to consist predominantly of higher income households, those with children, those in metropolitan areas, and those with a home business — in the short term at least. Older and low income households are noticeably under-represented, confirming the patterns observed for computers themselves.

However, tree analysis also suggests that there is another group, of similar size to the most likely group discussed above, which also might be considered likely to start using online services in the short term. This group consists of the 344,000 or so households which do not currently have a computer, but which are planning computer expenditures and which are

interested in at least one online service (see Cells F and H in diagram S3.2). Given that many computers now have modems installed as standard equipment, the leap from telephone connected to digital connected is not unlikely for members of this group.

The final column in table S3.8 shows what the socio-demographic characteristics of the modem-owning population in 1998 would be if the adoption scenario shown in table S3.7 were to be augmented by addition of this next most likely group of households. In this scenario, aggregate penetration would be 18.1%, rising to more than 25% among upper middle and high income households and those with children.

S3.8 POSSIBLE MODEM PENETRATION IN HOUSEHOLDS, By 1998

Household characteristics	Most likely population of modem-owning households by 1998(a)		Next most likely population of modem-owning households by 1998(b)		Possible modem penetration(c)	
	'000	Share %	'000	Share %	'000(c)	%
Household income quintile(d)						
Low	30	4.3	21	7.0	51	5.1
Lower middle	56	8.0	60	19.7	116	8.7
Middle	129	18.3	62	20.6	191	16.1
Upper middle	203	28.9	81	27.0	284	26.0
High	285	40.5	78	25.7	363	37.3
Household structure						
Couple without children	130	15.3	46	13.5	176	22.7
Couple with children	448	52.6	155	44.9	603	25.1
Single parent	44	5.2	43	12.4	87	14.8
Single person	77	9.0	44	12.7	121	16.9
Older person(s)	35	4.1	11	3.1	46	3.2
Group/extended family	115	13.5	46	13.4	161	23.1
Location of household						
Metropolitan	659	77.4	245	71.1	904	22.0
Non-metropolitan	190	22.3	100	28.9	290	11.6
Presence of home business						
Home business	246	28.9	58	16.7	304	31.5
No home business	604	71.0	287	83.3	891	15.8
Total	851	100.0	344	100.0	1 195	18.1

(a) The group of households most likely to acquire a modem by 1998 is that group with a PC, but no modem, at February/May 1996, which indicated an intention to spend on computers or computing equipment within 12 months and which were interested in on-line services. (b) The next most likely group to acquire a modem by 1998 is those households with no computer or modem at February/May 1996 but which intended to spend on computers or computing equipment within 12 months and were interested in on-line services. (c) Column 1 plus column 3. (d) Does not add to 100% because excludes households not classified to a quintile (no income recorded); see St Clair et al (1996) for income ranges.

Source: BTCE estimates, based on unpublished ABS data.

The second and fourth columns in table S3.8 show how the households most likely and next most likely to adopt modems are distributed socio-demographically: it suggests that the next most likely group is quite similar in profile to the most likely group, albeit with a flatter income distribution, and a stronger representation of non-metropolitan households and households without home business.

Thus, if the next most likely group were to adopt modems, this would be consistent with diffusion of digital connectivity into the wider community. Once again, as with computers, this would be

the result of faster rates of growth among later adopters, albeit from a lower base.

For example, table S3.9 shows that in 1994, metropolitan households were 4.1 times more likely to be digital connected than those in non-metropolitan areas. By 1996, this disparity was 2.2, and would fall to 2.1 under the more conservative most likely scenario, and to 1.9 if households which currently do not have computers, but which seem likely to acquire a bundled computer and modem, were to do so by 1998.

S3.9 GEOGRAPHIC DISPARITIES IN MODEM ADOPTION — 1994-1998

Household location	Most likely modem penetration in households			Next most likely modem penetration in households
	1994 %	1996 %	1998 % (a)	1998 % (b)
Metropolitan	5.4	9.3	16.0	22.0
Non-metropolitan	1.3	4.1	7.6	11.6
Ratio	4.1	2.2	2.1	1.9

(a) As derived in S3.7. (b) As derived in S3.8.

Source: BTCE estimates, based on unpublished ABS data.

Conclusion

The analysis presented here suggests that the proportion of households which will have computers could rise to around 40% by 1998. Penetration could rise to 60% in high income households and those with a home business. Higher levels would be achievable if lower prices were to make purchase more attractive for a group of around 10% of households who currently cite cost as their main reason for non-acquisition.

The proportion of households equipped to use online services could increase to levels around 13% within the next two years under the more conservative most likely scenario illustrated in table S3.7. Higher levels, about 18% in aggregate terms and as high as 37% in high income households, are conceivable if online services became sufficiently compelling for people to acquire a bundled computer and modem, as explored in the digital connected scenario illustrated in table S3.8.

Penetration rates higher than this would require households currently not using computers at home to acquire modems, or alternatively for the addition of households not presently planning any computer-related outlays in the next 12 months.

Under each of these scenarios, however, digital connectivity seems likely to remain very low among households with older persons, and to a lesser extent among single parent households. Households outside metropolitan centres look likely to continue to have a lower level of digital connectivity than their capital city counterparts, despite faster rates of growth in adoption.

Further research

The methodology outlined here offers a systematic means of examining the characteristics of households which are not only 'have nots' at present but which are currently the least likely to become 'haves' — even when prices fall.

However, there are several limitations to the approach used.

First, the analysis focused only on barriers related to the equipment needed in the home in order to access digital services via networks. The influence of differing telecommunications network capacity could not be considered in this

framework. Offering respondents two different cost options as their reasons for not having a modem would assist in considering this issue, that is if they were able to distinguish between the capital costs of acquiring a modem and telephone access charges (which are higher for people who have to use STD calls to their Internet service provider, and for those whose network infrastructure is poor relative to that available in metropolitan areas).

Second, the 'why not' questions were presented to respondents in the form of a predefined list of 'main reasons', as identified through open-ended questioning in pilot surveys. While this approach facilitates large-scale data collection and analysis, there is always some risk that important factors might be missed. In this context, recent qualitative Belgian research which sought multiple reasons for non-adoption of a range of technologies is of interest: the results suggest that cost is a relatively minor reason for non-adoption of computers, and that instead responses broadly classifiable as 'no need for one' account for most non-adoption (Punie, 1996). However, the extent to which these findings might be applicable in an Australian context is unknown.

Third, the predictive power of the ABS survey questions on past and future market behaviour remains to be fully tested. The only question with a track record is the one which relates to intention to spend on computers and computing equipment within a year — and even here the predictions are accurate only when the time period between the stated intention to spend and actual expenditure is extended to two years. More work needs to be done in this area, not least in establishing whether there are significant differences in the accuracy of the predictions among groups with different socio-demographic characteristics.

Fourth, the results of the relatively simple multivariate analysis presented here does not disentangle significant correlations between, for example, income and geographic location. Other forms of analysis would be required to do this — a potentially fruitful area for future collaboration between the ABS and the BTCE.

These methodological issues aside, it is important to note that the analysis presented here cannot — and does not seek to — provide answers to key public policy questions like what should be done and why. The results do,

however, highlight gaps in our present understanding of the impact of online services. For example, it is clear that researchers currently have little information on which to assess the influence of digital technologies on the ability of individuals to participate in the economic and social life of their communities.

Thus, while the analysis presented here suggests that households consisting of low income and older people are concentrated in the group which is least likely to acquire a computer or a modem in the short term, what is still unclear is the extent to which this lack may translate into any constraint on the ability of such

householders to participate in society and the economy.

What would help would be a way of linking ABS data on household adoption of digital technologies with other ABS data on labour market status, educational outcomes, and the information intensity of industries — in aggregate or, more usefully, at the local or regional level.

Analysis of such links could lay the foundations for improved assessments of the need for government intervention to influence the availability or takeup of digital technologies at the household level.

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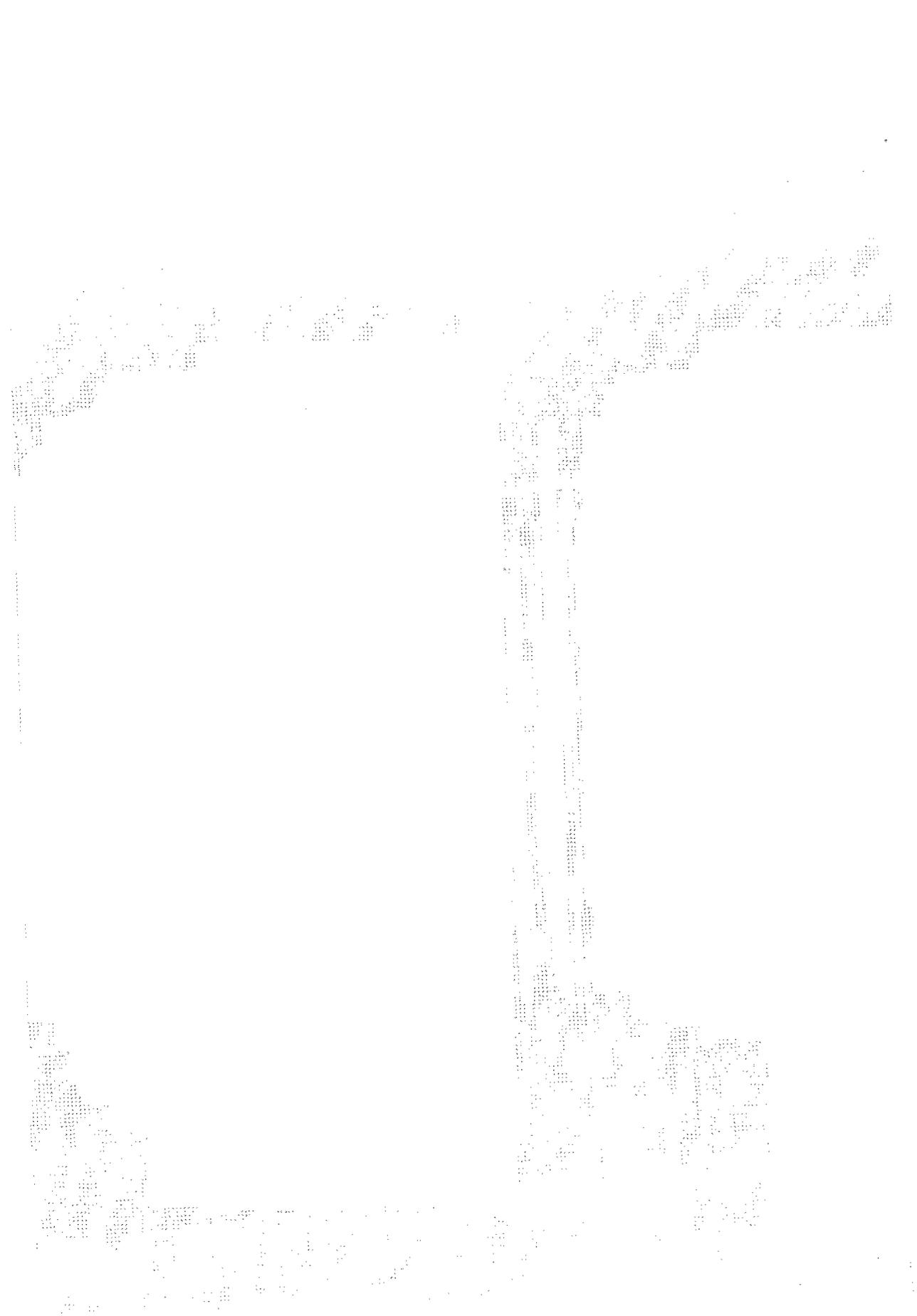
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Introduction	569
Expenditure and human resources devoted to R&D	569
Expenditure on R&D — how does Australia compare internationally?	569
Sources of funds for expenditure on R&D	571
Business sector	572
General government sector	574
Higher education sector	577
Private non-profit sector	578
Official organisations and administration	579
Department of Industry, Science and Tourism	579
R&D Tax Concession Program	580
Strategic Assistance for Research and Development Program	580
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	581
Australian Nuclear Science and Technology Organisation (ANSTO)	581
Australian Institute of Marine Science (AIMS)	581
Bibliography	583
Special Article — Understanding the innovation process in manufacturing	584



Introduction

Science and technology directly influence the strength and competitiveness of industry by providing a basis for technological change and thereby encouraging economic growth and development.

The Department of Industry, Science and Tourism is the key Commonwealth agency responsible for the development of science and technology policy in Australia. There are a number of other agencies, both Commonwealth and State, which have a direct interest in these policies, and in their interrelationships with other government policies relating to employment, education, industry, regional development, energy, communications and defence. There is also a range of social issues dependent on the spread of technology within Australia. These are the responsibilities of other Commonwealth and State departments.

Australia has a range of statistics relating to science and technology issues, most of which are compiled by the ABS and summarised in this chapter. There are a number of other indicators, notably patents and bibliometrics, which are compiled by the Department of Industry, Science and Tourism and reported in the Commonwealth Government's Science and Technology Statement. The latter indicators have not been included in this chapter. It concentrates on the input to Australia's research and development (R&D) effort, both in terms of the human resources devoted to R&D and the expenditure incurred in undertaking that activity. This emphasis reflects the priority given to this data source by analysts the world over.

R&D is one form of innovation. The creation of new or substantially improved products, the acquisition of new technology, and its implementation within the production processes within Australia, are other forms of innovative activity. The overall innovation process has been measured in two surveys undertaken in Australia during 1994 and 1995, the results of which are outlined in a Special Article.

In addition to these indicators there is considerable interest in the diffusion of technology throughout Australia, both in business and in the home. While there is only very limited information available on this topic in Australia, some work has been done on the

spread of technology relating to information and telecommunications. A Special Article outlining the results of a household survey on the use of these goods and services in the home, has been included in *Chapter 23, Communications*.

Expenditure and human resources devoted to R&D

The statistics which follow are based on the OECD definitions for national R&D surveys. The OECD defines R&D to comprise creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of people, culture and society, and the use of this stock of knowledge to devise new applications.

Statistics on the amount of expenditure and human resources devoted to R&D in the business enterprise sector are collected annually, in varying degrees of detail. Comparable statistics on the general government, higher education and private non-profit sectors are collected biennially. Tables 24.1, 24.2 and 24.3 summarise the latest statistics available for these four sectors.

Expenditure on R&D — how does Australia compare internationally?

The most commonly used indicator for comparison purposes is the ratio of expenditure on R&D to Gross Domestic Product. As table 24.4 shows, in 1994–95 Australia spent 1.61% of its GDP on R&D, ranking it slightly above Canada, but well below some of the leading industrialised countries such as Japan (2.90%), the United States (2.54%), France (2.38%), Finland (2.35%), Germany (2.33%) and the United Kingdom (2.19%).

In terms of business enterprise R&D, Australia's ratio of R&D expenditure to GDP (0.74%) is again below the ratios for the large industrialised countries referred to earlier, but is also lower than for Canada (0.91%).

In Government sector R&D as a percentage of GDP Australia ranks higher. A ratio to GDP of 0.43% places it fourth in the group of OECD member countries for which data are available, behind only Iceland (0.57%), France (0.50%) and Finland (0.44%). Government sector R&D

as a percentage of GDP is much larger for Australia than for Japan, the United States and the United Kingdom.

For the higher education sector, Australia also ranks quite highly. With a ratio to GDP of 0.40%, it ranks behind only Japan (0.59%), Finland and Germany (both 0.44%). However, the Australian ratio is very similar to the ratios for a number of other countries including the United States, France, the United Kingdom and Canada.

These statistics themselves provide the background to Australian Government policy in the R&D area. It has been focused on finding ways in which Australian firms can be encouraged to invest in their own R&D. The policies have had a positive impact, as the ratio of business enterprise R&D to GDP has increased over the past decade from about 0.34% to the 1994-95 level of 0.74%

24.1 EXPENDITURE ON R&D, At Current Prices

Sector	1986-87 \$m	1987-88 \$m	1988-89 \$m	1990-91 \$m	1992-93 \$m	1994-95 \$m
Business enterprises						
Private sector	1 165.1	1 388.2	1 649.1	1 896.1	2 609.8	3 051.3
Public sector	123.5	117.6	149.2	203.6	244.8	331.8
General government						
Commonwealth	786.5	797.0	869.6	1 034.0	1 151.1	1 178.4
State	368.4	394.6	482.7	670.0	667.6	786.3
Higher education	881.7	983.6	1 076.8	1 332.8	1 695.2	1 829.6
Private non-profit	49.1	53.9	53.3	85.4	101.2	143.7
Total	3 374.3	3 734.9	4 280.7	5 221.9	6 469.7	7 321.1

Source: Research and Experimental Development, All-Sector Summary, Australia (8112.0).

24.2 EXPENDITURE ON R&D, At Average 1989-90 Prices

Sector	1986-87 \$m	1987-88 \$m	1988-89 \$m	1990-91 \$m	1992-93 \$m	1994-95 \$m
Business enterprises						
Private sector	1 406.1	1 530.0	1 785.2	1 811.7	2 361.7	2 673.5
Public sector	141.3	129.6	159.7	190.8	220.5	298.6
General government						
Commonwealth	919.5	892.4	914.4	989.2	1 001.2	1 000.7
State	433.4	435.5	510.9	630.0	589.6	678.4
Higher education	1 044.5	1 121.8	1 166.1	1 312.5	1 608.6	1 651.5
Private non-profit	59.6	62.0	57.5	81.2	89.6	126.2
Total	4 004.4	4 171.3	4 593.8	5 015.4	5 871.2	6 428.9

Source: Research and Experimental Development, All Sector Summary, Australia (8112.0).

24.3 HUMAN RESOURCES DEVOTED TO R&D

Sector	1986-87 person years	1987-88 person years	1988-89 person years	1990-91 person years	1992-93 person years	1994-95 person years
Business Enterprises						
Private sector	16 198	16 952	19 206	19 158	20 665	23 116
Public sector	1 393	1 527	1 597	1 867	2 219	2 123
General government						
Commonwealth	11 529	11 491	10 863	10 670	11 020	10 562
State	6 796	7 133	8 335	8 990	8 779	8 572
Higher education	23 218	24 323	24 902	27 081	35 418	40 096
Private non-profit	945	1 016	1 023	1 282	1 370	1 692
Total	60 079	62 442	65 926	69 048	79 470	86 162

Source: Research and Experimental Development, All Sector Summary, Australia (8112.0).

24.4 EXPENDITURE ON R&D AS A PERCENTAGE OF GDP, OECD Countries — 1994-95

Country	Business %	Government %	Higher Education %	Total(a) %
Japan	1.91	0.26	0.59	2.90
United States	1.80	0.27	0.38	2.54
France	1.47	0.50	0.38	2.38
Finland	1.46	0.44	0.44	2.35
Germany	1.54	0.36	0.44	2.33
United Kingdom	1.43	0.30	0.38	2.19
Australia	0.74	0.43	0.40	1.61
Canada	0.91	0.25	0.39	1.57
Iceland	0.43	0.57	0.34	1.40
Italy	0.67	0.27	0.25	1.19
Spain	0.47	0.18	0.27	0.93

(a) Includes Private Non-Profit.

Source: *Research and Experimental Development, Business Enterprises (Inter Year Survey)*, Australia (8114.0); and *Research and Experimental Development, General Government and Private Non-Profit Organisations, Australia* (8109.0).

Sources of funds for expenditure on R&D

In 1994-95, 93% of funding for R&D carried out by businesses came from the business sector, and it has remained at about this level since 1988-89. General government organisations provided 3% of funding for business R&D expenditure.

About 55% (down from 57% in 1992-93) of general government sector R&D was funded by Commonwealth Government organisations and 31% (up from 29%) by State Government organisations.

About 89% (down from 91% in 1992-93) of higher education R&D funding came from the Commonwealth Government. About 2% came from State Governments, and business enterprises provided 3%.

Commonwealth government organisations funded 30% of the R&D of the private non-profit sector in 1994-95 (down from 34% in 1992-93), while the contribution by State Governments was 16% (up from 13% in 1992-93).

Tables 24.5 and 24.6 show the data for 1992-93 and 1994-95 supporting the above analysis.

24.5 EXPENDITURE ON R&D, Sector by Source of Funds — 1992-93

Sector	Commonwealth government \$'000	State government \$'000	Business enterprises \$'000	Private non-profit and other Australian(a) \$'000	Overseas \$'000	Total \$'000
Business enterprises						
Private sector	n.p.	n.p.	2 460 985	7 851	85 823	2 609 759
Public sector	n.p.	n.p.	229 850	7 479	—	244 771
General government						
Commonwealth	988 008	11 703	74 688	62 757	13 971	1 151 127
State	56 456	509 303	28 968	69 146	3 768	667 641
Higher education	1 544 754	34 771	41 684	63 488	10 512	1 695 209
Private non-profit	33 941	12 750	6 930	44 302	3 312	101 236
Total	2 677 163	577 065	2 843 105	255 023	117 387	6 469 744

(a) Includes funds provided via government levies.

Source: *Research and Experimental Development, All Sector Summary, Australia* (8112.0).

24.6 EXPENDITURE ON R&D, Sector by Source of Funds — 1994–95

Sector	Commonwealth government \$'000	State government \$'000	Business enterprises \$'000	Private non-profit and other Australian(a) \$'000	Overseas \$'000	Total \$'000
Business enterprises						
Private sector	n.p.	n.p.	2 814 094	34 622	109 936	3 051 279
Public sector	n.p.	n.p.	321 499	397	—	331 846
General government						
Commonwealth	1 006 787	11 401	85 341	63 044	11 821	1 178 394
State	68 685	591 057	44 250	78 405	3 885	786 282
Higher education	1 633 713	42 204	63 940	71 224	18 500	1 829 580
Private non-profit	43 035	22 708	14 034	60 142	3 799	143 718
Total	2 842 218	679 949	3 343 158	307 834	147 941	7 321 099

(a) Includes funds provided via government levies.

Source: *Research and Experimental Development, All Sector Summary, Australia (8112.0)*.

Business sector

Business expenditure on R&D in Australia in 1994–95 (table 24.7) increased by 10% over 1993–94, with an increase of 7% in human resources devoted to R&D.

Expenditure on R&D increased in all industries other than Mining (down 26%), Wood and paper product manufacturing (down 26%),

Wholesale and retail trade (down 11%) and Finance and insurance (down 8%). The largest increases occurred in Property and business services (\$103m, 3%), Electronic and electrical equipment and appliance manufacturing (\$80m, 21%), and Motor vehicle and part and other transport equipment manufacturing (\$68m, 25%).

24.7 R&D BY BUSINESS ENTERPRISES

Industry of enterprise	Enterprises			Expenditure on R&D			Effort on R&D		
	1992-93	1993-94	1994-95	1992-93	1993-94	1994-95	1992-93	1993-94	1994-95
	no.	no.	no.	\$m	\$m	\$m	person years	person years	person years
Mining (including services to mining)	91	85	92	176.3	326.5	241.6	850	838	825
Manufacturing									
Food, beverage and tobacco	125	130	178	136.1	140.2	141.6	1 141	1 156	1 131
Textile, clothing, footwear and leather	50	50	60	16.3	17.0	26.9	148	170	197
Wood and paper product	29	31	43	44.4	103.0	76.5	249	224	253
Printing, publishing and recorded media	34	34	44	14.3	10.8	15.1	140	121	174
Petroleum, coal, chemical and associated product	317	306	356	290.8	272.2	309.8	2 123	2 175	2 400
Non-metallic mineral product	48	50	77	31.3	31.3	45.3	299	274	427
Metal product	178	176	235	336.5	294.2	309.5	1 773	1 763	1 970
Motor vehicle and part and other transport equipment	112	125	145	307.7	269.8	338.1	1 694	1 918	2 014
Photographic and scientific equipment	96	108	113	96.5	102.6	123.0	931	989	1 102
Electronic and electrical equipment and appliance	458	444	448	344.1	371.5	451.0	3 483	3 783	4 108
Industrial machinery and equipment	241	249	288	65.2	72.2	73.5	786	835	907
Other manufacturing	58	62	93	10.9	14.6	18.3	147	161	233
Total manufacturing	1 746	1 765	2 080	1 694.1	1 699.5	1 928.6	12 912	13 568	14 914
Other industries									
Wholesale and retail trade	260	263	263	224.1	221.0	196.4	1 716	1 745	1 662
Finance and insurance	27	28	34	119.7	113.0	103.4	1 463	1 175	923
Property and business services	527	574	651	363.0	442.6	545.9	3 644	4 044	4 668
Scientific research	66	70	74	84.0	87.1	114.1	812	805	961
Other n.e.c.	118	108	127	193.3	179.4	253.0	1 487	1 333	1 287
Total other industries	998	1 043	1 149	984.1	1 043.0	1 212.8	9 122	9 101	9 500
Total all industries	2 835	2 893	3 321	2 854.5	3 069.0	3 383.1	22 883	23 507	25 240
Private sector contribution	2 792	2 858	3 273	2 609.8	2 835.7	3 051.3	20 665	21 402	23 116
Public sector contribution	43	35	48	244.8	233.3	331.8	2 219	2 105	2 123

Source: Research and Experimental Development, Business Enterprises (Inter Year Survey), Australia (8114.0).

In terms of socio-economic objectives (table 24.8), most business sector R&D was directed towards Economic development (\$3,039m or 90%). Of this, \$1,836m was directed towards Manufacturing and \$517m towards

Information and communication services. About 4% was directed towards Defence and 2% each towards Society, Environment and Advancement of knowledge.

24.8 RESOURCES DEVOTED TO R&D BY BUSINESS ENTERPRISES — 1994-95

	Type of expenditure				Human resources person years
	Capital expenditure \$'000	Labour costs \$'000	Other current expenditure \$'000	Total \$'000	
Defence	5 224	44 717	90 029	139 969	674
Economic development					
Plant — production and primary products	1 453	13 029	14 174	28 656	275
Animal — production and primary products	2 575	12 038	20 838	35 451	219
Mineral resources (excl. energy)	39 175	43 115	119 857	202 147	819
Energy resources	22 863	31 851	72 074	126 788	506
Energy supply	39 836	26 818	50 816	117 470	466
Manufacturing	219 251	744 352	872 687	1 836 290	13 848
Construction	5 626	16 907	11 463	33 995	352
Transport	2 075	35 443	23 883	61 401	586
Information and communication services	37 888	304 767	174 561	517 215	4 931
Commercial services	9 136	38 130	22 398	69 663	660
Economic framework	2 173	4 730	2 948	9 851	76
Total economic development	382 052	1 271 179	1 385 697	3 038 928	22 740
Society					
Health	4 881	23 412	24 289	52 583	471
Education and training	342	3 742	1 162	5 246	83
Social development and community services	944	6 610	5 352	12 906	152
Total society	6 167	33 764	30 803	70 734	706
Environment					
Environmental knowledge	6 863	11 613	12 981	31 458	254
Environmental aspects of economic development	3 591	10 089	13 882	27 561	198
Environmental management and other aspects	4 270	7 775	8 893	20 938	150
Total environment	14 724	29 477	35 756	79 957	603
Advancement of knowledge	6 039	30 925	16 572	53 537	517
Total	414 207	1 410 062	1 558 857	3 383 125	25 240

Source: Research and Experimental Development, Business Enterprises (Inter Year Survey), Australia (8114.0).

General government sector

Expenditure on R&D carried out by government organisations in Australia in 1994-95 was estimated to be \$1,965m at current prices, an increase of 8% over expenditure in 1992-93. At average 1989-90 prices, expenditure in 1994-95 increased by 6% compared with 1992-93 (tables 24.1 and 24.2).

The socio-economic objectives on which most government R&D expenditure was carried out were: Economic development (\$1,041m),

Environment (\$370m) and Society (\$258m) (table 24.9). Within Economic development, the main objectives were Animal production and primary products (\$268m), Plant production and primary products (\$270m) and Manufacturing (\$223m). Much the same pattern applies in terms of the human resources devoted to R&D (table 24.10). Labour costs continue to be the main component of R&D expenditure (46%), down from 50% in 1992-93.

24.9 EXPENDITURE ON R&D BY GENERAL GOVERNMENT ORGANISATIONS — 1994-95

Socio-economic objective	Type of expenditure				
	Land and buildings \$'000	Other capital expenditure \$'000	Labour costs \$'000	Other current expenditure \$'000	Total \$'000
Defence	13 348	26 269	95 416	88 065	223 099
Economic development					
Plant — production and primary products	21 485	15 880	126 788	105 811	269 964
Animal — production and primary products	22 846	10 903	124 557	109 649	267 955
Mineral resources (excluding energy)	1 232	7 084	30 874	28 859	68 049
Energy resources	1 004	4 288	23 221	31 147	59 660
Energy supply	605	3 673	14 509	8 370	27 157
Manufacturing	12 930	15 103	109 536	85 383	222 951
Construction	233	2 241	16 317	12 318	31 109
Transport	356	1 991	8 721	7 279	18 347
Information and communication services	2 116	3 928	17 943	13 281	37 269
Commercial services	148	1 141	5 714	3 464	10 468
Economic framework	72	2 168	16 807	8 979	28 027
Total economic development	63 027	68 401	494 987	414 540	1 040 955
Society					
Health	27 156	18 604	96 804	66 787	209 350
Education and training	131	335	4 330	2 632	7 429
Social development and community services	1 015	1 450	20 339	18 322	41 125
Total society	28 302	20 389	121 473	87 741	257 904
Environment					
Environmental knowledge	8 517	14 153	83 848	99 980	206 497
Environmental aspects of economic development	4 709	7 252	54 119	42 330	108 409
Environmental management and other aspects	1 627	3 591	24 556	25 439	55 212
Total environment	14 852	24 995	162 522	167 748	370 118
Advancement of knowledge					
Natural sciences, technologies and engineering	2 724	7 192	30 421	29 336	69 674
Social sciences and humanities	358	171	1 608	788	2 925
Total advancement of knowledge	3 082	7 363	32 029	30 125	72 599
Total	122 613	147 417	906 427	788 219	1 964 676

Source: Research and Experimental Development, General Government and Private Non-Profit Organisations, Australia (8109.0).

24.10 HUMAN RESOURCES DEVOTED TO R&D BY GENERAL GOVERNMENT ORGANISATIONS — 1994-95

Socio-economic objective	Type of employee			
	Researchers person years	Technicians person years	Other supporting staff person years	Total person years
Defence	1 226	554	229	2 009
Economic development				
Plant — production and primary products	1 103	1 178	469	2 750
Animal — production and primary products	968	1 034	664	2 667
Mineral resources (excluding energy)	239	202	148	588
Energy resources	220	198	76	494
Energy supply	112	73	49	234
Manufacturing	743	772	564	2 079
Construction	91	122	94	306
Transport	95	33	25	152
Information and communication services	159	103	79	341
Commercial services	57	21	22	101
Economic framework	224	57	58	340
Total economic development	4 011	3 793	2 247	10 051
Society				
Health	1 458	859	303	2 620
Education and training	66	16	21	103
Social development and community services	272	50	67	388
Total society	1 796	924	392	3 112
Environment				
Environmental knowledge	726	678	327	1 731
Environmental aspects of economic development	322	432	287	1 042
Environmental management and other aspects	246	184	79	509
Total environment	1 294	1 294	693	3 281
Advancement of knowledge				
Natural sciences, technologies and engineering	328	205	108	641
Social sciences and humanities	25	10	5	39
Total advancement of knowledge	353	215	113	680
Total	8 680	6 780	3 674	19 134

Source: Research and Experimental Development, General Government and Private Non-Profit Organisations, Australia (8109.0).

Higher education sector

Estimated expenditure on R&D carried out in Australia by the higher education sector in 1994 was \$1,830m, an increase of 8% over expenditure in 1992. At average 1989–90 prices, expenditure increased by 3% over this period (tables 24.1 and 24.2).

Table 24.11 shows that the socio-economic objectives on which most higher education expenditure was carried out in 1994 were

Advancement of knowledge (\$881m) and Society (\$448m). Within the latter, Health accounted for \$306m, or 17% of total R&D expenditure.

Direct labour costs accounted for 50% of total expenditure.

Table 24.12 shows the human resources devoted to R&D in terms of socio-economic objective, by type of employee.

24.11 EXPENDITURE ON R&D BY HIGHER EDUCATION ORGANISATIONS — 1994

Socio-economic objective	Type of expenditure					
	Land and buildings \$'000	Other capital expenditure \$'000	Direct labour costs \$'000	Scholarships \$'000	Other current expenditure \$'000	Total \$'000
Defence	114	797	2 096	285	1 544	4 836
Economic development						
Plant — production and primary products	5 185	3 500	22 089	2 253	19 962	52 988
Animal — production and primary products	4 566	1 721	15 984	2 098	15 813	40 183
Mineral resources (excluding energy)	1 091	2 323	8 846	1 529	11 887	25 676
Energy resources	742	1 050	4 080	877	5 065	11 814
Energy supply	439	2 292	7 326	847	6 794	17 698
Manufacturing	2 534	9 080	32 935	3 728	27 165	75 442
Construction	536	2 350	13 583	1 348	9 836	27 652
Transport	71	410	2 205	262	1 882	4 831
Information and communication services	404	3 327	18 433	911	13 465	36 541
Commercial services	369	340	4 518	283	2 675	8 185
Economic framework	1 534	2 419	39 921	1 440	27 699	73 013
Total economic development	17 471	28 812	169 919	15 577	142 242	374 022
Society						
Health	3 566	14 343	159 630	9 781	118 427	305 748
Education and training	2 512	2 851	49 882	1 463	33 063	89 771
Social development and community services	504	2 052	29 727	1 329	19 365	52 976
Total society	6 582	19 247	239 238	12 574	170 855	448 496
Environment						
Environmental knowledge	1 419	5 954	38 819	2 843	32 268	81 303
Environmental aspects of economic development	950	1 137	10 005	842	7 960	20 894
Environmental management and other aspects	523	1 845	8 024	947	7 564	18 903
Total environment	2 892	8 936	56 847	4 632	47 792	121 099
Advancement of knowledge						
Natural sciences, technologies and engineering	15 500	51 007	296 843	26 146	226 904	616 401
Social sciences and humanities	5 374	8 237	148 257	7 940	94 919	264 727
Total advancement of knowledge	20 874	59 245	445 100	34 087	321 822	881 128
Total	47 933	117 037	913 201	67 154	684 255	1 829 580

Source: Research and Experimental Development, Higher Education Organisations, Australia (8111.0).

24.12 HUMAN RESOURCES DEVOTED TO R&D BY HIGHER EDUCATION ORGANISATIONS — 1994

Socio-economic objective	Type of employee			
	Academics person years	Postgraduates person years	Supporting staff person years	Total person years
Defence	20	75	20	115
Economic development				
Plant — production and primary products	187	452	254	893
Animal — production and primary products	183	419	202	805
Mineral resources (excluding energy)	107	231	80	418
Energy resources	57	130	32	218
Energy supply	74	233	87	394
Manufacturing	350	970	338	1 659
Construction	151	431	103	685
Transport	25	53	24	102
Information and communication services	232	456	194	882
Commercial services	60	71	23	154
Economic framework	574	749	216	1 539
Total economic development	2 001	4 196	1 553	7 749
Society				
Health	1 674	2 371	1 635	5 680
Education and training	674	1 493	291	2 458
Social development and community services	412	781	173	1 366
Total society	2 760	4 646	2 099	9 505
Environment				
Environmental knowledge	409	1 201	356	1 966
Environmental aspects of economic development	103	226	94	423
Environmental management and other aspects	96	240	72	408
Total environment	609	1 667	521	2 797
Advancement of knowledge				
Natural sciences, technologies and engineering	2 934	6 389	2 883	12 206
Social sciences and humanities	1 906	5 070	748	7 724
Total advancement of knowledge	4 840	11 459	3 631	19 930
Total	10 230	22 042	7 824	40 096

Source: Research and Experimental Development, Higher Education Organisations, Australia (8111.0).

Private non-profit sector

Expenditure on R&D carried out by private non-profit organisations in 1994–95 (\$144m) increased by 42% at current prices and 41% at average 1989–90 prices over 1992–93 expenditure (tables 24.1 and 24.2).

Health was the leading socio-economic objective for R&D expenditure of the private non-profit sector, accounting for 79% or \$114m

of its total R&D expenditure in 1994–95. The same was true for human resource usage. Labour costs continued to be the main component of R&D expenditure (47%) (table 24.13).

Table 24.14 shows the human resources devoted to R&D in terms of socio-economic objective, by type of employee.

24.13 EXPENDITURE ON R&D BY PRIVATE NON-PROFIT ORGANISATIONS — 1994-95

	Type of expenditure				
	Land and buildings \$'000	Other capital expenditure \$'000	Labour costs \$'000	Other current expenditure \$'000	Total \$'000
Socio-economic objective					
Defence	—	—	—	—	—
Economic development	180	222	3 070	2 550	6 022
Society					
Health	15 835	5 735	52 036	40 384	113 989
Education and training	486	211	4 159	3 299	8 155
Social development and community services	11	86	1 161	855	2 114
Total society	16 332	6 032	57 356	44 537	124 258
Environment	80	219	1 809	1 081	3 188
Advancement of knowledge	101	739	5 566	3 843	10 249
Total	16 694	7 213	67 801	52 011	143 718

Source: Research and Experimental Development, General Government and Private Non-Profit Organisations, Australia (8109.0).

24.14 HUMAN RESOURCES DEVOTED TO R&D BY PRIVATE NON-PROFIT ORGANISATIONS — 1994-95

	Type of employee			
	Researchers person years	Technicians person years	Other supporting staff person years	Total person years
Socio-economic objectives				
Defence	—	—	—	—
Economic development	53	10	11	74
Society				
Health	711	449	172	1 332
Education and training	41	14	22	77
Social development and community services	21	2	7	30
Total society	773	466	200	1 439
Environment	46	4	9	58
Advancement of knowledge	58	48	14	121
Total	930	528	235	1 692

Source: Research and Experimental Development, General Government and Private Non-Profit Organisations, Australia (8109.0).

Official organisations and administration

There are many organisations in Australia concerned in some way with the development of science and technology.

The Commonwealth Government's commitment to science and technology is reflected in the functions of the Department of Industry, Science and Tourism. The Department is concerned with the development and maintenance of Australia's scientific and technological capability.

A number of other Commonwealth government organisations either support or carry out scientific and technological activities. State Governments are also involved in science and technology through State government

departments, science and technology councils and other organisations. Non-government organisations participating in scientific and technological activities include higher education institutions, professional and learned bodies, private organisations and industry groups.

Department of Industry, Science and Tourism

The Department, responsible for the majority of federally supported technology and industry development programs, has recently undergone a major restructuring, including the reduction of its four Departmental Groups to three. One of the Groups, the Science and Technology Group, covers the Office of AusIndustry, including the

Industry Research and Development Board programs, the Science and Technology Division and the Australian Industrial Property Organisation. The Science and Technology Division, comprising the Science and Technology Policy Branch, the National Science and Technology Programs Branch, the International Science and Technology Branch and the Science and Technology Advisory Branch, is responsible for science and technology strategy, policy, analysis and awareness. It is responsible, *inter alia*, for the preparation of the annual Science and Technology Budget Statement.

The Department, through AusIndustry, administers the tax concession for research and development scheme and the Strategic Assistance for Research and Development (START) Program. The scientific and technological bodies of the portfolio include the Commonwealth Scientific and Industrial Research Organisation, the Australian Nuclear Science and Technology Organisation and the Australian Institute of Marine Science.

R&D Tax Concession Program

The tax concession for R&D, which commenced from July 1985, is the focus of one of the major programs in the Government's package of measures to encourage R&D in Australia.

The concession allows companies incorporated in Australia, public trading trusts and partnerships of eligible companies, to deduct up to 125% (prior to 21 August 1996, 150%) of eligible expenditure on R&D activities when lodging their corporate tax returns.

Expenditure eligible under the scheme includes: salaries, wages and other overhead costs which are directly related to the company's Australian R&D activities; contract expenditure; and capital expenditure on R&D plant and equipment (over three years). Expenditure on acquiring, or acquiring the right to use, technology for the purposes of the company's own R&D activities is 100% deductible.

The R&D projects must also satisfy a requirement for adequate Australian content. In addition the results of the R&D must be exploited on normal commercial terms and to the benefit of Australia.

To attract the tax concession deduction, annual eligible R&D expenditure must exceed \$20,000. Where R&D is contracted to either an approved Registered Research Agency (RRA) or a Cooperative Research Centre (CRC) this expenditure threshold is waived.

Strategic Assistance for Research and Development Program

The Strategic Assistance for Research and Development (R&D START) Program replaced the R&D Syndication Program. It encompasses and builds upon other R&D support measures to provide a flexible package of assistance to industry for research, development and commercialisation.

The program, with total funding of \$520m over four years, complements the R&D Tax Concession Program.

Existing R&D grants and loans continue as part of the program, but are refocused on projects by small and medium enterprises with a total project value of less than \$2m.

R&D START meets the need for a program capable of funding larger projects, with more flexible funding arrangements, and aims to:

- provide a new competitive R&D scheme to replace the R&D Syndication Program;
- provide a mix of support measures based on large grants, loans and interest rate subsidies; and
- develop additional new market-based support measures in further consultation with industry.

There are three rounds of grants each year (every four months) to provide a timely response to companies in areas of rapidly developing technologies and markets.

The Industry Research and Development Board has flexibility to vary the combination of support to take account of variations in spillovers, closeness to market, nature of the technology and capacity to attract private finance. The basic elements are grants, loans which will normally be at commercial rates but may have repayment deferred, and interest subsidies to lenders who participate in the financing of the projects.

Commonwealth Scientific and Industrial Research Organisation (CSIRO)

CSIRO was established as an independent statutory authority by the *Science and Industry Research Act 1949*, which has been amended on a number of occasions since then. Its primary role is as an applications-oriented research organisation in support of major industry sectors and selected areas of community interest, with a strong commitment to the effective transfer of its results to users.

Briefly, CSIRO's primary statutory functions are to:

- carry out scientific research for the benefit of Australian industry, the community, national objectives, national or international responsibilities, or for any other purpose determined by the Minister; and
- encourage or facilitate the application or utilisation of the results of such research.

Other functions include dissemination and publication of scientific information, international liaison in scientific matters, and provision of services and facilities.

CSIRO's work is planned and prioritised on a sectoral basis and conducted through core business units — CSIRO Divisions. External advice on research priorities is channelled through Sector Advisory Committees. Each sector represents an industry group, market, or natural resource of national significance. There are 22 Sectors covering research in five broad groupings:

- *Agribusiness* — Field Crops; Food processing; Forestry, wood and paper industries; Horticulture; Meat, dairy and aquaculture; Wool and textiles.
- *Environment and Natural Resources* — Biodiversity; Climate and atmosphere; Land and water; Marine.
- *Information Technology, Infrastructure and Services* — Information technology and telecommunications; Infrastructure; Measurement standards; Radio astronomy; Services.
- *Manufacturing* — Chemicals and plastics; Integrated manufactured products; Pharmaceuticals and human health.

- *Minerals and Energy* — Coal and energy; Mineral exploration and mining; Mineral processing and metal production; Petroleum.

CSIRO has a staff of approximately 7,000 in more than 70 locations throughout Australia. About one-third of the staff are professional scientists, with the others providing technical, administrative or other support. CSIRO's budget for 1995–96 was \$660m, of which \$417m was provided directly by the Commonwealth Government.

See *Chapter 16, Mining* for information on the research and development activities of the CSIRO.

Australian Nuclear Science and Technology Organisation (ANSTO)

ANSTO was established as a statutory authority under the *Australian Nuclear Science and Technology Organisation Act 1987* No.3 as amended, and replaced the Australian Atomic Energy Commission. Its mission is to benefit the Australian community by the development and peaceful application of nuclear science and technology in industry, medicine, agriculture, science and other fields.

Australian Institute of Marine Science (AIMS)

AIMS is one of Australia's key research agencies and the only one committed primarily to marine research, with emphasis on tropical marine science. The Institute is a federally funded statutory authority governed by a specialist Council appointed by the Australian Government. It was established in 1972 and has its headquarters at Cape Ferguson, 50 km south of the coastal city of Townsville. More recently a laboratory has been established in Dampier, Western Australia.

The Institute's objectives are to promote the conservation and sustainable development of Australia's marine resources and to support internationally competitive Australian industries. Since it was set up, AIMS has established itself in strategic basic marine science supporting both public and private interests, targeting problems that are difficult and are not being addressed by any other agency. The Institute has built strong links to Australian industry and to the wider

Asia-Pacific region; established a long term environmental monitoring program and built skills and knowledge in resource assessment, especially in tropical mangrove and coral reef systems; and it is recognised as a leader in setting environmental assessment standards.

The research and development program is focused on research relating to the tropical coast and continental shelf and the development and application of technology to problems in this zone. Much of it involves long-term research which is geared towards an improved understanding of marine systems and the development of a capability to predict the behaviour of complex tropical marine systems. Priority areas include improving our understanding of the impacts of natural and human-induced changes in the marine environment, assessment of living marine resources and marine biotechnology (e.g. pharmaceuticals). These efforts sit within the following strategic directions:

- *Understanding the marine environment* — physical behaviour of the oceans; nutrient pathways; global climate change; impacts of cyclones and river run-off.
- *Marine resources assessment* — taxonomy, distribution and abundance of key tropical faunas, especially coral reefs, mangroves and fish.
- *Ecologically sustainable development of marine resources* — predicting long term changes in coral reefs; environmental impacts on coastal ecosystems.
- *Marine biodiversity* — evolution; genetic structure; discovery of bio-active compounds for drug development; linkages between populations (replenishment).
- *New marine research technologies* — underwater computing; micro-environment recording; laser technology; links between basic science and industrial applications (e.g. oil spill prediction).

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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 Industry, Science and Tourism and the CSIRO, and in the annual Science and Technology Statements. Statistical information on R&D for the years 1968–69, 1973–74 and 1976–77 may be found in the reports on Project SCORE published by the (then) Department of Science. Statistical information on R&D relating to 1978–79, 1981–82, and 1984–85 to 1994–95 may be obtained from the Australian Bureau of Statistics. Further statistical information on higher education is obtainable from the Department of Employment, Education, Training and Youth Affairs.

The Department of Industry, Science and Tourism's Australian Science and Innovation Resources Brief 1994 uses science and technology indicators to give a good overview and analysis of science and technology information in Australia. It presents information on R&D effort and expenditure; the science and technology work force; science and technology information resources; scientific equipment and facilities; patent activity; technology training; financial support for technological development; and the transfer of technical knowledge.

Additional information on some technology related issues, particularly on the use of information technology in the home, may be found in *Chapter 23, Communications*.

Understanding the innovation process in manufacturing

Innovation is accepted as one of the important factors stimulating economic and employment growth in Australia and helping Australian businesses compete in international markets. To enhance business growth and competitiveness, government aims to encourage and assist businesses to be innovative. Information about the innovation process is vital to the development and evaluation of government policy in this area. Until recently little was known about the likelihood of a business to be innovative, or about the reasons why a business does or does not undertake innovation.

The ABS conducted its first innovation survey in respect of 1993-94, gathering some basic information about the innovation process in Australia. The survey, which followed international guidelines for the conduct of innovation surveys, focused mainly on technological innovation, that is technologically new, or substantially changed, products or new, or substantially changed, processes. It measured the innovation status of businesses (i.e. their propensity to undertake innovation) over a three year period (1991-92 to 1993-94). The ABS also sought some information about non-technological innovation, that is innovation

in organisational and managerial aspects, and broadened the survey's scope to collect information about the rate of innovation in the services sector.

This article presents some findings from the ABS survey regarding technological innovation in the manufacturing sector, in terms of the sources for the impetus to innovate and the reasons why some businesses choose to be innovative while others do not. Differences in the innovation process between small businesses (less than 20 employees), medium sized businesses (between 20 and 99 employees) and large businesses (100 or more employees) are highlighted.

What proportion of manufacturers innovate?

The survey showed that only one third of manufacturers in Australia were technologically innovative. The likelihood that a business was innovative appears to be strongly related to the employment size of the business. Large businesses were more than twice as likely to be innovative as small businesses. Also, compared to small businesses, a higher proportion of large businesses were innovative in relation to both products and processes (table S4.1).

S4.1 PROPORTION OF MANUFACTURERS UNDERTAKING TECHNOLOGICAL INNOVATION

Business size	Innovation type			Total undertaking technological innovation %
	Product only %	Process only %	Product and process %	
Small	10.7	3.4	15.0	29.1
Medium	10.0	6.0	37.8	53.9
Large	12.8	7.8	58.7	79.3
All	10.7	3.8	19.2	33.7

Source: *Innovation in Australian Manufacturing (8116.0)*, unpublished data.

Although a minority of manufacturers reported undertaking innovation, over 70% of the manufacturing workforce is employed by businesses undertaking technological innovation. This proportion increases from one third of the manufacturing workforce employed

by small businesses, to over half that employed by medium sized business, and over 85% of that employed by large businesses. The overall proportion is considerably higher than the proportion of businesses innovating (table S4.1) due to the strong positive correlation between

employment size and the proportion of innovators. The number of workers directly involved in innovation is not known.

The degree of influence of other business characteristics on the overall proportion of businesses undertaking technological innovation is difficult to quantify. If the likelihood that a business has a particular characteristic is related to employment size, then the effects of employment size and the other characteristic are difficult to separate. Of note are those characteristics which increase the exposure of a business to overseas market

influences — such as export status, foreign ownership and foreign competitors. For example, the proportion of exporters undertaking technological innovation was almost 70% compared to only 25% for non-exporters. However, while the difference in the proportions of businesses innovating, between exporters and non-exporters is around 40% for small businesses, it drops to 20% for large businesses. It appears that exporter status has less influence on the propensity to be innovative as employment size increases. These relationships are shown in table S4.2.

S4.2 PROPENSITY TO INNOVATE, By Characteristic and Size of Business

	Business size			
	Small %	Medium %	Large %	All %
Exporter	64.5	69.8	85.0	68.8
Non-exporter	24.3	42.4	65.7	26.3
Foreign owned	27.7	73.0	93.5	51.1
Australian owned	37.3	70.5	88.9	42.4
Main competitor — foreign	32.0	54.2	78.4	36.7
Main competitor — Australian	50.0	68.4	85.1	56.9

Source: *Innovation in Australian Manufacturing (8116.0)*, unpublished data.

Reasons for not innovating

A range of reasons was given by manufacturers for not undertaking technological innovation. However it is not known how many manufacturers do not even consider undertaking innovation. Only one quarter of manufacturers, both innovators and non-innovators, reported that there were factors which hampered their innovative activity. The two main factors were a lack of finance and the high cost of innovation. Other significant hindrances reported included a lack of skilled personnel; difficulty controlling the costs associated with the innovation; long pay back period; legislation, regulations, standards and taxation; and excessive perceived risk.

While financial considerations appear to be the main factors hampering technological innovation in the manufacturing sector, small

businesses reported these factors to be more significant hindrances than larger businesses. Also, the other factors appeared to be less important to small businesses than to larger businesses. There was no consistent pattern in the views of innovators compared to non-innovators about the significance of any of the factors in hampering technological innovation.

On the other hand, a number of factors were reported as being unimportant in hindering technological innovation. The majority of businesses indicated that their earlier innovations did not remove the need for future innovation. As shown in table S4.3, about half of the businesses considered many other factors to be unimportant.

S4.3 FACTORS HAMPERING INNOVATION, Proportion of Manufacturers Rating Them as Unimportant

	Business size			
	Small %	Medium %	Large %	All %
Lack of skilled personnel	43.3	19.3	15.0	37.0
Lack of information on technologies	51.0	33.7	24.9	46.0
Lack of information on markets	48.9	35.0	31.0	45.2
Deficiencies in the availability of external technical services	59.0	47.2	41.1	55.6
Lack of opportunity for cooperation with other companies and scientific/technological organisations	61.6	52.2	50.6	59.2
Innovation costs hard to control	40.9	31.7	32.8	38.7
Resistance to change in the business	64.7	38.0	24.4	57.0
Excessive perceived risk	41.2	32.0	28.2	38.6
Lack of appropriate sources of finance	27.4	28.7	36.6	28.3
Innovation costs too high	28.8	27.4	24.9	28.3
Pay back period of innovation too long	41.5	34.0	25.1	38.9
Lack of technological opportunities	65.2	50.3	46.6	61.2
No need to innovate due to earlier innovations	77.2	73.8	68.2	75.9
Innovation too easy to copy	58.3	59.5	54.3	58.2
Legislation, regulations, standards, taxation	46.2	45.5	44.4	45.9
Lack of customer responsiveness to new products and processes	49.7	44.8	43.1	48.3
Uncertainty in timing of innovation	55.6	49.7	39.4	53.3

Source: *Innovation in Australian Manufacturing (8116.0)*, unpublished data.

Given the financial hindrances associated with innovation, the actual amount spent on innovation is of interest. Table S4.4 shows, for businesses undertaking technological innovation, the sales and the innovation costs per employee. Also included is the ratio of innovation costs to sales, expressed as a percentage. Large businesses show higher sales per employee, while small businesses show a much higher value for the ratio of innovation costs to sales per employee. The higher proportion of innovation costs for small businesses is related to their relatively short time in operation. Consequently the relatively large costs of innovation per employee for small businesses might be attributed to the relative lack of diversity in their business activities.

S4.4 BUSINESS SALES AND INNOVATION COSTS PER EMPLOYEE

Business size	Sales	Innovation costs	
	\$'000	\$'000	%
Small	153	11	7
Medium	169	7	4
Large	247	8	3
All	225	8	4

Source: *Innovation in Australian Manufacturing (8116.0)*, unpublished data.

What sources of ideas lead businesses to innovate?

For those manufacturers undertaking technological innovation, the main sources of ideas and information which lead to innovation are linked to their day to day operations. Although internal research and development (R&D) has long been considered a major source for technological innovation, it is not the only significant source. Other important sources include requests from and the expectations of clients/customers; the innovations of other businesses in the same industry; suppliers of materials, components and equipment; and other areas within the business not involved in R&D.

Most manufacturers undertaking technological innovation reported obtaining their ideas and information from a small number of sources. For example, one in six technological innovators did not view any single source as very significant while another 40% viewed only one or two sources as being very significant. The majority of innovators considered most sources to be unimportant in providing the impetus for technological innovation. The exceptions were the sources 'clients/customers' and 'R&D', which were, respectively, considered to be unimportant by only 10% and one third of technological innovators.

Compared to small businesses, larger businesses tended to place more importance on individual sources. The exception was the source 'clients/customers'; there were virtually no differences in the significance attributed to this source by businesses of different sizes. This contrasts with 'R&D', which was rated as more important than 'clients/customers' by almost 40% of large businesses but by only one quarter of small and medium businesses.

What objectives lead businesses to innovate?

Just as technological innovation can arise from many different sources, there are also many objectives in undertaking innovation. Improving product quality was seen as the most significant objective of technological innovation, and the least important was to increase overseas market share. Extending product range within main product field was another significant objective, but extending products outside of the main product field was viewed as unimportant. Other significant objectives included maintaining and increasing market share, while objectives considered insignificant included replacing phased out products, reducing energy consumption or environmental damage and meeting government standards, regulations and legislation.

The larger the employment size of the business the greater was the reported importance given to technological innovation in helping to create new overseas markets. The size of the increase is due mainly to the strong relationship between the proportion of exporters who are technological innovators and their employment size. As employment size increases, the proportion of exporters rises, causing the importance of the objective to become more significant. Looking only at exporters among the technological innovators, there is a slight increase in the importance of the objective across the different sizes of business.

Other objectives increased their importance as employment size increased. Again exporters gave more significance to individual objectives than non-exporters, although the increase in importance across sizes was more noticeable among the non-exporters. There appeared to be no difference attributable to employment size in the number of objectives that innovators viewed as significant, though that number is not small. For example, over half the innovators

considered at least four objectives to be very significant.

Effects of innovation on business performance

The growth in business performance resulting from technological innovation has not yet been measured adequately. Identifying innovators at a single time point only allows a comparison of the levels of performance between innovators and non-innovators. Before the rates of growth for innovators and non-innovators can be compared a second survey is required at a later time point to measure change. Consequently little can be said currently about whether innovation improves business performance.

Table S4.5 presents some data for the performance measure labour productivity, defined as the value of production per employee. The table shows that there appear to be differences in average labour productivity as between innovators and non-innovators. However, these difference are not statistically significant since there are high standard errors associated with the averages.

S4.5 LABOUR PRODUCTIVITY (PRODUCTION PER EMPLOYEE)

Business size	Innovators	Non-innovators	All businesses
	\$000	\$000	\$000
Small	42.0	36.6	38.5
Medium	56.5	48.8	53.5
Large	65.8	51.5	63.9

Source: *Innovation in Australian Manufacturing (8116.0)*, unpublished data.

Summary

The 1993–94 survey identified some of the characteristics of innovating businesses, still in the minority among Australian businesses.

Technological innovation is more prevalent among larger manufacturers. These businesses are likely to have been at least ten years in existence and involved in exporting. The larger manufacturers' more substantial operations and greater propensity to export appear to alter the way they view the innovation process. Large manufacturers have more funds available to support internal R&D and to bear the other costs associated with innovation. Compared to

the smaller innovators, larger innovators report fewer barriers to undertaking innovation and are more positive about the objectives that innovation can help their business to achieve. Their aims include increasing their presence in overseas markets as well as improving product quality and expanding their product range.

Over 70% of all technological innovators in the manufacturing sector are small businesses. These businesses are probably in their first ten years of operation, and likely to be still finding and consolidating their place in the market. Consequently they are interested in using innovation to maintain or increase their market share in Australia by improving product quality or by expanding their product range. Given the small size of these manufacturers' operations and income, cost and financing difficulties are the biggest barriers to undertaking technological innovation. These manufacturers are unlikely to have funds available to support internal R&D, and gain the impetus for innovation from other sources associated with the operations of the business.

The question of the growth in performance for particular types of business resulting from innovation has yet to be answered. Similarly, little is known yet about the innovation process; in particular, what assists an innovation to reach the stage of successful implementation, how innovations become diffused through the business sector, and whether the originality of the innovation affects the growth in business performance. Unfortunately, what is still unknown about the innovation process is also important to the formulation of effective government policy in this area.

The ABS is currently developing a second round of innovation surveys that will be designed to both enhance and extend the information currently available. The surveys will repeat the collection of data in the manufacturing sector and expand the information collected in both the services and manufacturing sectors. The surveys will relate to the 1996-97 reference year.

Introduction	591
Financial enterprises	592
Deposit-taking institutions	593
Banks	593
Non-bank deposit-taking institutions	594
Permanent building societies	595
Credit cooperatives	596
Authorised money market dealers	597
Money market corporations	597
Pastoral finance companies	598
Finance companies	599
General financiers	599
Cash management trusts	600
Life offices and superannuation funds	601
Life insurance and superannuation	601
Life insurance companies	602
Superannuation funds and approved deposit funds	603
Friendly societies	604
Other financial institutions	605
Health insurance	605
General insurance companies	606
Common funds	607
Public unit trusts	608
Securitisers	608
Cooperative housing societies	609
Managed funds	609
Collective investment institutions	610
Investment managers	611
Financial markets	612
Credit market	612
Stock market	613
Short-term money market	614
Long-term debt securities market	615
Foreign exchange market	617
Lending by financial institutions	617
Lease finance	618

Personal finance	618
Commercial finance	619
Money and the payments system	619
Money	619
Money supply measures	620
Payments statistics	620
Bibliography	622

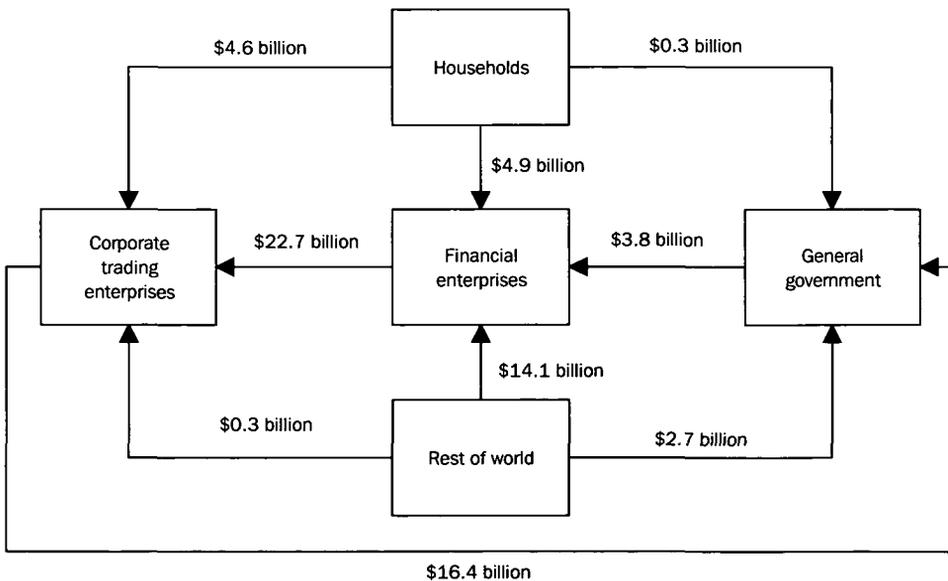
Introduction

The financial system in Australia can be considered as having three overlapping components: financial enterprises and their supervising bodies; financial markets and their participants; and the payments system and its participants. The interaction of these components enables funds for investment or consumption to be made available from savings in other parts of the national or international economy. The following diagram illustrates the net financial flows, that is, the acquisition of financial assets and incurrence of liabilities between broad economic sectors during 1995–96. The intermediation role of Financial enterprises is demonstrated by the flows from Households and the Rest of the world via

Financial enterprises to General government and trading corporations. The role of financial markets is demonstrated by the unintermediated flows, that is, the direct issue and acquisition of securities between the non-financial sectors.

The diagram illustrates the strength and direction of inter-sectoral financial flows during the 1995–96 financial year. The main features are the net \$14.1b flowing from the Rest of the world to Financial enterprises, \$22.7b from Financial enterprises to Corporate trading enterprises and \$16.4b from Corporate Trading Enterprises to General government. Also during 1995–96 the Household sector funded Financial enterprises (\$4.9b) and Corporate trading enterprises (\$4.6b). Also during 1995–96 the Household sector funded Financial enterprises (\$4.9b) and Corporate trading enterprises (\$4.6b). Also during 1995–96 the Household sector funded Financial enterprises (\$4.9b) and Corporate trading enterprises (\$4.6b).

25.1 INTER-SECTORAL FINANCIAL FLOWS DURING THE YEAR 1995–96



(a) The arrows show the direction of net financial flows from lending sectors to borrowing sectors.

(b) The number near each arrow indicates the value of that net flow during the period.

Source: Australian National Accounts: Financial Accounts, unpublished data.

Financial enterprises, other financial services enterprises and regulatory agencies have an additional role in supporting the payments system: cash, cheque and electronic means of payment are essential for the functioning of the economy.

This chapter provides a summary of the structure and activities of the three financial system components as they function currently. The structure and activities are changing as a result of regulatory or deregulatory processes. On 30 May 1996 the Commonwealth Government established a Financial System Inquiry (the Wallis Committee), which is due to report in March 1997.

The inquiry will undertake a stocktake of the results of deregulation of the Australian financial system since the early 1980s. The inquiry will also seek to establish a common regulatory framework for overlapping financial products, propose ways of utilising further financial innovation and make recommendations for future regulatory arrangements with the objective of providing for a more efficient, responsive, competitive and flexible financial system.

Financial enterprises

Financial enterprises are institutions which engage in acquiring financial assets and incurring liabilities, for example, by borrowing and lending, providing superannuation, supplying all types of insurance cover, leasing, and investing in financial assets.

For national accounting purposes financial enterprises are grouped into Deposit-taking institutions, Life offices and superannuation funds, and Other financial institutions. Deposit-taking institutions are those which are included in the Reserve Bank of Australia's *broad money* measure and include the Reserve Bank itself, banks, building societies, credit unions, authorised money market dealers, merchant banks, pastoral finance companies, finance companies, general financiers and cash management trusts. Life offices and Superannuation funds cover the statutory funds of life offices, separately constituted superannuation funds, approved deposit funds, friendly societies and long-service-leave boards. Other financial institutions cover health, export and general insurance companies, common funds, mortgage, fixed interest and equity unit trusts, issuers of asset-backed securities, economic development corporations, cooperative housing societies; and credit union leagues.

Table 25.2 shows the relative size of these groups of financial enterprises in terms of their financial assets. This table has been compiled on a consolidated basis, that is, financial claims between institutions in the same grouping have been eliminated. The total is also consolidated, that is, financial claims between the groupings have been eliminated. For this reason, and because there are a number of less significant adjustments made for national accounting purposes, the statistics in the summary table will differ from those presented later in this chapter and published elsewhere.

25.2 ASSETS OF FINANCIAL INSTITUTIONS

At 30 June	Deposit taking institutions			Life and superannuation funds \$b	Other financial institutions \$b	Consolidated total \$b
	Reserve Bank \$b	Banks \$b	Other \$b			
1989	24.2	236.1	135.9	143.5	75.7	546.0
1990	25.3	270.4	141.8	162.1	89.2	607.1
1991	29.4	299.4	135.9	174.8	94.6	639.5
1992	32.1	307.8	128.6	197.2	102.0	674.2
1993	37.4	329.9	118.2	212.1	104.5	703.5
1994	34.4	360.5	118.5	228.4	111.0	745.3
1995	37.6	381.4	131.6	238.8	129.0	803.1
1996	36.7	422.2	144.0	289.3	134.8	882.3

Source: Australian National Accounts: Financial Accounts (5232.0).

Deposit-taking institutions

Banks

Banks are the largest deposit-taking institutions in Australia. At the end of June 1996 there were 50 banks operating in Australia. All are authorised to operate by the *Banking Act 1959*. Four major banks: the Australia and New Zealand Banking Group, National Australia Bank, Westpac Banking Corporation and the Commonwealth Bank of Australia, account for over half the total assets of all banks. These banks provide widespread banking services and an extensive retail branch network throughout Australia. The remaining banks provide similar banking services through limited branch networks often located in particular regions. At 30 June 1996, banks operated 6,507 branches and 11,956 agencies. Of the total branches, 3,878 were located in metropolitan areas. Banking facilities were also available at 5,984 metropolitan agencies throughout Australia.

The *Banking Act 1959* seeks to provide a uniform legal framework for regulating the banking system and safeguarding bank depositors from loss. In recent years successive Federal Governments have decreased the degree of regulation imposed on the financial

sector and the banks in particular. Significant amendments were made to the Act in January 1990. These formalised supervision requirements and restructured the banking industry, for example by abolishing the distinction between trading and savings banks. In February 1992 the Act was again amended to provide more freedom for foreign banks to operate in Australia as branches of their parent.

Before 1959, central banking business was the responsibility of the Commonwealth Bank. The *Reserve Bank Act 1959* established the Reserve Bank of Australia as the central bank. This Act provides for the management of the Reserve Bank, the administration of the *Banking Act 1959* and the management of Australian note issue. The general functions of the Reserve Bank are the stability of the currency, the maintenance of full employment, and the economic prosperity and welfare of the Australian people.

The liabilities and assets of the Reserve Bank are set out in table 25.3. The liabilities and assets of the banks operating in Australia are shown in table 25.4.

25.3 FINANCIAL ASSETS AND LIABILITIES, Reserve Bank of Australia

	Amounts outstanding at end of June quarter		
	1994 \$m	1995 \$m	1996 \$m
FINANCIAL ASSETS			
Cash and deposits	80	1 249	1 453
Loans and placements	97	90	88
Commonwealth Government Treasury Notes	2 757	946	3 710
Long-term debt securities	10 373	14 749	11 943
Other financial claims	104	123	100
International reserves	20 661	20 184	19 059
Total financial assets(a)	34 072	37 341	36 353
LIABILITIES			
Deposits	22 324	24 674	25 521
Equity(b)	40	40	40
Other financial claims	844	112	50
Total liabilities	23 208	24 826	25 611

(a) Excludes non-financial assets (e.g. fixed assets, property, inventories, etc). (b) Book value of equity. Assets do not equal liabilities as all other figures are reported at market values.

Source: *Australian National Accounts, Financial Accounts (5232.0)*.

25.4 FINANCIAL ASSETS AND LIABILITIES, Banks(a)

	Amounts outstanding at end of June quarter		
	1994 \$m	1995 \$m	1996 \$m
FINANCIAL ASSETS			
Cash and deposits	19 720	21 151	21 381
Loans and placements	242 707	263 900	300 683
Bills of exchange	15 085	10 484	12 362
Promissory notes	1 905	2 285	3 432
Commonwealth Government Treasury Notes	9 991	9 938	8 427
Long-term debt securities	21 344	21 796	20 827
Equities	7 367	7 181	9 390
Other financial claims	10 301	10 038	10 629
Foreign claims	22 747	21 467	26 151
Total financial assets(b)	351 167	368 240	413 282
LIABILITIES			
Deposits	221 367	235 328	250 131
Loans and placements	13 087	13 390	16 737
Bills of exchange	38	77	86
Bank certificates of deposit	36 679	37 050	48 101
Long-term debt securities	37 672	32 829	35 162
Equity	45 102	49 728	55 636
Other financial claims	6 960	12 973	14 591
Total liabilities	360 905	381 375	420 444

(a) Does not include the Reserve Bank of Australia. (b) Excludes non-financial assets (e.g. fixed assets, property, inventories, etc).

Source: Australian National Accounts, Financial Accounts (5232.0).

Non-bank deposit-taking institutions

In addition to banks, other financial institutions such as building societies, credit unions and merchant banks play an important part in the Australian financial system. In the Australian Financial Accounts, non-bank deposit-taking institutions are defined as those with liabilities included in the Reserve Bank's definition of broad money. Financial enterprises classified to this sub-sector are cash management trusts and corporations registered in categories A to G of the *Financial Corporations Act 1974*.

As with the banks, regulation of some of these institutions is provided for by both Commonwealth and State legislation. Part of the regulatory framework is provided by the *Financial Corporations Act 1974*, under which non-bank financial institutions (NBFIs) with assets in excess of \$1m are registered. Under the Act, information and statistics on their operations are provided to the Reserve Bank.

In each State and Territory, there is legislation designed to regulate the activities and monitor the solvency position of particular types of financial institutions (such as permanent

building societies, credit unions and cooperative housing societies) which operate on a cooperative basis and lend predominantly to members. In July 1992, the Australian Financial Institutions Commission was established to coordinate standards for the prudential supervision of building societies and credit unions. Responsibility for day-to-day supervision of these financial institutions remains with individual State Supervisory Authorities.

Table 25.5 contains consolidated data drawn from the Australian Financial Accounts, showing the stock of financial assets and liabilities of non-bank deposit-taking institutions. For each category of financial corporation there is also a table showing its financial assets and selected liabilities. Data in the category tables which follow do not add to the totals in table 25.5. There are two main reasons. First, in the summary table balances outstanding between categories are consolidated. Second, in some instances data from counterparties are used instead of data reported by financial corporations.

25.5 FINANCIAL ASSETS AND LIABILITIES, Non-bank Deposit Taking Institutions

	Amounts outstanding at end of June quarter		
	1994 \$m	1995 \$m	1996 \$m
FINANCIAL ASSETS			
Cash and deposits	5 108	4 964	5 490
Loans and placements	80 972	88 003	100 693
Bills of exchange	5 766	7 880	7 611
Promissory notes	2 168	1 992	907
Commonwealth Government Treasury Notes	880	768	788
Bank certificates of deposit	2 941	2 138	2 448
Long-term debt securities	10 238	12 937	13 066
Equities	2 189	2 555	3 200
Other financial claims	3 474	3 459	2 825
Foreign claims	1 830	3 408	3 653
Total financial assets(a)	115 566	128 104	140 681
LIABILITIES			
Deposits	61 237	61 708	64 305
Loans and placements	12 844	14 672	12 881
Bills of exchange	1 708	1 848	1 909
Promissory notes	8 914	14 325	21 216
Long-term debt securities	15 555	19 776	22 865
Equity	13 837	15 435	15 887
Other financial claims	2 547	3 426	4 069
Total liabilities	116 642	131 190	143 132

(a) Excludes non-financial assets (e.g. fixed assets, property, inventories, etc.).

Source: Australian National Accounts, Financial Accounts (5232.0).

Permanent building societies

Permanent building societies are usually organised as financial cooperatives operating under State or Territory legislation. They are authorised to accept money on deposit. They generally borrow from their own members and provide finance principally in the form of housing loans to their members. Permanent building societies are registered with the Reserve Bank under the *Financial Corporations Act 1974*

as category A financial corporations. Table 25.6 shows the financial assets and liabilities of permanent building societies.

Information relating to the housing finance operations of permanent building societies is provided in *Chapter 19, Construction and housing*.

25.6 PERMANENT BUILDING SOCIETIES, Balance Sheet

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans	9 526	11 097	10 879
Cash on hand	58	73	58
Deposits — banks	509	496	428
Deposits — other	162	198	31
Bills, bonds, etc	1 448	1 289	1 502
Physical assets	208	222	189
Other assets	116	142	21
Total assets	12 028	13 516	13 108
EQUITY AND LIABILITIES			
Share capital	198	211	183
Reserves	646	743	720
Deposits	10 413	11 453	11 113
Loans	538	802	807
Other liabilities	233	306	285
Total equity and liabilities	12 028	13 516	13 108

Source: Australian Financial Institutions Commission.

Credit cooperatives

Credit cooperatives — also known as credit unions — are similar to building societies in that they are organised on a cooperative basis and borrow from and provide finance to their own members. Credit cooperatives mainly lend for purposes other than housing. Credit

cooperatives are registered with the Reserve Bank under the *Financial Corporations Act 1974* as category B financial corporations. Table 25.7 shows their assets, equity and liabilities.

25.7 CREDIT COOPERATIVES, Balance Sheet

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans	9 413	11 012	12 181
Cash on hand	60	80	87
Deposits — banks	235	216	240
Deposits — other	64	33	1 923
Bills, bonds, etc	2 185	2 036	758
Physical assets	306	323	337
Other assets	287	324	35
Total assets	12 550	14 023	15 561
EQUITY AND LIABILITIES			
Share capital	3	3	3
Reserves	1 150	1 322	1 477
Deposits	11 083	12 317	13 566
Loans	108	93	181
Other liabilities	207	289	334
Total equity and liabilities	12 550	14 023	15 561

Source: Australian Financial Institutions Commission.

Authorised money market dealers

These dealers were authorised by the Reserve Bank to buy and sell debt securities (especially those issued by the Commonwealth Government) in the Official Short-term Money Market. The Bank supported them by offering them an end-of-day repurchase facility. In return, the authorised dealers had to be willing traders in approved securities and adhere to other requirements of the Reserve Bank. Authorised dealers financed their investments in securities by borrowing money on the wholesale market for short periods including overnight. Authorised dealers were registered with the Reserve Bank under the *Financial Corporations Act 1974* as category C financial corporations.

These arrangements came to an end on 9 August 1996, when the Reserve Bank withdrew

all facilities from authorised dealers. This was a further move towards the introduction of real-time gross settlement (RTGS) in Australia. Among other things, RTGS changes the way the Reserve Bank conducts its domestic market operations. Since 12 June 1996 the Reserve Bank has dealt directly with all members of the Reserve Bank Information and Transfer System. This significantly weakened the role of the authorised dealers and was the prelude to their cessation as a category. Those companies which had residual operations either changed categories or transferred these operations to other registered companies and wound up the legal entity. Table 25.8 shows the assets and selected liabilities of authorised money market dealers for the last three financial years.

25.8 AUTHORISED MONEY MARKET DEALERS, Assets and Selected Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans	11	14	—
Cash and bank deposits	208	192	230
Other placements and deposits	2	2	20
Bills of exchange and promissory notes	117	111	134
Other Government securities	6 349	7 314	3 682
Other assets	85	171	19
Total assets	6 771	7 805	4 085
SELECTED LIABILITIES			
Borrowing from residents	—	—	—
Banks	5 721	6 783	3 419
Other financial institutions	409	321	312
Government and public authorities	182	209	29
Other	335	404	145
Borrowings from non-residents	—	—	10
Total selected liabilities	6 647	7 716	3 914

Source: Reserve Bank of Australia.

Money market corporations

Money market corporations are similar to wholesale banks, and for this reason they are often referred to as merchant or investment banks. They have substantial short-term borrowings which they use to fund loans to authorised dealers as well as business loans and investments

in debt securities. Money market corporations are registered with the Reserve Bank under the *Financial Corporations Act 1974* as category D financial corporations. Their assets and selected liabilities are set out in table 25.9.

25.9 MONEY MARKET CORPORATIONS, Assets and Selected Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans	23 204	26 125	32 860
Cash and bank deposits	1 739	3 598	3 757
Other placements and deposits	3 167	2 891	2 997
Bills of exchange and promissory notes	3 762	4 821	4 140
Other Government securities	2 221	1 889	5 034
Other securities	4 459	5 836	5 459
Finance lease receivables	1 626	1 083	967
Other assets	2 871	4 935	4 640
Total assets	43 048	51 177	59 853
SELECTED LIABILITIES			
Borrowing from residents	—	—	—
Banks	5 716	5 375	3 428
Related corporations	2 374	2 399	2 486
Bills of exchange and promissory notes	2 011	2 729	7 130
Other borrowings	9 085	8 821	9 788
Borrowings from non-residents	17 333	24 448	28 240
Other liabilities	—	53	3
Total selected liabilities	36 518	43 825	51 076

Source: Reserve Bank of Australia.

Pastoral finance companies

Pastoral finance companies incur liabilities in order to lend to rural producers. Pastoral finance companies are registered with the Reserve Bank

under the *Financial Corporations Act 1974* as category E financial corporations. Their assets and selected liabilities are set out in table 25.10.

25.10 PASTORAL FINANCE COMPANIES, Assets and Selected Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans (incl. lease receivables)	934	1 151	1 327
Cash and bank deposits	257	213	239
Other placements and deposits	9	3	—
Bills of exchange and promissory notes	51	8	10
Other securities	394	705	687
Other assets	549	593	615
Total assets	2 193	2 672	2 880
SELECTED LIABILITIES			
Borrowing from residents	—	—	—
Banks	17	415	440
Related corporations	282	149	249
Debentures and unsecured notes	44	47	31
Other borrowings	481	517	396
Borrowings from non-residents	—	—	—
Other liabilities	66	78	14
Total selected liabilities	890	1 206	1 131

Source: Reserve Bank of Australia.

Finance companies

Finance companies borrow mainly on financial markets, for example by issuing debentures. They lend these funds to both businesses and persons. Their lending to businesses is sometimes called commercial lending and covers, for example, financial leasing of vehicle fleets. Their lending to persons is often in the

form of instalment credit to finance retail sales by others. Finance companies are registered with the Reserve Bank under the *Financial Corporations Act 1974* as category F financial corporations. Table 25.11 shows the assets and selected liabilities of finance companies.

25.11 FINANCE COMPANIES, Assets and Selected Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans	19 256	22 543	25 373
Cash and bank deposits	1 414	809	528
Other placements and deposits	337	216	260
Bills of exchange and promissory notes	233	310	218
Other Government securities	—	—	—
Other securities	311	231	259
Finance lease receivables	6 101	6 535	7 538
Other assets	592	920	572
Total assets	28 243	31 563	34 749
SELECTED LIABILITIES			
Borrowing from residents	—	—	—
Banks	4 547	3 815	5 189
Related corporations	1 673	2 601	1 293
Debentures and unsecured notes	11 724	13 279	14 087
Bills of exchange	26	10	629
Promissory notes	1 686	1 911	2 827
Other borrowings	1 520	1 945	1 871
Borrowings from non-residents	2 314	2 986	3 483
Other liabilities	3	—	12
Total selected liabilities	23 493	26 547	29 391

Source: Reserve Bank of Australia.

General financiers

In contrast to finance companies, general financiers are funded by their parent or another member of their company group. Typically they lend to corporate customers which buy products produced by member companies of their group. For example, a general financier within a motor vehicle manufacturing group will lend to the

group's dealers to finance their inventory of vehicles. General financiers are registered with the Reserve Bank under the *Financial Corporations Act 1974* as category G financial corporations. Table 25.12 shows the assets and selected liabilities of general financiers.

25.12 GENERAL FINANCIERS, Assets and Selected Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Amount owing on loans	5 468	5 710	6 471
Cash and bank deposits	136	151	264
Other placements and deposits	137	195	251
Bills of exchange and promissory notes	474	399	301
Other government securities	—	—	—
Other securities	72	42	53
Lease receivables	3 202	3 540	3 063
Other assets	217	199	1 039
Total assets	9 706	10 237	11 442
SELECTED LIABILITIES			
Borrowing from residents	—	—	—
Banks	1 795	1 692	1 244
Related corporations	896	1 110	2 128
Debentures and unsecured notes	254	352	382
Promissory notes	152	120	464
Other	3 105	2 692	2 887
Borrowings from non-residents	1 818	2 373	2 255
Total selected liabilities	8 021	8 339	9 360

Source: Reserve Bank of Australia.

Cash management trusts

A cash management trust is an investment fund which is open to the public and which invests the pooled monies of unit-holders mainly in money-market securities such as bills of exchange. As with other public unit trusts its

operations are governed by a trust deed and its units are redeemable by the trustee on demand or within a short time.

Table 25.13 shows the assets and liabilities of cash management trusts.

25.13 CASH MANAGEMENT TRUSTS, Assets and Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Cash and deposits	1 160	545	998
Loans and placements	32	119	22
Bills of exchange	1 809	2 891	3 111
Bank certificates of deposit	1 484	884	1 444
Other short term securities	1 242	1 132	854
State and local government securities	163	2	553
Other long term securities	4	40	27
Other assets	19	13	24
Total assets	5 915	5 625	7 031
LIABILITIES			
Unitholders' funds	5 877	5 553	6 960
Accrued income	27	55	58
Other liabilities	11	18	14
Total liabilities	5 915	5 625	7 031

Source: Managed Funds (5655.0).

Life offices and superannuation funds

Life insurance and superannuation

Life insurance offices and superannuation funds are shown as a separate subsector in the Australian Financial Accounts because of the importance of these institutions as repositories of long-term household savings. This subsector comprises:

- the statutory funds of life insurance offices (both their ordinary business and their superannuation business such as deferred annuities);
- superannuation funds whose assets are not in the statutory funds of life insurance offices;
- approved deposit funds;
- friendly societies; and
- long-service-leave boards.

Table 25.14 contains consolidated data drawn from the Australian Financial Accounts showing the stock of financial assets and liabilities of the life office and superannuation fund subsector. Supplementary tables show the financial assets and liabilities of life offices, superannuation funds, approved deposit funds and friendly societies. Data in these tables do not add to the totals in table 25.14. There are three main reasons. First, the supplementary tables cover only a subset of institutions in this subsector. Second, in table 25.14 balances outstanding between different types of institutions are consolidated. Third, counterparty data are used extensively in the summary table.

25.14 FINANCIAL ASSETS AND LIABILITIES, Life Offices and Superannuation Funds

	Amounts outstanding at end of June quarter		
	1994 \$m	1995 \$m	1996 \$m
FINANCIAL ASSETS			
Cash and deposits	19 664	20 097	20 316
Loans and placements	11 713	12 819	14 948
Bills of exchange	10 728	10 528	11 880
Promissory notes	6 876	5 931	8 260
Commonwealth Government Treasury Notes	26	144	123
Bank certificates of deposit	5 788	6 797	10 420
Long-term debt securities	50 444	52 150	51 955
Equities	81 789	87 725	100 532
Other financial claims	2 754	4 086	5 309
Foreign claims	35 090	37 546	39 330
Total financial assets(a)	224 872	237 823	263 073
LIABILITIES			
Bills of exchange	542	304	285
Promissory notes	48	20	—
Technical reserves of life offices and pension funds	238 280	253 416	278 588
Equity	1 984	2 249	3 120
Other financial claims	6 695	6 865	7 284
Total liabilities	247 549	262 854	289 277

(a) Excludes non-financial assets (e.g. fixed assets, property, inventories, etc.).

Source: Australian National Accounts, Financial Accounts (5232.0).

Life insurance companies

Life insurance companies offer termination insurance and investment policies. Termination insurance includes the payment of a sum of money on the death of the insured or on the insured receiving a permanent disability. Investment products include annuities and superannuation plans. The life insurance industry in Australia consists of 43 direct insurers and eight reinsurers. As with the banking industry, the life insurance industry consists of a few very large companies holding a majority of the industry's assets and many smaller companies holding the remainder of the assets.

Life insurance companies are supervised by the Insurance and Superannuation Commission under the *Life Insurance Act 1995*. This came into effect on 1 July 1995 and replaced the *Life Insurance Act 1945*. The main differences between the two Acts are that the 1995 Act

promotes increased consumer protection measures and places greater requirements on office bearers. The Insurance and Superannuation Commissioner has increased monitoring and investigative powers. Life insurance companies are also required to maintain minimum levels of solvency and capital adequacy.

The operations of life insurance companies can be split effectively into two parts. The statutory funds contain policy owner monies that are invested according to policy owner expectations. The assets and liabilities of the statutory funds of Australian life insurers are shown in Table 25.15. The shareholders' funds must be held separately from the statutory funds. Money in this account can be invested to the benefit of the shareholders. Table 25.16 shows the assets, equity and liabilities of shareholders' funds.

25.15 STATUTORY FUNDS OF AUSTRALIAN LIFE INSURERS, Assets and Liabilities

	June 1993 \$m	June 1994 \$m	June 1995 \$m
ASSETS			
Fixed assets	11 167	10 165	8 302
Amount owing on loans	8 968	7 771	7 956
Other outstandings	1 786	1 727	1 783
Investments	87 052	103 544	102 837
Sundry debtors	1 200	2 085	1 656
Cash	8 307	8 460	7 886
Other assets	291	306	343
Total assets	118 771	134 058	130 762
LIABILITIES			
Balance of Revenue Account(a)	104 930	115 684	116 734
Reserves	6 667	9 706	6 212
Provisions	2 898	4 894	3 475
Claims admitted but not paid	420	514	606
Sundry creditors	2 152	2 405	1 948
Other liabilities	1 704	855	1 788
Total liabilities	118 771	134 058	130 762

(a) The Revenue Account of a statutory fund is similar to retained earnings. All incomes are paid into and all outgoings are paid out of the Revenue Account.

Source: *Half Yearly Financial Bulletin on Life Insurance — Insurance and Superannuation Commission*.

**25.16 SHAREHOLDERS' FUNDS OF AUSTRALIAN LIFE INSURERS,
Balance Sheet**

	June 1993 \$m	June 1994 \$m	June 1995 \$m
ASSETS			
Property and fixed assets	40	35	39
Amount owing on loans	202	250	193
Government securities	508	678	573
Shares	248	344	422
Other investments	600	425	639
Cash and other assets	1 716	1 962	2 030
Total assets	3 314	3 694	3 895
EQUITY AND LIABILITIES			
Paid up capital	271	265	343
Reserves	1 528	1 750	1 767
Profit and loss account balance	292	446	324
Other liabilities	1 223	1 234	1 461
Total equity and liabilities	3 314	3 694	3 895

Source: Half Yearly Financial Bulletin on Life Insurance — Insurance and Superannuation Commission.

Superannuation funds and approved deposit funds

Superannuation funds have been established to provide retirement benefits for their members. Members make contributions during their employment and receive the benefits of this form of saving in retirement. In order to receive concessional taxation treatment, a superannuation fund must elect to be regulated under the *Superannuation Industry (Supervision) Act 1993*. These funds are then supervised by the Insurance and Superannuation Commission.

A regulated fund must have an approved trustee or provide old age pensions under its governing rules. An election to be regulated under the Act is irrevocable. As at June 1996 there were approximately 120,000 superannuation funds regulated under the Act.

Most superannuation funds are either open to the general public or sponsored by an employer.

Superannuation funds are employer-sponsored if an employer contributes to the fund on behalf of an employee. Employer-sponsored funds generally have closed memberships restricted to the employees of particular companies. Industry funds, such as those operated by trade unions, are also considered to be employer-sponsored funds.

Approved deposit funds were established in 1984. They are continuing funds, maintained by approved trustees, to receive employees' eligible termination payments. This enables employees who terminate their employment with a particular employer to preserve their superannuation benefits until retirement age. Approved deposit funds are treated as superannuation funds under the Act and no separate data are compiled.

The assets of superannuation and approved deposit funds are shown in table 25.17.

25.17 SUPERANNUATION AND APPROVED DEPOSIT FUNDS, Assets

	June 1994 \$m	June 1995 \$m	June 1996 \$m
Assets			
Cash and deposits	11 756	12 742	13 268
Loans and placements	5 764	6 084	7 341
Bills of exchange	4 196	4 569	4 156
Other short term securities	4 612	4 087	6 956
Government securities	18 132	20 139	18 840
Other long term securities	3 048	2 555	2 496
Shares	37 238	39 233	44 506
Units in trusts	7 319	9 629	13 041
Other financial assets	392	1 707	2 550
Other assets	29 741	33 328	38 873
Total assets	122 198	134 073	152 027

Source: Joint ABS/ISC Survey.

Friendly societies

These are organisations whose members originally came from specific crafts or religions. They evolved to offer the public at large a wide range of cradle-to-grave services. By 1860, friendly societies were providing significant social welfare in Australia. Examples of the services now provided by friendly societies are: life, health, disability, funeral and general insurances; investment services; financial

services similar to those of credit unions; and retirement and travel services. Friendly societies are registered under State legislation and operate in all States and Territories.

Table 25.18 summarises the assets, equity and liabilities of the 28 largest friendly societies. These represent approximately 95% of the assets of all societies in Australia.

25.18 FRIENDLY SOCIETIES, Balance Sheet

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Cash and deposits	2 805	2 428	1 655
Loans and placements	614	535	403
Bills of exchange	919	1 452	1 815
Bank certificates of deposit	847	996	1 219
Government securities	1 662	1 125	785
Other securities	1 254	1 250	1 145
Other investments	371	310	306
Non-financial assets	537	435	447
Total assets	9 009	8 531	7 775
EQUITY AND LIABILITIES			
Equity	8 582	8 037	7 327
Borrowings	53	30	79
Other liabilities	374	464	369
Total equity and liabilities	9 009	8 531	7 775

Source: Friendly Societies Australia (5660.0).

Other financial institutions

Table 25.19 contains consolidated data drawn from the Australian Financial Accounts showing the stock of financial assets and liabilities of

Other financial institutions. Institutions classified to this subsector are:

- economic development corporations owned by governments;
- general, health and export insurance companies including those owned by governments;
- common funds;
- mortgage, fixed interest and equity public unit trusts;
- securitisers;
- investment companies;
- cooperative housing societies; and
- corporations (mainly credit union leagues) registered in category J of the *Financial Corporations Act 1974*.

25.19 FINANCIAL ASSETS AND SELECTED LIABILITIES, Other Financial Institutions

	Amounts outstanding at end of June quarter		
	1994 \$m	1995 \$m	1996 \$m
FINANCIAL ASSETS			
Cash and deposits	5 705	6 681	6 734
Loans and placements	17 459	20 719	22 534
Bills of exchange	8 417	9 709	10 293
Promissory notes	4 765	5 596	8 996
Commonwealth Government Treasury Notes	1 263	1 147	1 279
Bank certificates of deposit	2 705	2 876	5 934
Long-term debt securities	24 977	26 320	19 807
Equities	26 537	29 300	33 710
Other financial claims	3 470	4 187	4 321
Foreign claims	11 329	12 963	14 154
Total financial assets(a)	106 627	119 498	127 762
LIABILITIES			
Loans and placements	35 142	37 687	45 189
Bills of exchange	3 257	3 074	3 005
Promissory notes	4 634	6 062	7 573
Long-term debt securities	11 358	15 888	14 667
Equity	36 141	36 903	41 283
Other financial claims	4 666	5 412	5 706
Total selected liabilities	95 198	105 026	117 423

(a) Excludes non-financial assets (e.g. fixed assets, property, inventories, etc.).

Source: Australian National Accounts, Financial Accounts (5232.0).

The following supplementary tables show the financial assets and liabilities of selected groups of financial institutions within this subsector. Data in the supplementary tables will not add to the totals in table 25.19. There are three main reasons. First, the supplementary tables cover only a subset of institutions in this subsector. Second, in table 25.19 balances outstanding between different types of institutions are consolidated. Third, counterparty data are used extensively in the summary table.

Health insurance

Organisations which offer insurance to cover medical and hospital expenses are known as health insurers. There are two types.

Open-membership organisations are those offering health insurance to the general public. Restricted-membership organisations are those offering health insurance to an employment group, professional organisation or union.

Health insurers are supervised by the Private Health Insurance Administration Council under the *National Health Act 1953*. The Act requires health insurance organisations to maintain

minimum levels of solvency. The Council receives financial data to ensure that these standards are met. There were 49 registered health insurance organisations as at 30 June 1995. More information on health

insurers and the percentage of the population with private health insurance is given in *Chapter 8, Health*. Table 25.20 shows the assets and liabilities of health insurance organisations.

25.20 PRIVATE HEALTH INSURANCE FUNDS, Assets and Selected Liabilities

	June 1993 \$m	June 1994 \$m	June 1995 \$m
ASSETS			
Provision for contributions in arrears	44	54	62
Property, plant and equipment	502	482	507
Investments	1 573	1 741	1 626
Cash	38	53	98
Other assets	154	153	421
Total assets	2 312	2 484	2 713
LIABILITIES			
Outstanding Claims Provision	348	353	336
Provision for contributions in advance	454	474	479
Other liabilities	304	307	490
Total selected liabilities	1 106	1 134	1 304

Source: Private Health Insurance Administration Council Annual Report.

General insurance companies

General insurance companies are those institutions whose primary activity is the provision of insurance other than life and health insurance. Major types of general insurance include house, car and marine insurance.

The Insurance and Superannuation Commission supervises general insurers. All general insurers must be registered with the Commission under the *Insurance Act 1973* and submit quarterly

and annual financial returns. The Act provides the Commission with the power to exercise active supervision to ensure the solvency of companies carrying on general insurance business and therefore their ability to meet claims as they arise. The Act does not apply to State government-owned insurance offices. The assets and selected liabilities of general insurance companies are set out in table 25.21.

25.21 GENERAL INSURERS, Assets and Selected Liabilities

	June 1993 \$m	June 1994 \$m	June 1995 \$m
ASSETS			
Unpaid premiums	1 329	1 353	1 601
Reinsurance and other recoverables	3 199	5 173	5 662
Investments	17 911	19 349	20 376
Cash	471	520	716
Other assets	3 333	3 833	4 214
Total assets	26 243	30 229	32 568
LIABILITIES			
Outstanding Claims Provision	10 390	12 684	14 471
Unearned Premium Provision	4 691	5 246	6 124
Other provisions	638	609	461
Trade creditors	870	1 105	1 154
Other liabilities	1 776	2 006	1 912
Total selected liabilities	18 414	21 650	24 121

Source: Selected Statistics on the General Insurance Industry — Insurance and Superannuation Commission.

Common funds

Common funds are set up by trustee companies and are governed by State Trustee Acts. They allow the trustee companies to combine depositors' funds and other funds held in trust in an investment pool. Common funds are categorised according to the main types of

assets in the pool. They are either cash funds, equity funds, mortgage funds, property funds or other funds (e.g. funds which invest in interest-bearing securities). Table 25.22 sets out the assets and liabilities of common funds.

25.22 COMMON FUNDS, Assets and Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Cash and bank deposits	502	430	488
Loans and placements	1 089	1 170	1 160
Bills of exchange	1 367	1 304	1 505
Other short term securities	364	430	598
Long term securities	159	204	163
Equities	1 250	473	547
Units in trusts	50	68	42
Other assets	103	86	89
Total assets	4 884	4 165	4 592
LIABILITIES			
Unit holders' funds	4 884	4 165	4 592
Total liabilities	4 884	4 165	4 592

Source: *Managed Funds* (5655.0).

Public unit trusts

A public unit trust is an investment fund open to the Australian public. Its operations are governed by a trust deed between the management company and a trustee company. Public unit trusts allow unit holders to dispose of their units quickly. They may sell them back to the manager in the case of an unlisted trust, or sell them on the Australian Stock Exchange if the trust is listed. Public unit trusts are categorised according to the main types of assets in the pool.

They are either property, equity, mortgage, trading, public-security or gold trusts. Although trading and property trusts are not strictly financial enterprises they are included here for convenience. Public unit trusts exclude cash management trusts, private trusts and trusts exempted from providing redemption facilities (e.g., film and agricultural trusts).

Table 25.23 shows the assets and liabilities of public unit trusts.

25.23 PUBLIC UNIT TRUSTS, Assets and Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Cash and bank deposits	2 095	1 600	2 296
Loans and placements	1 784	1 825	1 987
Bills of exchange	1 628	1 640	1 537
Other short term securities	318	283	348
Long term securities	1 672	1 307	1 478
Equities	6 901	8 492	11 025
Units in trusts	3 144	3 545	4 229
Other financial assets	694	731	903
Other assets	19 745	21 796	24 676
Total assets(a)	37 982	41 220	48 479
LIABILITIES			
Unitholders' funds	32 125	35 884	41 865
Borrowings	1 646	1 744	2 145
Other liabilities	5 049	4 251	4 749
Total liabilities(a)	38 820	41 879	48 759

(a) The asset and liability totals differ slightly because unitholders' funds are reported at book value and assets are reported at market value.

Source: *Managed Funds* (5655.0).

Securitisers

The Australian residential mortgage market is undergoing major change. Historically this market was dominated by the banks. Over recent years, mortgage managers and other non-bank mortgage originators have taken an important share of this market. These new entrants are using securitisers to fund their operations.

Securitisers issue debt securities which are backed by specific assets rather than a floating charge over the assets of the issuer. Hence these

securities are known as asset-backed securities. The most common assets bought by securitisation trusts are residential mortgages, but other assets can be used to back these securities such as credit-card receivables and leases. Securitisers generally pool the assets and use the cash flows generated to pay interest to the holders of the asset-backed securities. There were 37 securitisers at the end of June 1996. Their assets and liabilities are shown in table 25.24.

25.24 SECURITISERS, Assets and Liabilities

	June 1994 \$m	June 1995 \$m	June 1996 \$m
ASSETS			
Cash and deposits	129	184	211
Holding of securities	1 811	2 244	2 725
Residential mortgages	4 602	5 546	9 145
Non-residential mortgages	339	187	105
Credit card loans	276	526	451
Other loans and placements	1 723	1 384	2 238
Other assets	98	149	242
Total assets	8 978	10 220	15 117
LIABILITIES			
Short term asset backed securities	1 410	1 091	2 318
Long term asset backed securities	6 352	7 228	9 803
Asset backed securities issued overseas	863	1 401	1 667
Loans and placements	229	404	1 036
Other liabilities	124	96	293
Total liabilities	8 978	10 220	15 117

Source: Australian National Accounts, Financial Accounts (5232.0).

Cooperative housing societies

A cooperative housing society raises money through loans from members and provides finance to its members in the form of housing loans. They must be registered under State or Territory legislation, but even so they are not authorised to accept money as deposits. In the past cooperative housing societies were wound up after a set period. This was the main

difference from permanent building societies. Now cooperative housing societies are continuing bodies functionally little different from permanent building societies. Over recent years many cooperative housing societies have originated mortgages on behalf of securitisers. The assets and liabilities of cooperative housing societies are shown in table 25.25.

25.25 COOPERATIVE HOUSING SOCIETIES, Assets and Liabilities

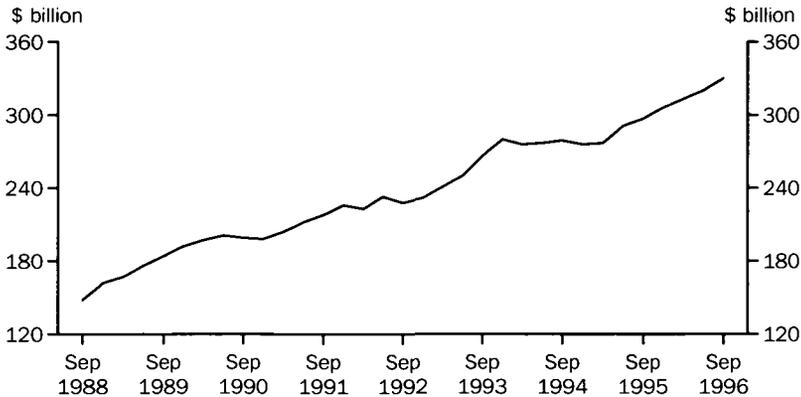
	June 1993 \$m	June 1994 \$m	June 1995 \$m
ASSETS			
Loans outstanding	2 001	1 928	1 717
Placements and deposits	38	36	29
Physical assets	1	1	1
Other assets	4	7	4
Total assets	2 044	1 972	1 751
LIABILITIES			
Share capital and reserves	42	205	202
Borrowings	1 989	1 754	1 537
Other liabilities	13	13	12
Total liabilities	2 044	1 972	1 751

Source: Unpublished ABS data available under the title Annual Statistics on Financial Institutions (5661.0).

Managed funds

The term 'managed funds' is used to describe the investments undertaken by those collective investment institutions and investment managers who engage in financial transactions in the managed funds market. The significant growth in managed funds (see figure 25.26) has been a major development in the financial sector over the last decade.

25.26 TOTAL CONSOLIDATED ASSETS OF MANAGED FUNDS



Source: *Managed Funds, Australia* (5655.0).

Collective investment institutions

Collective investment institutions, in general, cover those financial intermediaries, other than deposit taking institutions, which incur liabilities on their own account for the purpose of acquiring financial assets by engaging in financial transactions in the managed funds market. They include:

- Statutory funds of life insurance offices;
- Superannuation and approved deposit funds;
- Public unit trusts;
- Friendly societies;
- Common funds; and
- Cash management trusts.

Typically, these institutions arrange for the 'pooling' of funds from a number of investors for the purpose of investing in a particular type or mix of assets, with a view to receiving an on-going return or a capital gain. However, funds of a speculative nature that do not offer redemption facilities (e.g. agriculture and film trusts) and funds not established for investment purposes (e.g. health funds and general insurance funds) are excluded.

The development of managed funds has occurred in parallel with changes resulting from the deregulation of the financial system. Collective investment institutions offer a wide range of investment alternatives to small and institutional investors. These investment alternatives can be structured to satisfy individual investor requirements regarding, for example, the degree of risk, the mix of capital and income growth and the degree of asset diversification.

To derive the total assets of managed funds in Australia on a consolidated basis, it is necessary to eliminate the cross investment between the various types of collective investment institution. For example, investments by superannuation funds in public unit trusts are excluded from the assets of superannuation funds in a consolidated presentation.

While statistics for each of these institutions have been presented earlier in this chapter, the following tables summarise their consolidated position (i.e. after the cross investment between the institutions has been eliminated), by type of institution (table 25.27) and by type of investment (table 25.28).

**25.27 ASSETS OF MANAGED FUNDS, By Type of Collective Investment Institution —
30 June 1996**

Type of fund	Assets		
	Total \$m	Cross invested \$m	Consolidated \$m
Statutory funds of life offices	126 067	10 066	116 001
Superannuation and approved deposit funds	152 026	13 901	138 126
Public unit trusts	48 479	4 427	44 052
Friendly societies	7 775	22	7 753
Common funds	4 592	73	4 519
Cash management trusts	7 031	—	7 031
Total	345 970	28 489	317 481

Source: *Managed Funds, Australia* (5655.0).

25.28 CONSOLIDATED ASSETS OF MANAGED FUNDS

Type of investment	30 June 1994 \$m	30 June 1995 \$m	30 June 1996 \$m
Deposits, loans and placements	36 701	36 949	40 024
Short-term debt securities	29 122	29 768	37 744
Long-term debt securities	53 469	54 743	54 252
Equities and units in trusts	76 326	79 520	88 878
Land and buildings	33 294	36 601	39 541
Overseas assets	41 168	43 914	46 198
Other assets	6 571	8 728	10 845
Total	276 655	290 223	317 481

Source: *Managed Funds, Australia* (5655.0).

Investment managers

A further development within the managed funds industry is the emergence of specialist investment managers who engage primarily in activities closely related to financial intermediation but are employed on a fee for service basis to manage and invest in approved assets on their clients' behalf. They usually act as investment managers for the smaller collective investment institutions, including unit trusts and superannuation funds. While they take on individual portfolios, for example, on behalf of charities, they are generally not accessible to the small investor. These investment managers provide a sophisticated level of service matching assets and liabilities. They act in the main as the managers of pooled funds, but also manage clients' investments on an individual portfolio basis.

A considerable proportion of the assets of collective investment institutions, particularly the statutory funds of life offices and assets of superannuation funds, is channelled through investment managers. At 30 June 1996, \$256,765m, or 74% of the unconsolidated assets of collective investment institutions were channelled through investment managers. Table 25.29 shows the total unconsolidated assets of each type of collective investment institution and the amount of these assets invested through investment managers.

Investment managers also accept money from investors other than managed funds. At 30 June 1996, investment managers also invested \$40,724m on behalf of government bodies, general insurers and other sources, including overseas sources.

25.29 ASSETS OF MANAGED FUNDS, Invested through Investment Managers — 30 June 1996

Type of fund	Unconsolidated assets of managed funds \$m	Assets invested with investment managers \$m
Statutory funds of life offices(a)	126 067	123 121
Superannuation and approved deposit funds	152 026	83 021
Public unit trusts	48 479	36 197
Friendly societies	7 775	6 181
Common funds	4 592	2 927
Cash management trusts	7 031	5 318
Total	345 970	256 765

(a) Includes both superannuation and ordinary business.

Source: *Managed Funds, Australia* (5655.0).

Financial markets

Financial markets are used by participants to access credit and to issue securities and other financial assets. Participants in financial markets also trade existing stocks of securities and other financial assets. The major markets in the Australian financial system include the credit market, the equity market, the short-term money market, the long-term debt securities market and the foreign exchange market. Descriptions and tables indicating prices and activity in these markets are provided below.

A significant influence in financial markets is the participation of institutional investors who have control of large pools of investment funds. These pools are accumulated by collective investment institutions and are often managed on a fee for service basis by investment managers. A summary of the activities of these institutions is also provided.

Credit market

Credit may be defined broadly as funds provided to those seeking to borrow. However, analytically useful measures of credit usually exclude borrowings by financial enterprises given that their main role is to borrow in order to lend. Also, lending and borrowing between

enterprises which have a special relationship, such as between companies in the same group or between government agencies, are often excluded from credit measures because such transactions frequently are of a non-market nature. Similarly, some types of financial instrument, such as trade debts, are not considered to be part of an organised market. Some measures of credit also exclude unintermediated borrowings, for example issuing securities. Table 25.30 presents a summary of the demand for credit in Australia by the non-financial sectors. It excludes

- borrowings by financial enterprises;
- trade debt and other incidental claims;
- borrowings by non-financial public sector units from other non-financial public sector units, for example loans by the Commonwealth to States; and
- borrowings from related units in the same subsector.

It includes raisings by the issue of both debt and equity securities on the grounds that security markets in Australia are well developed and provide an alternative for borrowers to intermediated financing.

25.30 DEMAND FOR CREDIT

	Net transactions during year		
	1993–94 \$m	1994–95 \$m	1995–96 \$m
Funds (including equity) raised on conventional credit markets by			
Commonwealth public trading enterprises	-1 661	-1 407	74
State and local public trading enterprises	-2 065	-1 555	-1 736
Private trading enterprises	17 561	17 059	49 450
Commonwealth general government	14 231	13 030	5 525
State and local general government	5 473	1 869	-11 500
Households and unincorporated businesses	27 467	24 973	30 787
Total	61 006	53 969	72 600

Note: Positive numbers indicate an increase in borrowings. Negative numbers indicate debt repayment.

Source: *Australian National Accounts, Financial Accounts (5232.0)*.

Table 25.31 shows indicative interest rates for some financial market instruments. Another view of activity in the credit market is provided later

in this chapter under *Lending by financial institutions*.

25.31 BANK RETAIL DEPOSIT AND LENDING RATES

	June 1994 % p.a.	June 1995 % p.a.	June 1996 % p.a.
Bank deposit rates			
Six month fixed deposit	5.00	6.75	6.55
Cash management accounts(a)	4.00	5.90	5.70
Bank lending rates			
Housing loans — variable	8.75	10.50	9.75
Small business loans — variable	9.30	11.10	11.25
Credit cards	14.40	16.70	16.70

(a) Accounts from \$20 000 to less than \$100 000.

Source: *Reserve Bank of Australia Bulletin*.

Stock market

The Australian stock market provides the mechanism for trading equities (shares), units in listed trusts, options, and some fixed-interest securities. It is operated nationally by Australian Stock Exchange Limited (ASX) which is responsible for the day-to-day running and surveillance of stock market trading. The stock market comprises two different markets: the primary market where new issues are made, and the secondary market where previously issued shares are traded. Companies are classified according to their major type of activity, and ASX publishes various indexes (e.g. All Ordinaries, All Industrials, All Resources) which show the

price performance of shares in various categories. Table 25.32 summarises the performance of these indexes over the last three financial years.

The stock market is controlled and regulated jointly by ASX and the Australian Securities Commission (ASC). ASX's business rules regulate market conduct and its listing rules regulate disclosure by listed companies and other matters. The ASC enforces the provisions of the Corporations Law.

25.32 AUSTRALIAN STOCK MARKET INDEXES(a)

	1993-94	1994-95	1995-96
All ordinaries			
Index(b)	2 040.2	2 000.8	2 231.7
High	2 340.6	2 122.1	2 326.0
Low	1 755.3	1 823.3	2 003.3
All industrials			
Index(b)	2 984.7	3 012.1	3 305.8
High	3 525.9	3 095.3	3 465.4
Low	2 692.7	2 685.0	3 006.8
All resources			
Index(b)	1 331.1	1 235.7	1 423.3
High	1 442.8	1 433.2	1 524.7
Low	1 034.1	1 129.5	1 244.7

(a) Base 31 December 1979 = 500. (b) Share prices on joint trading floors; average of daily figures for the last month of the year.

Source: Australian Stock Exchange, *Monthly Index Analysis*.

Table 25.33 shows the value of Australian shares and units in trusts on issue, classified by sector of issuer, at market value or, for some of the public sector, at book value. The estimates are partly consolidated, with intra-group claims (shares issued by a company in a group and held by another member of the same group) being eliminated from the aggregates. Definitions of the sectors and subsectors shown in this table can be found in *Australian National Accounts, Financial Accounts* (5232.0).

25.33 THE EQUITY MARKET(a)

	Amounts outstanding at end of June quarter		
	1994 \$m	1995 \$m	1996 \$m
Total equities and units in trusts	551 022	577 220	631 258
Issued by			
Commonwealth public trading enterprises(b)	24 345	26 931	25 475
State and local public trading enterprises(b)	102 677	110 313	107 149
Private corporate trading enterprises(c)	321 489	330 936	376 518
Reserve Bank of Australia(d)	40	40	40
Banks(c)	47 801	52 483	59 325
Non-bank deposit taking institutions(c)	13 837	15 435	15 887
Life offices and superannuation funds(c)	1 984	2 249	3 120
Other financial institutions(c)	37 656	38 572	43 510
State and local general government(d)	1 193	261	234

(a) Includes units in trusts. (b) Net asset values. (c) These estimated market values are considered to be of poor quality. They should be used cautiously. (d) Book values.

Source: Australian National Accounts, *Financial Accounts* (5232.0).

Short-term money market

Activity in the short-term money market is conducted using deposits, loans and placements, trading in long-term debt securities under repurchase and stock-lending agreements, and short-term money market debt securities. Rates in the market at end June of the last three financial years are shown in table 25.34.

25.34 SHORT-TERM MONEY MARKET RATES

	June 1994 % p.a.	June 1995 % p.a.	June 1996 % p.a.
11am call	4.77	7.51	7.51
Bank accepted bills — 90 days	5.47	7.57	7.59

Source: Reserve Bank of Australia *Bulletin*.

Short-term money market debt securities have an original term to maturity of less than one year (often 90 or 180 days), are issued by borrowers at a discount to face value and carry no interest payment other than the discount. To enhance liquidity, money market securities conform to standardised attributes concerning risk and discount rates. Because of the standardisation, the securities of different issuers are often combined in the one parcel of securities for trading purposes. There are two types of securities: bills of exchange and promissory notes. The risk of a bill of exchange is reduced by an acceptor or endorser adding their name to the security, for a fee. Most bills of exchange traded in the market are bank-accepted bills. Promissory notes are issued by institutions whose credit worthiness is equal to or better

than banks: the Commonwealth issues Treasury notes, State Governments and large corporations issue commercial paper and banks issue negotiable certificates of deposit.

Table 25.35 shows the amount on issue by sector of issuer and sector of holder of the various types of money market security.

25.35 SHORT-TERM DEBT SECURITIES

Category A	Amounts outstanding at end of June		
	1994 \$m	1995 \$m	1996 \$m
ISSUED BY			
Commonwealth public trading enterprises	3 577	2 898	3 766
State and local public trading enterprises	145	205	149
Private trading enterprises	56 631	55 105	63 395
Banks	38 496	39 858	51 791
Non-bank deposit taking institutions	11 520	17 052	23 590
Life offices and superannuation funds	48	20	—
Other financial institutions	8 899	9 845	11 338
Commonwealth general government	16 185	14 163	15 298
State and local general government	18 458	22 844	9 310
Households and unincorporated businesses	3 943	3 789	2 927
Total	157 902	165 779	181 564
HELD BY			
Commonwealth public trading enterprises	2 172	3 217	1 284
State and local public trading enterprises	416	381	499
Private trading enterprises	8 093	5 707	9 433
Banks	2 757	946	3 710
Non-bank deposit taking institutions	28 760	25 438	27 825
Life offices and superannuation funds	12 653	13 657	12 219
Other financial institutions	23 418	23 400	30 683
Commonwealth general government	18 158	20 037	27 262
State and local general government	7 465	9 088	7 676
Households and unincorporated businesses	3 383	5 691	6 672
Rest of world	50 627	58 217	54 301
Total	157 902	165 779	181 564

Source: Australian National Accounts, Financial Accounts (5232.0).

Long-term debt securities market

Long-term debt securities are issued with original terms to maturity of one or more years. Usually, the investors are paid a set periodic interest (coupon) for the life of the security and receive their initial investment back at maturity. Some securities have variable interest rates, some have principal repayments indexed, and there is a small amount of zero-coupon (deep discount) securities on issue. Governments,

trading enterprises and financial institutions issue debt securities to finance long term requirements. For these entities, the debt securities market generally provides a cheaper source of funds than borrowing from banks and other financial institutions. Table 25.36 shows the interest rates at end June for the last three financial years for a range of long-term debt securities.

25.36 LONG-TERM DEBT SECURITIES, Interest Rates

	June 1994 % p.a.	June 1995 % p.a.	June 1996 % p.a.
Treasury bonds			
3 years	8.61	8.27	8.33
5 years	9.04	8.61	8.59
10 years	9.63	9.21	8.88
NSW T-corp bonds			
3 years	8.70	8.31	8.45
5 years	9.29	8.80	8.74
10 years	10.02	9.47	9.16
Finance company debentures			
2 years	6.70	7.70	7.60
3 years	7.30	7.80	7.80

Source: Reserve Bank of Australia Bulletin.

The main issuers of long-term debt securities are the Commonwealth Government, and State Governments through their central borrowing authorities. Issues by Commonwealth, State and local public trading enterprises may be guaranteed by their respective governments. This provides the bond issue with a higher

security rating, meaning that the market will purchase the bonds at a lower yield. Corporate bonds are only issued by very large private trading and financial enterprises. The amounts outstanding on long-term debt securities at end June for the last three financial years are shown in table 25.37.

25.37 SHORT-TERM DEBT SECURITIES

	Amounts outstanding at end of June		
	1994 \$m	1995 \$m	1996 \$m
ISSUED BY			
Commonwealth public trading enterprises	7 365	7 693	6 035
State and local public trading enterprises	2 884	1 973	434
Private trading enterprises	11 136	10 616	12 225
Banks	37 672	32 829	35 162
Non-bank deposit taking institutions	16 286	20 701	23 624
Other financial institutions	12 641	17 116	18 434
Commonwealth general government	77 291	95 427	98 811
State and local general government	81 109	80 101	80 079
Total	246 384	266 456	274 804
HELD BY			
Commonwealth public trading enterprises	—	190	31
State and local public trading enterprises	529	465	471
Private trading enterprises	394	225	224
Reserve Bank of Australia	10 373	14 749	11 943
Banks	21 344	21 796	20 827
Non-bank deposit taking institutions	10 969	13 862	13 825
Life Offices and Superannuation Funds	50 444	52 150	51 955
Other financial institutions	26 260	27 548	23 574
State and local general government	13 305	11 485	8 654
Households and unincorporated businesses	14 639	15 200	17 255
Rest of world	98 127	108 786	126 045
Total assets	246 384	266 456	274 804

Source: Australian National Accounts, Financial Accounts (5232.0).

Foreign exchange market

The foreign exchange market is the means whereby currencies of different countries can be bought and sold. In October 1983, the Australian Government decided to float the Australian dollar, allowing its value to be determined by market forces with few exchange controls and little Reserve Bank intervention. Prior to 1983, the Australian dollar was pegged to a basket of

currencies which were weighted according to their trading significance to Australia. For further information regarding exchange rates, see the *Balance of Payments* section in *Chapter 29, International accounts and trade*. Table 25.38 shows the value of the Australian dollar against four major currencies at end June of the last three financial years.

25.38 VALUE OF AUSTRALIAN DOLLAR, Against Major Currencies

	At 30 June		
	1994	1995	1996
United States dollar	0.7250	0.7110	0.7855
United Kingdom pound	0.4687	0.4450	0.5064
German deutschmark	1.1492	0.9798	1.1914
Japanese yen	71.47	59.91	85.53

Note: Rate given is the midpoint between the buying and selling rates.

Source: *Average of Daily Exchange Rates (5654.0)*.

Currencies are traded for many reasons, including to facilitate overseas trade (exports and imports), for financing overseas borrowing and investments, for arbitrage (i.e., taking advantage of short-term discrepancies in rates) and for speculation on possible exchange rate

movements with a view to making a profit. There is significant trading in foreign currencies by licensed dealers using various instruments.

Table 25.39 shows daily averages of foreign exchange turnover against all currencies.

25.39 FOREIGN EXCHANGE TURNOVER AGAINST ALL CURRENCIES, Daily Averages(a)

	1993-94 \$m	1994-95 \$m	1995-96 \$m
Transactions by foreign exchange dealers (b)			
Outright spot(c)	22 386	21 463	20 692
Outright forward(d)	2 174	1 882	2 014
Swaps	25 546	26 527	28 435
Options	880	792	1 055
Total	50 986	50 664	52 196

(a) Figures given are the average daily turnover for the financial year. (b) Australian banks and non-bank financial intermediaries authorised to deal in foreign exchange. (c) An outright spot transaction is one for receipt or delivery within two business days. (d) An outright forward transaction is one for receipt or delivery in more than two business days.

Source: *Reserve Bank of Australia Bulletin*, based on information supplied by foreign exchange dealers.

Lending by financial institutions

The lending activities of financial institutions are grouped for statistical purposes into four major types of lending — housing, personal, commercial and leasing. Information regarding housing finance is presented in *Chapter 19, Construction and housing*.

25.40 LENDING COMMITMENTS BY FINANCIAL INSTITUTIONS

Type of lending activity	1993-94 \$m	1994-95 \$m	1995-96 \$m
Housing finance	47 831.9	r42 306.0	43 620.1
Personal finance	25 453.2	r28 513.9	32 381.3
Commercial finance	95 139.4	r104 331.5	138 560.7
Lease finance	5 846.2	6 572.4	7 409.4
Total	174 270.7	r181 723.8	221 971.5

Source: See the tables which follow for each type of lending.

Lease finance

The statistics in tables 25.41 and 25.42 show lease finance commitments made by significant lenders (banks, money market corporations, finance companies, general financiers, etc.)

to trading and financial enterprises, non-profit organisations, governments, public authorities and individuals.

25.41 LEASE FINANCE COMMITMENTS, By Type of Lessor

Year	All banks \$m	Money market corporations \$m	Finance companies \$m	General financiers \$m	Total \$m
1993-94	1 818.5	450.1	2 706.9	870.7	5 846.2
1994-95	1 922.7	433.7	3 115.4	1 100.6	6 572.4
1995-96	2 316.0	321.7	3 658.3	1 113.4	7 409.4

Source: *Lease Finance, Australia* (5644.0).

25.42 LEASE FINANCE COMMITMENTS, By Type of Goods Leased

Type of goods	1993-94 \$m	1994-95 \$m	1995-96 \$m
Motor vehicles and other transport equipment	3 654.9	3 992.1	4 185.7
Construction and earth moving equipment	279.4	434.1	734.0
Agricultural machinery and equipment	238.5	243.5	382.9
Automatic data processing equipment and office machinery	805.5	988.1	1 109.6
Shop and office furniture, fittings and equipment	233.7	250.6	258.5
Other goods	634.2	663.9	738.7
Total	5 846.2	6 572.4	7 409.4

Source: *Lease Finance, Australia* (5644.0).

Personal finance

Tables 25.43 and 25.44 present statistics of commitments made by significant lenders (banks, credit cooperatives, finance companies,

etc.) to lend to individuals for their own personal (non-business) use.

25.43 PERSONAL FINANCE COMMITMENTS, By Type of Lender(a)

Year	All banks \$m	Finance companies \$m	Credit cooperatives \$m	Other lenders(b) \$m	Total \$m
1993-94	17 351.3	4 572.4	2 662.1	867.4	25 453.2
1994-95	19 294.4	5 197.1	2 768.6	r1 253.8	r28 513.9
1995-96	22 932.9	5 318.4	3 042.1	1 088.0	32 381.3

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities. (b) Includes permanent building societies, general financiers and retailers.

Source: *Personal Finance, Australia* (5642.0).

25.44 PERSONAL FINANCE COMMITMENTS, By Type of Facility

Year	Fixed loan commitments \$m	New and increased credit limits \$m	Cancellations and reductions in credit limits \$m	Revolving credit commitments	
				Total \$m	Used \$m
1993-94	16 556.2	8 897.0	7 203.4	37 792.1	16 060.7
1994-95	r18 623.0	9 890.9	7 326.1	r40 523.9	r16 766.8
1995-96	20 929.9	11 451.4	7 911.8	44 481.5	18 052.1

Source: *Personal Finance, Australia* (5642.0).

Commercial finance

The statistics in tables 25.45 and 25.46 show commitments, made by significant lenders (banks, finance companies, money market corporations, etc.) to lend to government,

private and public enterprises, non-profit organisations and to individuals for investment and business purposes.

25.45 COMMERCIAL FINANCE COMMITMENTS(a), By Type of Lender

Year	Banks \$m	Finance companies \$m	Money market corporations \$m	Other lenders(b) \$m	Total \$m
1993-94	72 491.0	6 531.0	10 504.4	5 613.1	95 139.4
1994-95	75 345.6	r7 527.2	14 800.6	r6 658.0	r104 331.5
1995-96	104 204.5	7 676.0	18 690.6	7 989.5	138 560.7

(a) Includes both fixed loan facilities and new and increased lending commitments under revolving credit facilities. (b) Includes permanent building societies, general financiers and pastoral finance companies.

Source: *Commercial Finance, Australia* (5643.0).

25.46 FIXED COMMERCIAL FINANCE COMMITMENTS, By Purpose

Year	Construction \$m	Purchase of real property \$m	Purchase of plant and equipment \$m	Re-financing \$m	Other purposes \$m	Total \$m
1993-94	4 318.9	9 316.6	5 985.2	6 621.0	20 341.2	46 582.9
1994-95	5 253.9	9 762.8	r7 088.1	7 999.5	r20 415.3	r50 519.6
1995-96	6 575.6	10 876.5	7 506.7	11 313.3	28 050.9	64 323.0

Source: *Commercial Finance, Australia* (5643.0).

Money and the payments system

The payments system supports trade and commerce in a market economy. Notes and coin are one means of payment. Liquid balances held at financial institutions are also available potentially for transactions needs, under cheque and other forms of transfer facilities, and thus add to the money supply. The payments system is under the management of the Australian Payments Clearing Association, a company operated jointly by system participants and supervisors.

Money

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 \$5, \$10, \$20, \$50 and \$100 and coins in the denominations of 5c, 10c, 20c, 50c, \$1 and \$2. \$1 and \$2 notes were replaced by coins in 1984 and 1988 respectively, and 1c and 2c coins ceased to be issued from 1 February 1992. Table 25.47 shows the value of notes on issue at the last Wednesday of June of the last three financial years. Table 25.48 shows the value of coin on issue at the same time points.

25.47 VALUE OF AUSTRALIAN NOTES ON ISSUE

	Last Wednesday in June		
	1994 \$m	1995 \$m	1996 \$m
\$1	21	20	19
\$2	69	49	48
\$5	313	332	337
\$10	634	614	583
\$20	1 795	1 848	1 868
\$50	6 837	7 193	7 928
\$100	7 907	8 482	8 399
Total	17 577	18 538	19 182
Increase (%)	7.4	5.5	3.5

Source: *Reserve Bank of Australia*.

25.48 VALUE OF AUSTRALIAN DECIMAL COIN ON ISSUE

	Last Wednesday in June		
	1994 \$m	1995 \$m	1996 \$m
1c	23.5	23.1	22.8
2c	32.0	31.3	30.7
5c	92.9	98.6	102.6
10c	98.0	98.0	97.5
20c	134.0	136.0	138.7
50c	188.8	197.2	204.8
\$1	263.1	300.4	328.0
\$2	415.9	445.0	468.9
Total	1 284.2	1 329.6	1 394.0
Increase(%)	6.0	6.5	4.8

Source: Reserve Bank of Australia.

Money supply measures

The money supply, as measured and published by the Reserve Bank, refers to the amount of cash held by the public plus deposits with banks. The measures range from the narrowest category, money base, through to the widest category, broad money, with other measures in between. The measures mainly used are as follows.

- Money base, which comprises holdings of notes and coin by the private sector, deposits of banks with the Reserve Bank, and other Reserve Bank liabilities to the private sector.
- M3, which is defined as currency plus bank deposits of the private non-bank sector.
- Broad money, which is defined as M3 plus borrowings from the private sector by

non-bank financial intermediaries (including cash management trusts) less their holdings of currency and bank deposits.

The money supply under each of these measures at end June of the last three years is shown in table 25.49.

25.49 MONEY SUPPLY MEASURES

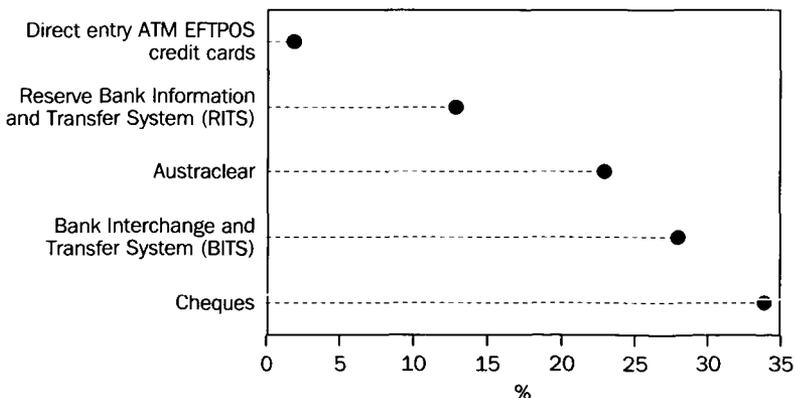
	June 1994	June 1995	June 1996
	\$m	\$m	\$m
Money base	22 025	23 491	24 546
M3	246 234	263 617	290 485
Broad money	295 836	316 508	349 393

Source: Reserve Bank of Australia.

Payments statistics

A recent development in the operation of the payments system is the announcement of the move to real-time gross settlement (RTGS) for settling large claims between members of the clearing system. RTGS is to become fully operational in 1997, but the Reserve Bank has already undertaken a number of modifications to the way it participates in the system, including the withdrawal of facilities it provides to authorised short-term money market dealers on 9 August 1996.

The use of the various means of payment for settlement of claims in November 1995 is shown in graph 25.50.

25.50 MEANS OF PAYMENT USED FOR EXCHANGE, By Percentage of Total Value Exchanged — November 1995

Source: Australian Payments Clearing Association.

Table 25.51 highlights the growth of publicly available electronic access points into the payments system. The major growth has been in the number of EFTPOS terminals in Australia as more retailers are providing a means to transfer funds electronically at the point of sale. This enables their customers to use debit cards as well as credit cards.

25.51 ELECTRONIC ACCESS POINTS

	June 1994 no.	June 1995 no.	June 1996 no.
Automatic teller machines	5 848	6 249	7 178
EFTPOS terminals	38 875	62 975	107 702

Source: Australian Payments Clearing Association.

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Introduction	625
Public sector	625
General government output as a percentage of GDP	626
Deficit	627
Government sector's contribution to national saving	628
Finance of all levels of government combined	628
Commonwealth government finance	633
Outlays, revenue and financing transactions	633
Commonwealth government financial assistance to the States and Territories	637
Commonwealth government taxation	638
State/Territory government finance	639
Local government finance	643
Financial assets and liabilities	646

Introduction

The main functions of government are the provision of non-market services, the regulation of economic and social conditions and the redistribution of income between sections of the community. These activities are primarily financed by taxation and are carried out by units in the general government sector. In addition to this core activity, governments can also own or control agencies which sell goods or services to the public and which operate largely on a commercial (or market) basis. Historically, these public trading enterprises and public financial enterprises were set up by governments to create new industries, to foster competition and to allow governments to influence pricing policy.

The statistics in this chapter measure the activity of the non-financial public sector, which comprises general government agencies, and public trading enterprises, which sell goods and non-financial services. The non-financial public sector is sometimes referred to as the 'government' sector, but this is technically incorrect because it excludes government financial enterprises.

The Australian system of Government Finance Statistics (GFS) is used to derive the statistics presented in this chapter. GFS focuses on financial transactions such as governments' spending, lending, taxing and borrowing activities, and reflects the impact of these transactions on other sectors of the economy. GFS comprises both cash (for general government) and accrual (for public trading enterprises) methods of recording transactions, and is based on international standards specified in the International Monetary Fund's *A Manual on Government Finance Statistics* and the United Nations' *A System of National Accounts* (SNA).

Public sector

The public sector comprises all organisations owned or controlled by any of the three levels of government within the Australian political system:

- Commonwealth;
- State/Territory; and
- local.

It can be divided into the institutional sectors described below, based on the characteristics of the organisations it comprises. These sectors are:

- **General government.** The principal function of general government units is to provide non-market goods and services (e.g. roads, hospitals, libraries), primarily financed by taxes, to regulate and influence economic activity, maintain law and order and to redistribute income by means of transfer payments.

This institutional sector covers the departments of the Commonwealth Government, State Governments and local government municipalities. It also includes agencies and government authorities under departmental administration which are engaged in the provision of public administration, defence, law enforcement, welfare and public education and health. Also included are non-departmental bodies which independently perform the government functions of regulation (e.g. Nurses Registration Boards and the Maritime Safety Authority), provision of non-market services (e.g. the Australian Broadcasting Corporation) and redistribution of income (e.g. the Aboriginal and Torres Strait Islander Commission). Some of these bodies may be corporations but are still considered part of the general government sector if they perform government functions.

Unincorporated government enterprises which provide goods and services to their governments and to the public at prices that are not economically significant (such as cafeterias for government employees and municipal swimming pools) are also included in this sector. In addition, government quasi-corporations which sell their output exclusively to other government units (whether or not they charge market prices), such as government printers and munitions factories, are classified as general government units.

- **Public trading enterprises.** The main function of public trading enterprises is to provide goods and services which are predominantly market, non-regulatory and non-financial in nature and financed through sales to consumers of these goods and services.

Enterprises in the public trading enterprises sector differ from those in the general government sector in that all or most of the production costs are recovered from consumers, rather than being financed through the general taxation revenue of government. Some enterprises, however, do receive subsidies to make up for shortfalls incurred as a result of government policy, for example, in the provision of 'community service obligations' at concessional rates.

Public trading enterprises vary in their degree of 'commerciality', from those which are quite heavily reliant on parent governments for subsidies, such as rail and bus transport undertakings, to those which are net contributors to government revenue. Governments may exercise control over public trading enterprises by either owning more than 50% of the voting stock or otherwise controlling more than half the shareholders' voting power, or through legislation, decree or regulation which empowers the government to determine corporate policy or to appoint the directors. Examples of public trading enterprises are Telstra, Australia Post, State Rail and local electricity, bus and transport operations.

- *Public financial enterprises.* These are government owned or controlled enterprises which engage in financial intermediation (i.e. trade in financial assets and liabilities), such as government banks, insurance offices, or home lending schemes.

Public financial enterprises are currently excluded from GFS because these enterprises have a separate and distinct role in the economy and are included, along with the equivalent private sector enterprises, in statistics which highlight the distinct features of financial intermediation activity (see *Chapter 25, Financial system*).

The Australian GFS system presents statistics relating to:

- transactions of the different levels of government, reflecting their different roles in undertaking and financing their expenditure programs;
 - transactions of each government jurisdiction, so that the statistics can be used to indicate the comparative standing of each government jurisdiction in terms of its expenditure, its sources of revenue, and its financing transactions; and
 - transactions presented to identify the purposes that are being served by government expenditure programs.
- To assist users, *Government Finance Statistics Australia, Concepts, Sources and Methods* (5514.0) outlines the major concepts, provides definitions of the statistical units and contains the main classifications employed. The GFS classifications applied in the tables in this chapter are:
- the Economic Transactions Framework (ETF) which categorises outlays, revenue and grants received and financing according to their economic character to facilitate the study of the macroeconomic effect of government activity;
 - the Government Purpose Classification (GPC) which classifies outlays according to the purpose or function served; and
 - the Taxes, Fees and Fines Classification (TFFC) which classifies this major form of government revenue according to type of tax, fee or fine collected.

General government output as a percentage of GDP

Despite the fact that most goods and services provided by general government bodies are not normally sold, their output is still regarded as part of production. The output of government is valued at cost and comprises total final consumption expenditure (principally wages and salaries paid to the employees of general government bodies and the cost of purchased goods and services used), plus an allowance for the consumption of fixed capital. Table 26 1 shows general government's share of GDP for the years 1991–92 to 1995–96.

26.1 GENERAL GOVERNMENT OUTPUT AS A PERCENTAGE OF GDP(a)

Sector	1991-92	1992-93	1993-94	1994-95	1995-96
	%	%	%	%	%
Commonwealth	5.7	5.8	5.9	5.8	5.7
State, Territory and local	12.2	12.5	12.4	12.2	12.0
Total	17.9	18.3	18.2	18.0	17.6

(a) The expenditure-based estimates of GDP and consumption of fixed capital figures used in the above calculations are from National Income, Expenditure and Product, June Quarter 1996 (5206.0).

Source: *Government Financial Estimates, Australia* (5501.0).

Deficit

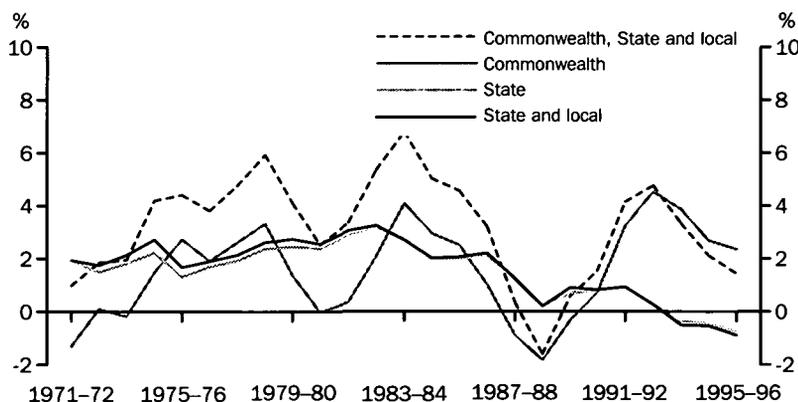
In GFS, the deficit/surplus reflects the balance between government outlays and government revenue. It measures the extent to which government is increasing (surplus) or decreasing (deficit) its net financial position.

The additional deficit measure 'deficit adjusted for net advances' has been introduced into GFS statistics. This measure excludes the effects of equity sales and injections, and refinancing of State debt to the Commonwealth. In the ABS view, this measure provides a better guide to government fiscal policies.

Graph 26.2 shows the movements in the deficit adjusted for net advances ('adjusted deficit') as

a percentage of the income based measure of GDP (GDP(I)) from 1971-72 to 1994-95 for the Commonwealth, State/Territory and local levels of government, and for all levels of government combined.

The graph demonstrates that the adjusted deficit for all levels of government combined shows a strong cyclical pattern, which is mainly driven by the Commonwealth Government. It is also evident that, over the period shown in the graph, there has been a reduction in the average level of adjusted deficits for State/Territory and local governments, which has been offset by an increase in the average level of adjusted deficit for the Commonwealth Government.

26.2 ADJUSTED DEFICIT FOR ALL LEVELS OF GOVERNMENT, % of GDP

Source: *Government Financial Estimates, Australia* (5501.0).

Government sector's contribution to national saving

The deficit is split between the current deficit and the capital deficit. The current deficit, which is a cash based measure of government saving, is measured by subtracting current outlays from revenue plus increase in provisions less capital grants and other capital revenue. Refer to *Chapter 28, National accounts* for further details relating to general government saving.

Finance of all levels of government combined

The outlays, revenue and financing transactions of the general government and public trading enterprise sectors for all levels of government combined are shown in tables 26.3 and 26.4. Table 26.5 shows a dissection of taxes, fees and fines, the largest component of government revenue.

In 1995–96, total outlays for the general government sector for Australia totalled \$164,767m, a 1.0% increase over the 1994–95 result of \$163,109m. Outlays for the public trading enterprise sector fell from \$21,067m in 1994–95 to \$11,352m in 1995–96, mainly due to equity asset sales by Victoria. Outlays of public trading enterprises comprise mainly capital expenditures, interest payments and transfers to government, and do not include operating expenditure, which is offset against revenue

Total general government revenue increased by 9.9% from \$151,889m in 1994–95 to \$166,935m in 1995–96. The proportion of general government total revenue raised from taxes, fees and fines for 1995–96 was 91.4%.

Public trading enterprise revenue fell by 6.9% from \$16,448m in 1994–95 to \$15,310m in

1995–96, due in part to privatisation of public trading enterprises. The predominant source of public trading enterprise revenue is the net operating surplus of enterprises, which comprises operating revenue less operating expenditure. This item contributed 76.8% of public trading enterprise revenue in 1995–96.

The general government sector moved from a deficit of \$12,292m in 1994–95 to a surplus of \$1,170m in 1995–96. The current surplus increased to \$3,138m in 1995–96 from a current deficit of \$2,811m in 1994–95 reflecting higher revenue from taxation. The capital deficit fell from \$9,481m in 1994–95 to \$1,967m in 1995–96, reflecting lower capital outlays during 1995–96, primarily resulting from significant asset sales in that year. The deficit adjusted for net advances, which excludes equity asset sales, for the general government sector for all levels of government combined was \$7,916m in 1995–96, a drop of \$5,681m over the previous year.

The deficit adjusted for net advances for the public trading enterprise sector for all levels of government combined was in surplus by \$906m in 1995–96, a drop of \$3,028m from the surplus in the previous year.

The outlays, revenue and deficit/surplus of each level of government are not additive as financial transactions may occur between the Commonwealth Government, State/Territory Governments and local governments. For example, grants are paid by the Commonwealth Government to State governments or local governments (either directly or via the State for onpassing), interest is paid and advances are made across the three levels. Table 26.6 shows the transfers between each level of government that are eliminated in the derivation of consolidated totals for major economic categories in 1995–96.

26.3 ECONOMIC TRANSACTIONS OF ALL LEVELS OF GOVERNMENT — General Government

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Current expenditure	70 804	75 513	79 038	82 622	85 742	90 099
Less sales of goods and services(a)	10 514	11 171	11 888	12 848	13 421	14 040
Final consumption expenditure	60 289	64 342	67 150	69 775	72 321	76 059
Interest payments	12 082	11 373	11 434	12 852	14 344	14 866
Subsidies paid to public trading enterprises	3 676	3 198	2 874	2 888	2 553	2 506
Personal benefit payments	37 454	42 549	46 283	49 902	51 960	55 862
Other transfer payments	7 481	9 048	10 463	11 283	12 172	13 199
Total current outlays	120 982	130 511	138 204	146 699	153 351	162 493
Capital outlays						
Expenditure on new fixed assets	9 463	9 503	10 192	9 751	10 055	10 463
Plus expenditure on secondhand assets (net)	-681	-690	-1 000	-1 146	-1 114	-1 560
Gross fixed capital expenditure	8 781	8 813	9 192	8 605	8 941	8 903
Expenditure on land and intangible assets (net)	-105	-71	-291	-577	-453	-98
Capital grants to -						
Other sectors	715	913	642	621	498	517
Public trading enterprises	1 734	1 895	2 022	2 141	2 074	1 981
Total capital grants	2 449	2 808	2 664	2 762	2 572	2 497
Advances paid (net) to -						
Public financial enterprises	-68	2 114	481	-1 158	-98	-262
Public trading enterprises	-1 020	180	-81	-686	-210	-6 836
Abroad	195	181	170	150	138	266
Other	345	-44	-1 486	-2 686	-1 134	-2 255
Total advances	-553	2 431	-916	-4 380	-1 305	-9 086
Other capital outlays	23	-8	12	17	3	58
Total capital outlays	10 601	13 973	10 661	6 427	9 757	2 274
Total outlays	131 582	144 484	148 865	153 126	163 109	164 767
Revenue						
Taxes, fees and fines	119 179	115 627	118 722	126 125	139 273	152 532
Interest received from public trading enterprises	1 438	1 296	1 046	938	890	612
Interest received	4 195	3 522	3 260	3 135	3 540	3 769
Other revenue	4 709	6 301	7 114	9 793	8 186	10 021
Total revenue	129 520	126 746	130 142	139 991	151 889	166 935
Financing and deficit measures						
Borrowing (net)	7 300	20 789	23 604	19 612	12 462	-3 964
Increase in provisions	-843	-1 027	-1 297	-1 161	-1 072	-997
Other financing transactions	-4 392	-2 006	-3 573	-5 318	-168	2 800
Total financing and deficit measures	2 062	17 738	18 722	13 135	11 220	-2 168
Less increase in provisions	-843	-1 027	-1 297	-1 161	-1 072	-997
Deficit(b)	2 905	18 764	20 020	14 295	12 292	-1 170
Current deficit(c)	-7 524	4 942	9 543	8 182	2 811	-3 138
Capital deficit(d)	10 429	13 823	10 477	6 113	9 481	1 967
Less advances paid (net)	-548	2 431	-916	-4 380	-1 305	-9 086
Deficit adjusted for net advances(e)	3 453	16 333	20 936	18 675	13 597	7 916

(a) This item provides an indication of the extent of government charges levied. The charges are offset against gross expenditure in calculating final consumption expenditure and mainly comprise sales to the private sector. However, it has not been possible to exclude all inter-agency charges and some estimated data are included. (b) The deficit is the sum of all financing transactions except for increases/decreases in provisions. (c) Revenue less current outlays plus increase in provisions less capital grants and other capital revenue. (d) Capital grants and other capital revenue less capital outlays. (e) This is defined as the cash based deficit/surplus less net advances paid. Net advances paid includes equity sales and repayment of past policy lending, less equity injections/purchases and new policy lending.

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.4 ECONOMIC TRANSACTIONS OF ALL LEVELS OF GOVERNMENT, Public Trading Enterprises

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m
Outlays						
Current outlays						
Interest payments to -						
General government	1 438	1 294	1 054	937	880	611
Other enterprises	7 523	7 031	6 026	5 246	5 093	4 521
Total interest payments	8 961	8 324	7 080	6 183	5 973	5 132
Income transferred to general government	1 408	1 791	1 911	3 398	3 450	4 630
Other transfer payments	598	1 103	1 673	1 456	1 318	1 664
Total current outlays	10 967	11 218	10 664	11 037	10 741	11 426
Capital outlays						
Expenditure on new fixed assets	12 573	12 019	11 394	10 929	11 823	11 514
Plus expenditure on secondhand assets (net)	-1 486	-917	-1 518	-1 862	-821	-1 034
Gross fixed capital expenditure	11 087	11 103	9 876	9 067	11 003	10 480
Expenditure on land and intangible assets (net)	207	123	70	-314	-219	-107
Capital grants to -						
Other sectors	36	20	38	45	59	56
Other levels of government	5	—	45	52	28	10
Total capital grants	42	20	84	96	86	66
Advances paid (net)	-223	-214	-213	-183	14	-10 523
Other capital outlays	1 121	-367	341	-611	-559	10
Total capital outlays	12 233	10 665	10 158	8 056	10 326	-74
Total outlays	23 200	21 883	20 822	19 093	21 067	11 352
Revenue						
Sales of goods and services	57 485	60 221	62 261	68 382	71 076	66 874
Plus subsidies received	3 830	3 075	2 886	2 931	2 596	2 648
Less operating expenditure	49 849	52 236	53 405	58 035	61 324	57 759
Net operating surplus	11 467	11 060	11 741	13 278	12 348	11 763
Interest received	1 488	1 133	775	583	847	846
Capital grants received	1 699	1 936	2 089	2 175	2 098	1 991
Other revenue	722	787	764	937	1 155	710
Total revenue	15 376	14 916	15 369	16 974	16 448	15 310
Financing and deficit measures						
Advances received (net)	-1 021	170	-132	688	-209	-6 809
Borrowing (net)	3 960	388	-424	-3 455	-3 122	-4 846
Increase in provisions -						
For depreciation	5 609	7 450	7 119	7 113	7 627	7 087
Other	109	59	221	-537	912	348
Total increase in provisions	5 718	7 510	7 340	6 577	8 539	7 471
Other financing transactions	-831	-1 101	-1 332	-315	-589	-225
Total financing and deficit measures	7 824	6 967	5 453	2 119	4 619	-3 958
Less increase in provisions	5 718	7 510	7 340	6 577	8 539	7 471
Deficit	2 107	-543	-1 887	-4 458	-3 920	-11 429
Current deficit	-7 753	-8 519	-9 238	-9 511	-11 122	-8 723
Capital deficit	9 860	7 976	7 350	5 053	7 202	-2 707
Less advances paid (net)	-223	-214	-213	-183	14	-10 523
Deficit adjusted for net advances	2 330	-329	-1 674	-4 275	-3 934	-906

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.5 TAXES, FEES AND FINES OF ALL LEVELS OF GOVERNMENT

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Taxes on income						
Income taxes levied on individuals	50 156	46 830	47 528	50 571	54 635	60 602
Income taxes levied on enterprises	15 227	14 494	15 049	13 939	17 415	19 242
Income taxes levied on non-residents	1 095	903	827	1 008	1 060	1 488
Total taxes on income	66 478	62 227	63 404	65 518	73 109	81 332
Employers' payroll taxes						
General taxes (payroll tax)	5 802	5 904	5 800	6 021	6 572	7 088
Selective taxes (stevedoring industry charges)	51	54	45	40	64	14
Other employers' labour force taxes	1 207	1 288	1 305	1 381	2 691	2 964
Total employers' payroll taxes	7 059	7 247	7 150	7 441	9 326	10 066
Taxes on property						
Taxes on immovable property(a)	6 149	6 533	6 698	6 718	6 747	6 854
Taxes on financial and capital transactions	4 279	4 479	4 901	6 010	5 920	6 156
Total taxes on property	10 429	11 012	11 600	12 728	12 677	13 010
Taxes on provision of goods and services						
General taxes (sales tax)	9 365	9 113	9 252	10 414	11 624	12 970
Excises and levies						
Crude oil and LPG(b)	1 354	64	116	62	27	13
Other excises	9 005	9 417	9 560	10 751	11 973	12 835
Agricultural production taxes	1 238	735	633	647	692	669
Levies on statutory authorities	378	423	469	491	519	538
Total excises and levies	11 975	10 639	10 778	11 951	13 211	14 056
Taxes on international trade	3 377	3 350	3 336	3 231	3 479	3 129
Taxes on gambling	1 946	2 018	2 236	2 583	2 967	3 316
Taxes on insurance	1 176	1 298	1 430	1 574	1 659	1 730
Total taxes on provision of goods & services	27 839	26 418	27 032	29 754	32 940	35 200
Taxes on use of goods and performance of activities						
Motor vehicle taxes	2 368	2 493	2 802	3 129	3 391	3 488
Franchise taxes	2 620	2 842	3 394	3 999	4 197	4 903
Other taxes on use of goods & performance of activities	195	269	280	449	454	649
Total taxes on use of goods & performance of activities	5 183	5 603	6 476	7 578	8 042	9 040
Fees and fines						
Compulsory fees	1 545	1 751	1 684	1 691	1 876	2 056
Fines	458	537	542	549	534	562
Total fees and fines	2 003	2 289	2 226	2 240	2 410	2 618
Total taxes, fees and fines	118 990	114 796	117 887	125 259	138 494	151 267

(a) Partly estimated. (b) Oil produced (except from the North West Shelf production licence area) is not subject to crude oil excise duties from 1991-92 onwards. Amounts collected under petroleum resource rent taxes are included in TFFC 121 (Company income tax).

Source: *Government Financial Estimates, Australia, 1996-97 (5501.0)* and *Taxation Revenue, Australia, 1995-96 (5506.0)*.

26.6 CONSOLIDATION OF OUTLAYS BY LEVEL OF GOVERNMENT — 1995-96

Item	State/ Territory Governments \$m	Local governments \$m	Transfers between State/ Territory Governments and local governments \$m	State/ Territory Governments and local governments \$m	C'wealth Government \$m	Transfers between C'wealth, State/ Territory and local governments \$m	C'wealth, State/ Territory Governments and local governments \$m
Final consumption expenditure	45 155	4 989	—	50 144	25 915	—	76 059
Interest payments	9 701	544	116	10 129	10 257	1 249	19 137
Personal benefit payments	1 761	2	—	1 764	54 099	—	55 862
Subsidies paid	3 101	6	—	3 108	2 982	—	6 089
Current grants to -							
Non-profit institutions	5 468	12	—	5 480	3 100	—	8 579
Foreign governments and others	—	—	—	—	1 305	—	1 305
State/Territory Governments or local governments	1 476	1	1 477	—	31 702	31 702	1
Total current grants	6 944	13	1 477	5 480	36 106	31 702	9 885
Other current outlays	114	128	123	119	110	98	130
Total current outlays	66 777	5 683	1 716	70 744	129 468	33 049	167 162
Gross fixed capital expenditure	5 358	8 801	—	14 159	5 225	—	19 383
Capital grants	8 767	10	8 370	407	3 195	3 029	574
Advances paid (net)	-12 371	-533	-564	-12 340	-4 557	-4 128	-12 769
Other capital outlays	-2 098	1 940	—	-158	20	—	-138
Total capital outlays	-344	10 218	7 806	2 068	3 883	-1 099	7 050
Total	66 433	15 901	9 522	72 812	133 351	31 950	174 213

Source: Government Financial Estimates, Australia 1996-97 (5501.0).

The Government Purpose Classification (GPC) is designed to identify the purposes for which government outlays are made. In conjunction with the Economic Transactions Framework (ETF), it provides information for the study of the socio-economic effects of government

transactions. Outlays on social security and welfare, for example, rose 6.6% in 1995-96 and comprised 28.3% of total government outlays. Table 26.7 shows a time series of outlays by purpose, for the three levels of government combined.

26.7 CONSOLIDATED OUTLAYS OF THE COMMONWEALTH, STATE, TERRITORY AND LOCAL GOVERNMENTS, By Purpose

Purpose	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
General public services	11 720	14 802	13 433	14 018	13 794	12 456
Defence	8 326	8 607	9 010	9 237	9 147	9 397
Public order and safety	5 359	5 632	5 643	5 798	6 221	6 772
Education	18 950	20 454	21 491	22 096	22 640	23 922
Health	20 342	21 425	22 594	23 572	25 147	27 424
Social security and welfare	32 814	38 022	41 171	44 440	46 201	49 245
Housing and community amenities	4 461	4 576	4 639	3 818	5 291	4 803
Recreation and culture	3 669	3 846	4 005	3 911	3 456	4 593
Fuel and energy	3 216	3 368	2 614	1 674	3 398	-7 583
Agriculture, forestry and fishing	5 103	2 775	3 469	2 488	2 154	3 220
Mining, manufacturing and construction	883	897	728	549	539	787
Transport and communications	13 685	13 026	13 211	11 824	14 336	13 739
Other economic affairs	3 026	3 737	4 824	4 884	5 160	5 577
Other purposes	19 287	19 011	16 854	17 066	19 453	19 860
Total	150 841	160 176	163 687	165 373	176 937	174 213

Source: *Government Financial Estimates, Australia, 1996-97 (5501.0)*.

Commonwealth government finance

The Commonwealth Government has exclusive responsibility under the Constitution for the administration of a wide range of functions including defence, foreign affairs and trade, and immigration. A distinctive feature of the Australian federal system is that the Commonwealth Government levies and collects all income tax, from individuals as well as from enterprises. It also collects a significant portion

of other taxes, including taxes on the provision of goods and services. The Commonwealth distributes part of this revenue to other levels of government, principally the States and Territories.

Outlays, revenue and financing transactions

The outlays, revenue and financing transactions of the Commonwealth non-financial public sector for the six year period ending 1995-96 are summarised in the tables 26.8 to 26.10.

26.8 ECONOMIC TRANSACTIONS OF THE COMMONWEALTH GOVERNMENT, General Government

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Current expenditure	23 946	25 577	27 322	28 457	29 017	30 144
Less sales of goods and services(a)	3 257	3 615	4 130	4 301	4 164	4 229
Final consumption expenditure	20 689	21 962	23 192	24 156	24 853	25 915
Interest payments	6 189	5 748	5 413	6 630	8 164	9 288
Subsidies paid to public trading enterprises	1 223	685	480	464	462	528
Personal benefit payments	36 125	41 137	44 759	48 333	50 276	54 099
Current grants to -						
Private sector	2 243	2 700	3 097	3 267	3 770	4 404
State governments	19 563	20 546	21 420	22 309	23 440	24 660
Onpassed through State Governments	4 535	5 155	5 439	5 972	6 571	6 831
Local governments	97	155	190	185	196	211
Total current grants	26 437	28 556	30 145	31 734	33 977	36 106
Other transfer payments	1 615	1 811	2 062	2 339	2 344	2 488
Total current outlays	92 279	99 900	106 051	113 656	120 075	128 423
Capital outlays						
Expenditure on new fixed assets	1 451	1 682	1 241	1 386	1 328	1 333
Plus expenditure on secondhand assets (net)	-108	-112	-186	-432	-512	-377
Gross fixed capital expenditure	1 343	1 570	1 055	954	815	956
Expenditure on land and intangible assets (net)	-44	46	-11	-198	-76	-20
Capital grants to -						
Other sectors	487	555	312	214	189	167
Other levels of government	4 357	3 721	5 229	3 789	3 108	3 029
Public trading enterprises	10	70	30	29	97	6
Total grants	4 855	4 346	5 571	4 032	3 394	3 201
Advances paid (net) to -						
Public trading enterprises	-332	354	19	-434	-11	-629
Abroad	195	181	170	150	138	266
Other levels of government	-1 858	-2 753	-2 669	-1 314	-2 017	-4 128
Other	438	161	-24	-1 814	411	-695
Total advances	-1 557	-2 056	-2 504	-3 412	-1 480	-5 186
Other capital outlays	3	-15	6	-22	-36	1
Total capital outlays	4 600	3 891	4 117	1 354	2 616	-1 048
Total outlays	96 879	103 791	110 168	115 009	122 691	127 375
Revenue						
Taxes, fees and fines	93 578	88 353	89 661	94 193	105 864	116 744
Interest received from public trading enterprises	575	504	306	243	159	129
Interest received from other enterprises	2 804	2 533	2 229	1 874	1 716	1 356
Other revenue	1 827	2 855	3 459	5 002	3 244	4 283
Total revenue	98 784	94 245	95 655	101 312	110 983	122 512
Financing and deficit measures						
Borrowing (net)	434	9 597	16 219	14 831	12 782	6 205
Increase in provisions	-914	-1 074	-1 294	-1 135	-1 111	-1 005
Other financing transactions	-1 425	1 023	-412	1	37	-337
Total financing and deficit measures	-1 905	9 545	14 513	13 697	11 708	4 863
Less increase in provisions (net)	-914	-1 074	-1 294	-1 135	-1 111	-1 005
Deficit (b)	-991	10 620	15 807	14 832	12 819	5 868
Current deficit(c)	-5 589	6 729	11 692	13 485	10 203	6 916
Capital deficit(d)	4 598	3 891	4 116	1 347	2 616	-1 048
Less advances paid (net)	-1 557	-2 056	-2 504	-3 412	-1 480	-5 186
Deficit adjusted for net advances (e)	565	12 675	18 311	18 244	14 299	11 054

(a) This item provides an indication of the extent of government charges levied. The charges are offset against gross expenditure in calculating final consumption expenditure and comprise mainly sales to the private sector. However, note that it has not been possible to exclude all inter-agency charges and that some estimated data is included. (b) The deficit is the sum of all financing transactions except for increases/decreases in provisions. (c) Revenue less current outlays plus increase in provisions less capital grants and other capital revenue. (d) Capital grants and other capital revenue less capital outlays. (e) This is defined as the cash based deficit/surplus less net advances paid. Net advances paid includes equity sales and repayment of past policy lending, less equity injections/purchases and new policy lending.

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.9 ECONOMIC TRANSACTIONS OF THE COMMONWEALTH GOVERNMENT, Public Trading Enterprises

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Interest payments to -						
General government	575	504	306	243	159	129
Other enterprises	2 115	2 091	1 797	1 642	1 514	969
Total interest payments	2 691	2 595	2 103	1 885	1 673	1 099
Income transferred to general government	450	405	339	1 117	919	1 371
Other transfer payments	173	634	1 251	1 040	955	1 333
Total current outlays	3 313	3 634	3 693	4 042	3 547	3 803
Capital outlays						
Expenditure on new fixed assets	5 467	4 959	4 039	3 357	4 331	4 441
Plus expenditure on secondhand assets (net)	-823	-492	-304	-413	-262	-173
Gross fixed capital expenditure	4 644	4 467	3 735	2 945	4 069	4 269
Expenditure on land and intangible assets (net)	131	12	14	-51	-16	50
Capital grants	—	—	61	74	81	—
Advances paid (net)	-1	27	-2	-3	—	—
Other capital outlays	1 262	-431	305	-530	-390	-11
Total capital outlays	6 036	4 075	4 114	2 436	3 743	4 308
Total outlays	9 349	7 708	7 807	6 478	7 291	8 111
Revenue						
Sales of goods and services	22 411	24 096	24 771	27 174	28 263	24 412
Plus subsidies received	1 349	549	469	468	466	529
Less operating expenditure	19 482	21 226	21 184	22 762	23 990	20 341
Net operating surplus	4 278	3 419	4 056	4 880	4 739	4 601
Interest received	494	389	273	234	359	293
Capital grants received	10	70	30	29	97	6
Other revenue	21	15	23	34	53	40
Total revenue	4 803	3 894	4 382	5 178	5 249	4 939
Financing and deficit measures						
Advances received (net)	-332	354	19	-422	15	-629
Borrowing (net)	3 467	109	955	-1 318	-1 497	-181
Increase in provisions -						
For depreciation	2 418	3 834	2 863	2 898	3 009	2 706
Other	-10	80	374	-117	988	114
Total increase in provisions	2 407	3 915	3 237	2 781	3 997	2 820
Other financing transactions	-997	-563	-786	260	-472	1 161
Total financing and deficit measures	4 546	3 815	3 425	1 300	2 042	3 171
Less increase in provisions (net)	2 407	3 915	3 237	2 781	3 997	2 820
Deficit	2 138	-100	188	-1 481	-1 955	351
Current deficit	-3 888	-4 104	-3 896	-3 888	-5 601	-3 951
Capital deficit	6 026	4 004	4 084	2 407	3 646	4 302
Less advances paid (net)	-1	27	-2	-3	—	—
Deficit adjusted for net advances	2 139	-127	190	-1 478	-1 954	351

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

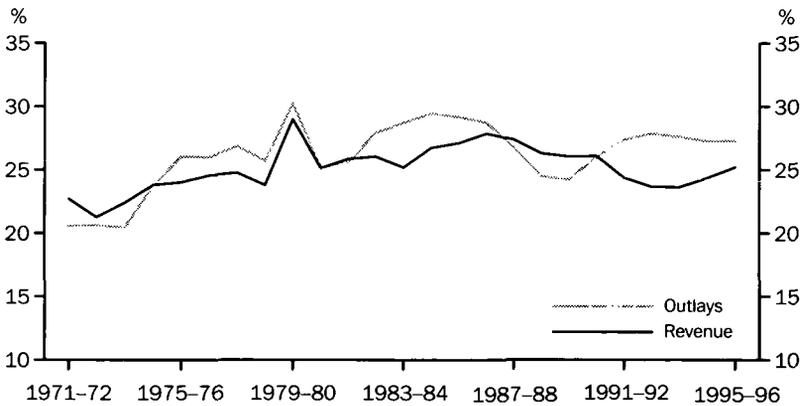
26.10 COMMONWEALTH GOVERNMENT CONSOLIDATED OUTLAYS, By Purpose

Purpose	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
General public services	6 335	6 953	7 364	7 765	7 854	8 370
Defence	8 325	8 606	9 009	9 236	9 146	9 396
Public order and safety	749	933	883	851	884	913
Education	7 559	8 487	9 263	9 860	10 180	10 704
Health	12 881	13 741	14 785	16 049	17 111	18 630
Social security and welfare	30 702	35 639	38 653	42 013	43 504	46 341
Housing and community amenities	1 040	1 225	1 345	1 070	1 050	1 073
Recreation and culture	1 112	1 111	1 106	1 035	1 194	1 309
Fuel and energy	583	694	708	605	836	911
Agriculture, forestry and fishing	3 916	1 532	2 114	1 126	1 163	1 804
Mining, manufacturing and construction	493	544	551	230	336	404
Transport and communications	7 064	6 463	6 195	4 773	6 812	5 483
Other economic affairs	2 048	2 472	3 116	3 180	3 468	4 183
Other purposes	22 554	20 943	21 358	21 875	24 508	23 831
Total	105 360	109 344	116 450	119 667	128 046	133 351

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

Graph 26.11 shows the relationship between the movements in outlays and revenue and the adjusted deficit/surplus, as a percent of GDP(I), for the Commonwealth Government from 1971-72 to 1995-96. The outlays and deficit measures in the graph exclude net advances (i.e. loans made for policy purposes, and sales/injections of equity) to provide a better

measure of the underlying government outlay and deficit positions. Commonwealth Government outlays and revenues are both strongly cyclical (in opposite directions), depending on prevailing economic conditions, and this is reflected in large swings in the deficit/surplus measure.

26.11 COMMONWEALTH OUTLAYS AND REVENUE, % of GDP

Source: Government Financial Estimates, Australia (5501.0).

Commonwealth government financial assistance to the States and Territories

The taxes levied by the Commonwealth Government are used to finance the Commonwealth's own-purpose policy programs and are also distributed to other levels of government, principally the States and Territories, as grants. The distributions are

based on principles applied by the Commonwealth Grants Commission. Table 26.12 shows details of grants to States/Territories and local governments classified by purpose.

26.12 COMMONWEALTH GRANTS TO STATES/TERRITORIES AND LOCAL GOVERNMENTS — 1995-96

Purpose	NSW \$m	Vic. \$m	Qld \$m	SA \$m	WA \$m	Tas. \$m	NT \$m	ACT \$m	Aust. \$m
CURRENT									
General public services, defence, public order and safety	162	122	71	48	44	14	4	3	469
Education	2 357	1 860	1 231	578	700	176	83	77	7 061
Health	1 651	1 188	954	548	551	160	88	76	5 217
Social security	433	363	190	138	117	42	12	13	1 307
Housing and community amenities	4	2	2	1	1	1	1	8	19
Recreation and culture	1	—	4	—	—	4	—	—	9
Fuel and energy	1	—	—	—	—	—	—	—	1
Agriculture, forestry and fishing	80	10	57	10	11	17	8	—	193
Mining, manufacturing and construction	—	—	—	3	—	—	—	—	5
Transport and communications	228	181	138	51	99	30	23	15	764
Other purposes	4 766	3 499	3 084	1 598	1 787	683	919	321	16 658
Total	9 683	7 225	5 732	2 976	3 309	1 127	1 137	514	31 702
CAPITAL									
General public services, defence, public order and safety	—	—	—	—	—	—	—	—	—
Education	188	150	105	44	61	16	11	11	585
Health	1	1	1	1	1	—	—	—	5
Social security	18	14	10	7	8	3	1	1	61
Housing and community amenities	333	222	195	69	99	35	35	20	1 008
Recreation and culture	73	1	5	1	1	2	—	—	84
Fuel and energy	—	—	—	—	—	—	—	—	—
Agriculture, forestry and fishing	3	4	7	4	1	—	—	—	20
Mining, manufacturing and construction	—	—	—	—	—	—	—	—	—
Transport and communications	311	142	176	64	73	31	31	3	831
Other purposes	57	41	33	87	205	7	4	4	436
Total	984	576	532	276	447	94	82	38	3 029

Source: Unpublished ABS Government Finance data.

Commonwealth government taxation

Table 26.13 shows Commonwealth Government taxation revenue classified by type of tax for the six years ending 1995-96.

26.13 COMMONWEALTH GOVERNMENT TAXES(a), FEES AND FINES

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m
Taxes on income						
Income taxes levied on individuals						
Personal income tax	48 810	45 601	46 146	48 986	52 742	58 618
Mining withholding tax	2	2	2	2	1	1
Prescribed payments by individuals	1 250	1 084	1 181	1 335	1 594	1 630
Total income taxes levied on individuals	50 156	46 830	47 528	50 571	54 635	60 602
Income taxes levied on enterprises						
Company income tax(a)	14 088	13 269	13 429	12 632	15 370	17 473
Income tax paid by superannuation funds	1 053	1 139	1 522	1 191	1 913	1 634
Prescribed payments by enterprises	109	94	103	116	139	142
Total income taxes levied on enterprises	15 250	14 502	15 054	13 939	17 422	19 249
Income taxes levied on non-residents						
Dividend withholding tax	109	50	88	84	108	150
Interest withholding tax	790	651	557	467	433	795
Other income tax levied on non-residents	196	202	182	458	519	542
Total income taxes levied on non-residents	1 095	903	827	1 008	1 060	1 488
Total taxes on income	66 501	62 236	63 409	65 518	73 116	81 339
Employers' payroll taxes						
General taxes (payroll tax)	—	—	—	—	—	—
Selective taxes (stevedoring industry charges)	51	54	45	40	64	14
Other employers labour force taxes						
Fringe benefits tax	1 207	1 288	1 305	1 376	2 678	2 938
Superannuation guarantee charge	—	—	—	5	13	26
Total other employers labour force taxes	1 207	1 288	1 305	1 381	2 691	2 964
Total employers' payroll taxes	1 258	1 343	1 350	1 421	2 754	2 978
Taxes on property						
Taxes on immovable property	—	—	—	—	—	—
Taxes on financial and capital transactions						
Stamp duties	—	—	—	—	—	—
Financial institutions' transaction taxes	229	3	1	—	—	—
Government borrowing guarantee levies	18	12	19	10	8	8
Total taxes on financial and capital transactions	247	15	19	11	8	8
Total taxes on property	247	15	19	11	8	8
Taxes on provision of goods and services						
General taxes (sales tax)	9 365	9 113	9 252	10 414	11 624	12 970
Excises and levies						
Excises on crude oil and LPG	1 354	64	116	62	27	13
Other Excise Act duties	9 005	9 417	9 560	10 751	11 973	12 835
Agricultural production taxes	1 228	723	618	633	679	656
Total excises and levies	11 587	10 204	10 294	11 446	12 679	13 505
Taxes on international trade						
Customs duties on imports	3 319	3 299	3 331	3 226	3 474	3 124
Customs duties on exports	54	49	2	1	2	—
Agricultural produce export taxes	3	2	3	3	4	5
Total taxes on international trade	3 377	3 350	3 336	3 231	3 479	3 129
Taxes on gambling	—	—	—	5	9	10
Taxes on insurance	—	—	—	—	—	—
Total taxes on provision of goods and services	24 329	22 667	22 882	25 097	27 792	29 613

...continued

26.13 COMMONWEALTH GOVERNMENT TAXES(a), FEES AND FINES — continued

	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Taxes on use of goods and performance of activities						
Motor vehicle taxes	18	19	21	24	29	35
Franchise taxes	—	—	—	—	—	—
Other taxes on use of goods etc.						
Other taxes on use of good etc. n.e.c.	3	2	12	39	74	103
Broadcast and TV station licences	125	135	101	231	233	259
Departure tax	38	82	93	112	78	—
Total other taxes on use of goods etc.	166	219	206	382	385	362
Total taxes on use of goods and performance of activities	183	238	227	406	414	397
Fees and fines						
Compulsory fees, of which						
Aviation en route charges	409	433	286	237	268	291
Light dues and navigation Act charges	42	43	41	44	43	42
Total compulsory fees	867	1 016	926	843	985	1 126
Fines	27	15	16	32	23	26
Total fees and fines	894	1 032	942	876	1 007	1 152
Total taxes, fees and fines	93 413	87 530	88 830	93 328	105 092	115 486
(a) Excludes income taxes paid by public trading enterprises	165	822	831	865	772	1 258

Source: *Government Financial Estimates, Australia, 1996-97 (5501.0)* and *Taxation Revenue, Australia, 1995-96 (5506.0)*.

State/Territory government finance

State/Territory Governments perform the full range of government functions, other than those the Constitution deems the exclusive domain of the Commonwealth. The functions mainly administered by State/Territory governments include public order, health, education, administration, transport, and maintenance of infrastructure. The revenue base of State/Territory Governments is narrower than

that of the Commonwealth and consists of taxes on property, employers' payrolls, and on provision and use of goods and services. This revenue base is supplemented by grants from the Commonwealth. Tables 26.14 to 26.17 summarise the economic transactions, outlays, and taxation revenue for the government sector of all State and Territory Governments combined.

26.14 ECONOMIC TRANSACTIONS OF STATE AND TERRITORY GOVERNMENTS, General Government

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Current expenditure	40 539	43 281	44 722	46 822	49 166	52 225
Less sales of goods and services(a)	5 090	5 282	5 355	5 891	6 489	7 069
Final consumption expenditure	35 449	37 999	39 367	40 931	42 676	45 155
Interest payments	7 688	7 382	7 539	7 532	7 416	6 569
Subsidies paid to public trading enterprises	2 450	2 510	2 389	2 418	2 085	1 972
Current grants to other governments	958	1 296	1 334	1 346	1 407	1 476
Other transfer payments	4 976	5 972	6 862	7 278	7 790	8 141
Total current outlays	51 520	55 158	57 491	59 506	61 375	63 314
Capital outlays						
Expenditure on new fixed assets	5 730	5 632	6 352	5 933	6 230	6 636
Plus expenditure on secondhand assets	-296	-355	-505	-417	-226	-6 995
Gross fixed capital expenditure	5 435	5 277	5 847	5 517	6 005	-359
Expenditure on land and intangible assets (net)	-142	-183	-364	-437	-468	-2 015
Capital grants to -						
Other sectors	227	357	330	403	309	350
Other governments	569	265	308	340	288	8 360
Public trading enterprises	1 634	1 752	1 935	2 051	1 913	1 907
Total capital grants	2 430	2 374	2 573	2 795	2 510	10 617
Advances paid (net) to -						
Public financial enterprises	-68	2 114	481	-1 188	-98	-262
Public trading enterprises	-688	-139	-98	-251	-199	-5 675
Other	-93	-234	-1 478	-843	-1 564	-1 591
Total advances	-849	1 742	-1 095	-2 282	-1 861	-7 528
Other capital outlays	20	6	7	38	36	54
Total capital outlays	6 895	9 215	6 968	5 630	6 223	769
Total outlays	58 414	64 373	64 460	65 136	67 598	64 083
Revenue						
Taxes, fees and fines	21 121	22 572	24 093	26 787	28 144	30 360
Interest received from public trading enterprises	859	776	716	650	721	474
Interest received from other enterprises	3 302	2 827	2 697	2 640	3 054	3 410
Grants received -						
For own use	23 620	23 940	25 938	25 805	26 348	27 715
For onpassing	4 818	5 462	5 869	6 241	6 730	6 987
Total grants received	28 438	29 402	31 807	32 046	33 078	34 702
Other revenue	2 799	3 354	3 586	4 496	4 726	5 477
Total revenue	56 519	58 932	62 900	66 618	69 724	74 423
Financing and deficit measures						
Advances received (net)	-1 857	-2 751	-2 721	-1 398	-1 639	-4 038
Borrowing (net)	6 618	11 174	8 273	4 867	5	-10 189
Increase in provisions	71	48	-3	-25	39	8
Other financing transactions	-2 937	-3 029	-3 989	-4 927	-531	3 880
Total financing	1 895	5 441	1 560	-1 482	-2 126	-10 340
Less increase in provisions (net)	71	48	-3	-25	39	8
Deficit(b)	1 824	5 394	1 563	-1 457	-2 165	-10 348
Current deficit (c)	-849	-153	-344	-3 292	-5 329	-8 173
Capital deficit (d)	2 673	5 547	1 907	1 835	3 164	-2 175
Less advances paid (net)	-849	1 742	-1 095	-2 282	-1 861	-7 528
Deficit adjusted for net advances(e)	2 673	3 652	2 658	825	-304	-2 820

(a) This item provides an indication of the extent of government charges levied. The charges are offset against gross expenditure in calculating final consumption expenditure and comprise mainly sales to the private sector. However, note that it has not been possible to exclude all inter-agency charges and that some estimated data is included. (b) The deficit is the sum of all financing transactions except for increases/decreases in provisions. (c) Revenue less current outlays plus increase in provisions less capital grants and other capital revenue. (d) Capital grants and other capital revenue less capital outlays. (e) This is defined as the cash based deficit/surplus less net advances paid. Net advances paid includes equity sales and repayment of past policy lending, less equity injections/purchases and new policy lending.

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.15 ECONOMIC TRANSACTIONS OF STATE AND TERRITORY GOVERNMENTS, Public Trading Enterprises

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Interest payments to -						
General government	848	764	716	646	711	472
Other enterprises	4 995	4 654	3 973	3 436	3 386	3 365
Total interest payments	5 843	5 417	4 689	4 082	4 098	3 837
Income transferred to general government	928	1 354	1 486	2 275	2 524	3 251
Other transfer payments	425	469	423	416	363	331
Total current outlays	7 197	7 241	6 598	6 773	6 984	7 420
Capital outlays						
Expenditure on new fixed assets	6 253	6 317	6 626	7 104	7 000	6 568
Plus expenditure on secondhand assets	-629	-384	-1 183	-1 443	-550	-851
Gross fixed capital expenditure	5 625	5 933	5 443	5 661	6 451	5 717
Expenditure on land and intangible assets (net)	69	100	51	-265	-203	-157
Capital grants to -						
Other sectors	36	20	38	45	59	56
Other levels of government	9	—	45	52	28	10
Total capital grants	46	20	84	96	86	66
Advances paid (net) to -						
Private sector	-188	-179	-157	-142	44	-10 545
Other	-32	-60	-51	-38	-30	22
Total advances	-220	-238	-208	-180	14	-10 523
Other capital outlays	-145	55	33	-81	-168	21
Total capital outlays	5 374	5 870	5 403	5 231	6 180	-4 877
Total outlays	12 571	13 111	12 001	12 004	13 164	2 543
Revenue						
Sales of goods and services	29 575	32 029	33 221	39 303	41 287	40 920
Plus subsidies received	2 425	2 488	2 379	2 431	2 096	2 082
Less operating expenditure	25 639	27 475	28 498	33 953	36 364	36 444
Net operating surplus	6 361	7 041	7 102	7 781	7 019	6 558
Interest received	869	669	452	323	456	518
Capital grants received	1 591	1 779	1 980	2 117	1 978	1 898
Other revenue	528	597	544	710	908	458
Total revenue	9 349	10 086	10 079	10 931	10 361	9 432
Financing and deficit measures						
Advances received (net)	-682	-150	-132	-255	-197	-6 178
Borrowing (net)	498	319	-1 320	-2 005	-1 519	-4 610
Increase in provisions						
For depreciation	2 928	3 318	3 882	4 113	4 515	4 270
Other	119	-21	-153	-419	-76	269
Total increase in provisions	3 047	3 297	3 730	3 694	4 440	4 540
Other financing transactions	359	-440	-355	-361	80	-641
Total financing and deficit measures	3 222	3 026	1 922	1 073	2 803	-6 889
Less increase in provisions (net)	3 047	3 297	3 730	3 694	4 440	4 540
Deficit	174	-271	-1 807	-2 621	-1 636	-11 429
Current deficit	-3 108	-3 784	-4 708	-5 087	-4 992	-4 209
Capital deficit	3 283	3 513	2 901	2 466	3 355	-7 219
Less advances paid (net)	-220	-238	-208	-180	14	-10 523
Deficit adjusted for net advances	395	-33	-1 599	-2 441	-1 651	-905

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.16 STATE AND TERRITORY GOVERNMENT TAXES, FEES AND FINES

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m
Employers' payroll taxes	5 802	5 904	5 800	6 021	6 572	7 088
Taxes on property						
Taxes on immovable property						
Land taxes	1 602	1 774	1 492	1 389	1 373	1 483
Municipal rates	66	72	78	83	86	88
Metropolitan improvement rates	59	69	68	75	81	86
Property owners' contributions to fire brigades	105	111	119	124	135	145
Taxes on immovable property n.e.c.	111	116	300	263	213	42
Total taxes on immovable property	1 944	2 141	2 058	1 934	1 889	1 843
Taxes on financial and capital transactions						
Stamp duties	2 926	3 027	3 341	4 165	3 998	4 165
Financial institutions' taxes	1 057	1 388	1 484	1 755	1 831	1 904
Government borrowing guarantee levies	49	49	57	79	83	79
Total taxes on financial and capital transactions	4 032	4 464	4 882	6 000	5 912	6 148
Total taxes on property	5 976	6 606	6 940	7 934	7 801	7 992
Taxes on provision of goods and services						
Excises and levies						
Total excises and levies	388	436	484	505	532	551
Taxes on gambling						
Taxes on government lotteries	503	539	517	550	614	619
Taxes on private lotteries	328	331	325	323	337	339
Poker machine taxes	295	315	502	752	1 015	1 256
Casino taxes	93	97	115	149	232	367
Race betting taxes	645	646	683	703	662	643
Taxes on gambling n.e.c.	82	90	94	100	98	83
Total taxes on gambling	1 946	2 018	2 236	2 578	2 958	3 306
Taxes on insurance						
Insurance companies' contributions to fire brigades	363	382	399	409	443	482
Third party insurance taxes	137	141	152	205	218	225
Taxes on insurance n.e.c.	676	774	879	961	998	1 023
Total taxes on insurance	1 176	1 298	1 430	1 574	1 659	1 730
Total taxes on provision of goods & services	3 510	3 751	4 149	4 658	5 148	5 587
Taxes on use of goods and performance of activities						
Motor vehicle taxes						
Vehicle registration fees and taxes	1 402	1 606	1 765	1 901	1 970	2 022
Stamp duty on vehicle registration	641	626	750	872	987	1 050
Drivers' licences	251	184	187	240	299	281
Road transport and maintenance taxes	57	57	79	92	106	101
Total motor vehicle taxes	2 350	2 473	2 781	3 105	3 362	3 454
Franchise taxes						
Gas franchise taxes	11	15	15	18	18	17
Petroleum products franchise taxes	1 061	1 128	1 174	1 346	1 427	1 531
Tobacco franchise taxes	944	1 085	1 575	1 975	2 067	2 621
Liquor franchise taxes	603	615	630	661	685	735
Total franchise taxes	2 620	2 842	3 394	3 999	4 197	4 903
Other taxes on use of goods etc.	30	50	74	67	69	287
Total taxes on use of goods & performance of activities	5 000	5 365	6 248	7 172	7 628	8 644
Fees and fines						
Compulsory fees	480	504	508	563	555	583
Fines	354	442	448	440	439	466
Total fees and fines	834	946	956	1 003	995	1 049
Total taxes, fees and fines	21 121	22 572	24 093	26 787	28 144	30 360

Source: Government Financial Estimates, Australia (5501.0) and Taxation Revenue, Australia (5506.0).

26.17 CONSOLIDATED OUTLAYS BY PURPOSE FOR STATE AND TERRITORY GOVERNMENTS

Purpose	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
General public services	4 104	6 537	4 869	5 064	4 910	2 988
Public order and safety	4 686	4 788	4 839	4 976	5 355	5 891
Education	16 799	17 795	18 655	19 168	19 885	20 864
Health	11 146	11 551	11 930	12 165	12 906	13 856
Social security and welfare	2 475	2 840	3 084	3 298	3 557	3 922
Housing and community amenities	3 065	3 132	3 259	2 518	3 865	3 277
Recreation and culture	1 500	1 709	1 704	1 621	897	1 895
Fuel and energy	2 299	2 437	1 621	987	2 583	-8 481
Agriculture, forestry and fishing	1 317	1 456	1 598	1 480	1 211	1 614
Mining, manufacturing and construction	290	271	88	230	84	266
Transport and communications	6 701	6 756	7 627	7 004	7 395	8 112
Other economic affairs	950	1 281	1 728	1 699	1 737	1 494
Other purposes	12 773	13 031	11 199	12 024	11 181	10 735
Total	68 105	73 583	72 199	72 235	75 567	66 433

Source: *Government Financial Estimates, Australia, 1996-97* (5501.0).

Local government finance

Local government authorities govern areas typically described as cities, towns, shires, boroughs, municipalities and district councils. Although the range of functions undertaken by local governments varies between the different jurisdictions, their 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 slaughtering, weights and measures, and registration of dogs.

Local governments also provide transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, swimming pools, libraries and museums.

Local governments' own-source revenue is derived mainly from property taxes. They also rely on grants from the Commonwealth and their parent State/Territory Governments (except for the Australian Capital Territory, which has no separate local government).

Tables 26.18 to 26.21 show the economic transactions, outlays, and tax revenues for the general government and public trading enterprise activities of all local governments in Australia.

26.18 ECONOMIC TRANSACTIONS OF LOCAL GOVERNMENTS, General Government

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Current expenditure	6 319	6 655	6 994	7 343	7 560	7 730
Less sales of goods and services(a)	2 167	2 274	2 403	2 655	2 767	2 741
Final consumption expenditure	4 152	4 381	4 591	4 688	4 792	4 989
Interest payments	698	598	541	421	381	346
Other transfer payments	105	91	79	82	97	107
Total current outlays	4 954	5 071	5 210	5 190	5 270	5 442
Capital outlays						
Expenditure on new fixed assets	2 281	2 190	2 598	2 432	2 497	2 494
Plus expenditure on secondhand assets (net)	-278	-223	-309	-297	-376	5 812
Gross fixed capital expenditure	2 004	1 967	2 290	2 134	2 121	8 306
Expenditure on land and intangible assets (net)	81	66	84	58	91	1 937
Capital grants to other governments	2	2	29	—	9	10
Advances paid (net)	-9	-12	-16	-11	—	-533
Other capital outlays	2	9	1	5	3	3
Total capital outlays	2 078	2 030	2 387	2 185	2 224	9 724
Total outlays	7 032	7 101	7 597	7 375	7 494	15 166
Revenue						
Taxes, fees and fines	4 480	4 703	4 969	5 145	5 265	5 428
Interest received	594	444	365	332	352	347
Grants received	1 574	1 628	1 810	1 749	1 745	9 767
Other revenue	201	206	142	364	338	411
Total revenue	6 849	6 981	7 286	7 590	7 701	15 953
Financing and deficit measures						
Advances received (net)	-1	14	-2	6	10	-25
Borrowing (net)	188	39	-128	-178	-197	-133
Increase in provisions (net)	—	—	—	—	—	—
Other financing transactions (net)	-5	67	442	-42	-20	-630
Total financing and deficit measures	182	120	311	-215	-207	-787
Less increase in provisions (net)	—	—	—	—	—	—
Deficit (b)	182	120	311	-215	-207	-787
Current deficit(c)	-1 159	-1 432	-1 541	-1 876	-1 949	-1 996
Capital deficit(d)	1 341	1 553	1 852	1 661	1 742	1 209
Less advances paid (net)	-9	-12	-16	-11	—	-533
Deficit adjusted for net advances(e)	191	132	328	-203	-207	-254

(a) This item provides an indication of the extent of government charges levied. The charges are offset against gross expenditure in calculating final consumption expenditure and comprise mainly sales to the private sector. However, note that it has not been possible to exclude all inter-agency charges and that some estimated data is included. (b) The deficit is the sum of all financing transactions except for increases/decreases in provisions. (c) Revenue less current outlays plus increase in provisions less capital grants and other capital revenue. (d) Capital grants and other capital revenue less capital outlays. (e) This is defined as the cash based deficit/surplus less net advances paid. Net advances paid includes equity sales and repayment of past policy lending, less equity injections/purchases and new policy lending.

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.19 ECONOMIC TRANSACTIONS OF LOCAL GOVERNMENTS — Public Trading Enterprises

Item	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Outlays						
Current outlays						
Interest payments	430	320	291	220	205	198
Income transferred to general government	30	32	86	6	8	7
Other transfer payments	42	44	39	38	40	43
Total current outlays	502	396	415	264	253	248
Capital outlays						
Expenditure on new fixed assets	852	744	729	468	492	505
Plus expenditure on secondhand fixed assets (net)	-34	-41	-31	-7	-9	-10
Gross fixed capital expenditure	818	703	698	461	483	495
Expenditure on land and intangible assets (net)	7	11	4	2	—	—
Advances paid (net)	-2	-3	-3	—	—	—
Other capital outlays	3	9	3	—	—	—
Total capital outlays	827	720	702	463	483	495
Total outlays	1 329	1 116	1 117	727	736	743
Revenue						
Sales of goods and services plus subsidies received	5 555	4 135	4 306	1 936	1 560	1 578
Less operating expenditure	4 728	3 535	3 723	1 320	970	974
Net operating surplus	827	600	583	617	590	604
Interest received	127	83	53	30	35	37
Capital grants received	98	87	80	87	86	97
Other revenue	173	174	197	193	194	213
Total revenue	1 226	945	913	926	905	951
Financing and deficit measures						
Advances received (net)	-8	-34	-19	—	—	-2
Borrowing (net)	-33	-28	-54	-154	-104	-57
Increase in provisions (net)	263	298	374	102	103	111
Other financing transactions (net)	-119	-66	-98	-148	-167	-259
Total financing and deficit measures	103	171	204	-200	-169	-208
Less increase in provisions (net)	263	298	374	102	103	111
Deficit	-160	-128	-170	-301	-271	-319
Current deficit	-715	-586	-594	-498	-489	-520
Capital deficit	555	459	425	197	218	201
Less advances paid (net)	-2	-3	-3	—	—	—
Deficit adjusted for net advances	-158	-125	-167	-301	-271	-319

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.20 CONSOLIDATED OUTLAYS BY PURPOSE OF LOCAL GOVERNMENTS

Purpose	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
General public services	1 476	1 552	1 492	1 479	1 323	1 438
Public order and safety	116	120	127	190	222	229
Education	36	38	45	31	35	33
Health	154	166	154	174	215	184
Social security and welfare	311	358	409	450	485	470
Housing and community amenities	1 331	1 314	1 418	1 400	1 508	1 622
Recreation and culture	1 137	1 144	1 338	1 424	1 537	1 573
Fuel and energy	405	324	391	23	4	-531
Agriculture, forestry and fishing	16	17	16	12	13	14
Mining, manufacturing and construction	117	115	112	96	128	130
Transport and communications	1 906	1 946	2 117	2 073	2 109	10 142
Other economic affairs	61	64	73	71	20	-16
Other purposes	1 264	1 026	1 009	672	623	612
Total	8 329	8 183	8 702	8 096	8 223	15 901

Source: Government Financial Estimates, Australia, 1996-97 (5501.0).

26.21 LOCAL GOVERNMENT TAXES, FEES AND FINES(a)

Purpose	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Taxes on property	4 205	4 392	4 641	4 784	4 858	5 010
Fees and fines						
Compulsory fees	198	231	250	284	336	347
Fines	77	80	77	77	72	70
Total fees and fines	275	311	328	361	408	418
Total taxes, fees and fines	4 480	4 703	4 968	5 145	5 265	5 428

(a) Excludes rates collected by local government business undertakings; they are regarded as charges for goods and services and not as taxes.

Source: Taxation Revenue, Australia, 1995-96 (5506.0).

Financial assets and liabilities

As well as providing transactions (flows) statistics, the GFS system provides levels (stocks) data on financial assets and liabilities of the Australian government sector. The statistics encompass deposits made or held by Australian governments, and all lending and borrowing they have undertaken, whether for policy purposes (termed 'advances') or for liquidity management and investment (other lending/borrowing). Briefly defined:

- Financial assets cover the financial claims of the non-financial public sector on other organisations (including other government authorities and overseas organisations) and households. However, the financial assets shown below cover only 'debt-related' financial assets and do not include shares and

other equity assets and financial assets related to trade credit and accounts receivable. Financial assets are shown before deduction of provisions for doubtful debts.

- Liabilities include all financial claims on the non-financial public sector except those related to trade credit and other accounts payable. Liabilities include lease liabilities under finance leases or similar arrangements and repayable amounts held as security deposits. Monies held on trust (excluding employee superannuation contributions) are included both as assets and liabilities of government. Coin on issue is not included as a liability of government.

Tables 26.22, 26.23 and 26.24 summarise the financial assets, liabilities and net financial position of the non-financial public sector of the three levels of government.

26.22 FINANCIAL ASSETS AND LIABILITIES OF ALL LEVELS OF GOVERNMENT COMBINED(a)

	At 30 June 1995			At 30 June 1996		
	Liabilities \$m	Financial assets \$m	Net financial position(b) \$m	Liabilities \$m	Financial assets \$m	Net financial position(b) \$m
Cash and deposits	2 353	10 755	..	3 344	10 375	..
Advances	—	6 147	..	—	6 478	..
Other lending/borrowing(c)	215 106	35 758	..	204 192	32 752	..
Total	217 458	52 660	164 798	207 536	49 602	157 934

(a) Totals do not always add because holdings of financial assets and liabilities between categories cancel out. (b) Total liabilities less total financial assets. (c) Loans and placements received/made, debt securities issued/held and finance lease liabilities.

Source: *Public Sector Financial Assets and Liabilities, Australia (5513.0)*.

26.23 FINANCIAL ASSETS AND LIABILITIES OF THE COMMONWEALTH GOVERNMENT(a)

	At 30 June 1995			At 30 June 1996		
	Liabilities \$m	Financial assets \$m	Net financial position(b) \$m	Liabilities \$m	Financial assets \$m	Net financial position(b) \$m
Cash and deposits	290	3 103	..	411	2 744	..
Advances	—	10 650	..	—	10 977	..
Other lending/borrowing(c)	121 239	15 077	..	122 763	8 364	..
Total	121 529	28 830	92 699	123 174	22 085	101 090

(a) Totals do not always add because holdings of financial assets and liabilities between categories cancel out. (b) Total liabilities less total financial assets. (c) Loans and placements received/made, debt securities issued/held and finance lease liabilities.

Source: *Public Sector Financial Assets and Liabilities, Australia (5513.0)*.

26.24 FINANCIAL ASSETS AND LIABILITIES OF STATE/TERRITORY AND LOCAL GOVERNMENTS(a)

	At 30 June 1995			At 30 June 1996		
	Liabilities \$m	Financial assets \$m	Net financial position(b) \$m	Liabilities \$m	Financial assets \$m	Net financial position(b) \$m
Cash and deposits	2 463	8 052	..	2 936	7 634	..
Advances	13 811	2 630	..	9 920	2 499	..
Other lending/borrowing(c)	99 550	33 042	..	86 164	32 043	..
Total	115 823	43 725	72 098	99 020	42 175	56 845

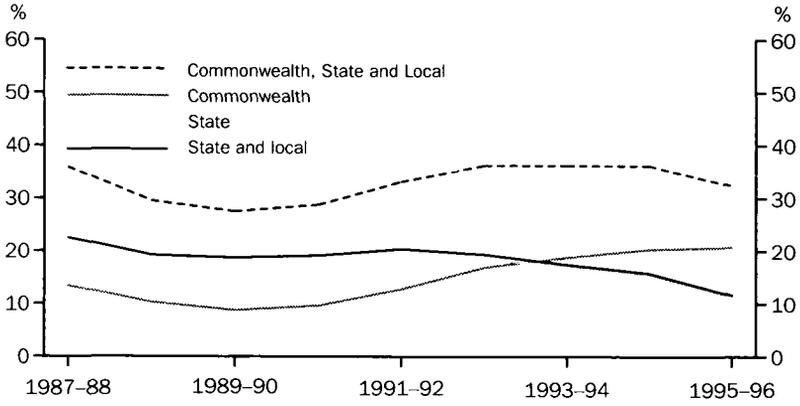
(a) Totals do not always add because holdings of financial assets and liabilities between categories cancel out. (b) Total liabilities less total financial assets. (c) Loans and placements received/made, debt securities issued/held and finance lease liabilities.

Source: *Public Sector Financial Assets and Liabilities, Australia (5513.0)*.

Graph 26.25 shows the movements in net debt as a percentage of GDP(I) for the Commonwealth Government, State/Territory Governments and local governments, and all governments combined, from 30 June 1988 to 30 June 1996. Over this period, Commonwealth

net debt has increased as a percentage of GDP, but State/Territory and Local government net debt has decreased substantially, leading to a decrease in total government net debt as a percentage of GDP.

26.25 NET DEBT OF ALL LEVELS OF GOVERNMENT, % of GDP



Source: Public Sector Financial Assets and Liabilities, Australia (5513.0).

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Introduction	653
Consumer Price Index	653
Index population	653
Conceptual basis	654
Periodic reviews of the CPI	654
Weighting pattern	655
Price collection	655
Price movements by city	656
Price movements by broad commodity group	656
Alternative measures of consumer price inflation	657
Treasury's underlying inflation rate	658
Long-term price series	659
International comparisons	660
Producer Price Indexes	660
Long-term price series	660
Construction price indexes	662
Price Index of Materials Used in House Building	662
Price Index of Materials Used in Building Other than House Building	663
Manufacturing price indexes	664
Price indexes of materials used in manufacturing industries	664
Price indexes of articles produced by manufacturing industries	664
International Trade Price Indexes	665
Export Price Index	665
Import Price Index	665
Bibliography	667

Introduction

Prices are a key factor in the operation of an economy. The indexes, which provide summary measures of the movements in various categories of prices, are used extensively to analyse and monitor price behaviour, and to adjust government payments such as pensions.

This chapter provides an outline of the major price indexes, their history, and their underlying concepts and methodology. More detailed information is contained in the source publications referred to throughout the chapter and in the bibliography.

Consumer Price Index

The description of the Consumer Price Index (CPI) commonly adopted by users is in terms of its perceived uses; hence the frequent references to the CPI as a measure of inflation, a measure of changes in purchasing power, or a measure of changes in the cost of living. None is strictly correct. In objective statistical terms the most appropriate general description is: a measure of changes, over time, in retail prices of a constant basket of goods and services. As such, the CPI is a general indicator of the rate of change in prices paid by household consumers for the goods and services they buy.

The simplest way of thinking about the CPI is to imagine a basket of goods and services of the kind bought by Australian households. As prices vary, the total price of this basket will also vary. The CPI is simply a measure of the changes in the price of this basket as the prices of items in it change.

The price of the CPI basket in the base period is assigned a value of 100.0 and the prices in other periods are expressed as percentages of the price in the base period. For example, if the price of the basket had increased 35% since the base year, then the index would read 135.0. Similarly, if the price had fallen by 5% since the base year, the index would stand at 95.0.

For practical reasons, the CPI basket cannot include every item bought by households, but it does include all the important kinds of items. It is not necessary to include every item that people buy since many related items are subject to similar price changes. The idea is to select

representative items so that the index reflects price changes for a much wider range of goods and services than is actually priced.

The total basket is divided into the following eight major commodity groups: food; clothing; housing; household equipment and operation; transportation; tobacco and alcohol; health and personal care; and recreation and education. These groups are divided in turn into 35 subgroups and the subgroups into 107 expenditure classes.

In addition to the aggregate All groups index, indexes are also compiled and published for each of the groups, subgroups and expenditure classes for each State capital city, Darwin and Canberra. National indexes are constructed as the weighted average of the indexes compiled for each of the eight capital cities.

The CPI is the latest of a number of retail price indexes which have been constructed for various purposes by the Australian Bureau of Statistics (ABS). The history of retail price indexes in Australia is published in *Year Book Australia, 1995*.

Index population

The CPI measures price changes relating to the spending pattern of a large proportion of metropolitan employee households. This group is termed the CPI population group. For this purpose employee households have been defined as those households which obtain at least three-quarters of their total income from wages and salaries, excluding the top 10% (in terms of income) of such households. Metropolitan means the State capital cities, Darwin and Canberra.

However, the exclusion of particular subgroups of the Australian population from the CPI population group does not necessarily mean that the CPI does not provide a suitable measure of price change for all household types. For example, a study undertaken by the ABS in 1992 (and updated in 1995) showed that an experimental index constructed to reflect the expenditure patterns of age pensioner households displayed little variation from the CPI over a period of nearly 11 years, although there were some differences in index movements when shorter periods were examined.

Conceptual basis

The CPI is a quarterly measure of the change in average retail price levels. It provides a method of comparing the average price level for a quarter with the average price level of the reference base year or changes in the average price level from one quarter to any other quarter.

In measuring price changes, the CPI aims to measure only pure price changes (i.e., it is concerned with isolating and measuring only that element of price change which is not brought about by any change to either the quantity or the quality of the goods or services concerned). In other words it aims to measure, each quarter, the change in the cost of purchasing an identical basket of goods and services. This involves evaluating changes in the quality of goods and services included in the index and removing the effects of such changes from the prices used to construct the index.

The CPI is also a measure of changes in the prices actually paid by consumers for the goods and services they buy. It is not concerned with nominal, recommended or list prices (unless they are the prices consumers actually pay).

Although the CPI is often loosely called a 'cost-of-living' index this is not strictly correct. A true cost-of-living index would, among other things, need to be concerned with changes in standards of living and with the substitutions that consumers make in order to maintain their standard of living in the face of changing market conditions (for instance, buying chicken rather than beef when beef prices are high).

The CPI basket includes goods and services ranging from steak to motor cars and from dental fillings to restaurant meals. The items are chosen not only because they represent the spending habits of the CPI population group but also because the items are those whose prices can be associated with identifiable and specific commodities and services. While government taxes and charges which are associated with the use of specific goods and services (such as excise duty, sales taxes, local government rates, etc.) are included, income taxes and the income-related Medicare levy are excluded because they cannot be clearly associated with the purchase or use of a specific quantity of any good or service.

Items are not excluded from the CPI basket on the basis of moral or social judgements. For example, some people may regard the use of

tobacco and alcohol as socially undesirable, but these commodities are included in the CPI basket because they are significant items of household expenditure and their prices can be accurately measured. However, to assist in understanding the effect that major item groups have on the CPI, the ABS publishes a range of supplementary indexes which exclude, in turn, each of the eight major commodity groups. These supplementary indexes can also be used in their own right for evaluating price changes or for indexation purposes.

Periodic reviews of the CPI

Like any other long-standing and important statistical series, the CPI is reviewed from time to time to ensure that it continues to be relevant to current conditions. Over time, household spending habits change and the range of available goods and services also changes. The CPI needs to be updated to take account of these changes.

Since its inception in its current form in 1960, CPI reviews have usually been carried out at approximately five-yearly intervals. Following each review, which involves revising the list of items and their weights, the new series are linked to the old to form continuous series. This linking is carried out in such a way that the resulting continuous series reflects only price changes and not differences in the prices of the old and new baskets.

The last revision of the CPI was concluded in the September quarter 1992. In addition to revising weights to reflect new expenditure patterns (based on the 1988–89 ABS Household Expenditure Survey) and re-referencing the index to the 1989–90 base period, the review also considered a number of conceptual and methodological issues, including the treatment of home ownership costs.

The 13th Series review of the CPI commenced in July 1996. In addition to revising weights to reflect more recent expenditure patterns, based on the 1993–94 Household Expenditure Survey, the review is expected to address various conceptual and methodological issues

associated with the CPI. Results of the review are expected to be implemented for the March quarter 1998 CPI.

Weighting pattern

Between periodic reviews of the CPI, each of the 107 expenditure classes has a fixed weight (i.e., the measure of its relative importance). Details of the weighting pattern for the current (12th series) CPI are shown in the following table.

27.1 CONSUMER PRICE INDEX, Weighted Average of Capital Cities(a)

Groups and subgroups	Contribution to the All groups CPI %
Food	
Dairy products	1.463
Cereal products	2.097
Meat and seafoods	3.001
Fresh fruit and vegetables	1.417
Processed fruit and vegetables	0.829
Soft drinks, ice cream and confectionery	2.890
Meals out and take away foods	4.959
Other food	1.668
Total	18.324
Clothing	
Men's and boys' clothing	1.686
Women's and girls clothing	2.545
Fabrics and knitting wool	0.746
Footwear	1.063
Dry cleaning and shoe repairs	0.224
Total	6.264
Housing	
Rents	4.865
Home ownership	11.035
Total	15.900
Household equipment and operation	
Fuel and light	2.339
Furniture and floor coverings	4.344
Appliances	1.538
Household textiles	0.754
Household utensils and tools	1.212
Household supplies and services	3.970
Postal and telephone services	1.715
Consumer credit charges	2.498
Total	18.370
Transportation	
Private motoring	14.755
Urban transport fares	1.212
Total	15.967
Tobacco and alcohol	
Alcoholic drinks	5.061
Cigarettes and tobacco	2.414
Total	7.475

For footnotes see end of table.

...continued

27.1 CONSUMER PRICE INDEX, Weighted Average of Capital Cities(a) — continued

Groups and subgroups	Contribution to the All groups CPI %
Health and personal care	
Health services	3.961
Personal care products	2.097
Hairdressing services	0.792
Total	6.850
Recreation and education	
Books, newspapers and magazines	1.146
Recreational goods	2.564
Holiday travel and accommodation	2.349
Recreational services	2.852
Education and child care	1.939
Total	10.850
Total All groups	100.000

(a) Weighting Pattern at June quarter 1992.

Source: *The Australian Consumer Price Index 12th Series Review (6450.0)*.

Price collection

Since the CPI is designed to measure the impact of changing prices on metropolitan employee households, information about prices is collected in the kinds of retail outlets or other places where these households normally purchase goods and services. Prices are collected from many sources, including supermarkets, department stores, footwear stores, restaurants, motor vehicle dealers and service stations, dental surgeries, hotels and clubs, schools, hairdressers, travel agents and airlines, bus operators, electricians and plumbers. Items like rail fares, electricity and gas charges, telephone charges and local government rates are collected from the authorities concerned. Information on rents is obtained from property management companies and from government housing commissions. In total, around 100,000 separate price quotations are collected each quarter.

The collection of prices in each capital city is carried out by trained ABS field staff.

The prices used in the CPI are those that any member of the public would have to pay to purchase the specified good or service. Any sales or excise taxes attached to goods 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 (that is, not damaged or shop-soiled), and are offered for sale in reasonable quantities.

To ensure that the price movements reflect the buying 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.

Price movements by city

Table 27.2 presents All groups index numbers for each of the eight capital cities and for the weighted average of the eight capital cities, together with percentage changes.

27.2 CONSUMER PRICE INDEX, All Groups Index Numbers(a)(b)

Year	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra	Darwin	Weighted average of eight capital cities
1990-91	104.9	105.8	104.9	106.2	105.1	104.9	105.1	105.7	105.3
1991-92	106.7	108.1	107.0	108.9	105.9	107.1	107.8	108.0	107.3
1992-93	107.7	108.9	108.5	111.2	106.2	108.5	109.5	109.5	108.4
1993-94	109.2	111.1	110.6	113.4	108.5	111.7	111.4	111.5	110.4
1994-95	113.0	114.1	114.7	116.9	112.3	115.2	115.1	114.7	113.9
1995-96	118.7	118.4	119.1	121.2	116.7	119.6	120.3	119.5	118.7
CHANGE FROM PREVIOUS YEAR (%)									
1990-91	4.9	5.8	4.9	6.2	5.1	4.9	5.1	5.7	5.3
1991-92	1.7	2.2	2.0	2.5	0.8	2.1	2.6	2.2	1.9
1992-93	0.9	0.7	1.4	2.1	0.3	1.3	1.6	1.4	1.0
1993-94	1.4	2.0	1.9	2.0	2.2	2.9	1.7	1.8	1.8
1994-95	3.5	2.7	3.7	3.1	3.5	3.1	3.3	2.9	3.2
1995-96	5.0	3.8	3.8	3.7	3.9	3.8	4.5	4.2	4.2

(a) Reference base year 1989-90 = 100.0. (b) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities. (c) Index numbers for financial years are calculated as the simple arithmetic averages of the quarterly index numbers.

Source: Consumer Price Index (6401.0).

The capital city indexes measure price movements over time in each city individually. They do not measure differences in retail price

levels between cities. For example, the index for Adelaide in 1995-96 of 121.2 compared with the corresponding index for Sydney of 118.7 does

27.3 CONSUMER PRICE INDEX, Group Index Numbers — Weighted Average of Capital Cities(a)

Year	Food	Clothing	Housing	Household equipment and operation	Transportation	Tobacco and alcohol	Health and personal care	Recreation and education	All groups
1990-91	103.3	104.6	103.5	105.1	106.9	108.8	109.6	105.0	105.3
1991-92	105.8	106.4	98.9	107.5	108.8	115.0	121.3	106.9	107.3
1992-93	107.4	107.5	94.6	107.3	111.3	124.4	124.0	109.1	108.4
1993-94	109.4	106.7	94.2	107.8	113.8	133.7	129.0	111.9	110.4
1994-95	112.1	106.7	100.0	109.2	117.5	141.0	135.5	114.6	113.9
1995-96	116.0	107.0	105.9	111.7	122.6	156.1	141.8	117.7	118.7
CHANGE FROM PREVIOUS YEAR (%)									
1990-91	3.3	4.6	3.5	5.1	6.9	8.8	9.6	5.0	5.3
1991-92	2.4	1.7	-4.4	2.3	1.8	5.7	10.7	1.8	1.9
1992-93	1.5	1.0	-4.3	-0.2	2.3	8.2	2.2	2.1	1.0
1993-94	1.9	-0.7	-0.4	0.5	2.2	7.5	4.0	2.6	1.8
1994-95	2.5	—	6.2	1.3	3.3	5.5	5.0	2.4	3.2
1995-96	3.5	0.3	5.9	2.3	4.3	10.7	4.6	2.7	4.2

(a) Reference base year 1989-90 = 100.0. (b) Index numbers for financial years are calculated as the simple arithmetic averages of the quarterly index numbers.

Source: Consumer Price Index (6401.0).

not mean that prices in Adelaide are higher than those in Sydney. It simply means that, since the base period (1989–90), prices in Adelaide have increased by a greater percentage than those in Sydney (21.2% compared with 18.7%).

Price movements by broad commodity group

Table 27.3 presents, for the weighted average of the eight capital cities, index numbers for each of the eight major commodity groups and for the All groups, together with percentage changes.

Alternative measures of consumer price inflation

The various uses of the CPI may be grouped into two major categories. The first relates to uses of the CPI to assess changes in the purchasing power of household incomes, particularly as input to income adjustment processes. The second relates to uses as a general measure of inflation; the way it is reported by the media and commented on by informed institutions and individuals plays an important role in the formation of inflationary expectations, both within the Australian community and abroad.

It is not possible to produce a single measure that is entirely suitable for both purposes, due to certain fundamental differences in requirements. For more details, see the *Information Paper: The Australian Consumer Price Index, 12th Series Review* (6450.0).

Recognising the differences in requirements and the resulting variations in practices which had been adopted by member countries of the International Labour Organisation (ILO) in compiling their national CPIs, the Fourteenth International Conference of Labour Statisticians (Geneva, 1987) adopted a resolution which

called for countries to 'provide for dissemination at the international level of an index which excludes shelter, in addition to the all items index.' See the section on *International Comparisons* below.

While indexes which exclude shelter costs remove an important source of non-comparability, and are therefore preferable to unadjusted national CPIs for the purposes of international comparisons of inflation rates, there is a need for other measures for some purposes. In particular, there is the requirement for measures which seek to remove temporary influences and one-off changes in order to focus on the 'underlying' inflation rate.

There is no universally accepted methodology for deriving a measure of an 'underlying' inflation rate. The Reserve Bank of Australia (RBA) and the Commonwealth Department of the Treasury (Treasury) have developed several alternative measures which, while based on the CPI, exclude various components which have been assessed as contributing significant temporary influences from time to time. (For a more comprehensive discussion of the issues see 'Measuring "Underlying" Inflation', *Reserve Bank of Australia Bulletin*, August 1994.)

Table 27.4 presents the All groups CPI, the series recommended for international comparisons (All groups excluding housing), and a number of possible 'underlying' measures including the Treasury measure. No single series can be claimed to provide the ideal guide to 'underlying' inflation in every time period due to variations in the sources of particular 'shocks'. Judgement will still be required in assessing the trend from period to period. However, Treasury and the RBA have agreed that the Treasury series provides the best available guide to 'underlying' inflation for macro-economic policy purposes.

27.4 ALTERNATIVE MEASURES OF CONSUMER PRICE INFLATION(a)

Year	All groups	All groups excluding housing	All groups excluding interest and 'volatile items' (b)	Private sector goods and services(c)			Treasury Underlying Rate(d)
				Goods	Services	Total	
INDEX NO.(e)							
1990-91	105.3	105.6	105.5	104.7	106.0	105.1	104.9
1991-92	107.3	108.8	109.3	107.9	108.0	107.9	108.2
1992-93	108.4	111.0	112.1	110.9	109.0	110.4	110.4
1993-94	110.4	113.5	115.2	113.9	110.8	113.1	112.7
1994-95	113.9	116.5	118.1	116.2	114.0	115.7	115.1
1995-96	118.7	121.1	122.4	120.6	118.6	120.1	118.8
CHANGE FROM PREVIOUS YEAR (%)							
1990-91	5.3	5.6	5.5	4.7	6.0	5.1	4.9
1991-92	1.9	3.0	3.6	3.1	1.9	2.7	3.1
1992-93	1.0	2.0	2.6	2.8	0.9	2.3	2.0
1993-94	1.8	2.3	2.8	2.7	1.7	2.4	2.1
1994-95	3.2	2.6	2.5	2.0	2.9	2.3	2.1
1995-96	4.2	3.9	3.6	3.8	4.0	3.8	3.2

(a) Reference base year 1989-90 = 100.0. (b) Comprises the All groups CPI excluding: Fresh fruit and vegetables, Mortgage interest charges, Automotive fuel, and Consumer credit charges. The series covers approximately 85% of the CPI basket.

(c) Comprises the All groups CPI excluding: items in (b), Government-owned dwelling rents, Fuel and light, Local government rates and charges, Postal and telephone services, Motoring charges, Urban transport fares, Health services, Pharmaceuticals and Education and child care. The resulting series covers approximately 69% of the total CPI basket. (d) Comprises the All groups CPI excluding: items in (b) and (c) (except motoring charges), Meat and seafoods, Clothing, Tobacco and alcohol, and Holiday travel and accommodation. (e) Index numbers for financial years are calculated as the simple arithmetic averages of the quarterly index numbers.

Source: Consumer Price Index (6401.0).

Treasury's underlying inflation rate

The Treasury measure of the 'underlying' inflation rate is derived by excluding items from the CPI basket on the basis that changes in their prices are: highly volatile; exhibit marked seasonal patterns; or are largely affected by policy decisions. By excluding from the basket those goods and services for which prices are significantly affected by exogenous factors, Treasury's underlying rate seeks to measure price movements which are predominantly influenced by market forces.

The items excluded and the reasons for Treasury's exclusion of them are as follows:

- Meat and seafood. Prices can be highly volatile (particularly in periods of drought) and exhibit a seasonal pattern.
- Fresh fruit and vegetables. Prices can be highly volatile from quarter to quarter, often driven by climatic conditions.
- Clothing. Prices exhibit a seasonal pattern with stronger increases in June and December quarters as a result of the methodology used to deal with seasonal availability of clothing (summer and winter lines).
- Government-owned dwelling rents. Prices are determined by government decisions and are often linked to tenant incomes rather than market determined rentals.
- Mortgage interest charges. These are affected by changes in monetary policy which feed through to mortgage interest rates.
- Local government rates and charges. Price changes mainly reflect revenue raising decisions of local governments.
- Household fuel and light. Price changes mainly reflect decisions made by State Governments.
- Postal and telephone services. Price changes are subject to some degree of regulation by the Commonwealth.
- Consumer credit charges. As for Mortgage interest charges above.
- Automotive fuel. Prices are highly volatile and are also affected by changes in Commonwealth excise and State franchise fees.
- Urban transport fares. Price changes are determined by State and Territory Governments.

- Tobacco and alcohol. Prices are affected by changes in Commonwealth excise and State license fees.
- Health services. Prices can be affected by changes in Medicare arrangements.
- Pharmaceuticals. Prices exhibit a regular seasonal pattern due to the impact of the Pharmaceutical Benefits Scheme safety net scheme, and are also subject to a degree of government regulation.
- Holiday travel and accommodation. Price change is highly seasonal.
- Education and childcare. Price change is highly seasonal.

The items excluded from the CPI basket in order to construct the Treasury measure are listed in table 27.5, together with the weight of each item in the All groups CPI basket at June quarter 1992.

27.5 ITEMS EXCLUDED FROM THE CPI BASKET, In Constructing the Treasury Measure of Underlying Inflation

CPI Item (Group/Sub-group Expenditure class)	Weight in CPI basket
Meat and seafoods	3.001
Fresh fruit and vegetables	1.417
Clothing	6.264
Government-owned dwelling rents	0.382
Mortgage interest charges	6.608
Local government rates and charges	2.190
Household fuel and light	2.339
Postal and telephone services	1.715
Consumer credit charges	2.498
Automotive fuel	4.698
Urban transport fares	1.212
Tobacco and alcohol	7.475
Health services	3.961
Pharmaceuticals	0.820
Holiday travel and accommodation	2.349
Education and childcare	1.939
Total	48.868

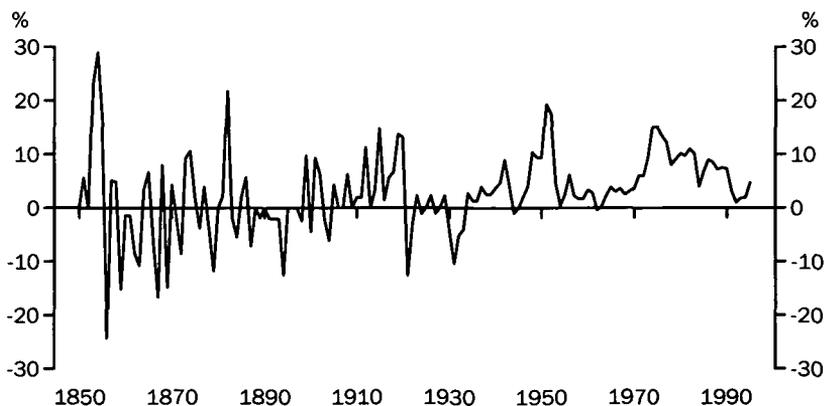
Source: Consumer Price Index, September Quarter 1994.

Long-term price series

Although the CPI has only been compiled from 1948, an approximate long-term measure of retail price change has been constructed by linking together other selected retail price index series (see figure 27.6 and table 27.7). The index numbers are expressed on a reference base 1945=100.0, which was the end of a period of relative price stability during World War II. The successive series linked together to produce this long-term series of index numbers are:

- from 1850 to 1901, Sydney Retail Price Index;
- from 1901 to 1914, the A Series Index;
- from 1914 to 1946–47, the C Series Index;
- from 1946–47 to 1948–49, a combination of the C Series Index (excluding rent) and the housing group of the CPI; and
- from 1948–49 onwards, the CPI.

27.6 RETAIL PRICE INDEX, % Change from Previous Year



Source: Australian Bureau of Statistics.

27.7 RETAIL PRICE INDEX NUMBERS(a)(b)

Year	Index no.	Year	Index no.	Year	Index no.
1850	53	1900	43	1950	140
1851	56	1901	47	1951	167
1852	56	1902	50	1952	196
1853	69	1903	49	1953	205
1854	89	1904	46	1954	206
1855	103	1905	48	1955	211
1856	78	1906	48	1956	224
1857	82	1907	48	1957	229
1858	86	1908	51	1958	233
1859	73	1909	51	1959	237
1860	72	1910	52	1960	245
1861	71	1911	53	1961	252
1862	65	1912	59	1962	251
1863	58	1913	59	1963	252
1864	60	1914	61	1964	258
1865	64	1915	70	1965	268
1866	60	1916	71	1966	276
1867	50	1917	75	1967	286
1868	54	1918	80	1968	293
1869	46	1919	91	1969	302
1870	48	1920	103	1970	313
1871	47	1921	90	1971	332
1872	43	1922	87	1972	352
1873	47	1923	89	1973	385
1874	52	1924	88	1974	443
1875	53	1925	88	1975	510
1876	51	1926	90	1976	579
1877	53	1927	89	1977	650
1878	51	1928	89	1978	702
1879	45	1929	91	1979	766
1880	45	1930	87	1980	844
1881	46	1931	78	1981	926
1882	56	1932	74	1982	1 028
1883	55	1933	71	1983	1 132
1884	52	1934	73	1984	1 177
1885	53	1935	74	1985	1 257
1886	56	1936	75	1986	1 370
1887	52	1937	78	1987	1 487
1888	52	1938	80	1988	1 594
1889	51	1939	82	1989	1 714
1890	51	1940	85	1990	1 839
1891	50	1941	89	1991	1 898
1892	49	1942	97	1992	1 917
1893	48	1943	101	1993	1 952
1894	42	1944	100	1994	1 989
1895	42	1945	100	1995	2 082
1896	42	1946	102	..	..
1897	42	1947	106	..	..
1898	41	1948	117	..	..
1899	45	1949	128	..	..

(a) Reference base year 1945 = 100.0. (b) The index numbers relate to Sydney from 1850 to 1900; from 1901 to 1980 they relate to the weighted average of six State capital cities and from 1981 to the weighted average of eight capital cities. Index numbers are for calendar years.

Source: Australian Bureau of Statistics.

International comparisons

In analysing price movements in Australia, an important consideration is Australia's performance relative to other countries. However, due to the many differences in the structure of the housing sector in different countries and in the way that housing is treated in their CPIs, a simple comparison of All groups (or headline) CPIs is often inappropriate. As indicated earlier, in order to provide a better basis for international comparisons, the Fourteenth International Conference of Labour Statisticians adopted a resolution which called for countries to 'provide for dissemination at the international level of an index which excludes shelter, in addition to the all items index.'

Table 27.8 presents indexes for selected countries on a basis consistent with the above resolution and comparable with the Australian series 'All groups excluding housing'.

27.8 CONSUMER PRICE INDEX, International Comparisons(a)(b)

Year	USA	Japan	Germany(c)	Canada	UK	Hong Kong	Republic of Korea	Taiwan	Indonesia	Singapore	Australia	NZ(d)
INDEX NO.												
1990-91	105.5	103.4	102.7	105.5	107.7	110.8	109.1	104.0	108.7	103.3	105.6	104.0
1991-92	108.7	105.9	107.1	108.8	115.0	121.7	117.9	107.6	120.0	106.1	108.8	106.5
1992-93	112.1	106.8	110.3	110.8	118.6	130.8	123.5	111.4	129.0	108.1	111.0	108.7
1993-94	114.8	107.9	113.2	112.0	122.0	140.1	130.4	114.2	137.8	110.9	113.5	109.4
1994-95	118.0	107.8	115.2	113.4	124.8	151.4	138.0	119.1	150.3	114.5	116.5	110.5
1995-96	120.9	107.3	116.3	116.0	128.3	160.8	144.4	122.5	163.7	116.0	121.1	111.9
CHANGE SINCE PREVIOUS YEAR (%)												
1990-91	5.5	3.4	2.7	5.5	7.7	10.8	9.1	4.0	8.7	3.3	5.6	4.0
1991-92	3.0	2.4	4.3	3.1	6.8	9.8	8.1	3.5	10.4	2.7	3.0	2.4
1992-93	3.1	0.8	3.0	1.8	3.1	7.5	4.7	3.5	7.5	1.9	2.0	2.1
1993-94	2.4	1.0	2.6	1.1	2.9	7.1	5.6	2.5	6.8	2.6	2.3	0.6
1994-95	2.8	-0.1	1.8	1.3	2.3	8.1	5.8	4.3	9.1	3.2	2.6	1.0
1995-96	2.5	-0.5	1.0	2.3	2.8	6.2	4.6	2.9	8.9	1.3	3.9	1.3

(a) Reference base year 1989-90 = 100.0. (b) All groups excluding housing. (c) The statistics for Germany refer to Western Germany (Federal Republic of Germany before the unification of Germany). (d) From March quarter 1994 the statistics for New Zealand refer to 'all groups excluding housing and credit services'.

Source: *Consumer Price Index (6401.0)*.

Producer Price Indexes

The Producer Price Indexes measure changes in prices received, or paid, by producers of commodities. Specifically, in Australia they relate to prices for goods as they enter and leave the manufacturing sector and for goods entering the building industry. This contrasts with the Consumer Price Index which measures changes in the retail prices paid by consumers, as explained earlier in this chapter.

Long-term price series

The first price index of this kind compiled by the ABS was the Melbourne Wholesale Price Index, which was introduced in 1912 with index numbers compiled back to 1861 from prices extracted from newspapers and trade publications. Index numbers were compiled up to 1961. The index related chiefly to basic materials and foods weighted in accordance with consumption in about the year 1910.

The next index published was the Wholesale Price (Basic Materials and Foodstuffs) Index which was introduced in 1939; index numbers are available for the period 1928 to 1970. The index related to commodities in their basic or primary form, and prices were obtained as near as possible to the point where they made their first effective impact on the local price structure. With few exceptions, prices were obtained from Melbourne sources.

The present range of producer price indexes was developed and produced progressively from the 1960s. The current indexes relate to the building industry, manufacturing industry, and (not included in this chapter) the mining industry. The current set of producer price indexes is somewhat restricted in scope, being confined to the measurement of prices for goods used in or produced by the selected industries. As part of a long term program, the ABS has started expanding the coverage of the producer price indexes to include the measurement of price changes for the output of the service industries. This expansion in coverage is being undertaken in parallel with a move towards the implementation of a 'stage of production' framework for the producer price indexes, to supplement the current industry sector approach.

Table 27.9 contains the linked wholesale price indexes from 1861 to 1967-68 and the producer price index for manufacturing from 1968-69 onwards.

27.9 PRODUCER AND WHOLESALE PRICE INDEXES(a)

	Producer Price Indexes
Melbourne Wholesale Price Index (All groups)	
1861	24.2
1871	19.3
1881	17.6
1891	14.9
1901	15.3
1911	15.7
1921	30.0
1925-26	29.7
Wholesale Price (Basic Materials and Foodstuffs) Index (All groups)	
1930-31	25.4
1935-36	23.9
1940-41	29.3
1945-46	36.5
1950-51	62.7
1955-56	85.9
1960-61	92.5
1961-62	86.4
1962-63	87.4
1963-64	90.0
1964-65	91.3
1965-66	95.4
1966-67	98.4
1967-68	99.7
Price Index of Articles Produced by Manufacturing Industry	
1968-69	100.0
1969-70	103.9
1970-71	108.5
1971-72	113.9
1972-73	120.7
1973-74	134.6
1974-75	158.1
1975-76	177.8
1976-77	196.9
1977-78	213.8
1978-79	237.4
1979-80	274.9
1980-81	305.2
1981-82	328.9
1982-83	360.2
1983-84	382.8
1984-85	404.8
1985-86	430.3
1986-87	458.5
1987-88	492.1
1988-89	526.0
1989-90	559.9
1990-91	584.6
1991-92	586.7
1992-93	600.9
1993-94	607.3
1994-95	620.9
1995-96	636.7

(a) Reference base year 1968-69 = 100.0.

Source: Labour Report; Price Indexes of Articles Produced by Manufacturing Industry, Australia (6412.0).

Construction price indexes

Price Index of Materials Used in House Building

The Price Index of Materials Used in House Building measures changes in prices of selected materials used in the construction of houses in the Statistical Division containing each State capital city. The current index series were introduced in December 1995 on a reference base of 1989-90 = 100.0 and were linked to the previous series. The items and weights for the current series are based on estimated materials usage in a sample of representative houses constructed in the three years ending 1992-93.

The index was first compiled on a reference base of 1966-67 = 100.0, using a weighting pattern derived from estimated material usage in 1968-69. Monthly index numbers on a 1966-67 = 100.0 reference base are available for the period July 1966 to September 1986.

Rebased series of indexes were then introduced in October 1986 on a reference base of 1985-86 = 100.0 and were linked to the previous series. The items in this rebased series were selected and allocated weights on the basis of the estimated values of each material used in a sample of representative houses constructed in 1985-86.

27.10 PRICE INDEX OF MATERIALS USED IN HOUSE BUILDING(a)(b)

Year	Weighted average of six State capital cities	Sydney	Melbourne	Brisbane	Perth	Adelaide	Hobart
1990–91	104.6	104.8	103.5	105.8	105.0	105.6	104.8
1991–92	104.9	105.0	102.8	107.9	104.5	106.0	108.0
1992–93	106.9	106.8	105.7	110.2	106.3	106.9	109.9
1993–94	112.0	111.3	112.1	113.5	117.1	109.1	112.8
1994–95	115.4	115.0	115.9	115.9	118.8	112.7	117.3
1995–96	115.7	115.9	115.4	115.1	118.2	114.7	120.7

(a) Reference base year 1989–90 = 100.0. (b) The separate city indexes measure price movement within each city individually. They do not compare price levels between cities.

Source: *Price Index of Materials Used in House Building, Six State Capital Cities (6408.0)*.

Price Index of Materials Used in Building Other than House Building

The Price Index of Materials Used in Building Other than House Building measures changes in prices of selected materials used in the construction of buildings other than houses in metropolitan areas. The types of building directly represented in the index are: flats and other dwellings; hotels, motels and hostels; shops; factories; offices; other business premises; education buildings; health buildings; and other non-residential buildings.

The current index series were introduced in October 1993 on a reference base of 1989–90 = 100.0. The composition of these indexes reflects the usage of materials in the five years ending June 1992.

The index was first compiled on a reference base of 1966–67 = 100.0 using a weighting pattern derived from estimated materials usage in 1966–67. Rebased indexes for the six State capital cities were introduced in February 1981 on a reference base of 1979–80 = 100.0. The composition of these indexes reflected the usage of materials in the three years ending June 1977.

27.11 PRICE INDEX OF MATERIALS USED IN BUILDING OTHER THAN HOUSE BUILDING — Six Capital Cities(a)(b)

Year	Weighted average of six State capital cities	Sydney	Melbourne	Brisbane	Adel	Perth	Hobart
1990–91	105.1	105.6	104.5	104.8	105.3	105.5	103.9
1991–92	105.7	107.2	103.4	107.4	105.4	105.2	107.1
1992–93	106.0	106.5	104.4	108.9	105.1	105.7	108.2
1993–94	107.5	107.0	106.7	110.1	107.9	107.1	110.1
1994–95	110.4	110.3	108.9	112.9	110.9	110.1	112.2
1995–96	112.7	112.5	111.1	115.0	112.7	113.2	115.1

(a) Reference base year 1989–90 = 100.0. (b) The separate city indexes measure price movements within each city individually. They do not compare price levels between cities.

Source: *Price Index of Materials Used in Building Other than House Building, Six Capital Cities (6407.0)*.

A table setting out more detailed information in respect of individual building materials is

contained in *Chapter 19, Construction and housing*.

Manufacturing price indexes

Price indexes of materials used in manufacturing industries

These indexes measure changes in prices of materials used by establishments classified to the Manufacturing Division of the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993 edition.

Separate price indexes are published for materials used in Manufacturing Industry as a whole (split into imported and domestic materials) and for 17 separate Manufacturing sectors (defined in terms of ANZSIC subdivisions or ANZSIC groups).

The indexes are compiled and published on a net sector basis, that is, each index includes only those materials which are used in the defined sector of Australian manufacturing industry and which have been produced by establishments outside that sector.

The current index series was introduced in July 1996 on a reference base of 1989-90 = 100.0. The items included in the indexes were allocated weights in accordance with the estimated value of manufacturing usage in 1989-90.

The indexes were first compiled on a reference base of 1968-69 = 100.0, using a weighting pattern derived from estimated manufacturing usage in 1971-72. Monthly index numbers for this first series are available for the period July 1968 to November 1985.

A rebased series was introduced in December 1985 on a reference base of 1984-85 = 100.0 using a weighting pattern based on estimated manufacturing usage in 1977-78.

27.12 PRICE INDEXES OF MATERIALS USED IN MANUFACTURING INDUSTRIES(a)(b)

Year	Imported materials	Domestic materials	All materials
1990-91	103.0	104.6	104.0
1991-92	101.8	101.2	101.4
1992-93	107.8	105.7	106.4
1993-94	108.8	102.5	104.7
1994-95	112.7	104.9	107.6
1995-96	117.6	105.9	110.0

(a) Reference base year 1989-90 = 100.0. (b) The index is on a net basis and relates in concept only to materials that enter Australian manufacturing industry from other sectors of the Australian economy or from overseas.

Source: *Price Indexes of Materials Used in Manufacturing Industries, Australia* (6411.0).

Price indexes of articles produced by manufacturing industries

These indexes measure movements in the prices of articles produced by manufacturing industry. For the purpose of the index, manufacturing industry is defined to be establishments classified to the Manufacturing Division of the ASIC, 1983 edition.

Separate price indexes are published for articles produced by the Manufacturing Industry as a whole and for 13 separate Manufacturing sectors (defined in terms of ASIC subdivisions or ASIC groups).

The indexes are constructed on a net sector basis. This approach means that the All Manufacturing Industry Index represents price movements of goods which are produced by establishments in the Manufacturing Division, for sale or transfer to establishments outside the Manufacturing Division, for export, or for use as capital equipment. Articles which are sold or transferred to other establishments within manufacturing industry for further processing or for use as inputs are excluded.

The current indexes were introduced from May 1990. The composition and weighting pattern are based on the value of production in 1986-87 and the indexes are on a reference base of 1988-89 = 100.0.

The indexes were first published in June 1976 on a reference base of 1968-69 = 100.0, with indexes compiled retrospectively to July 1968. The composition and weighting patterns of the indexes were based on the value of production in 1971-72.

27.13 PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRIES(a)(b)

Year	Manufacturing Division Index
1990-91	111.2
1991-92	111.6
1992-93	114.3
1993-94	115.5
1994-95	118.1
1995-95	121.1

(a) Reference base year 1988-89 = 100.0. (b) For a full description of Division C, 'Manufacturing' and the subdivisions within the Manufacturing Division, see Australian Standard Industrial Classification (ASIC) (1201.0), 1983 edition.

Source: *Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0).

Tables setting out more detailed index numbers for both materials used and articles produced are contained in *Chapter 18, Manufacturing*.

1966–67 = 100.0. The Reserve Bank's import price index was published from 1928 until September 1982.

International Trade Price Indexes

Export Price Index

The Export Price Index measures changes in prices of exports of merchandise from Australia. The index numbers for each month relate to prices of exports actually shipped during that month.

The first index of export prices was compiled annually from 1901 to 1916–17 as a current weighted unit value index.

The method of calculation was changed in 1918 to incorporate fixed weights, applied to the average unit values of each export in successive years. This index was published for the years 1897 to 1929–30.

Two new series of monthly export price indexes were published in 1937, compiled back to 1928. One index used fixed weights and the other used changing weights. The methodology was changed and actual export prices were used instead of unit values. The indexes were compiled until 1962.

In 1962, a fixed weighted index on the reference base of 1959–60 = 100.0 was introduced. A new interim series was linked to this index, still with a reference base of 1959–60 = 100.0, but with updated weights from July 1969. The interim index was replaced in 1979 by an index on a reference base of 1974–75. The current index with a reference base of 1989–90 = 100.0 was released in 1990.

Import Price Index

The Import Price Index measures changes in the prices of imports of merchandise landed in Australia on a free-on-board country of origin basis. The index numbers for each month relate to prices of imports landed in Australia during the month.

The first import price index produced by the ABS covered the period from September quarter 1981 to June quarter 1991 on a reference base of 1981–82 = 100.0. This index replaced an index previously published by the Reserve Bank of Australia on a reference base of

27.14 INTERNATIONAL TRADE PRICE INDEXES(a)

Year	Export Price Index (All groups)	Import Price Index (All groups)
1901	15	..
1911	17	..
1921–22	25	..
1931–32	18	22
1936–37	29	21
1941–42	27	35
1946–47	53	51
1951–52	123	92
1956–57	115	91
1960–61	93	95
1961–62	94	94
1962–63	99	94
1963–64	112	96
1964–65	103	97
1965–66	105	99
1966–67	103	100
1967–68	98	99
1968–69	100	100
1969–70	101	103
1970–71	99	108
1971–72	102	114
1972–73	131	113
1973–74	157	131
1974–75	177	189
1975–76	193	214
1976–76	216	246
1977–78	227	278
1978–79	256	307
1979–80	309	403
1980–81	328	450
1981–82	332	458
1982–83	360	506
1983–84	369	524
1984–85	396	580
1985–86	417	659
1986–87	430	731
1987–88	469	742
1988–89	501	694
1989–90	527	729
1990–91	501	752
1991–92	472	749
1992–93	493	817
1993–94	484	843
1994–95	501	837
1995–96	508	838

(a) Reference base year 1968–69 = 100.0.

Source: The sources used for the Import Price Index are the Reserve Bank of Australia Bulletin up to and including 1981–82, and the ABS Import Price Index, Australia (6414.0) thereafter. The source used for the Export Price Index is the ABS Export Price Index, Australia (6405.0).

The current Import Price Index series was introduced in December 1991 with monthly index numbers compiled from April 1991 onwards, on a reference base of 1989-90 = 100.0.

To give a broad indication of long-term changes, table 27.14 draws on the available international trade indexes.

Tables setting out more detailed index numbers for both imports and exports are contained in *Chapter 29, International Accounts and Trade*.

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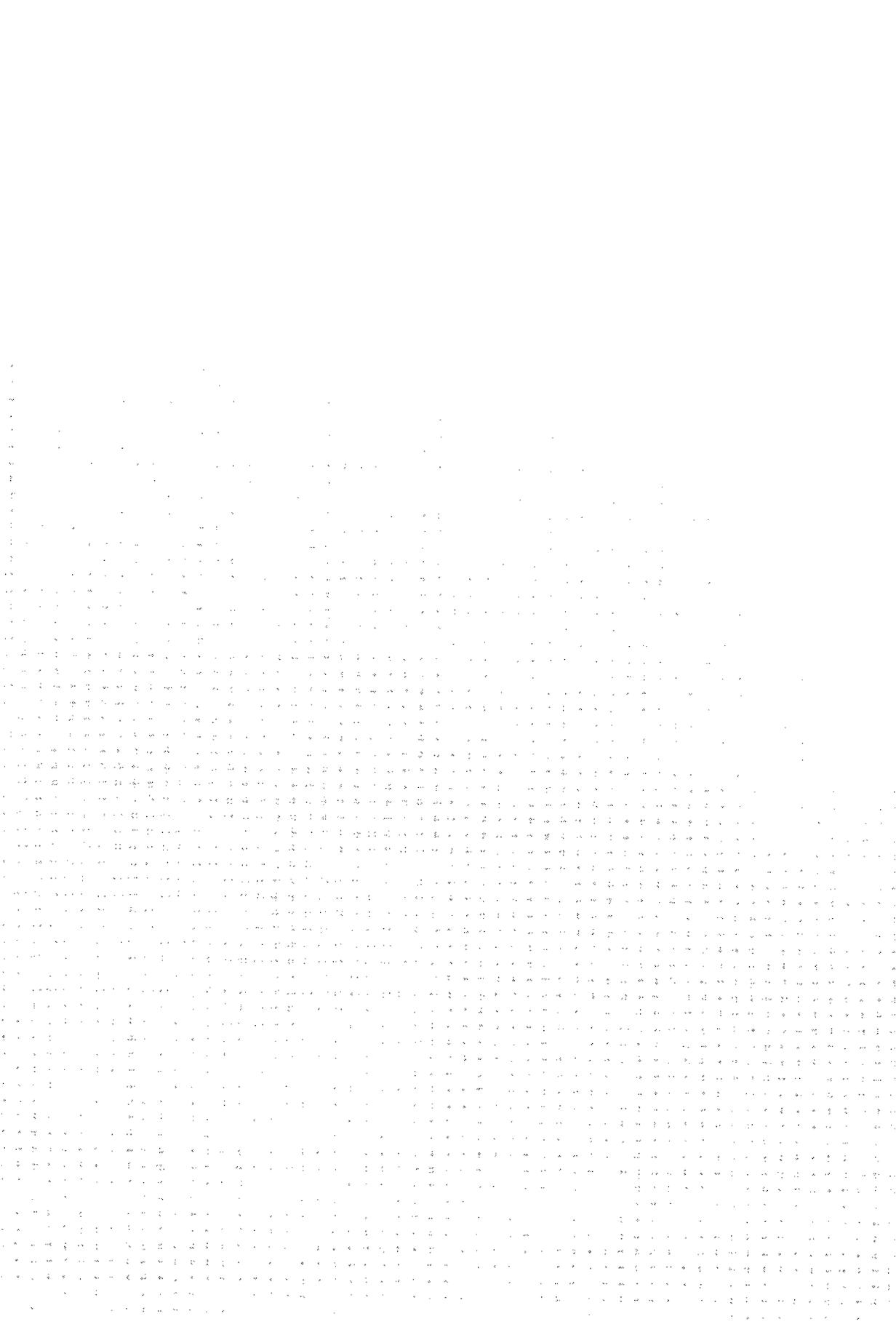
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Introduction	671
Measurement of GDP	671
Constant price or 'real' GDP	673
Implicit price deflators	674
National income, expenditure and product accounts	674
Domestic production account	674
National income and outlay account	678
National capital account	679
Overseas transactions account	682
State accounts	684
Input-output tables	685
Basic structure	685
Relationship to the national income and expenditure accounts	685
Input-output table for seven industry sectors	685
Financial accounts	687
Bibliography	688
Special Article — Natural resources in national balance sheets	689



Introduction

In Australia, there is a wide range of economic data available to analyse the performance of various components of the economy over time. For example, data are regularly published on the number of houses being built, the number of cars produced, whether employment is rising or falling, the composition of exports and imports and so on. While these and other statistical series are important in their own right, none of them in isolation can provide an overall picture of the state of the economy.

National accounts are designed to provide a systematic summary of national economic activity and have been developed to assist in the practical application of economic theory. At their summary level, the national income, expenditure and product accounts reflect the key economic flows of the Keynesian economic system: production, the distribution of incomes, consumption, saving and investment. At their more detailed level, they are designed to present a statistical picture of the structure of the economy and the detailed processes that make up domestic production and its distribution. The national accounts include many detailed classifications (e.g. by industry, by purpose, by commodity, by State and Territory, and by asset type) relating to major economic aggregates.

The performance of the economy, as represented in national accounting measures such as growth in the national income or gross domestic product, is not an end in itself. Movements in gross domestic product at constant prices are an important measure of economic growth, but there is no single indicator which can describe all aspects of the well-being of a country's citizens.

There are significant aspects of the quality of life which cannot be comprehended in a system of economic accounts, just as there are significant aspects of an individual's well-being which are not measured in the conventional concept (or any other concept) of that individual's income.

Notwithstanding their limitations, especially in relation to uses for which they were never designed, the national accounts provide vital information for a range of important purposes. The system of national accounts also provides a framework or structure which can be, and has been, adapted and extended to facilitate the

examination of other economic and social policy issues.

A detailed presentation of the concepts underlying the national accounts is provided in the ABS publication *Australian National Accounts: Concepts, Sources and Methods* (5216.0). This publication, updated in 1996, forms part of the *Statistical Concepts Reference Library on CD-ROM* (1361.1.30.001).

The main output from the national accounts is a measure of the overall value of economic production in Australia in a given period, but without any double counting of the goods and services being produced. Many goods and services are bought by businesses for use in their own productive activities (e.g. steel is bought by car manufacturers). If the value of all goods and services produced were simply added together there would be serious duplication because some goods and services would be added in several times at various stages of production. The overall measure of production, excluding double counting, is called gross domestic product, which is commonly referred to as GDP. It is formally defined as:

the total market value of goods and services produced in Australia after deducting the cost of goods and services used up (intermediate consumption) in the process of production, but before deducting allowances for the consumption of fixed capital (depreciation).

Measurement of GDP

There are three ways of measuring GDP:

- The *income approach*, which measures GDP by summing the incomes accruing from production (wages, salaries and supplements; gross operating surplus (profits); and indirect taxes less subsidies).
- The *expenditure approach*, which involves summing all final expenditures on goods and services (i.e. those goods and services which are not processed any further), adding on the contribution of exports and deducting the value of imports. Final expenditures consist of final consumption expenditure, gross fixed capital expenditure and increase in stocks. Exports are included in GDP because they are part of Australian production even though they are sold to overseas purchasers. Imports

are deducted because, although they are included in final expenditures (e.g. when someone buys an imported video recorder its value is included as part of private final consumption expenditure) they are not part of Australian production.

- The *production approach* calculates GDP by taking the market value of goods and services produced by an industry (its gross output) and deducting the cost of goods and services used up by the industry in the productive process (intermediate consumption) which

leaves the value added by the industry (also called its gross product). GDP is then obtained by summing the gross product of all industries.

In theory, the three approaches result in identical estimates of GDP. In practice, because of the need to use different data sources for each method, the value of GDP obtained from each approach differs. The ABS refers to the above three alternative estimates of GDP as GDP(I), GDP(E) and GDP(P), respectively.

28.1 GROSS DOMESTIC PRODUCT(a)

Year	GDP(I) \$m	GDP(E) \$m	GDP(P) \$m	GDP(A) \$m
1962-63	127 162	127 297	127 327	127 261
1963-64	136 164	136 200	135 916	136 093
1964-65	145 787	144 831	145 585	145 400
1965-66	148 957	148 175	147 500	148 211
1966-67	158 753	158 398	156 716	157 956
1967-68	164 674	164 937	163 677	164 429
1968-69	179 162	178 982	178 852	178 999
1969-70	189 206	188 338	188 191	188 578
1970-71	198 279	198 467	196 323	197 689
1971-72	207 872	207 196	202 400	205 822
1972-73	215 868	214 453	208 820	213 047
1973-74	225 894	221 371	224 470	223 911
1974-75	230 163	226 723	228 104	228 330
1975-76	236 931	236 684	231 955	235 190
1976-77	243 792	243 963	240 585	242 780
1977-78	246 302	245 444	243 299	245 015
1978-79	260 023	261 276	255 221	258 840
1979-80	265 427	267 540	261 359	264 775
1980-81	274 782	275 156	270 070	273 336
1981-82	281 042	284 110	280 653	281 935
1982-83	276 235	277 904	270 535	274 892
1983-84	293 003	293 065	284 026	290 031
1984-85	307 845	306 562	300 820	305 076
1985-86	319 349	320 312	311 708	317 123
1986-87	327 084	328 048	317 220	324 117
1987-88	343 936	344 574	335 951	341 487
1988-89	359 082	354 725	356 250	356 685
1989-90	370 070	366 305	370 070	368 816
1990-91	367 448	365 054	365 598	366 033
1991-92	368 721	372 488	364 205	368 472
1992-93	381 684	384 978	373 676	380 112
1993-94	400 431	400 197	388 504	396 377
1994-95	415 710	414 178	408 099	412 662
1995-96	431 654	432 038	425 196	429 629

(a) Average 1989-90 prices.

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

A fourth measure, the simple average of these three, referred to as GDP(A), is the preferred estimate of economic growth for Australia when expressed in constant price terms. Using movements in GDP(A) has been shown to

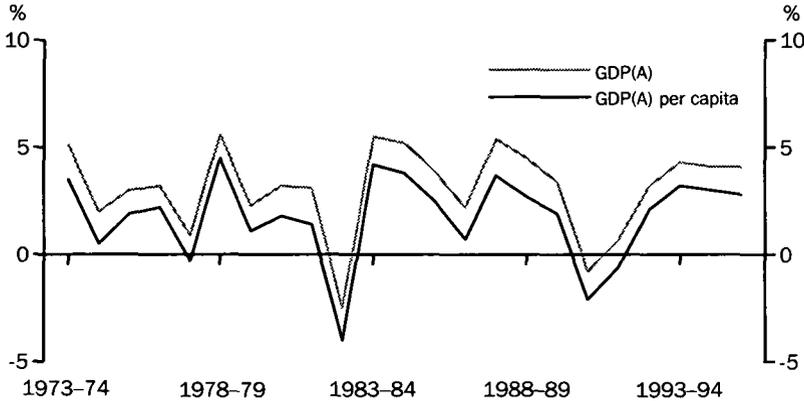
provide a smoother and more reliable indicator of turning points in the economy than do changes in any of the individual measures of GDP. Quarterly changes in the constant price trend of GDP(A) are considered by the ABS to

be the best indicator of short-term growth. Constant price data are published for all four estimates in original, seasonally adjusted and trend terms (see *Constant price or 'real' GDP* below).

GDP(A) at average 1989–90 prices increased by 4.1% in both 1994–95 and 1995–96. For some

analytical purposes it is important to allow for the impact of population growth on movements in GDP. Annual growth in GDP(A) per capita has been about 1.0% to 1.8% lower than that for GDP(A) since 1973–74 and was negative in 1977–78, 1982–83, 1990–91 and 1991–92.

28.2 GDP(A) AND GDP(A) PER CAPITA



Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

Constant price or 'real' GDP

The expenditure approach to calculating GDP measures Australian production by summing the amounts spent by the final users on the goods and services produced. However, by itself this is not always a good measure of production, since the value of a particular good or service is affected by inflation.

For example, the national accounts may show that the amount spent on motor cars is 5% higher this year than it was last year. If the price of cars has increased by 5% over the last year, then the number of cars bought will not have changed — expenditure has risen only because the price of cars has risen.

For a lot of uses, it is necessary to know how much physical production (e.g. the number of cars made) has changed, rather than just the current (or dollar) value of production. Constant price estimates are the way in which this is achieved. They provide a measure, in

dollar values, which indicates changes in the actual quantity of items produced or purchased. Because of this, constant price estimates of GDP are often referred to as estimates of real GDP.

In essence, estimates of GDP at constant prices involve finding indicators of price changes in the items included in the national accounts, and using these to remove the effects of inflation from the estimates of GDP. Constant price estimates are expressed in terms of the average prices prevailing in a selected base year (currently 1989–90). Some of the main indicators used in this process are the component series from the consumer price index, which measures changes over time in the price of a basket of goods and services bought by households. Other price indexes produced by the ABS (such as the import price index) are also used extensively in compiling the constant price estimates.

Implicit price deflators

A by-product of the calculation of constant price estimates is the implicit price deflator (or IPD). An IPD is the price index obtained when a current price estimate is divided by the corresponding constant price estimate. The ABS publishes a time series of IPDs for each of the expenditure side aggregates (excluding increase in stocks) in the domestic production account.

IPDs calculated from the major national accounting aggregates such as gross national expenditure are widely used as a broader measure of inflation in the economy than that available from any of the individual price indexes published by the ABS. However, care has to be taken in the interpretation of IPDs as they do not compare the price of a constant basket of goods between any two periods except when comparing the base period with another period. Therefore, they reflect a combination of the effects of actual price changes and changes in the composition of the aggregate from which the deflator is derived. An alternative set of price indexes, based on the expenditure side of the domestic production account, is fixed-weighted price indexes for the major expenditure aggregates. They measure the change in price of the basket of goods and services included in GDP in the proportions measured in 1989–90.

National income, expenditure and product accounts

The Australian national income, expenditure and product accounts are compiled and published in some detail every quarter, in *Australian National Accounts: National Income, Expenditure and Product* (5206.0),

and in greater detail once a year, in *Australian National Accounts. National Income, Expenditure and Product* (5204.0).

Domestic production account

The domestic production account indicates changes in Australian production over time. Table 28.6 shows that, in real terms (i.e. after the effects of inflation are removed from the dollar value of Australia's production), there was a fall in production during the 1990–91 financial year. However, the five years since the recession in 1990–91 have all shown growth in GDP. Although growth in 1991–92, as measured by GDP(I), was relatively low (0.3%), by 1993–94 it had accelerated to 4.9% and in 1995–96 it was 3.8%.

The domestic production account can also be used to show changes in the share of income accruing to labour (i.e. wages, salaries and supplements) compared with the share accruing to capital (i.e. profits). Graphs 28.7 and 28.8 show how the shares of each of wages and profits (defined as the gross operating surplus of private corporate trading enterprises) to GDP(I) at factor cost have changed since 1963–64.

The highest recorded value of the wages share of GDP(I) at factor cost is 63.5% in 1974–75. The wages share has recovered slightly from its recent low value of 55.0% in 1988–89, but remains at a relatively low level compared with most of the 1970s and early 1980s.

The profits share of GDP(I) at factor cost fell to 13.6% during the 1982–83 recession but recovered to around 17% by 1984–85, a level it broadly maintained until the 1990–91 recession, during which it fell to just over 16%. In 1995–96, this ratio was 17.2%.

28.3 DOMESTIC PRODUCTION ACCOUNT, Five Yearly

	1962-63 \$m	1967-68 \$m	1972-73 \$m	1977-78 \$m	1982-83 \$m
Final consumption expenditure					
Private	10 658	15 677	26 001	56 933	105 965
Government	1 995	3 711	6 357	17 272	32 474
Private gross fixed capital expenditure	2 800	4 496	7 726	15 455	27 985
Public gross fixed capital expenditure	1 331	2 178	3 270	7 194	13 120
Increase in stocks	253	113	-270	-430	-2 437
Gross national expenditure	17 037	26 175	43 084	96 424	177 107
Exports of goods and services	2 483	3 559	7 017	14 236	25 540
Imports of goods and services	2 596	4 115	5 392	15 179	29 062
Gross domestic product (GDP(E))	16 924	25 619	44 709	95 481	173 585
Statistical discrepancy	-83	-136	84	-173	-1 109
Wages, salaries and supplements	8 361	13 212	23 562	53 066	94 949
Gross operating surplus					
Trading enterprises	6 687	9 527	16 586	31 773	56 886
Total	6 850	9 812	17 125	32 686	58 021
Indirect taxes less subsidies	1 630	2 459	4 106	9 556	19 506
Gross domestic product (GDP(I))	16 841	25 483	44 793	95 308	172 476

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.4 DOMESTIC PRODUCTION ACCOUNT, Annual

	1988-89 \$m	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Final consumption expenditure								
Private	195 283	216 804	229 880	242 328	254 277	266 478	283 983	303 766
Government	56 787	61 658	66 793	71 555	74 693	77 444	80 220	83 708
Private gross fixed capital expenditure	67 202	67 821	60 548	56 762	62 374	69 071	76 511	76 848
Public gross fixed capital expenditure	17 944	21 658	20 797	20 596	19 570	18 134	20 394	20 754
Increase in stocks	3 571	4 937	-1 874	-2 032	-65	575	2 525	3 450
Gross national expenditure	340 787	372 878	376 144	389 209	410 849	431 702	463 633	488 526
Exports of goods and services	55 449	60 981	66 257	69 959	76 396	82 361	86 381	97 600
Imports of goods and services	61 245	67 552	65 901	68 061	77 993	83 910	96 084	99 653
Gross domestic product (GDP(E))	334 991	366 307	376 500	391 107	409 252	430 153	453 930	486 473
Statistical discrepancy	4 076	3 763	2 464	-3 943	-3 488	271	1 686	-419
Wages, salaries and supplements	163 780	182 417	190 002	193 832	200 766	210 955	223 960	239 954
Gross operating surplus								
Trading enterprises	133 200	143 501	143 406	148 017	155 991	164 411	171 961	182 485
Total	134 082	143 196	144 314	149 026	159 262	168 465	175 261	185 764
Indirect taxes less subsidies	41 205	44 457	44 648	44 306	45 736	51 004	56 395	60 336
Gross domestic product (GDP(I))	339 067	370 070	378 964	387 164	405 764	430 424	455 616	486 054

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.5 DOMESTIC PRODUCTION ACCOUNT, At Constant Prices(a), Five Yearly

	1962-63 \$m	1967-68 \$m	1972-73 \$m	1977-78 \$m	1982-83 \$m
Final consumption expenditure					
Private	77 384	98 259	125 420	147 548	172 117
Government	17 814	26 621	31 283	41 399	47 430
Private gross fixed capital expenditure	21 303	30 474	40 338	40 570	46 294
Public gross fixed capital expenditure	10 300	14 205	16 206	18 057	19 185
Increase in stocks	1 406	1 288	-1 146	-1 023	-3 659
Gross national expenditure	129 845	170 821	211 985	246 547	281 807
Exports of goods and services	13 704	18 751	28 047	32 921	36 841
Imports of goods and services	15 456	23 431	25 482	34 070	40 865
Gross domestic product (GDP(E))	127 297	164 937	214 453	245 444	277 904
Statistical discrepancy	-135	-263	1 415	858	-1 669
Gross domestic product (GDP(I))	127 162	164 674	215 868	246 302	276 235

(a) Average 1989-90 prices. Estimates prior to 1984-85 have been derived by linking estimates for earlier base years to estimates at average 1989-90 prices.

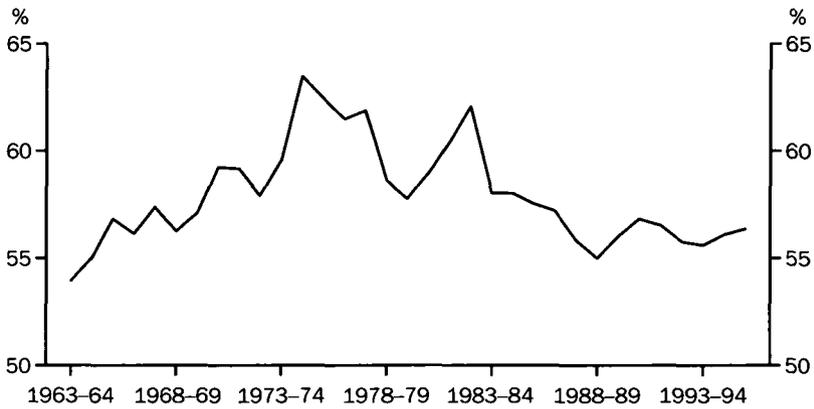
Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.6 DOMESTIC PRODUCTION ACCOUNT, At Constant Prices(a), Annual

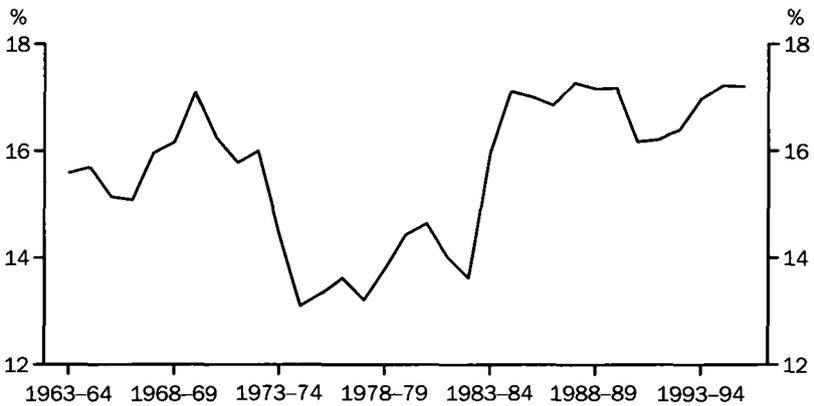
	1988-89 \$m	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Final consumption expenditure								
Private	207 901	216 804	218 741	224 983	231 869	238 900	250 193	260 897
Government	59 548	61 658	63 477	65 313	66 365	67 982	70 520	72 288
Private gross fixed capital expenditure	70 931	67 821	60 048	56 673	60 624	65 834	72 869	73 133
Public gross fixed capital expenditure	18 931	21 658	20 346	20 180	18 986	17 724	20 010	20 251
Increase in stocks	3 810	4 938	-1 379	-2 189	258	601	2 242	2 966
Gross national expenditure	361 121	372 879	361 233	364 960	378 102	391 041	415 834	429 535
Exports of goods and services	57 813	60 981	67 869	73 947	78 186	85 905	88 683	97 859
Imports of goods and services	64 210	67 552	64 048	66 419	71 310	76 749	90 339	95 356
Gross domestic product (GDP(E))	354 724	366 308	365 054	372 488	384 978	400 197	414 178	432 038
Statistical discrepancy	4 358	3 763	2 394	-3 767	-3 294	234	1 532	-384
Gross domestic product (GDP(I))	359 082	370 071	367 448	368 721	381 684	400 431	415 710	431 654

(a) Average 1989-90 prices.

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.7 WAGES SHARE OF GDP(I) — At Factor Cost

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.8 PROFITS SHARE OF GDP(I) — At Factor Cost

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

National income and outlay account

The national income and outlay account shows how much of the national income is spent on

final consumption. That part of income which is not spent in this way is saving.

28.9 NATIONAL INCOME AND OUTLAY ACCOUNT, Five Yearly

	1962-63 \$m	1967-68 \$m	1972-73 \$m	1977-78 \$m	1982-83 \$m
Wages, salaries and supplements	8 361	13 212	23 562	53 066	94 949
Net operating surplus	4 709	6 493	11 276	18 345	30 220
Domestic factor incomes	13 070	19 705	34 838	71 411	125 169
Less net income paid overseas	233	343	550	1 210	3 579
Indirect taxes	1 738	2 680	4 572	10 848	22 686
Less subsidies	108	221	466	1 292	3 180
National income	14 467	21 821	38 394	79 757	141 096
Less net unrequited transfers to overseas	22	24	88	257	195
National disposable income	14 445	21 797	38 306	79 500	140 901
Final consumption expenditure					
Private	10 658	15 677	26 001	56 933	105 965
Government	1 995	3 711	6 357	17 272	32 474
Saving	1 792	2 409	5 948	5 295	2 462
Disposal of income	14 445	21 797	38 306	79 500	140 901
Gross national product	16 608	25 140	44 243	94 098	168 897

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

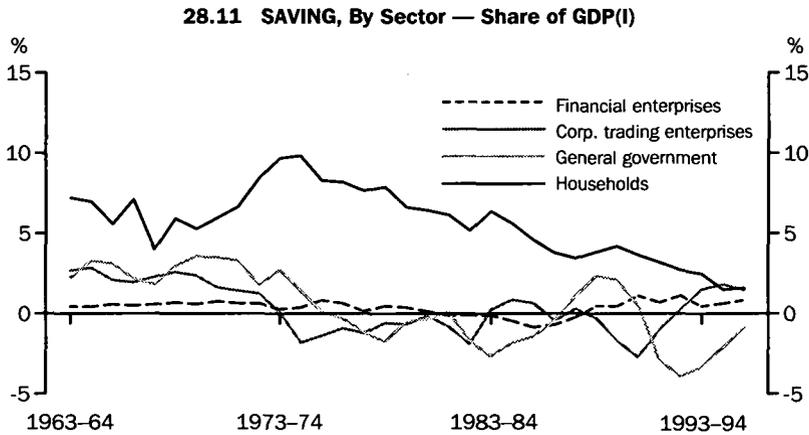
28.10 NATIONAL INCOME AND OUTLAY ACCOUNT, Annual

	1988-89 \$m	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Wages, salaries and supplements	163 780	182 417	190 002	193 832	200 766	210 955	223 960	239 954
Net operating surplus	82 711	87 200	86 011	89 190	96 473	103 344	108 603	117 149
Domestic factor incomes	246 491	269 617	276 013	283 022	297 239	314 299	332 563	357 103
Less net income paid overseas	13 595	17 399	17 621	15 490	13 627	14 147	15 964	17 641
Indirect taxes	45 817	49 056	50 418	50 306	52 064	57 396	62 539	66 493
Less subsidies	4 612	4 599	5 770	6 000	6 328	6 392	6 144	6 157
National income	274 100	296 675	303 039	311 838	329 348	351 155	372 994	399 798
Less net unrequited transfers to overseas	-2 173	-2 290	-2 373	-2 185	-662	-178	-487	-1 224
National disposable income	276 273	298 965	305 413	314 023	330 010	351 333	373 481	401 022
Final consumption expenditure								
Private	195 283	216 804	229 880	242 328	254 277	266 478	283 983	303 766
Government	56 789	61 658	66 793	71 555	74 693	77 444	80 220	83 708
Saving	24 201	20 503	8 740	140	1 040	7 411	9 278	13 548
Disposal of income	276 273	298 965	305 413	314 023	330 010	351 333	373 481	401 022
Gross national product	325 472	352 671	361 343	371 674	392 137	416 276	439 652	468 413

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

As shown in graph 28.11, household saving as a percentage of GDP(I) rose moderately between 1963–64 and 1974–75, but has fallen subsequently from its high of 9.8% in 1974–75 to 1.6% in 1995–96. General government saving has been negative since 1991–92, although the level of dissaving as a percentage of GDP(I) has decreased in each year since 1992–93. In 1995–96 it was –0.9% of GDP(I) (–\$4,161m in current value terms). Saving of corporate

trading enterprises has been negative for 13 of the past 20 years. In 1995–96 it was 1.5% of GDP(I) (\$7,134m in current value terms), with 1994–95 (at 1.8%) being the highest percentage level since 1969–70. Saving of financial enterprises was negative from 1981–82 to 1987–88, the only period for which this sector has recorded negative saving. In 1995–96, saving of financial enterprises was 0.8% of GDP(I) (\$4,026m in current value terms).



Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

National capital account

The national capital account shows how the saving from the national income and outlay account is used to finance gross fixed capital expenditure. If, as is currently the case in Australia, the nation's saving is not sufficient to pay for all the capital equipment needed for

Australian production, the shortfall must be borrowed from overseas. The amount borrowed from overseas is shown in the national capital account as a negative entry for net lending to overseas.

28.12 NATIONAL CAPITAL ACCOUNT, Five Yearly

	1962-63 \$m	1967-68 \$m	1972-73 \$m	1977-78 \$m	1982-83 \$m
Consumption of fixed capital	2 141	3 319	5 849	14 341	27 801
Saving					
Household	925	1 020	3 771	7 294	8 912
General government surplus on current transactions	325	465	802	-1 116	-2 933
Extraordinary insurance claims paid	—	—	—	—	200
Other	542	924	1 375	-883	-3 717
Finance of gross accumulation	3 933	5 728	11 797	19 636	30 263
Gross fixed capital expenditure					
Private	2 800	4 496	7 726	15 455	27 985
Public enterprises	666	1 143	1 615	3 695	8 495
General government	665	1 035	1 655	3 499	4 625
Increase in stocks					
Private non-farm	221	292	-108	-42	-2 218
Farm and public authorities	32	-179	-162	-388	-219
Statistical discrepancy	-83	-136	84	-173	-1 109
Net lending to overseas	-368	-923	987	-2 410	-7 296
Gross accumulation	3 933	5 728	11 797	19 636	30 263

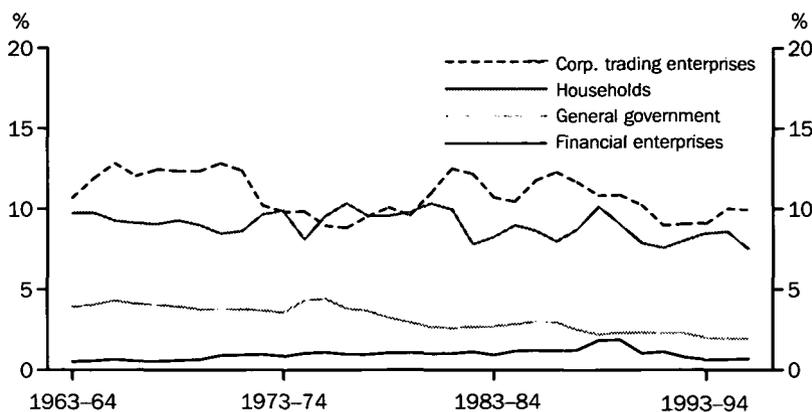
Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.13 NATIONAL CAPITAL ACCOUNT, Annual

	1988-89 \$m	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Consumption of fixed capital	51 372	55 996	58 303	59 836	62 789	65 121	66 658	68 615
Saving								
Household	13 000	15 534	13 848	12 354	11 016	10 670	6 844	7 795
General government surplus on current transactions	7 998	7 808	1 727	-11 245	-15 820	-14 398	-9 603	-4 161
Extraordinary insurance claims paid	—	654	—	—	—	—	—	—
Other	3 203	-3 493	-6 835	-969	5 844	11 139	12 037	9 914
Finance of gross accumulation	75 573	76 499	67 043	59 976	63 829	72 532	75 936	82 163
Gross fixed capital expenditure								
Private	67 202	67 821	60 548	56 762	62 374	69 071	76 511	76 848
Public enterprises	10 380	13 027	12 016	11 781	10 336	9 509	11 384	11 431
General government	7 565	8 629	8 781	8 815	9 234	8 625	9 010	9 323
Increase in stocks								
Private non-farm	3 228	1 766	-3 034	-1 729	-167	826	3 366	2 923
Farm and public authorities	343	3 171	1 160	-303	102	-251	-841	527
Statistical discrepancy	4 074	3 765	2 464	-3 943	-3 488	271	1 686	-419
Net lending to overseas	-17 219	-21 680	-14 892	-11 407	-14 562	-15 519	-25 180	-18 470
Gross accumulation	75 573	76 499	67 043	59 976	63 829	72 532	75 936	82 163

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.14 CAPITAL EXPENDITURE, By Sector — Share of GDP(I)

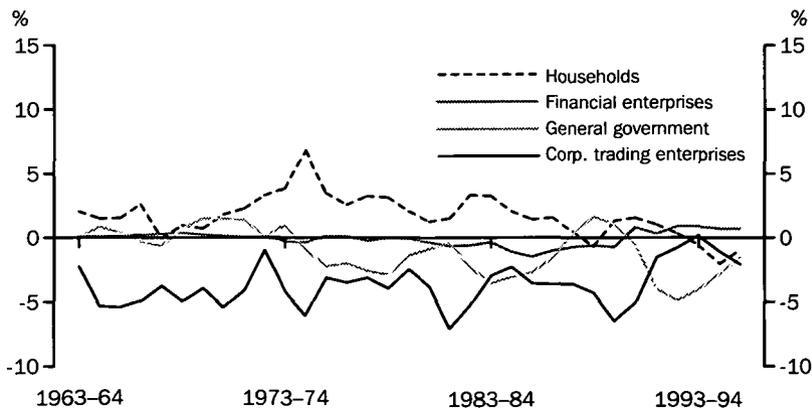


Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

Graph 28.14 shows gross fixed capital expenditure by institutional sector as a proportion of GDP(I). This proportion for corporate trading enterprises fell to low levels during the 1970s and then rose to a peak of 12.5% in 1981-82. It has subsequently fallen fairly steadily to 10.0% in 1995-96. Household

investment as a proportion of GDP(I) has fallen from 10.2% in 1988-89 to 7.5% in 1995-96. While general government investment as a proportion of GDP(I) peaked at 4.4% in 1975-76, it has fallen steadily since then and in 1995-96 was 1.9% of GDP(I).

28.15 NET LENDING, By Sector — Share of GDP(I)



Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

As shown in graph 28.15 the household sector has been a net lender to the other sectors in the economy for all years except 1967-68, 1988-89 and 1993-94 to 1995-96 when it was a net borrower. As a proportion of GDP(I), net lending by households was -0.9% in 1995-96, this negative percentage reflecting the sector's

net borrower status in that year. Except for 1993-94, corporate trading enterprises have been net borrowers over the whole period from 1963-64 to 1995-96 and the amounts borrowed have fluctuated significantly from year to year. As a proportion of GDP(I), net lending by corporate trading enterprises was -2.1% in

1995–96. After being a net lender for the period 1987–88 to 1989–90, general government has returned to being a significant net borrower over the past six years. Expressed as a proportion of GDP(I), general government net lending has declined from a peak of -4.9% in 1992–93 to -1.6% in 1995–96.

Overseas transactions account

The overseas transactions account is derived from the detailed balance of payments current

account (see *Chapter 29, International accounts and trade*). It includes all transactions in the balance of payments current account except reinvested earnings. It shows Australia's exports and imports, incomes and unrequited transfers received by Australian residents from overseas, and incomes and unrequited transfers paid to overseas by Australian residents. The balance is net lending to overseas.

28.16 OVERSEAS TRANSACTIONS ACCOUNT, Five Yearly

	1962-63	1967-68	1972-73	1977-78	1982-83
	\$m	\$m	\$m	\$m	\$m
Imports of goods and services	2 596	4 115	5 392	15 179	29 062
Interest, dividends, etc. to overseas	290	428	827	1 531	4 619
Labour income to overseas	5	9	25	57	135
Unrequited transfers to overseas	128	240	471	863	1 515
Net lending to overseas	-368	-923	987	-2 410	-7 296
Use of current receipts	2 651	3 869	7 702	15 220	28 035
Exports of goods and services	2 483	3 559	7 017	14 236	25 540
Interest, dividends, etc. from overseas	58	85	278	301	937
Labour income from overseas	4	9	24	77	158
Extraordinary insurance claims from overseas	—	—	—	—	80
Unrequited transfers from overseas	106	216	383	606	1 320
Current receipts from overseas	2 651	3 869	7 702	15 220	28 035

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

28.17 OVERSEAS TRANSACTIONS ACCOUNT, Annual

	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	\$m	$m	$m	$m	$m	$m	$m	$m
Imports of goods and services	61 245	67 552	65 901	68 061	77 993	83 910	96 084	99 653
Interest, dividends, etc. to overseas	15 496	20 328	20 996	19 007	17 192	17 219	19 214	21 563
Labour income to overseas	279	406	429	326	311	283	389	441
Unrequited transfers to overseas	2 037	2 228	2 316	2 388	2 434	2 624	2 722	2 764
Net lending to overseas	-17 219	-21 680	-14 892	-11 407	-14 562	-15 519	-25 180	-18 470
Use of current receipts	61 838	68 834	74 750	78 375	83 368	88 517	93 229	105 951
Exports of goods and services	55 449	60 981	66 257	69 959	76 396	82 361	86 381	97 600
Interest, dividends, etc. from overseas	1 954	2 815	3 222	3 387	3 379	2 843	3 088	3 754
Labour income from overseas	225	370	432	455	497	511	551	609
Extraordinary insurance claims from overseas	—	150	150	—	—	—	—	—
Unrequited transfers from overseas	4 210	4 518	4 689	4 574	3 096	2 802	3 209	3 988
Current receipts from overseas	61 838	68 834	74 750	78 375	83 368	88 517	93 229	105 951

Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

Australia has generally been a net borrower of capital from overseas. In the national accounts, this situation is reflected by a negative value for net lending to overseas. Following a small number of years where Australia was actually a net lender to overseas in the early 1960s and

1970s, net borrowing from overseas, expressed as a proportion of GDP(I), increased significantly during the early 1980s and has remained at relatively high levels since then. Graph 28.18 shows this proportion since 1963–64.

28.18 NET LENDING TO OVERSEAS, Share of GDP(I)

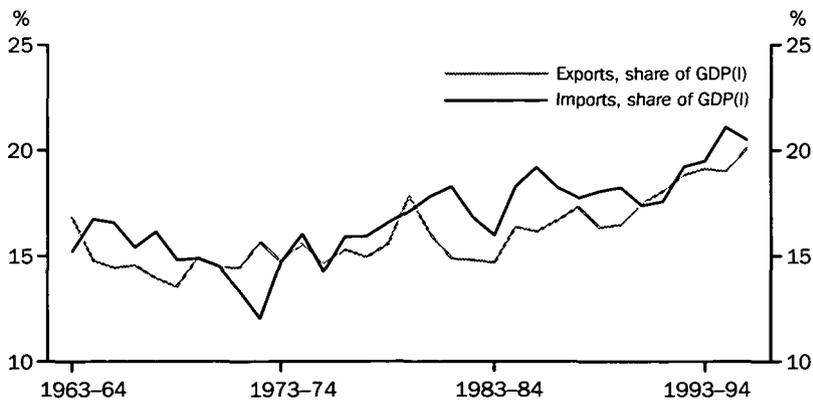


Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

The importance of foreign trade to the Australian economy is illustrated by graph 28.19, which shows the ratios of exports and imports of goods and services to GDP(I) for the financial

years 1963–64 to 1995–96. In 1995–96 the import ratio was 20.5% and the export ratio was 20.1%.

28.19 EXPORTS AND IMPORTS, Share of GDP(I)



Source: Australian National Accounts: National Income, Expenditure and Product (5204.0).

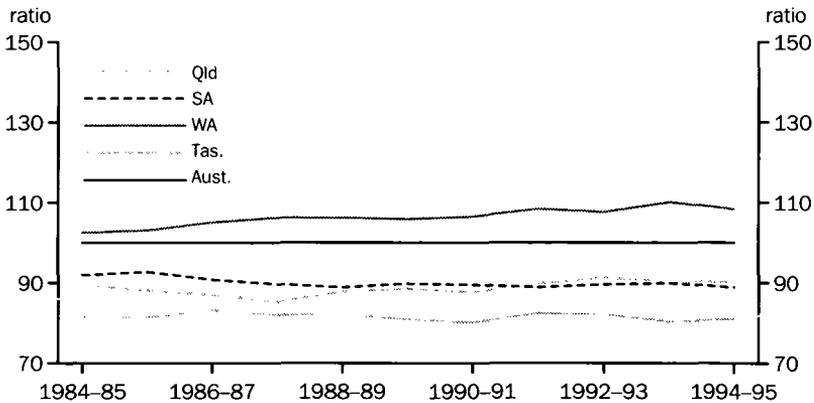
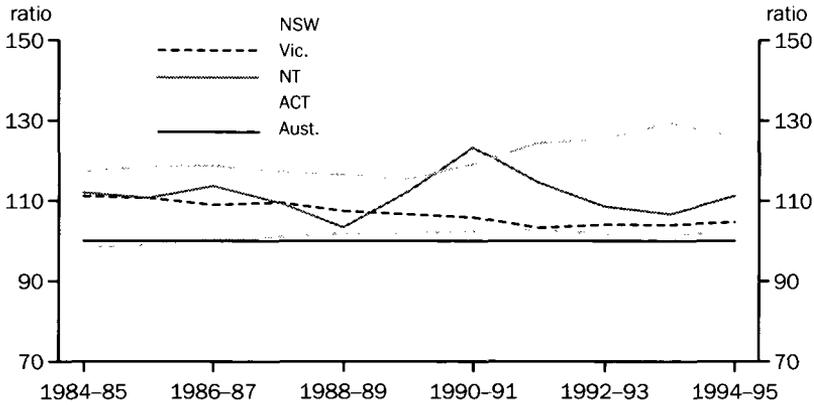
State accounts

As well as Australia's national accounts, the ABS produces State accounts each quarter. These provide quarterly estimates of gross State product and State final demand. Gross State product is produced by summing the incomes generated in the production process (the income approach to measuring total production). State final demand is equal to the sum of private and government final consumption expenditure and gross fixed capital expenditure. Estimates of State final demand and gross State product are available in both current and constant prices. The constant price gross State product estimates are experimental.

An important use of State accounts is to compare the performance of each State and Territory. The following graphs show gross State product, in current prices, per head of mean population for each State and Territory divided by the Australian value (GDP(I) per head of mean population) since 1984-85.

Gross State product (GSP) per head of mean population in 1994-95 was above the national average in New South Wales, Victoria, Western Australia, the Northern Territory and the Australian Capital Territory. GSP per head of mean population has been below the national average for the whole length of the time series (i.e. since 1984-85) in each of Queensland, South Australia and Tasmania.

28.20 GROSS STATE PRODUCT PER CAPITA (Aust. = 100.0)



Source: Australian National Accounts: State Accounts (5220.0).

Input–output tables

Basic structure

Input–output tables show the structure of a country's entire production system for a particular period, usually one year. They show which goods and services are produced by each industry and how they are used (e.g. some goods, such as cars, are sold to final consumers while others, such as steel, are used as inputs by other industries in producing more goods and services). The tables are based on the principle that the value of the output of each industry can be expressed as the sum of the values of all the inputs to that industry plus any profits made. All the goods and services produced in a period are identified as being used as inputs by industries in their production process, being sold to final users of the goods and services (either in Australia, or overseas as exports), or contributing to the change in stocks (an increase in stocks if more goods are produced than purchased or a run-down in stocks if purchases exceed production). For the production system as a whole, the sum of all outputs must equal the sum of all inputs and, for the economy as a whole, total supply must equal total demand (stocks provide the mechanism which balances supply and demand).

Relationship to the national income and expenditure accounts

Input-output tables can be directly related to the domestic production account. The income side of the domestic production account shows the amount of income generated in the economy accruing to labour (in the form of wages, salaries and supplements) and to capital (as profits or, in national accounting terms, gross operating surplus). The expenditure side of the account shows the value of goods and services entering into the various categories of final demand.

The input-output tables provide a much more detailed disaggregation of the domestic production account than is available in the national income, expenditure and product accounts. The latter only supply details of the end results of economic activity, whereas the input-output tables provide a means of tracing flows of goods and services step by step through the production process. The extra detail provided by the input-output tables is essential for many analyses.

Input-output table for seven industry sectors

Table 28.21 and diagram 28.22 show the flows of goods and services in respect of 1992–93.

The links between the table and the diagram are explained by working through the following formulas.

Intermediate usage (\$333,709m) in the diagram is derived by summing from column 8 of the table: Intermediate usage (\$289,647m); Sales by final buyers (\$913m); Competing imports (\$41,230m), and Complementary imports (\$1,919m).

Gross value added (\$404,292m) in the diagram is derived by summing from column 14 of the table: Wages, salaries and supplements (\$190,348m); Gross operating surplus (\$168,169m); and taxes: Commodity taxes (net), (\$25,001m), Indirect taxes n.e.c. (net) (\$17,857m) and Duty on competing imports (\$2,917m).

Domestic production (\$738,001m) in the diagram is derived by summing: Intermediate usage from column 8 of the table (\$289,647m); total final demand at basic values from column 13 (\$428,066m); and the indirect taxes payable on those final demand items (see column 13) Commodity taxes (net) (\$16,404m), Indirect taxes n.e.c. (net) (\$2,166m) and Duty on competing imports (\$1,718m).

Imports (\$78,280m) in the diagram is derived by summing from column 14 of the table: Competing imports c.i.f. (\$78,095m) and Complementary imports c.i.f. (\$185m).

Total supply (\$816,281m), which must be equal to final demand, is the sum of Domestic production (\$738,001m) and Imports (\$78,280m).

Domestic final demand (\$405,682m) in the diagram is derived from the table by subtracting total Exports (\$76,890m), column 12, from total Final demand (\$482,572m), column 13.

Exports (\$76,890m) in the diagram is total exports, column 12, in the table.

Total demand (\$816,281m) is the sum of Domestic final demand (\$405,682m), Intermediate usage (\$333,709m), and Exports (\$76,890m).

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Natural resources in national balance sheets

This article outlines ABS work on the valuation of natural resources presented within the national balance sheets (Occasional Paper: *National Balance Sheets for Australia, Issues and Experimental Estimates 1989 to 1992*, (5241.0)). 'Natural resources' in this context covers land, forests, and subsoil assets. The value of natural resources had not previously been included in the Australian national accounts, and the experimental estimates represent the first attempt by the ABS to value consistently a diverse range of Australia's assets. The balance sheets indicate that Australia's net worth rose from \$1,580.5b at 30 June 1989 to \$1,687.0b at 30 June 1991 (representing annualised growth of 3.4%), before falling to \$1,669.4b at 30 June 1992 (representing a fall of 1%).

The article provides a brief description of some of the methodological issues and problems encountered, before presenting a selection of results.

Background

Over the last decade there has been a growing awareness (in Australia as well as overseas) of the importance of the environment and a growing demand for environmental statistics to assist research and decision-making. As part of this development, the new international framework for national accounts *System of National Accounts 1993* (or SNA93)¹ recommends including natural resource assets in the national balance sheet. The work undertaken by the ABS is in response to these changing demands.

In line with the recommendations of SNA93, the ABS has applied the principle that the valuation of an asset² must be related to its ability to earn its owner an income, either immediately or at some definable future date. It should be noted that natural assets, especially forests, may have non-economic values in addition to their commercial values. However, it is not feasible to measure these in a national accounts context.

SNA93 recommends that, where possible, asset valuation should be on the basis of current, observable market prices as this is the basis on which decisions by economic agents (producers, consumers and investors) are made. However, for the most part, there are insufficient data on transactions in natural resources to support this approach. SNA93 recognises this problem and suggests that the net present value approach (NPV) to valuing the future stream of income, may be used as an appropriate conceptual substitute. The NPV represents the present day value of the future income discounted for a time preference. For example, \$100 today has a higher value than \$100 in one year's time. To derive the NPV of the latter \$100 requires that it be discounted by an appropriate rate of interest.

Subsoil assets

Subsoil assets are those resources considered economically exploitable, and include known deposits of coal, oil and natural gas resources, and metallic and non-metallic mineral resources, including deposits under the sea.

In the Australian context economically exploitable deposits are those that the Bureau of Resource Sciences defines as 'economic demonstrated resources' (EDR), which refers to those resources with a very high degree of geological assurance and for which extraction is expected to be profitable over the life of the mine³. It approximates both proven and probable resources. It is difficult to value subsoil assets as they have not yet entered the production process. SNA93 recommends that, in the absence of market transactions, the value of resources be determined by the present value of the expected net returns resulting from the commercial exploitation of those assets.

While the total stock of Australia's minerals is unknown, it is important to note that economic demonstrated resources are a small component of the total resource stock.

The ABS approach

The approach taken by the ABS in calculating the NPV of subsoil assets was to take the value of gross output during a twelve month period and to deduct costs (including a 'normal' return on capital) to derive net income. This was taken to be the equivalent of 'economic rent'.⁴ Cost data include labour, on-site costs, mining and milling costs, and depreciation charges. Exploration costs within the mine lease, plus a 'normal' return on capital, were also included. The 'normal' return on capital used was the Commonwealth government 10-year bond rate, which was multiplied by the net capital stock for the mining industry (using the ABS's capital stock estimates). The return on the capital stock was divided into total extraction costs (costs multiplied by production for each commodity) to determine a mark up to be applied to total costs which represented the 'normal' return to capital. The stream of future net income was calculated for each year, taking into account average annual production and the average mine life. This income stream was then discounted to obtain a value in today's dollars.

The discount rate in theory equates to the weighted average cost of capital, and the rate chosen should represent the cost of the risk in waiting for the cash flow from a project. Risks or uncertainties include, for example, the existence of markets, competition and natural disasters. The longer the lead time, the greater is the risk that expected future cash flows will not eventuate. Other factors which must be considered in setting an appropriate discount rate include the expected inflation rate, and the rate of return available from alternative uses of investment funds. Discounting an uncertain future flow of income embodies a number of assumptions regarding a 'steady state', namely that price, production, interest rates, operating costs and returns to capital will remain unchanged from the year for which the estimates are made until the resource is exhausted. These assumptions are unrealistic, contributing to uncertainty surrounding the estimates. Moreover, the resource life is unknown until the subsoil asset is fully extracted.

Valuation issues

The major drawback of the net present value (NPV) approach for subsoil assets is that the estimates are subject to uncertainty and revision regarding:

- the future price of the commodity;

- the technological developments which will occur during the life of the mine, which may extend its life significantly;
- the true size of the deposit and any nearby deposits, which may be different from the original estimates; and
- the quality of the deposits yet to be found.

Given the way estimates of the value of subsoil assets are derived, only a very small portion of the total resource is accounted for at any one time, and valuation can give a very misleading impression of the extent of the resource. The point is not that valuation should not be attempted, but rather that the monetary estimates should be used in conjunction with the physical stocks of the resources (bearing in mind that the physical estimates are also subject to some uncertainty). Hence, the estimates must be viewed with some caution. Monetary estimates are subject to considerable volatility and accordingly can give a deceptively optimistic or pessimistic picture, while physical estimates may offer only a very limited view of the resource's full extent.

Land

Land is defined (SNA93, para. 10.121) as the ground itself, including the soil covering and any associated surface water. Excluded are buildings, cultivated flora and fauna, subsoil assets, and non-cultivated biological resources. As land is not created, the only way transactions in land impact on GDP is through the transaction costs associated with purchase and sale, or through improvements (such as clearing).

Land estimates cover the value of freehold and leasehold land in private hands, plus land owned by Commonwealth government business enterprises. Unalienated Crown land, including land potentially subject to Mabo-like claims, has been excluded from the scope of these estimates because of the difficulty in establishing an appropriate value. Also excluded because of the unavailability of data is land held, but not leased out, by State and local government business enterprises. The significance of these exclusions is not known, but it is thought that they do not materially effect the levels, and most certainly have no significant impact on the changes over time in the estimated values.

The estimates were standardised on a consistent basis for each State and Territory and are based on the concept of 'site value'. Site value includes the value of invisible improvements to the land that cannot be separated from it, such as clearing of trees and drainage work, as well as the unimproved capital value of the land itself. This leads to an element of double counting in the balance sheets: expenditure on invisible improvements are recorded as gross fixed capital expenditure on non-dwelling construction in the capital account, as well as being included in the estimate of land (this double count is not considered significant). Estimates of site values were taken from the Coleman Report⁵ (1993) to the Commonwealth Government, which was produced to assist the comparison of the relative capacities of the States and the Northern Territory to raise revenues from owners of land and from transactions in land. Land is valued at its approximate current market price.

Using administrative data has certain shortcomings. The data are compiled for use by governments when assessing the potential for raising revenue from land rates and taxes on transactions in land. Their estimation process uses whatever data are available to isolate the value of the land from any capital improvements to the land. This may introduce an element of subjectivity into the data.

Forests

SNA93 does not specify the types of forests which should be included in the national balance sheet. The ABS has chosen to value only the timber value of those forests which are available now, or will be available in the future, for production of timber. Further, as there are too few transactions from which to determine a market value, indirect valuation techniques have been used as a proxy for the economic value of forests. Non-timber values (such as the prevention of soil erosion, and maintenance of bio-diversity) lie outside the presently accepted methods of SNA93.

All publicly owned forests outside conservation reserves and all private forests are potentially available for timber production, although a number of constraints reduce the area of forest that is actually available. For publicly owned forests, the constraints include the accessibility of the resource, the economic feasibility of extracting the resource and the setting aside of

specified areas of forests under management codes of practice. National parks, wilderness areas and world heritage listed areas have been excluded from the valuation because logging is prohibited.

The ABS approach

Forests have been broken down into two broad types: native forests (which account for approximately 95% of the area of all forests including a very small area of broadleaved plantations), and coniferous plantations.

For native forests (including broadleaved plantations) the stream of future income was calculated for each forest age group by State and Territory. The future net income was derived from the size of the forests (number of hectares or thousand trees) multiplied by the yield per hectare (or thousand trees) for sawlogs and pulplogs, with the results being multiplied by the stumpage fees per cubic metre for sawlogs and pulplogs, respectively. Stumpage fees are the payments made to the owner of the resource by the logger for the right to log. They were taken to be the equivalent of economic rent. The values are then discounted over the time to maturity of the forest, assuming current production rates are maintained through the forests' lives. Mature forests were not discounted.

Coniferous plantation forests were valued using an insurance schedule provided by a private insurance company. The schedule shows the value of each hectare of plantation from 1 to 30 years of age as determined by the Australian Forest Growers Association.

Valuation issues

At present, there are no comprehensive data sources to provide annual estimates of the total area of forest available for timber production. However, the survey by the Resource Assessment Commission found that 22.1 million hectares of native forest were available for logging in 1990⁶. In addition, data from the Australian Bureau of Agricultural and Resource Economics (ABARE) indicate that there were just over one million hectares of plantation forest, comprising broadleaved and coniferous forests.

Stumpage fees are being used as a proxy for economic rent. However, the stumpage fees may include non-rent components, such as

service costs for road maintenance, and the stumpage fee itself is subject to variation according to such factors as straightness, location and log size.

Any income received from thinnings was also ignored, which results in an underestimate of net income.

Finally, the values for forests presented in the balance sheets have been calculated for their timber values only, but it should be noted that forests have other non-economic values, many

of which are in conflict with their usual economic activity (namely logging). Placing a non-timber value on forests is very difficult and highly contentious. Even though there are clear economic benefits from the existence of forests there is no satisfactory method of assigning dollar values to these benefits.

Data

The table shows the balance sheet estimates of natural resources in their most aggregated form.

\$5.1 BALANCE SHEET ESTIMATES FOR AUSTRALIA

	30 June 1989 \$b	30 June 1990 \$b	30 June 1991 \$b	30 June 1992 \$b
Land	541.7	533.1	544.8	508.7
Native forests	8.3	8.7	8.8	8.8
Plantation forests	4.8	5.4	6.2	6.4
Subsoil assets	109.1	115.6	135.5	145.2
Total non-financial assets(a)	1 731.0	1 810.7	1 876.2	1 869.5
less liabilities to non-residents (net)	150.5	168.7	189.2	200.1
Net worth	1 580.5	1 642.0	1 687.0	1 669.4

(a) Total assets includes produced assets (fixed assets, inventories) not shown separately in the table.

Source: Occasional Paper: National Balance Sheets for Australia, Issues and Experimental Estimates 1989 to 1992 (5241.0).

At 30 June 1992, the total value of land in Australia was estimated to be \$509b, which represents a fall of almost 7% on the previous year's estimate. In value terms subsoil assets are the next largest, and are estimated to have grown during each year of the period 30 June 1989 to 30 June 1992. Although native forests represent many times the area of plantation forests, they are estimated as having (in absolute terms) little difference in value. The value of native forests has been stable during the period in nominal terms, while that of plantation forests has grown steadily.

Both total non-financial assets and net worth peaked at 30 June 1991, with the fall in the land estimates over the next twelve months causing the consequent drop in both series. 'Natural resources' (defined to include only those presented in the table) account for just under 40% of total non-financial assets throughout the

period, with produced assets representing just over 60%. Liabilities to non-residents make a negative contribution (reducing total assets) and account for approximately 10% of net worth throughout the period.

Conclusion

This article has briefly outlined the approach taken by the ABS when constructing the national balance sheet, and identified some of the issues related to the valuation of subsoil assets, land and forests. The results should be interpreted with care as there are still many conceptual and data issues to be resolved. Readers are invited to contact: Director, National Accounts Research Section, ABS, PO Box 10, Belconnen, ACT 2616 with any comments or queries.

Endnotes

1. The SNA is being widely adopted by government statistical agencies throughout the world, including the ABS, as the conceptual basis for compiling their national accounts.

2. For an asset to be included in the national balance sheets, SNA93 states that it must fulfill certain criteria.

'The assets recorded in the balance sheets of the System are economic assets. These are defined as entities:

- over which ownership rights are enforced by institutional (economic) units, individually or collectively;
- from which economic benefits may be derived by their owners by holding them, or using them, over a period of time.' (SNA 93 para. 10.2)

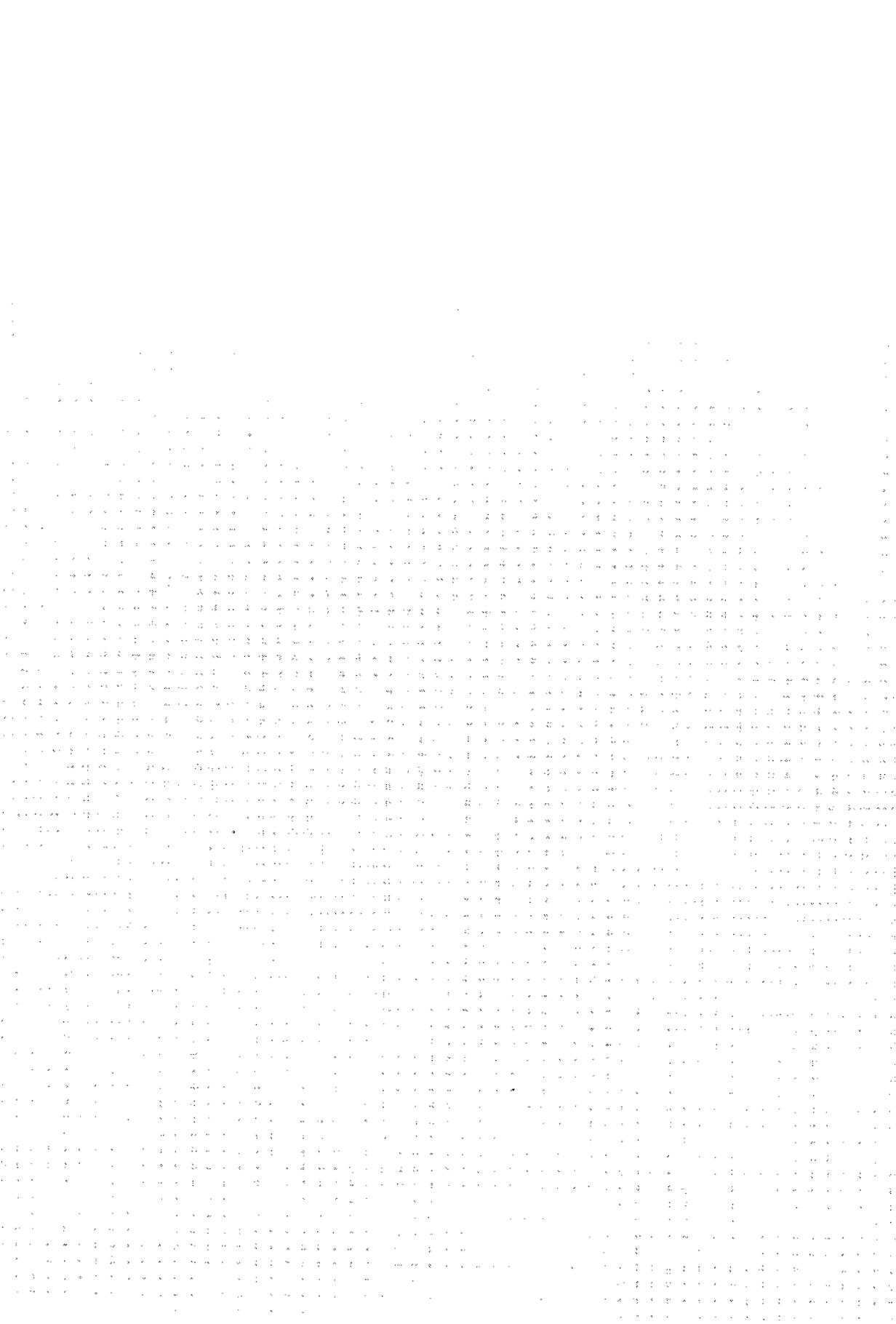
The economic benefits consist of income derived from the use of the asset and the value, including possible holding gains/losses, that could be realised by disposing of the asset or, in the case of a financial asset, by extinguishing it.

3. The BRS has adapted the McKelvey Box to cross-classify Australian subsoil assets by the degree of economic feasibility and geological assurance of the deposit.

4. Economic rent is the return to the owner of the resource for use of that resource, but excludes the costs necessary to replace it. Originally applied to land, it is now generally applied as the return to the owners of any natural resource.

5. Coleman, M.R. 'Report on Land Valuation Data', in *Commonwealth Grants Commission Report on the General Revenue Grant Relativities 1993*, Volume 3, Appendixes, July 1993.

6. Resource Assessment Commission, *Forest and Timber Inquiry Final Report*, Volumes 1, 2A and 2B, March 1992, RAC, Canberra.



Introduction	697
International merchandise trade	697
Balance of payments	697
International investment	697
Foreign ownership in Australia	697
International merchandise trade	697
Conceptual framework	697
Classification	698
Valuation	698
Total merchandise exports and imports	699
Merchandise exports and imports by State/Territory	699
Merchandise exports and imports by country	700
Merchandise exports and imports by commodity	703
Merchandise exports and imports by industry of origin	712
Import Price Index	712
Export Price Index	714
Balance of Payments	715
Conceptual framework	715
Classification	716
Statistical overview	716
Exports and imports of goods and services (balance of payments basis)	719
International investment	728
Conceptual framework	728
Classification	728
International investment position	728
Foreign debt	730
International investment ratios	732
International investment by country	733
International investment by industry	736
Foreign ownership in Australia	739
Bibliography	741

Introduction

This chapter presents statistics and related information on Australia's international trade, balance of payments, international investment transactions, and foreign financial assets and liabilities.

These statistics are used by economic analysts and policy advisors to monitor, evaluate and forecast developments in Australia's external trade and external sector accounts for the purposes of domestic and international macro-economic analysis and policy determination. They are also used by governments, government agencies, businesses, industry associations, research institutions and others to analyse patterns of trade and assess particular types of transactions and financial claims and liabilities between Australian residents and non-residents, for purposes such as trade promotion and negotiations, market and industry performance studies, etc.

International merchandise trade

International merchandise trade statistics cover all movable goods which add to (imports) or subtract from (exports) Australia's stock of material resources. The statistics are compiled from information submitted by importers and exporters to the Australian Customs Service. Some goods are excluded for conceptual or practical reasons, for example those temporarily brought to Australia for subsequent forwarding to foreign destinations, and low-value imports and exports in the parcel post system.

The merchandise exports and imports data are used in the compilation of the balance of payments. However, various coverage, timing and (for imports only) valuation adjustments are necessary before international merchandise trade statistics can be put on a balance of payments basis. Therefore, the merchandise exports and imports statistics, and the excess of exports (+) or imports (-), shown in the *international trade* section of this chapter will differ from those shown in the *balance of payments* section.

Balance of payments

The balance of payments provides a statistical statement of economic transactions between residents of Australia and residents of other countries. 'Residents', who may be people or

businesses, need not be Australian nationals. The balance of payments incorporates three types of economic transactions: transactions in goods, services and income; financial transactions involving claims on, and liabilities to, the rest of the world; and one sided transactions (described as unrequited transfers) such as gifts or grants, and funds brought into or taken out of Australia by migrants. The first and third of these types of transactions comprise the *current account*, while the second comprises the *capital account*.

International investment

International investment statistics provide information on foreign financial assets and liabilities of Australian residents (called the *international investment position*). They also provide information on increases and decreases in the levels of these assets and liabilities as a result of: capital transactions (investment flows, including reinvestment of earnings); exchange rate variations and other revaluations and reclassifications; and income receivable and payable on these assets and liabilities.

Capital transactions measured in international investment statistics are identical to the transactions measured in the capital account of the balance of payments. In the same way, investment income transactions recorded in *international investment statistics* are mirrored in the balance of payments current account within the income category.

Foreign ownership in Australia

Statistics of foreign ownership in Australia presented in this chapter use international investment data to estimate the foreign ownership of equity in Australian enterprises.

International merchandise trade

Conceptual framework

Australia's international merchandise trade statistics, relating to the exports and imports of goods, are compiled in broad agreement with the United Nations' recommendations for the compilation of international trade statistics.

Merchandise trade covers all movable goods which add to (imports) or subtract from (exports) Australia's stock of material resources.

Excluded are:

- direct transit trade, that is, goods being transhipped or moved through Australia for purposes of transport only;
- ships and aircraft moving through Australia while engaged in the transport of passengers or goods between Australia and other countries; and
- non-merchandise trade, consisting primarily of goods moving on a temporary basis (e.g. mobile equipment, goods under repair and goods for exhibition) and passengers' effects.

International merchandise trade statistics are compiled by the Australian Bureau of Statistics from information submitted by exporters and importers or their agents to the Australian Customs Service

The United Nations' recommendations for the compilation of merchandise trade statistics recognise that the basic sources used by most compiling countries — customs records — will not be able to capture certain transactions. In Australia the following types of goods, which fall within the scope of merchandise trade, are excluded because customs entries are not required:

- certain materials under intergovernmental agreements for defence and similar projects;
- migrants' and passengers' effects exported or imported and parcel post exports and imports of small value; and
- the sale or delivery of certain ships intended for use on overseas routes.

For exports only:

- fish and other sea products landed abroad directly from the high seas by Australian ships; and
- export consignments where the value of the goods in each transaction is less than \$500.

For imports only:

- bunkers, aviation fuel and stores supplied abroad to Australian ships and aircraft;
- entries lodged on informal clearance documents (ICDs) for values not exceeding \$250, and ICDs for postal articles valued at up to \$1,000.

Classification

In addition to the primary classification between exports and imports, international merchandise trade is also classified by commodity, by country of origin/destination, by Australian State of production/destination, and by industry of origin.

Export and import commodity statistics are available classified according to:

- the Harmonised System, a World Customs Organisation classification which groups goods according to their component materials, from raw materials through to processed and manufactured products;
- the codes and descriptions of the third revision of the United Nations Standard International Trade Classification (SITC Rev. 3). This classification groups commodities according to the degree of processing they have undergone, from food and crude raw materials through to highly transformed manufactures; and
- the 19 categories of the United Nations classification by Broad Economic Categories (BEC). The BEC classifies international trade statistics for the purposes of general economic analysis according to the main end use of the commodities traded

Commodity export and import statistics in this publication are presented according to SITC Rev. 3.

Valuation

For exports, the point of valuation adopted is free-on-board (f.o.b.) at the Australian port of shipment, while the basis of valuation is transactions value or the actual price at which the goods are sold.

For imports, the point of valuation is the point of containerisation (in most cases), or f.o.b. at the customs frontier of the exporting country or the port of loading, whichever comes first. The basis of valuation is the customs value which, for transactions between independent buyers and sellers, will generally be the price actually payable. Where traders are not independent, that is, they may be related or affiliated in some way, an appropriate customs value may be determined.

Total merchandise exports and imports

In the 1995–96 financial year Australian exports rose 13% to \$75,999m and Australian imports rose 4% to \$77,819m. In 1995–96 imports exceeded exports by \$1,820m, a reduction of \$5,748m compared to the \$7,568m deficit recorded in 1994–95 (table 29.1 and graph 29.2).

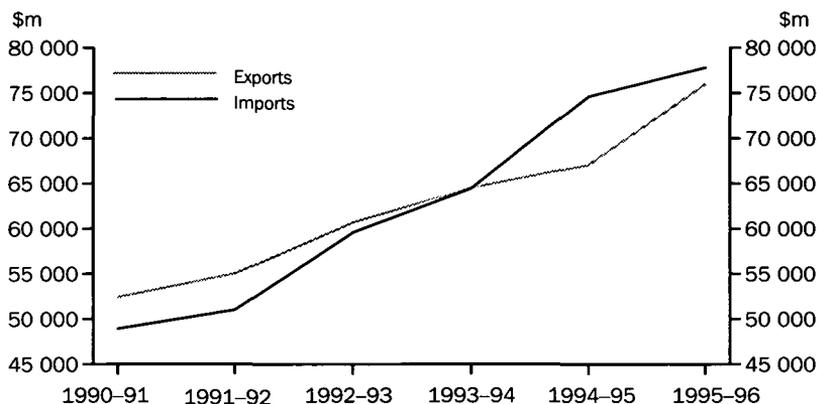
29.1 TOTAL MERCHANDISE EXPORTS AND IMPORTS

Financial year	Exports \$m	Imports \$m	Excess of exports or imports(a) \$m
1990–91	52 399	48 912	3 487
1991–92	55 027	50 984	4 043
1992–93	60 702	59 575	1 127
1993–94	64 548	64 470	78
1994–95	67 051	74 619	-7 568
1995–96	75 999	77 819	-1 820

(a) A minus sign denotes excess of imports.

Source: *International Trade database, August 1996.*

29.2 TOTAL MERCHANDISE EXPORTS AND IMPORTS



Source: *International Trade database, August 1996.*

Merchandise exports and imports by State/Territory

Table 29.3 classifies merchandise trade by Australian State or Territory.

For exports, State/Territory refers to the State of origin of the goods, that is the place where the final stage of production or manufacturing occurs. The State of origin is not necessarily the State in which the goods were loaded for export.

For imports, State/Territory refers to the State of final destination, that is the place where imported goods were released from Customs

control. The State of final destination is not necessarily the State in which the goods were discharged, nor is it necessarily the State in which they are used.

Re-exports are defined as goods, materials or articles originally imported into Australia which are exported in the same condition, or after undergoing minor operations (e.g. blending, packaging, bottling, cleaning, husking or shelling) which leave them essentially unchanged.

29.3 MERCHANDISE EXPORTS AND IMPORTS, By State/Territory

State/Territory	Exports			Imports		
	1993-94 \$m	1994-95 \$m	1995-96 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
New South Wales	14 651	15 199	16 634	28 496	33 297	34 945
Victoria	12 349	13 006	15 392	20 770	23 967	24 664
Queensland	11 984	12 511	13 608	6 869	7 771	8 051
South Australia	3 890	3 829	4 497	2 803	3 100	3 114
Western Australia	15 611	16 435	18 918	4 793	5 799	6 289
Tasmania	1 575	1 612	1 620	447	341	351
Northern Territory	1 124	1 075	1 211	269	332	395
Australian Capital Territory	11	18	16	22	12	10
State not available(a)	295	285	308	0	0	0
Total	61 491	63 969	72 204	64 470	74 619	77 819
Re-exports	3 058	3 081	3 796	—	—	—
Total	64 548	67 051	75 999	64 470	74 619	77 819

(a) Includes commodities for which State/Territory is confidential.

Source: *International Trade database, August 1996.*

Merchandise exports and imports by country

For the purposes of international merchandise trade statistics, a country is defined as a geographical entity which trades, or has the potential to trade, with Australia in accordance with Australian Customs Service provisions. In Australian merchandise trade statistics, external territories under Australian administration are treated as separate countries while self-governing territories and dependent territories under the administration of other countries may be treated as individual countries.

For exports, country refers to the country to which the goods were consigned at the time of export. For imports, country refers to the country of origin of the goods, which is defined as the country of production for Customs purposes. Where the country of consignment/origin is not known at the time of export/import, goods are recorded as Destination unknown (exports) or Origin unknown (imports).

Table 29.4 shows merchandise trade classified by country and the two country groups ASEAN and the European Union.

The main contributors to the \$5,748m decrease in the merchandise trade deficit for 1995-96 were:

- a \$2,097m (60%) rise in the surplus with Japan as a result of a rise in exports of \$137m (mainly non-ferrous metals) and a fall in imports of \$1,960m (mainly road vehicles);

- a \$1,094m (34%) rise in the surplus with the Republic of Korea as a result of a rise in exports of \$1,359m (mainly non-monetary gold) partly offset by a rise in imports of \$265m (mainly road vehicles);
- a \$764m (62%) rise in the surplus with New Zealand as a result of a rise in exports of \$801m (including petroleum, vehicles and office machines) partly offset by a rise in imports of \$37m (chiefly paper and dairy products); and
- a \$453m (66%) fall in the deficit with China as a result of an increase in exports of \$814m (including petroleum, iron and steel, and non-ferrous metals) partly offset by a rise in imports of \$360m (including office machinery, electrical machinery and articles of apparel and clothing).

These contributions to the decrease in the overall merchandise trade deficit were partly offset by:

- a \$1,570m (14%) rise in the deficit with the United States as a result of an increase in imports of \$1,528m (including road vehicles and other transport equipment, power generating machinery, and machinery specifically for particular industries) and a fall in exports of \$42m.

29.4 MERCHANDISE EXPORTS AND IMPORTS, By Country

	1993-94		1994-95		1995-96	
	Exports \$m	Imports \$m	Exports \$m	Imports \$m	Exports \$m	Imports \$m
Asia Pacific Economic Co-operation (APEC)						
Brunei	61	17	55	22	77	—
Canada	1 149	1 055	1 150	1 278	1 261	1 557
Chile	111	47	141	48	156	122
China	2 590	3 120	2 963	3 649	3 777	4 010
Hong Kong	2 797	801	2 632	923	3 070	970
Indonesia	1 906	1 105	2 113	1 198	2 779	1 522
Japan	15 924	11 700	16 282	12 777	16 419	10 817
Korea, Republic of	4 706	1 882	5 250	2 028	6 609	2 293
Malaysia	1 759	1 103	2 033	1 421	2 296	1 636
Mexico	192	103	132	136	99	169
New Zealand	4 009	3 201	4 790	3 554	5 591	3 591
Papua New Guinea	954	1 296	932	1 125	1 040	1 220
Philippines	699	188	839	259	1 074	260
Singapore	3 197	1 792	3 643	2 246	3 551	2 612
Taiwan	2 757	2 362	3 102	2 570	3 446	2 585
Thailand	1 278	794	1 560	970	1 778	1 005
United States of America	5 075	14 017	4 643	16 044	4 601	17 572
Total APEC	49 164	44 586	52 260	50 246	57 624	51 942
European Union (EU)						
Austria	28	313	32	279	36	313
Belgium-Luxembourg	458	755	466	686	668	755
Denmark	63	336	100	340	117	336
Finland	117	684	247	635	335	684
France	792	1 867	794	1 754	724	1 867
Germany	1 006	4 861	1 083	4 861	1 151	4 861
Greece	25	78	20	63	34	78
Ireland	28	448	42	432	50	448
Italy	1 052	2 231	1 250	2 026	1 281	2 231
Netherlands	703	702	707	712	694	702
Portugal	26	94	50	81	48	94
Spain	268	519	277	484	292	519
Sweden	139	1 617	155	1 426	199	1 617
United Kingdom	2 901	4 882	2 275	4 439	2 826	4 882
Total EU	7 605	19 387	7 498	18 218	8 454	19 387
Other countries						
Algeria	24	—	26	—	11	—
Argentina	117	85	114	69	110	72
Bahrain(a)	45	12	32	5	47	10
Bangladesh	104	20	92	21	172	28
Brazil	319	348	307	452	389	447
Bulgaria	10	5	26	5	49	6
Cambodia	9	1	19	—	22	1
Cayman Islands	—	12	—	13	—	13
Christmas Island	23	1	27	1	21	2
Columbia	—	11	—	14	—	17
Croatia	3	9	4	9	12	8
Czech Republic	27	53	21	56	24	47
Ecuador	28	2	14	3	15	2
Egypt(a)	286	6	161	8	342	9
Fiji	325	163	378	185	475	235
French Antilles	1	—	12	—	1	—
French Polynesia	61	2	83	1	81	2
Ghana	43	2	34	3	27	4
Guam	27	—	19	—	15	—
Hungary	4	32	5	38	5	31

For footnotes see end of table.

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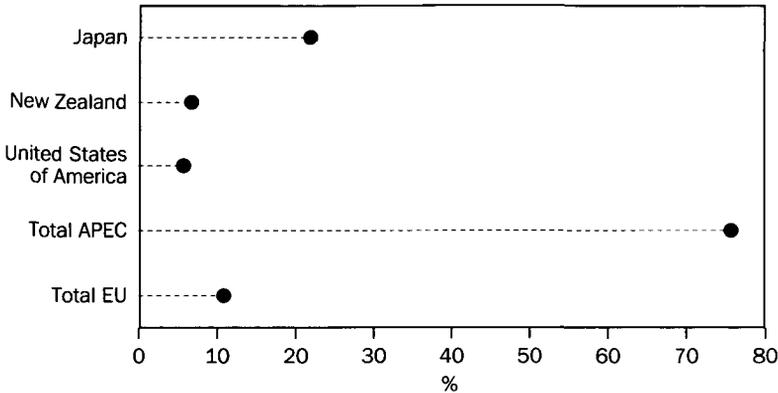
29.4 MERCHANDISE EXPORTS AND IMPORTS, By Country — continued

	1993-94		1994-95		1995-96	
	Exports \$m	Imports \$m	Exports \$m	Imports \$m	Exports \$m	Imports \$m
Other countries — (continued)						
India	865	427	979	532	1 184	549
Iran	535	16	237	21	541	22
Iraq	40	—	40	—	14	—
Israel	67	200	83	273	102	300
Jordan	48	21	53	14	122	16
Kenya	6	11	15	11	29	14
Kiribati	21	—	19	—	20	—
Kuwait	82	76	75	93	147	95
Laos	25	—	35	—	15	—
Lebanon	11	3	8	4	16	5
Macau	7	13	5	11	8	10
Malta	5	1	9	5	8	6
Mauritius	70	2	75	2	87	2
Morocco	17	15	3	15	4	15
Myanmar	4	11	11	8	13	7
Nauru	32	16	28	12	24	14
New Caledonia	164	37	168	46	190	46
Norway	114	125	68	168	100	137
Oman	101	9	81	3	112	4
Pakistan	221	141	191	141	259	132
Peru	19	29	24	26	25	28
Poland	19	23	24	27	39	31
Puerto Rico	4	222	6	198	7	259
Qatar	45	135	58	184	46	184
Romania	45	9	81	15	70	10
Russian Federation	246	22	200	28	85	26
Samoa (American)	29	3	18	2	28	3
Saudi Arabia	344	593	277	750	452	873
Slovenia	4	27	19	30	14	29
Solomon Islands	71	2	65	3	91	4
South Africa	350	268	566	302	775	433
Sri Lanka	104	50	142	50	196	53
Switzerland	270	818	286	991	599	966
Tonga	14	2	19	—	16	1
Turkey	206	45	228	58	366	73
United Arab Emirates	417	617	338	627	542	475
Uruguay	4	2	13	3	5	5
Vanuatu	61	2	45	4	41	2
Venezuela	9	5	10	2	13	3
Vietnam	111	291	150	295	198	329
Western Samoa	22	66	24	75	36	59
Yemen	73	11	14	—	78	—
Zimbabwe	11	13	7	30	31	15
Zone of Coop A-Timor Gap	36	—	33	—	33	—
Other Countries	262	122	226	173	350	272
Destination or origin unknown	3	32	—	31	1	46
International waters	249	8	—	4	—	—
No country details(a)	295	—	285	—	288	—
Ships' and aircraft stores	566	—	576	—	663	—
Unidentified(b)	—	—	—	—	20	—
Total	64 548	69 275	67 051	74 619	75 999	77 819

(a) Exports of alumina to Bahrain, Egypt and Iceland are excluded from country totals and included in the 'No country details' category. (b) Includes \$20m of exports for June 1996 which cannot yet be allocated by country.

Source: International Trade data base, August 1996.

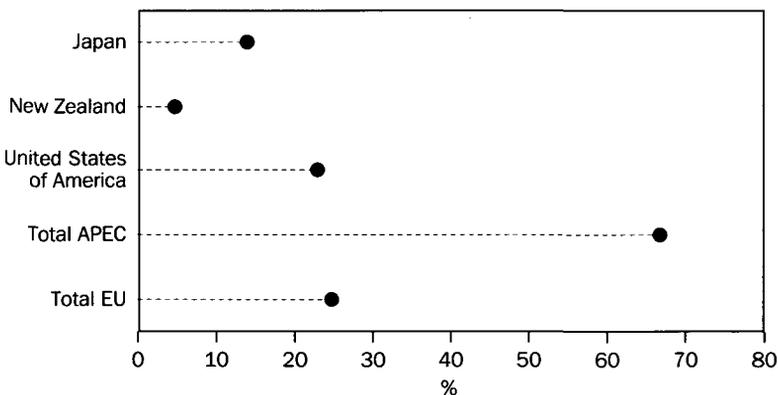
29.5 AUSTRALIAN MERCHANDISE EXPORTS, Selected Countries and Country Groups



Note: Japan, New Zealand and the USA are part of the APEC country grouping.

Source: *International Trade database, August 1996.*

29.6 AUSTRALIAN MERCHANDISE IMPORTS, Selected Countries and Country Groups



Note: Japan, New Zealand and the USA are part of the APEC country grouping.

Source: *International Trade database, August 1996.*

Maps 29.7, 29.8 and 29.9 show the main destination and source countries of Australia's exports and imports.

Merchandise exports and imports by commodity

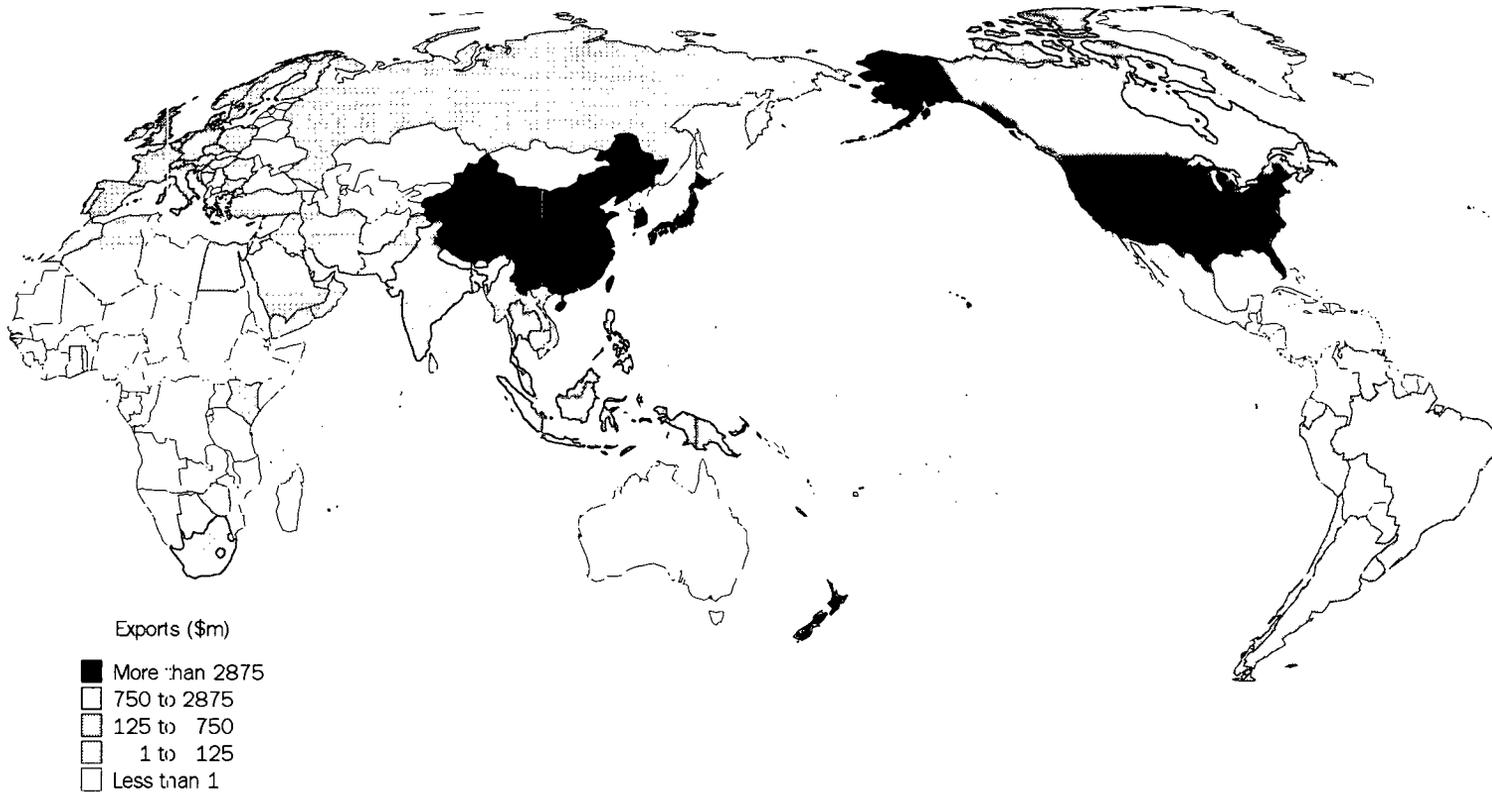
Commodity export and import statistics are presented according to the codes and descriptions of the third revision of the United Nations Standard International Trade Classification (SITC Rev. 3). This classification groups commodities according to the degree of

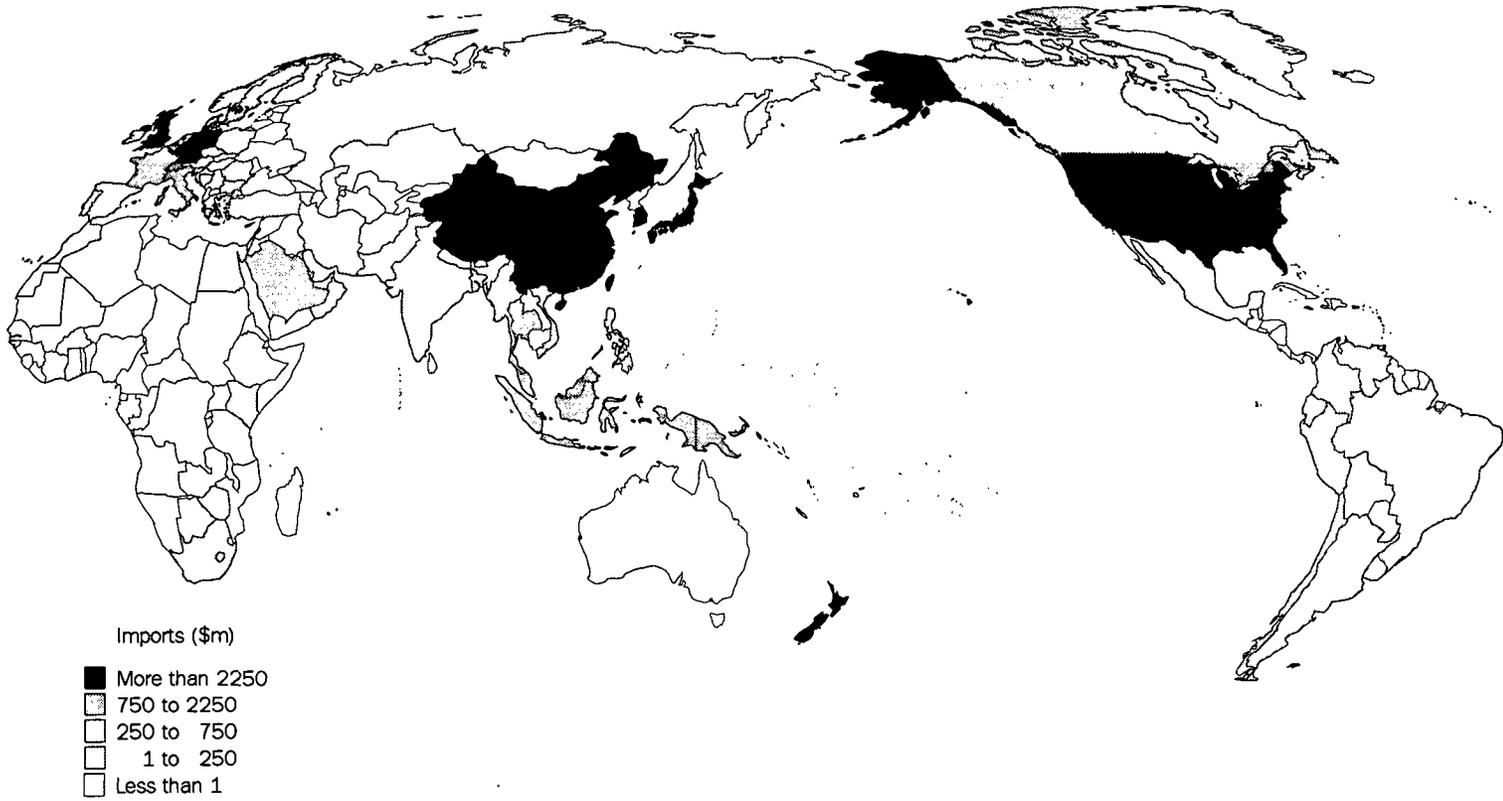
processing they have undergone, from food and crude raw materials through to highly transformed manufactures.

Tables 29.10 and 29.11 show the values of major commodities exported and imported in 1995–96 and their percentage of the total value of Australian exports and imports.

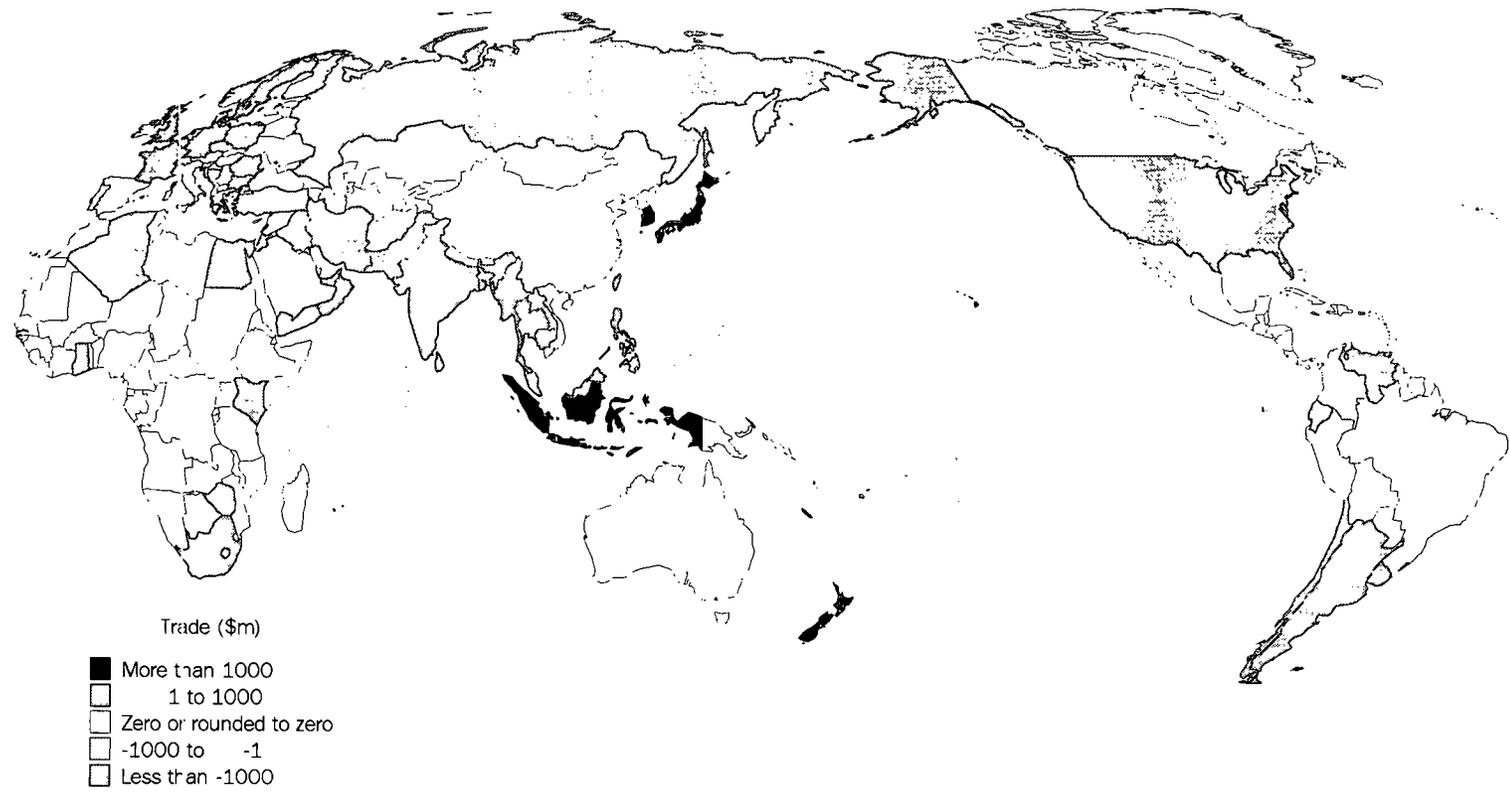
Table 29.12 shows the value of all exports and imports, at broad commodity level, for 1993–94 to 1995–96.

29.7 AUSTRALIAN MERCHANDISE EXPORTS, Destinations — 1995-96





29.9 AUSTRALIA'S NET BALANCE OF TRADE, Partner countries — 1995-96



For the year ended June 1996, exports were \$75,999m, up \$8,948m (13%) on the previous financial year. The most significant contributors to the rise were cereal and cereal preparations, up \$2,405m (95%) to \$4,927m; metalliferous ores and metal scrap, up \$1,065m (14%) to \$8,669m; coal, coke and briquettes, up \$899m (13%) to \$7,837m; and non-ferrous metals, up \$525m (12%) to \$5,043m. The export commodities recording the biggest falls were textile fibres and their wastes, down \$538m (12%) to \$4,056m; and meat and meat preparations, down \$368m (10%) to \$3,293m.

Australia's major commodity exports for 1995–96 and their principal markets were:

- coal, \$7,774m — 10% of total exports: Japan (43%), Republic of Korea (13%), India (8%), and Taiwan (7%);
- non-monetary gold, \$5,625m — 7% of total exports: Republic of Korea (39%), Singapore (21%), Japan (16%) and Switzerland (8%);
- wheat, \$3,363m — 4% of total exports: principal market information is confidential; and
- iron ore, \$2,863m — 4% of total exports: Japan (45%), China (20%) and Republic of Korea (14%).

For the year ended June 1996, imports were \$77,819m, up \$3,200m (4%) on the previous year. The most significant rises were recorded

for: petroleum, petroleum products and related materials, up \$626m (17%) to \$4,234m; transport equipment (excluding road vehicles) up \$461m (23%) to \$2,514m; electrical machinery, apparatus, appliances, parts, up \$406m (8%) to \$5,315m; and telecommunications and sound recording and reproducing equipment, up \$397m (12%) to \$3,759m. Partly offsetting these rises were falls in road vehicles (including air-cushion vehicles), down \$698m (8%) to \$7,980m; and cork and wood, down \$192m (31%) to \$421m.

Australia's major commodity imports for 1995–96 and their principal sources were:

- passenger motor vehicles, \$3,938m — 5% of total imports: Japan (49%), Republic of Korea (16%), Germany (13%) and the United Kingdom (7%);
- computer equipment, \$3,592m — 5% of total imports: the United States (29%), Singapore (20%), Japan (16%), and Taiwan (12%);
- telecommunication equipment, parts and accessories (excluding television and radio receivers) \$2,589m — 3% of total imports: the United States (21%), Japan (14%), Sweden (13%) and Germany (13%);
- aircraft and associated equipment, \$2,093m — 3% of total imports: the United States (72%), the United Kingdom (10%), France (7%) and Canada (4%).

29.10 MERCHANDISE EXPORTS OF MAJOR COMMODITIES — 1995-96

Major commodities	\$m	%
Aircraft and associated equipment; spacecraft (including satellites and spacecraft launch vehicles; parts thereof)	711	1
Alumina (aluminium oxide)	2 635	3
Aluminium	2 725	4
Barley, unmilled	711	1
Cheese and curd	463	1
Coal, not agglomerated	7 774	10
Copper and copper alloys, (unwrought (excluding master alloys)	444	1
Copper ores and concentrates	486	1
Cotton (excluding linters), not carded or combed	762	1
Crustaceans, molluscs, aquatic invertebrates, live, chilled, frozen, dried, salted; crustaceans, cooked	844	1
Fresh or wet salted raw hides and skins of bovine animals weighing more than 14 kg per skin	172	—
Fruit and nuts, fresh, dried or preserved and fruit preparations (including fruit juices)	587	1
Gas, natural and manufactured	1 569	2
Gold, non-monetary (excluding gold ores and concentrates)	5 625	7
Hides and skins, bovine and equine, raw	192	—
Iron and steel	1 756	2
Iron ore concentrates and agglomerates (excluding roasted iron pyrites)	2 863	4
Lead and lead alloys, unwrought	364	—
Machinery specialised for particular industries	1 073	1
Meat of bovine animals, fresh, chilled or frozen	1 146	2
Meat of sheep or goats, fresh, chilled or frozen	526	1
Milk and cream and milk products (excluding butter and cheese)	1 022	1
Nickel and nickel alloys, unwrought	492	1
Nickel oxide sinters and other intermediate products of nickel metallurgy	289	—
Office machines and automatic data processing machines	1 899	2
Ores and concentrates of molybdenum, niobium, titanium, etc.(a)	504	1
Petroleum oils and oils obtained from bituminous minerals, crude	1 592	2
Petroleum products	1 602	2
Photographic and cinematographic supplies	382	1
Plastics in primary and non-primary forms(a)	483	1
Power generating machinery and equipment	824	1
Rice(a)	326	—
Road vehicles (including air-cushion vehicles)	1 189	2
Sheep and goats, live	229	—
Sugar, beet or cane, raw, in solid form	1 441	2
Unmilled grain sorghum	97	—
Uranium and thorium ores and concentrates	242	—
Wheat (including spelt) and meslin, unmilled	3 363	4
Wood, in chips or particles	542	1
Wool, greasy (including fleece washed wool)	1 980	3
Wool, other, not carded or combed	752	1
Zinc ores and concentrates	432	1
Zinc and zinc alloys, unwrought	383	1
Total major commodities(a)	53 496	70
Total exports	75 999	100

(a) Excludes commodities subject to a 'no commodity details' restriction. For further information see paragraph 29 of the Explanatory Notes in 'International Merchandise, Australia' (5422.0).

Source: *International Trade database, August 1996.*

29.11 MERCHANDISE IMPORTS OF MAJOR COMMODITIES — 1995-96

Major commodities	\$m	%
Aircraft and assoc. equipment; spacecraft (including satellites) launch vehicles; and parts thereof	2 093	3
Articles of apparel and clothing accessories	1 766	2
Automatic data processing machines and units thereof	3 592	5
Baby carriages, toys, games and sporting goods	861	1
Chemical materials and products, n.e.s.	975	1
Civil engineering and contractors' plant and equipment	1 108	1
Clay and refractory construction materials and minerals manufactures n.e.s.	467	1
Coffee and coffee substitutes	239	—
Electrical apparatus for switching or protecting electrical circuits	846	1
Electrical machinery and apparatus, n.e.s.	1 463	2
Fish, crustaceans, molluscs, and aquatic invertebrates, and preparations thereof	601	1
Glass, glassware and pottery	464	1
Household type, electrical and non-electrical equipment, n.e.s.	678	1
Inorganic chemicals	832	1
Internal combustion piston engines, and parts thereof, n.e.s.	966	1
Iron and steel	1 410	2
Machinery and equipment specialised for particular industries, and parts thereof	973	1
Manufactures of base metal, n.e.s.	744	1
Measuring, checking, analysing and controlling instruments and apparatus, n.e.s.	1 291	2
Medicinal and pharmaceutical products	1 830	2
Motor vehicles for the transport of goods	1 813	2
Non-electric parts and accessories of machinery, n.e.s.	184	—
Organic chemicals(a)	1 919	2
Paper, paperboard articles of paper pulp, of paper or of paperboard(a)	1 942	2
Parts and accessories of motor vehicles and tractors, track-laying wheeled	1 497	2
Passenger motor vehicles (other than transport type) including station wagons and racing cars	3 938	5
Petroleum oils and oils obtained from bituminous minerals (other than crude)	1 190	2
Petroleum oils and oils obtained from bituminous minerals, crude	2 849	4
Photographic and cinematographic supplies	544	1
Plastics in primary and non-primary forms(a)	1 682	2
Printed matter	878	1
Printing and bookbinding machinery, and parts thereof, n.e.s.	459	1
Pumps, centrifuges, filtering or purifying apparatus and parts thereof	860	1
Rubber tyres, interchangeable tyre treads, tyre flaps and inner tubes for wheels of all kinds	733	1
Ships, boats (including hovercraft) and floating structures	375	—
Telecommunication equipment n.e.s. and parts n.e.s. and accessories	2 589	3
Television and radio broadcast receivers	805	1
Textile yarn	510	1
Tools for use in the hand or in machines	418	1
Tractors, track-laying and wheeled	397	1
Wood, sawn or chipped lengthwise, sliced or peeled	338	—
Woven cotten fabrics (excluding narrow or special fabrics)	302	—
Woven fabrics of man-made textile material (excluding narrow or special fabrics)	457	1
Total major commodities(a)	49 878	64
Total	77 819	100

(a) Excludes commodities subject to a 'no commodity details' restriction. For further information see paragraph 29 of the Explanatory Notes in International Merchandise Trade, Australia (5422.0).

Source: *International Trade database, August 1996.*

29.12 MERCHANDISE EXPORTS AND IMPORTS, By Commodity

Commodity	1993-94		1994-95		1995-96	
	Exports \$m	Imports \$m	Exports \$m	Imports \$m	Exports \$m	Imports \$m
Food and live animals						
Live animals other than fish, crustaceans, molluscs and aquatic invertebrates	323	77	452	101	660	94
Meat and meat preparations	4 044	46	3 661	47	3 293	46
Dairy products and birds' eggs	1 287	161	1 413	173	1 672	193
Fish (not marine mammals), crustaceans, molluscs aquatic invertebrates, and preparations thereof	1 115	542	1 144	609	1 104	601
Cereals and cereal preparations(a)	3 206	143	2 522	207	4 927	166
Vegetables and fruit	932	515	873	534	1 006	590
Sugars, sugar preparations and honey	1 316	67	1 729	86	1 710	86
Coffee, tea, cocoa, spices, and manufactures thereof	166	383	174	505	193	504
Feeding stuff for animals (excluding unmilled cereals)(a)	385	102	387	109	457	94
Miscellaneous edible products and preparations	194	441	209	451	229	520
Total(a)	12 967	2 478	12 565	2 821	15 250	2 894
Beverages and tobacco						
Beverages	474	332	508	336	603	339
Tobacco and tobacco manufactures	32	135	44	186	43	165
Total	506	467	551	522	646	503
Crude materials, inedible, except fuels						
Hides, skins and furskins, raw	392	3	487	4	503	2
Oil seeds and oleaginous fruits	121	81	110	133	205	98
Crude rubber (including synthetic and reclaimed)	10	117	12	153	11	155
Cork and wood	519	659	627	613	623	421
Pulp and waste paper	16	126	44	160	27	191
Textile fibres and their wastes (not manufactured into yarn or fabric)	3 977	162	4 594	188	4 056	175
Crude fertilisers and crude minerals (excluding coal, petroleum and precious stones)(b)	358	141	367	171	425	150
Metalliferous ores and metal scrap(c)	7 315	141	7 604	179	8 669	178
Crude animal and vegetable materials, n.e.s.	208	165	226	193	223	206
Total(b)(c)	12 917	1 595	14 072	1 794	14 741	1 576
Mineral fuels, lubricants and related materials						
Coal, coke and briquettes	7 255	27	6 938	22	7 837	18
Petroleum, petroleum products and related materials(b)	2 676	3 392	2 952	3 608	3 195	4 234
Gas, natural and manufactured	1 185	23	1 355	38	1 569	59
Total(b)	11 116	3 441	11 245	3 668	12 601	4 312
Animal and vegetable oils, fats and waxes						
Animal oils and fats	170	3	220	3	194	5
Fixed vegetable fats and oils, crude, refined or fractionated(a)(b)	7	181	4	208	11	241
Fats and oils (processed), waxes and inedible mixtures or preparations, of animal or vegetable origin, n.e.s.	31	18	38	20	29	23
Total(a)(b)	207	203	263	232	235	268
Chemical and related products n.e.s.						
Organic chemicals(a)(b)	81	1 615	84	1 795	87	1 919
Inorganic chemicals(a)(b)	257	488	309	639	365	832
Dyeing, tanning and colouring materials	363	340	402	372	436	385
Medicinal and pharmaceutical products(a)	701	1 427	771	1 562	892	1 830
Essential oils and resinoids and perfume materials; toilet, polishing and cleansing preparations	208	527	258	568	293	609
Fertilisers (excluding crude)	19	394	24	535	26	669
Plastics in primary forms(a)(b)	201	741	283	923	325	925
Plastics in non-primary forms(b)	113	635	143	719	158	757
Chemical materials and products, n.e.s.	408	878	404	896	419	975
Total(a)(b)	2 351	7 045	2 678	8 009	3 002	8 901

For footnotes see end of table.

...continued

29.12 MERCHANDISE EXPORTS AND IMPORTS, By Commodity — *continued*

Commodity	1993-94		1994-95		1995-96	
	Exports \$m	Imports \$m	Exports \$m	Imports \$m	Exports \$m	Imports \$m
Manufactured goods classified chiefly by material						
Leather, leather manufactures, and dressed furskins, n.e.s.	368	146	515	167	462	164
Rubber manufactures, n.e.s.(b)	120	954	146	1 045	156	1 125
Cork and wood manufactures (excluding furniture)(a)	92	288	98	329	104	317
Paper, paperboard, and articles of paper pulp, of paper or of paperboard(b)	258	1 518	267	1 859	295	1 942
Textile yarn, fabrics, made-up articles, n.e.s. and related products	385	2 246	465	2 454	550	2 359
Non-metallic mineral manufactures, n.e.s.(a)(b)	666	1 080	739	1 213	744	1 188
Iron and steel	1 496	1 041	1 580	1 287	1 756	1 410
Non-ferrous metals(a)(b)	3 900	498	4 518	679	5 043	645
Manufactures of metals, n.e.s.(b)	625	1 674	694	1 876	722	1 890
Total(a)(b)	7 911	9 445	9 022	10 908	9 830	11 040
Machinery and transport equipment						
Power generating machinery and equipment	586	1 690	732	1 769	824	1 998
Machinery specialised for particular industries	822	3 061	924	3 792	1 073	3 924
Metal working machinery	92	378	140	573	163	492
General industrial machinery and equipment, n.e.s. and machine parts, n.e.s.(b)	891	3 638	943	4 299	1 138	4 470
Office machines and automatic data processing machines	1 370	4 828	1 589	5 728	1 899	6 032
Telecommunications and sound recording and reproducing apparatus and equipment	674	2 538	541	3 362	716	3 759
Electrical machinery, apparatus, appliances, parts (including non-electric counterparts of electrical domestic equipment)	968	4 051	1 222	4 909	1 387	5 315
Road vehicles (including air-cushion vehicles)	1 074	7 108	1 081	8 678	1 189	7 980
Transport equipment (excluding road vehicles)	1 024	1 620	965	2 050	1 294	2 514
Total(b)	7 502	28 911	8 137	35 160	9 684	36 484
Miscellaneous manufactured articles						
Prefabricated buildings; sanitary, plumbing, heating and lighting fixtures and fittings, n.e.s.	45	191	52	218	76	221
Furniture, parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	71	396	77	444	97	464
Travel goods, handbags and similar containers	9	286	15	338	14	362
Articles of apparel and clothing accessories	247	1 480	303	1 637	318	1 766
Footwear	61	512	58	570	66	574
Professional, scientific and controlling instruments and apparatus, n.e.s.	416	1 707	442	1 834	540	1 910
Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks(b)	460	1 066	511	1 206	561	1 258
Miscellaneous manufactured articles, n.e.s.	798	4 160	856	4 462	1 035	4 479
Total(b)	2 106	9 798	2 314	10 708	2 707	11 035
Commodities and transactions n.e.c.						
Special transactions and commodities not classified according to kind	348	31	413	25	456	28
Gold coin whether or not legal tender, and other coin being legal tender	253	1	206	2	145	5
Coin (excluding gold coin), not being legal tender	1	—	1	—	—	—
Gold, non-monetary (excluding gold ores and concentrates)	5 269	981	4 699	710	5 625	708
Combined confidential items of trade(d)(e)	1 095	72	886	59	1 078	64
Total	6 965	1 086	6 205	797	7 304	806
Total	64 548	64 470	67 051	74 619	75 999	77 819

(a) Excludes exports commodities subject to a confidentiality restriction. (b) Excludes imports commodities subject to a confidentiality restriction. (c) Excludes some commodities subject to a 'no commodity details' restriction. (d) Includes exports and imports commodities subject to a commodity restriction.

Source: *International Trade database, August 1996.*

Merchandise exports and imports by industry of origin

The following two tables classify merchandise trade statistics according to divisions and selected subdivisions of the Australian and New Zealand Standard Industrial Classification (ANZSIC). The statistics are compiled by

allocating international trade data for a commodity to an ANZSIC industry of origin category based upon the industry with which that commodity is primarily associated.

29.13 MERCHANDISE EXPORTS, By Industry of Origin

Industry	1993-94		1994-95		1995-96	
	\$m	%	\$m	%	\$m	%
Agriculture, forestry and fishing						
Agriculture	5 766	9	5 662	8	7 695	10
Services to agriculture; hunting and trapping	780	1	726	1	821	1
Forestry and logging	46	—	35	—	45	—
Commercial fishing	419	1	536	1	569	1
Total	7 011	11	6 958	10	9 130	12
Mining						
Coal mining	7 184	11	6 895	10	7 782	10
Oil and gas extraction	2 535	4	2 999	4	3 161	4
Metal ore mining	4 572	7	4 792	7	5 342	7
Other mining	263	—	236	—	249	—
Total	14 554	23	14 922	22	16 534	22
Manufacturing						
Food, beverage and tobacco manufacturing	10 451	16	10 757	16	10 951	14
Textile, clothing, footwear and leather manufacturing	2 200	3	2 697	4	2 702	4
Wood and paper product manufacturing	822	1	986	1	987	1
Printing, publishing and recorded media	348	1	364	1	413	1
Petroleum, coal, chemical and associated product manufacturing	4 077	6	4 424	7	5 093	7
Non-metallic mineral product manufacturing	268	—	308	—	391	1
Metal product manufacturing	14 069	22	14 338	21	16 512	22
Machinery and equipment manufacturing	8 503	13	9 219	14	10 927	14
Other manufacturing	740	1	704	1	738	1
Total	41 478	64	43 796	65	48 713	64
Other industries(a)(b)	1 506	2	1 374	2	1 623	2
Total	64 548	100	67 051	100	75 999	100

(a) Includes commodities subject to a 'no commodity details' restriction. For further information see paragraph 29 of the Explanatory Notes in Merchandise Trade, Australia (5422.0). (b) Includes \$20m of exports for June 1996 which cannot yet be allocated to industry of origin codes.

Source: *International Trade database, August 1996.*

Import Price Index

The Import Price Index measures changes in prices of imports of merchandise into Australia on a free-on-board, country of origin basis.

Prices of individual shipments are obtained from major importers of the selected items.

Index items have been grouped according to four different classifications:

- the Standard International Trade Classification Revision 3 (SITC Rev3);

- an industry of origin basis defined in terms of the Australian and New Zealand Standard Industrial Classification (ANZSIC);
- the United Nations Classification by Broad Economic Categories (BEC); and
- the Combined Australian Customs Tariff and Statistical Nomenclature.

Tables 29.15 to 29.17 show index numbers in respect of the first three of these classifications.

29.14 MERCHANDISE IMPORTS, By Industry of Origin

Industry	1993-94		1994-95		1995-96	
	\$m	%	\$m	%	\$m	%
Agriculture, forestry and fishing						
Agriculture	505	1	779	1	715	1
Services to agriculture; hunting and trapping	10	—	9	—	9	—
Forestry and logging	5	—	6	—	6	—
Commercial fishing	39	—	54	—	65	—
Total	559	1	849	1	794	1
Mining						
Coal mining	15	—	11	—	12	—
Oil and gas extraction	2 297	4	2 506	3	2 907	4
Metal ore mining	117	—	130	—	129	—
Other mining	143	—	157	—	150	—
Total	2 572	4	2 805	4	3 198	4
Manufacturing						
Food, beverage and tobacco manufacturing	2 863	4	3 121	4	3 263	4
Textile, clothing, footwear and leather manufacturing	4 750	7	5 246	7	5 283	7
Wood and paper product manufacturing	2 436	4	2 784	4	2 696	3
Printing, publishing and recorded media	1 680	3	1 699	2	1 627	2
Petroleum, coal, chemical and associated product manufacturing	10 102	16	11 255	15	12 507	16
Non-metallic mineral product manufacturing	944	1	1 053	1	1 011	1
Metal product manufacturing	4 572	7	5 094	7	5 073	7
Machinery and equipment manufacturing	32 028	50	38 612	52	40 169	52
Other manufacturing	1 727	3	1 869	3	1 945	2
Total	61 103	95	70 733	95	73 573	95
Other industries(a)	236	—	233	—	254	—
Total	64 470	100	74 619	100	77 819	100

(a) Includes commodities subject to a 'no commodity details' restriction. For further information see paragraph 29 of the Explanatory Notes in Merchandise Trade, Australia (5422.0).

Source: International Trade database, August 1996.

29.15 IMPORT PRICE INDEX, Index Numbers Based on the SITC(a)

SITC section	1992-93	1993-94	1994-95	1995-96
Food and live animals chiefly for food	104.7	106.8	116.6	115.9
Beverages and tobacco	121.8	111.5	106.6	109.8
Crude materials, inedible, except fuels	101.1	116.3	121.9	125.8
Mineral fuels, lubricants and other related materials	100.1	93.5	90.1	89.8
Animal and vegetable oils, fats and waxes	126.6	120.9	140.4	170.1
Chemicals and related products n.e.s.	106.2	103.3	108.8	115.1
Manufactured goods classified chiefly by material	109.3	112.1	110.4	115.7
Machinery and transport equipment	116.8	123.1	121.1	117.4
Miscellaneous manufactured articles	114.9	117.0	113.4	114.2
Commodities and transactions n.e.c.	98.7	110.4	104.4	103.7
All groups	112.1	115.6	114.8	115.0

(a) Reference base year 1989-90 = 100.0.

Source: Import Price Index, Australia (6414.0).

29.16 IMPORT PRICE INDEX, Industry of Origin Index Numbers Based on ANZSIC(a)

ASIC Division	1991-92	1992-93	1993-94	1994-95	1995-96
Agriculture, forestry and fishing	99.7	102.6	107.3	141.7	136.3
Mining	105.5	113.7	97.8	102.5	104.5
Manufacturing	102.6	111.7	115.5	113.8	113.5

(a) Reference base year 1989-90 = 100.0.

Source: Import Price Index, Australia (6414.0).

29.17 IMPORT PRICE INDEX, Index Numbers for BEC and End Use Classes(a)

Categories/classes	1992-93	1993-94	1994-95	1995-96
Broad Economic Categories				
Food and beverages	108.0	107.8	119.5	119.8
Industrial supplies n.e.s.	104.1	105.0	106.6	113.4
Fuels and lubricants	103.2	95.4	93.0	90.7
Capital goods and parts and accessories thereof	110.9	114.0	110.0	104.0
Transport equipment and parts and accessories thereof	124.6	135.9	136.8	135.1
Consumer goods n.e.s.	114.6	117.7	114.0	114.1
End Use Classes				
Capital goods	117.0	122.8	119.8	116.0
Intermediate goods	105.1	106.6	107.6	109.2
Consumption goods	116.9	121.1	119.2	119.6

(a) Reference base year 1989-90 = 100.0.

Source: *Import Price Index, Australia (6414.0)*.

Export Price Index

The Export Price Index measures changes in the prices of exports of merchandise from Australia, including re-exports (i.e., goods which are imported into Australia and exported at a later date without physical alteration).

The current Export Price Index is a fixed weights index compiled on a reference base of 1989-90 = 100.0, with the weights based predominantly on Australian exports for 1988-89.

In general, prices are obtained from major exporters of the selected commodities included in the index.

The commodities included in the current index have been combined into broad index groups in three ways:

- in terms of the Australian Harmonised Export Commodity Classification (AHECC);
- on an industry of origin basis defined in terms of the Australian Standard Industrial Classification (ASIC); and
- for selected sections of the Standard International Trade Classification Revision 3 (SITC Rev 3).

Tables 29.18 and 29.19 show index numbers in respect of the first two of these classifications.

29.18 EXPORT PRICE INDEX, Index Numbers Based on AHECC(a)

AHECC sections	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Live animals, animal products	96.1	97.6	105.1	110.3	105.9	98.8
Vegetable products	77.9	83.1	94.3	88.6	82.7	101.1
Prepared foodstuffs	91.8	87.9	94.9	102.3	104.6	101.3
Mineral products	108.3	103.1	108.2	100.9	95.1	100.9
Products of chemical or allied industries	100.2	89.6	90.1	87.5	84.4	89.5
Wool and cotton fibres	77.8	66.6	60.9	59.0	80.8	72.7
Gold, diamonds and coin	96.6	91.8	99.6	110.4	104.0	102.3
Base metals and articles of base metals	92.6	79.7	81.0	76.3	96.8	97.0
Machinery and mechanical appliances	97.8	94.8	98.2	97.5	97.2	95.8
Motor vehicles, aircraft and vessels	100.0	100.4	105.0	109.3	108.2	107.3
All groups	95.0	89.6	93.5	91.8	94.7	96.1

(a) Reference base year 1989-90 = 100.0.

Source: *Export Price Index, Australia (6405.0)*.

29.19 EXPORT PRICE INDEX, Industry of Origin, Index Numbers Based on ASIC(a)

ASIC Division	1990–91	1991–92	1992–93	1993–94	1994–95	1995–96
Agriculture	77.2	72.9	74.6	72.2	83.4	85.1
Mining	106.5	103.5	108.0	101.0	94.2	100.0
Manufacturing	96.9	89.8	94.1	95.2	98.6	98.0

(a) Reference base year 1989–90 = 100.0.

Source: *Export Price Index, Australia (6405.0)*.

Balance of Payments

Conceptual framework

Balance of payments transactions can be broadly divided into three categories. The first comprises transactions in goods, services and income between residents of Australia and non-residents. The second covers financial transactions involving claims on and liabilities to the rest of the world. The third category, described as unrequited transfers, records only the 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.

By convention, the first and third of the above categories are combined to form the current account while the second, together with the two changes not arising from transactions, are shown separately in the capital account.

The double entry accounting system is used for recording balance of payments transactions. Under this system, credit entries, which are shown with no arithmetic sign, 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, which are identified by a minus sign (–), 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. For example, an export transaction for which payment is received through the banking system involves a credit entry for the export to a

non-resident and a debit entry for the increase in foreign exchange assets due to the receipt of foreign exchange in payment of the export. Any entries that are not automatically paired are matched by special offsetting entries. Such offsetting entries are required for the category of unrequited transfers, for which there is no quid pro quo, and for the other changes not arising from transactions referred to previously, namely the allocation (or cancellation) of SDRs and the monetisation (or demonetisation) of gold.

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 sums of the credit and debit entries is then brought about by the inclusion of a balancing item which reflects net errors and omissions. The balancing item is shown separately after both the current and capital accounts, since it reflects the net effects of errors and omissions in both accounts.

In principle, transactions and other changes should be valued in the balance of payments at market prices. However, for practical reasons, transactions are generally valued in the statistics at transaction prices as this basis provides the closest practical approximation to the market price principle.

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 current account transactions, this occurs when ownership of goods changes, services are rendered, reinvested earnings attributable to direct investors are earned, and when interest and dividends become due for payment. In the case of unrequited transfers, these should be recorded when the goods, services, cash, etc. to which they are offsets change ownership.

Those, such as taxes and fines, which are imposed by one party on another, should ideally be recorded at the time they become due for payment without penalty. For capital account transactions, the time of change of ownership is, by convention, the time at which transactions are entered in the books of the transactors.

In practice, the nature of the available data sources is such that the time of recording of transactions will often differ from the time of change of ownership. 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

Classification

In the following tables, global estimates of the current and capital accounts of the Australian balance of payments are presented. Current transactions are recorded gross and capital transactions net. This means that for each item in the current account the credit entries are recorded separately from the debit entries. For example, travel credits is shown separately from travel debits. For each item in the capital account, however, debit and credit transactions are combined to produce a single result for the item which may be either a net credit or a net debit. For example, in a given period, foreign purchases of shares issued by companies in Australia (credit) are netted against foreign sales of similar shares (debit) and the net result is recorded in the capital account as either a net credit or a net debit.

The current account records transactions between Australian residents and non-residents in merchandise, other goods and services, income and unrequited transfers. Merchandise includes all movable goods, with a few exceptions, which change ownership from residents to non-residents (exports) and from non-residents to residents (imports). Services cover services rendered by Australian residents to non-residents (credits) and by non-residents to residents (debits), together with transactions in a few types of goods (for example, goods purchased by travellers). Income covers income earned by Australian residents from non-residents (credits) or by non-residents from residents (debits). It includes investment income (for example, dividends and interest), other property income (for example, royalties)

and labour income (for example, the wages earned in Australia by a non-resident while undertaking a short-term job in Australia). Unrequited transfers cover the offsetting entries required when resources are provided, without something of economic value being received in return, by non-residents to Australian residents (offsetting credits required) and by residents to non-residents (offsetting debits required). It includes foreign aid and migrants' transfers.

The capital account records transactions in Australia's foreign financial assets and liabilities, including the creation and extinction of claims on or by the rest of the world and a few specified other changes. Capital transactions are grouped into two broad institutional sectors called official and non-official. The official sector comprises general government and the Reserve Bank of Australia. Public business enterprises are excluded from this sector and included in the non-official sector. The non-official sector covers transactions of all other resident entities including banks, non-bank financial enterprises, trading enterprises and households.

Statistical overview

As shown in table 29 20, the balance on current account for 1995–96 was a deficit of \$20,298m, a decrease of \$7,272m (or 26%) on the deficit recorded for 1994–95. The decrease in the deficit in 1995–96 was due to a decrease of \$6,317m in the merchandise trade deficit; a decrease of \$1,333m in the net services deficit; and an increase of \$737m in the net unrequited transfers surplus. These movements in merchandise trade, services, and unrequited transfers were partly offset by an increase of \$1,115m in the net income deficit.

The net income deficit for 1995–96 rose to \$19,469m. Income credits increased by \$1,047m (14%) to \$8,552m, due largely to increases in reinvested earnings, direct dividends, and portfolio interest. Partly offsetting these rises were decreases in income on reserve assets and remitted profits. Income debits increased by \$2,162m (8%) to \$28,021m due largely to an increase in interest on official borrowing; an increase in direct dividends; and an increase in private sector portfolio interest. These increases were partly offset by decreases in reinvested earnings, remitted profits, and public sector portfolio interest.

29.20 CURRENT ACCOUNT						
	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	\$m	\$m	\$m	\$m	\$m	\$m
Current transactions						
GOODS AND SERVICES						
Merchandise(a)						
Exports f.o.b.	52 155	54 874	60 022	63 882	66 446	75 184
Imports f.o.b.	-49 244	-51 077	-59 431	-64 411	-74 715	-77 136
Balance on merchandise trade	2 911	3 797	591	-589	-8 269	-1 952
Services						
Credits						
Shipment	1 029	1 112	1 241	1 487	1 533	1 682
Other transportation	3 811	4 069	4 614	4 604	4 473	4 887
Travel	5 351	5 939	6 411	7 502	8 879	10 355
Other services	3 911	3 965	4 108	4 946	5 050	5 492
Total services credits	14 102	15 085	16 374	18 539	19 935	22 416
Debits						
Shipment	-3 188	-3 257	-3 772	-3 854	-4 384	-4 358
Other transportation	-4 156	-4 432	-4 637	-4 906	-5 333	-5 721
Travel	-4 827	-4 626	-4 985	-5 157	-5 774	-6 421
Other services	-4 486	-4 669	-5 168	-5 582	-5 878	-6 017
Total services debits	-16 657	-16 984	-18 562	-19 499	-21 369	-22 517
Net services	-2 555	-1 899	-2 188	-960	-1 434	-101
Balance on goods and services	356	1 898	-1 597	-1 549	-9 703	-2 053
INCOME						
Credits						
Property income						
Reinvested earnings	204	555	2 045	2 434	3 866	4 016
Other	3 222	3 387	3 379	2 843	3 088	3 927
Labour and other income	582	455	497	511	551	609
Total income credits	4 007	4 398	5 921	5 789	7 505	8 552
Debits						
Property income						
Reinvested earnings	-642	-720	-2 364	-3 570	-6 256	-6 187
Other	-20 996	-19 007	-17 192	-17 219	-19 214	-21 393
Labour and other income	-429	-326	-311	-283	-389	-441
Total income debits	-22 067	-20 053	-19 868	-21 072	-25 859	-28 021
Net income	-18 060	-15 655	-13 947	-15 283	-18 354	-19 469
UNREQUITED TRANSFERS						
Credits	4 689	4 574	3 096	2 802	3 209	3 988
Debits	-2 316	-2 389	-2 434	-2 624	-2 722	-2 764
Net unrequited transfers	2 373	2 185	662	178	487	1 224
BALANCE ON CURRENT ACCOUNT						
Balance on current account	-15 331	-11 572	-14 882	-16 654	-27 570	-20 298

(a) Balance of payments basis.

Source: *Balance of Payments, Australia* (5302.0).

As table 29.21 shows, the balance on capital account for 1995-96 recorded a net inflow of \$18,971m, a decrease of \$4,423m on the net inflow for 1994-95. This decrease was due largely to a decrease of \$3,209m, to \$6,694m, in the inflow from net equity transactions and a

turnaround of \$2,760m, to a net outflow of \$483m in net other capital transactions. Partly offsetting these decreases was a rise of \$1,545m, to a net inflow of \$12,760m in net debt transactions.

29.21 CAPITAL ACCOUNT AND BALANCING ITEM

	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
Net capital transactions						
OFFICIAL						
General government						
Foreign investment in Australia						
Borrowing	310	1 146	9 856	7 597	9 569	2 837
Other	-5	-29	-35	83	73	-190
Total	305	1 117	9 821	7 680	9 642	2 647
Australian investment abroad	-420	656	44	-553	544	-140
Total general government	-115	1 773	9 866	7 127	10 185	2 507
Reserve Bank						
Foreign investment in Australia	-22	21	39	-49	23	-16
Australian investment abroad						
Reserve assets	-1 428	3 929	3 949	-1 037	1 971	-817
Other	—	—	—	—	—	—
Total	-1 428	3 929	3 949	-1 037	1 971	-817
Total Reserve Bank	-1 450	3 950	3 989	-1 086	1 994	-833
Total official	-1 565	5 723	13 854	6 041	12 179	1 674
NON-OFFICIAL						
Foreign investment in Australia						
Direct investment						
Reinvestment of earnings	642	720	2 364	3 570	6 256	6 187
Other	6 626	6 090	3 034	2 243	2 322	9 231
Portfolio and other investment	12 986	8 132	1 949	14 715	4 744	23 084
Total foreign investment in Australia	20 255	14 942	7 347	20 528	13 322	38 503
Australian investment abroad						
Direct investment						
Reinvestment of earnings	-204	-555	-2 045	-2 434	-3 866	-4 015
Other	1 140	-1 978	-798	-4 197	-210	-6 332
Portfolio and other investment	-3 483	-4 034	-5 205	-7 919	1 970	-10 859
Total Australian investment abroad	-2 546	-6 569	-8 048	-14 550	-2 107	-21 206
Total non-official	17 709	8 373	-702	5 978	11 215	17 297
BALANCE ON CAPITAL ACCOUNT						
Balance on capital account	16 144	14 096	13 152	12 019	23 394	18 971
of which						
Net equity	10 526	1 434	5 788	10 427	9 903	6 694
Net debt	6 291	11 136	7 075	2 355	11 215	12 760
Net other	-672	1 527	288	-764	2 277	-483
BALANCING ITEM						
Balancing item	-813	-2 524	1 730	4 636	4 175	1 327

Source: Balance of Payments, Australia (5302.0).

Table 29.22 shows both annual levels of official reserve assets and end of year and period

average exchange rates for the major currencies and special drawing rights.

29.22 OFFICIAL RESERVE ASSETS AND EXCHANGE RATES

	Financial year ending 30 June					
	1991	1992	1993	1994	1995	1996
LEVELS OF OFFICIAL RESERVE ASSETS (\$m)						
Foreign exchange						
United States dollars	8 537	5 553	5 684	7 931	5 483	8 514
Other	10 925	12 203	9 702	7 663	9 538	6 048
Special drawing rights	360	375	133	110	95	57
Reserve position in IMF	421	471	855	749	753	615
Gold	3 804	3 639	4 448	4 208	4 316	3 825
Total	24 047	22 240	20 823	20 661	20 185	19 059
EXCHANGE RATES						
End of year(a)						
United States dollar	0.7681	0.7488	0.6722	0.7291	0.7086	0.789
United Kingdom pound	0.4712	0.3945	0.4453	0.4721	0.4452	0.5099
German mark	1.382	1.144	1.137	1.159	0.981	1.2
Japanese yen	106.19	94.05	71.54	72.20	60.08	86.48
Special drawing right	0.5825	0.5213	0.4818	0.5026	0.4539	0.5476
Period average(b)						
United States dollar	0.7853	0.7694	0.7030	0.6919	0.7427	0.7593
United Kingdom pound	0.4240	0.4381	0.4363	0.4623	0.4705	0.4909
German mark	1.248	1.274	1.103	1.171	1.12	1.109
Japanese yen	107.60	100.97	84.22	73.52	70.35	77.66
Special drawing right	0.5656	0.5580	0.4982	0.4944	0.4972	0.5156

(a) These exchange rates relate to the last trading day of the reference period. (b) These exchange rates are derived by averaging figures for each trading day.

Source: Reserve Bank of Australia for official reserve assets and Balance of Payments, Australia (5302.0) for exchange rates.

Exports and imports of goods and services (balance of payments basis)

Table 29.23 and table 29.24 show annual values of Australian exports and imports of goods and services at current and constant (average 1989–90) prices. These estimates are compiled quarterly on a balance of payments basis within the framework outlined above. See the Introduction to this chapter regarding the difference between the balance of payments and international trade bases for exports and imports.

The current price value of a transaction may be expressed conceptually as the product of a price and quantity. The value of the transaction at constant prices may then be thought of as being derived by substituting, for the current price, the corresponding price in the chosen base year.

There are, however, many transactions recorded in statistics of international trade for which it is not possible to apply such an approach. In such cases it is necessary to make assumptions and approximations (for example, 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 this light.

A deficit was recorded on merchandise trade in 1995–96 at current prices. Merchandise exports rose 13% to \$75,184m with significant increases recorded in cereal grains; metal ores and minerals; machinery; mineral fuels; 'other' rural; 'other' manufactures; and gold. Significant decreases were recorded in wool and sheepskins; and meat. Merchandise imports increased 3% to \$77,136m. The most significant increases occurred in fuels and lubricants; consumption goods n.e.s.; and machinery and industrial equipment. The only significant decrease was recorded in industrial transport equipment n.e.s.

In current price terms, the net services deficit fell \$1,333m to \$101m in 1995–96. Service credits increased \$2,481m to \$22,416m, mainly due to an increase in the travel credits. Service debits increased \$1,148m to \$22,517m, mainly

due to travel and other transportation debits. Table 29.26 provides details of the trade in services.

In constant price terms, exports of goods and services increased \$9,176m (10%) in 1994–95, while imports of goods and services increased \$5,017m (6%). The turnaround from a deficit to a surplus on goods and services made a positive contribution of 0.6 percentage points to the expenditure-based estimates of GDP at average 1989–90 prices. The balance on merchandise trade recorded a surplus of \$1,158m, a turnaround of \$2,928m on the deficit recorded in 1994–95, while the net services surplus increased \$1,231m, to \$1,345m.

Australia's terms of trade rose 4% in 1995–96, resulting from a 2% rise in the implicit price deflator, or IPD (current prices over average prices), for exports of goods and services, and a fall of 2% in the IPD for imports of goods and services. While both goods and services exports recorded similar increases in their IPDs, for imports the goods deflator fell 3%, partly offset by a 2% rise in the services deflator.

The published components of merchandise exports and imports of goods free-on-board (f.o.b.) are defined in terms of groupings of items in the United Nations Standard International Trade Classification Revision 3 (SITC Rev. 3).

29.23 EXPORTS OF GOODS AND SERVICES (Balance of Payments Basis)

	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
At current prices						
Rural exports f.o.b.						
Meat and meat preparations	3 173	3 434	3 750	4 043	3 654	3 274
Cereal grains and cereal preparations(a)	2 436	2 352	2 954	3 205	2 523	4 926
Sugar, sugar preparations and honey	948	747	1 072	1 315	1 730	1 709
Wool and sheepskins	2 887	3 829	3 367	3 369	4 216	3 623
Other rural	4 578	5 241	5 937	6 513	6 922	7 728
Total rural	14 022	15 603	17 080	18 445	19 045	21 260
Non-rural exports f.o.b.						
Metal ores and minerals(a)	8 557	7 938	7 943	7 671	7 968	9 072
Mineral fuels						
Coal, coke and briquettes	6 480	6 949	7 620	7 253	6 936	7 831
Other mineral fuels	3 595	3 402	3 913	3 351	3 794	4 164
Metals						
Gold	4 136	4 605	4 580	5 521	4 907	5 695
Other metals	4 737	4 702	5 210	5 396	6 097	6 794
Machinery	3 123	3 471	4 344	5 293	6 035	7 125
Transport equipment	1 907	1 655	2 022	2 087	2 047	2 494
Other manufactures	4 355	5 268	6 026	6 966	7 907	8 712
Other non-rural(a)	1 243	1 281	1 284	1 839	1 710	2 037
Total non-rural	38 133	39 271	42 942	45 377	47 401	53 924
Total exports f.o.b.	52 155	54 874	60 022	63 822	66 446	75 184
Exports of services	14 102	15 085	16 374	18 539	19 935	22 416
Total exports of goods and services	66 257	69 959	76 396	82 361	86 381	97 600
At average 1989-90 prices						
Rural exports f.o.b.						
Meat and meat preparations	3 259	3 511	3 766	3 830	3 733	3 620
Cereal grains and cereal preparations(a)	3 466	2 713	3 105	3 809	2 676	3 930
Sugar, sugar preparations and honey	1 029	923	1 228	1 345	1 654	1 695
Wool and sheepskins	4 002	5 781	5 206	5 428	5 039	4 760
Other rural	4 683	5 230	5 655	5 953	5 986	6 477
Total rural	16 439	18 158	18 960	20 365	19 088	20 482
Non-rural exports f.o.b.						
Metal ores and minerals(a)	8 729	8 756	8 805	9 450	9 936	10 499
Mineral fuels						
Coal, coke and briquettes	6 401	6 923	7 226	7 207	7 556	7 715
Other mineral fuels	2 615	2 884	3 156	3 160	3 562	3 784
Metals						
Gold	4 394	5 300	5 014	5 420	5 131	6 002
Other metals	5 140	5 700	6 163	6 753	6 390	6 974
Machinery	3 201	3 668	4 574	5 931	7 208	9 252
Transport equipment	1 885	1 548	1 669	1 634	1 608	2 059
Other manufactures	4 384	5 485	6 064	6 903	7 846	8 596
Other non-rural(a)	1 302	1 383	1 370	1 902	1 805	2 113
Total non-rural	38 051	41 647	44 041	48 360	51 042	56 994
Total exports f.o.b.	54 490	59 805	63 001	68 725	70 130	77 476
Exports of services	13 379	14 142	15 185	17 180	18 553	20 383
Total exports of goods and services	67 869	73 947	78 186	85 905	88 683	97 859

(a) Entries from 1990-91 are not strictly comparable with entries for earlier periods because of changed confidentiality embargo procedures applied in the compilation of certain merchandise trade statistics.

Source: *Balance of Payments, Australia (5302.0)*.

29.24 IMPORTS OF GOODS AND SERVICES (Balance of Payments Basis)(a)

	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
At current prices						
Consumption goods f.o.b.						
Food and beverages, mainly for consumption	1 923	2 028	2 261	2 430	2 592	2 760
Household electrical items	1 103	1 257	1 382	1 436	1 744	1 765
Non-industrial transport equipment	2 466	2 777	3 478	3 800	4 758	4 440
Textiles, clothing and footwear	1 623	1 799	2 178	2 320	2 566	2 730
Toys, books and leisure goods	1 741	2 015	2 238	2 496	2 545	2 535
Consumption goods n.e.s.	3 449	3 793	4 389	4 751	5 213	5 638
Total consumption goods	12 305	13 669	15 926	17 233	19 418	19 868
Capital goods f.o.b.						
Machinery and industrial equipment	4 488	4 320	5 446	6 414	7 897	8 315
ADP equipment	1 880	1 915	2 319	2 629	3 232	3 592
Telecommunications equipment	832	949	1 224	1 182	1 804	1 998
Civil aircraft	1 885	1 685	828	241	529	714
Industrial transport equipment n.e.s.	1 605	1 240	1 838	2 084	2 714	2 214
Capital goods n.e.s.	1 627	1 788	2 000	2 293	2 365	2 370
Total capital goods	12 317	11 897	13 655	14 843	18 541	19 203
Intermediate and other goods f.o.b.						
Food and beverages, mainly for industry	390	388	436	509	774	699
Primary industrial supplies n.e.s.	556	586	677	701	901	879
Fuels and lubricants	2 977	2 715	3 623	3 317	3 566	4 163
Parts for transport equipment	3 028	2 941	3 675	4 183	4 714	4 600
Parts for ADP equipment	1 109	1 278	1 423	1 681	1 858	1 858
Other parts for capital goods	3 426	3 580	4 236	5 047	5 975	6 391
Organic and inorganic chemicals(b)	1 675	1 804	2 056	2 102	2 431	2 755
Paper and paperboard	1 142	1 295	1 381	1 465	1 794	1 868
Textile yarn and fabrics	1 516	1 680	1 763	1 869	2 036	1 922
Iron and steel	887	822	946	1 039	1 285	1 408
Plastics	1 036	1 086	1 272	1 375	1 646	1 684
Non-monetary gold	624	1 034	1 019	978	705	702
Processed industrial supplies n.e.s.	5 817	6 059	7 135	7 783	8 680	8 799
Other goods(b)	439	243	208	286	391	337
Total intermediate and other goods	24 622	25 511	29 850	32 335	36 756	38 065
Total imports f.o.b.	49 244	51 077	59 431	64 411	74 715	77 136
Imports of services	16 657	16 984	18 562	19 499	21 369	22 517
Total imports of goods and services	65 901	68 061	77 993	83 910	96 084	99 653
At average 1989-90 prices						
Consumption goods f.o.b.						
Food and beverages, mainly for consumption	1 895	1 924	2 010	2 204	2 325	2 370
Household electrical items	1 158	1 292	1 299	1 308	1 678	1 761
Non-industrial transport equipment	2 347	2 435	2 608	2 538	3 097	2 925
Textiles, clothing and footwear	1 646	1 740	1 964	2 080	2 438	2 638
Toys, books and leisure goods	1 682	1 913	2 024	2 205	2 340	2 260
Consumption goods n.e.s.	3 317	3 565	3 830	4 036	4 570	4 932
Total consumption goods	12 045	12 869	13 735	14 371	16 448	16 886
Capital goods f.o.b.						
Machinery and industrial equipment	4 242	3 983	4 442	5 042	6 341	6 719
ADP equipment	2 166	2 552	3 437	4 612	6 728	8 850
Telecommunications equipment	869	971	1 150	1 051	1 811	2 299
Civil aircraft	1 853	1 588	704	195	449	622
Industrial transport equipment n.e.s.	1 577	1 110	1 315	1 368	1 805	1 435
Capital goods n.e.s.	1 566	1 686	1 665	1 859	1 940	1 978
Total capital goods	12 273	11 890	12 713	14 127	19 074	21 903

For footnotes see end of table.

...continued

29.24 IMPORTS OF GOODS AND SERVICES (Balance of Payments Basis)(a) — continued

	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m	1995-96 \$m
At average 1989-90 prices — (continued)						
Intermediate and other goods f.o.b.						
Food and beverages, mainly for industry	408	392	444	491	514	480
Primary industrial supplies n.e.s.	583	638	675	687	799	732
Fuels and lubricants	2 400	2 680	3 260	3 252	3 432	3 946
Parts for transport equipment	3 010	2 799	3 157	3 351	3 797	3 744
Parts for ADP equipment	1 279	1 703	2 110	2 942	3 864	4 559
Other parts for capital goods	3 289	3 373	3 620	4 300	5 338	5 990
Organic and inorganic chemicals(b)	1 733	1 899	2 168	2 391	2 630	2 789
Paper and paperboard	1 165	1 352	1 435	1 533	1 946	1 692
Textile yarn and fabrics	1 412	1 605	1 715	1 883	2 118	1 989
Iron and steel	919	845	972	1 075	1 374	1 390
Plastics	1 156	1 223	1 330	1 381	1 593	1 455
Non-monetary gold	646	1 106	1 012	864	662	660
Processed industrial supplies n.e.s.	5 715	6 106	6 691	7 059	7 924	7 770
Other goods	445	248	204	279	387	333
Total intermediate and other goods	24 160	25 969	28 793	31 488	36 378	37 529
Total imports f.o.b.	48 478	50 707	55 241	59 986	71 900	76 318
Imports of services	15 569	15 691	16 065	16 763	18 439	19 038
Total imports of goods and services	64 048	66 419	71 310	76 749	90 339	95 356

(a) The debit entries for this table are shown without a sign. In keeping with balance of payments conventions, these same debit entries in tables 29.20 and 29.26 are shown with a negative sign. (b) Entries from 1990-91 are not strictly comparable with entries for earlier periods because of changed confidentiality embargo procedures applied in the compilation of certain merchandise trade statistics.

Source: *Balance of Payments, Australia* (5302.0).

29.25 IMPLICIT PRICE DEFATORS AND TERMS OF TRADE

	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
Implicit Price Deflators (base 1989-90=100)(a)						
Merchandise exports f.o.b	95.7	91.8	95.3	92.9	94.7	97.0
Services, credits	105.4	106.7	107.8	107.9	107.4	110.0
Total exports of goods and services	97.6	94.6	97.7	95.9	97.4	99.7
Merchandise imports f.o.b	101.6	100.7	107.6	107.4	103.9	101.1
Services, debits	107.0	108.2	115.5	116.3	115.9	118.3
Total imports of goods and services	102.9	102.5	109.4	109.3	106.4	104.5
Terms of trade (base 1989-90=100)(b)						
Merchandise trade	94.2	91.2	88.6	86.5	91.1	95.9
Services	98.5	98.6	93.3	92.8	92.7	93.0
Goods and services	94.8	92.3	89.3	87.7	91.5	95.4

(a) Derived by dividing the estimates at current prices in Tables 29.23 and 29.24 by the estimates at average (1989-90) prices in those tables. (b) Derived by dividing the IPDs for export/credits by the IPDs for imports/debits.

Source: *Balance of Payments, Australia* (5302.0).

29.26 INTERNATIONAL TRADE IN SERVICES

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	$m	$m	$m	$m	$m	$m	\$m
CREDITS							
Shipment							
Freight on exports	905	1 017	1 100	1 229	1 475	1 521	1 670
Insurance on exports	12	12	12	12	12	12	12
Total	917	1 029	1 112	1 241	1 487	1 533	1 682
Other transportation							
Passenger services	1 363	1 594	1 782	2 141	2 307	n.p.	n.p.
Port services etc.	2 039	2 217	2 287	2 473	2 297	n.p.	n.p.
Total	3 402	3 811	4 069	4 614	4 604	4 473	4 887
Travel							
Student's expenditure	878	960	1 115	1 336	1 515	1 710	2 279
Other	3 761	4 391	4 824	5 075	5 987	7 169	8 076
Total	4 639	5 351	5 939	6 411	7 502	8 879	10 355
Other services							
Official	278	309	257	276	344	315	301
Non-official							
Financial services	191	249	302	301	475	390	411
Insurance services n.e.c.	110	209	124	152	640	401	588
Other(a)	2 880	3 144	3 282	3 379	3 487	3 944	4 192
Total	3 459	3 911	3 965	4 108	4 946	5 050	5 492
Total credits	12 417	14 102	15 085	16 374	18 539	19 935	22 416
DEBITS							
Shipment							
Freight on imports	-3 419	-3 164	-3 233	-3 748	-3 830	-4 360	-4 334
Insurance on imports	-24	-24	-24	-24	-24	-24	-24
Total	-3 443	-3 188	-3 257	-3 772	-3 854	-4 384	-4 358
Other transportation							
Passenger services	-2 223	-2 292	-2 464	-2 515	-2 521	-2 777	-3 015
Port services etc.	-1 835	-1 864	-1 968	-2 122	-2 385	-2 556	-2 706
Total	-4 058	-4 156	-4 432	-4 637	-4 906	-5 333	-5 721
Travel							
Student's expenditure	-276	-291	-320	-333	-335	-425	-474
Other	-4 523	-4 536	-4 306	-4 652	-4 822	-5 349	-5 947
Total	-4 799	-4 827	-4 626	-4 985	-5 157	-5 774	-6 421
Other services							
Official	-385	-447	-387	-429	-420	-411	-447
Non-official							
Financial services	-137	-194	-242	-295	-340	-282	-276
Insurance services n.e.c.	-245	-269	-391	-658	-1 001	-939	-1 008
Other(a)	-3 493	-3 576	-3 649	-3 789	-3 821	-4 246	-4 286
Total	-4 260	-4 486	-4 669	-5 168	-5 162	-5 467	-6 017
Total debits	-16 560	-16 657	-16 984	-18 562	-19 499	-21 369	-22 517

For footnotes see end of table.

...continued

29.26 INTERNATIONAL TRADE IN SERVICES — continued

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96
	$m	$m	$m	$m	$m	$m	\$m
BALANCE							
Shipment							
Freight on exports	-2 514	-2 147	-2 133	-2 519	-2 355	-2 839	-2 664
Insurance on exports	-12	-12	-12	-12	-12	-12	-12
Total	-2 526	-2 159	-2 145	-2 531	-2 367	-2 851	-2 676
Other transportation							
Passenger services	-860	-698	-682	-374	-214	n.p.	n.p.
Port services etc.	204	353	319	351	-88	n.p.	n.p.
Total	-656	-345	-363	-23	-302	-860	-834
Travel							
Student's expenditure	602	669	795	1 003	1 180	1 285	1 805
Other	-762	-145	518	423	1 165	1 820	2 129
Total	-160	524	1 313	1 426	2 345	3 105	3 934
Other services							
Official	-107	-138	-130	-153	-76	-96	-146
Non-official							
Financial services	54	55	60	6	135	108	135
Insurance services n.e.c.	-135	-60	-267	-506	-361	-538	-420
Other(a)	-613	-432	-367	-410	-334	-302	-95
Total	-801	-575	-704	-1 060	-216	-417	-525
Total	-4 143	-2 555	-1 899	-2 188	-960	-1 434	-101

(a) A dissection of these data is available on request.

Source: *Balance of Payments, Australia* (5302.0).

As shown in table 29.27, the main destinations for services exports in 1994-95 (regional data are not yet available for 1995-96) were: Japan (19%), the United States (11%), the United Kingdom (9%), Singapore (6%) and New Zealand (6%). Significant growth has been recorded in services exports to Japan, the United States and Singapore since 1988-89. The

main source countries for service imports in 1994-95, shown in Table 29.28, were: the United Kingdom (16%), the United States (14%), Japan (9%), Singapore (6%) and New Zealand (5%). Significant growth has been recorded in services imports from the United States and the United Kingdom since 1988-89.

29.27 SERVICES CREDITS

	1988-89 \$m	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
Countries							
Belgium and Luxembourg	60	63	45	42	36	43	62
Canada	218	178	264	251	210	290	230
Central America and Caribbean, excluding Mexico	23	23	69	100	19	30	28
China, People's Republic of	202	303	254	200	268	284	379
Fiji	135	117	176	137	146	149	119
France	94	115	135	121	183	228	191
Germany(a)	340	346	423	469	483	555	547
Greece	61	66	70	50	57	70	55
Hong Kong	370	473	577	650	740	823	905
Indonesia	258	303	387	397	476	559	738
Ireland, Republic of	30	36	34	34	37	44	53
Italy	140	144	146	209	174	195	170
Japan	1 874	2 239	2 645	3 107	3 163	3 250	3 694
Korea, Republic of	117	143	186	258	311	462	694
Malaysia	328	346	427	536	545	635	690
Netherlands	134	146	133	149	196	187	194
New Zealand	1 429	1 300	1 329	1 110	1 055	1 051	1 182
Papua New Guinea	327	266	261	293	298	326	292
Philippines	100	105	135	132	139	153	158
Russian Federation(b)	54	61	68	72	84	94	65
Singapore	391	476	634	678	873	1 042	1 285
South Africa	31	34	30	54	83	119	124
Sweden	103	92	81	87	75	96	103
Switzerland	111	122	163	168	202	208	243
Taiwan	115	136	180	252	388	487	566
Thailand	137	159	191	232	274	327	429
United Kingdom	1 365	1 485	1 579	1 781	1 693	1 865	1 765
United States of America	1 645	1 781	2 040	1 984	2 087	2 450	2 263
Africa n.e.s.	98	106	161	96	139	156	120
America n.e.s.	46	49	34	45	68	101	126
Asia n.e.s.	300	342	335	399	540	649	778
Europe n.e.s.	292	311	288	296	509	728	604
Oceania n.e.s.	178	185	180	210	220	277	245
International capital markets	—	—	—	—	—	—	—
International institutions	1	1	1	—	6	2	3
Unallocated	444	365	441	486	597	604	837
Total all countries	11 555	12 417	14 102	15 085	16 374	18 539	19 937
Country groups(c)							
APEC	7 526	7 057	8 261	9 828	10 564	12 198	13 566
ASEAN	1 226	1 416	1 797	2 016	2 342	2 770	3 330
EU	2 299	2 476	2 623	2 946	2 992	3 372	3 462
OECD	7 808	8 326	9 291	9 787	9 957	10 888	11 191
OPEC	301	362	450	431	553	667	812

(a) Prior to 1990-91, the former Germany, Democratic Republic is included in Europe n.e.s. (b) The remaining republics of the former USSR have been included in either Europe n.e.s. or Asia n.e.s. from 1992-93 onwards. (c) APEC includes Brunei, Canada, China, Peoples' Republic of, Hong Kong, Indonesia, Japan, Republic of Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Philippines, Singapore, Taiwan, Thailand and United States of America. ASEAN includes Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand. EU includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom. OECD includes Andorra, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, Liechtenstein, Luxembourg, Mexico, Monaco, New Zealand, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, United Kingdom and United States of America. OPEC includes Algeria, Gabon, Indonesia, Iran, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

Source: *Balance of Payments and International Investment Position, Australia, 1994-95* (5363.0).

29.28 SERVICES DEBITS(a)

	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
	\$m	$m	$m	$m	$m	$m	$m
Countries							
Belgium and Luxembourg	103	98	82	127	135	121	115
Canada	178	209	223	286	270	361	375
Central America and Caribbean, excluding Mexico	90	132	170	158	161	221	177
China, People's Republic of	142	135	131	180	324	335	493
Fiji	286	352	362	143	153	167	173
France	184	264	221	252	237	266	266
Germany(b)	476	613	650	708	593	561	644
Greece	193	216	210	225	245	295	302
Hong Kong	762	824	801	731	818	850	944
Indonesia	235	282	275	357	515	521	609
Ireland, Republic of	38	41	38	61	74	79	94
Italy	320	361	358	485	379	387	428
Japan	1 141	1 287	1 321	1 551	1 395	1 541	1 850
Korea, Republic of	84	87	98	89	248	282	336
Malaysia	258	276	314	320	469	510	535
Netherlands	261	299	283	305	409	439	478
New Zealand	1 045	1 191	1 134	1 014	899	1 011	1 114
Papua New Guinea	157	156	164	104	106	148	125
Philippines	150	163	150	127	157	154	165
Russian Federation(c)	112	117	157	138	240	241	154
Singapore	835	834	908	854	989	925	1 220
South Africa	35	43	40	36	53	89	115
Sweden	63	142	117	96	144	105	127
Switzerland	116	120	91	104	246	282	411
Taiwan	80	94	91	139	198	210	202
Thailand	251	309	329	307	335	337	355
United Kingdom	2 560	2 677	2 569	2 754	2 968	3 315	3 365
United States of America	2 364	3 008	3 299	2 647	2 982	2 841	2 892
Africa n.e.s.	109	125	157	191	135	139	133
America n.e.s.	62	78	78	90	126	115	119
Asia n.e.s.	437	541	486	549	736	770	862
Europe n.e.s.	655	765	667	1 061	986	1 022	1 041
Oceania n.e.s.	266	330	338	154	208	202	182
International capital markets	1	1	—	—	—	—	—
International institutions	1	3	—	3	1	2	1
Unallocated	179	387	345	638	628	655	967
Total all countries	14 233	16 560	16 657	16 984	18 562	19 499	21 369
Country groups(d)							
APEC	7 693	7 664	8 072	8 617	9 610	10 066	11 258
ASEAN	1 736	1 882	1 997	1 980	2 476	2 471	2 905
EU	4 250	4 689	4 473	5 024	5 172	5 625	6 112
OECD	9 469	11 002	11 028	11 317	11 480	12 166	13 209
OPEC	269	331	336	423	625	641	689

(a) The debit entries for this table are shown without a sign. In keeping with balance of payments conventions, these same debit entries in tables 29.20 and 29.26 are shown with a negative sign. (b) Prior to 1990-91, the former Germany, Democratic Republic is included in Europe n.e.s. (c) The remaining republics of the former USSR have been included in either Europe n.e.s. or Asia n.e.s. from 1992-93 onwards. (d) APEC includes Brunei, Canada, China, Peoples' Republic of, Hong Kong, Indonesia, Japan, Republic of Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Philippines, Singapore, Taiwan, Thailand and United States of America. ASEAN includes Brunei, Indonesia, Malaysia, Philippines, Singapore and Thailand. EU includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom.

Source: *Balance of Payments and International Investment Position, Australia, 1994-95* (5363.0).

International investment

Conceptual framework

International investment statistics provide information on the levels (stock) of Australia's foreign financial assets and liabilities, capital transactions (investment flows) which increase and decrease these assets and liabilities, other changes in the value of these assets and liabilities, and income receivable and payable on these assets and liabilities.

These statistics form an integral part of Australia's balance of payments as well as being useful in their own right, for example, in determining the impact of foreign investment policies and the level of Australia's foreign assets and liabilities, including foreign debt. They are also useful when analysing the behaviour of financial markets.

Market price is the principal method of valuation in international investment statistics. Capital transactions are recorded on a change of ownership basis, that is, at the time when the foreign financial asset or liability is acquired, sold, repaid or otherwise disposed of. By convention, this is taken to be the time at which the event is recorded in the books of the transactors. Investment income is generally recorded at the time it becomes due for payment.

Classification

The primary classification used in international investment statistics is the direction of investment. This classification refers to the basic distinction between inward and outward investment, that is, foreign investment in Australia and Australian investment abroad. Broadly, foreign investment in Australia refers to the stock of financial assets in Australia owned by non-residents and capital transactions which increase or decrease this stock. Conversely, Australian investment abroad refers to the stock of financial assets abroad owned by Australian residents and capital transactions which increase or decrease this stock.

International investment is undertaken by means of instruments of investment. Many types of instruments of investment can be identified,

but for analytical reasons and ease of reporting similar instruments are combined.

- *Equity* includes ordinary and preference shares, units in trusts and net equity in branches.
- *Re-investment of earnings* of direct investors refers to income retained within the enterprise from after tax profits attributable to direct investors.
- *Borrowing* (foreign investment in Australia) or lending (Australian investment abroad) comprises deposits, loans, finance leases, bonds, bills, IMF credit and Bank of International Settlements placements.
- *Reserve Assets* includes monetary gold, Special Drawing Rights and reserve position in the IMF and foreign exchange held by the Reserve Bank of Australia.
- *Other investments* consist of amounts outstanding in respect of goods, services, interest, dividends, etc.

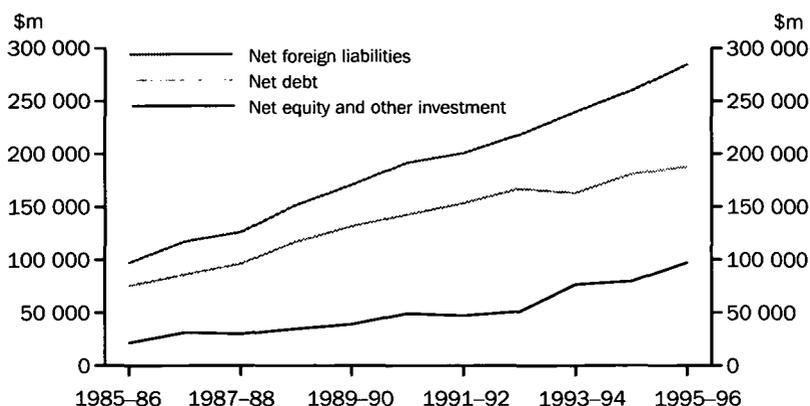
International investment position

Australia's net international investment position is the difference between the levels of Australia's foreign liabilities (foreign investment in Australia) and the levels of Australia's foreign financial assets (Australian investment abroad). Historically, Australia has had a net liabilities position with the rest of the world.

Australia's net foreign liabilities at 30 June 1996 totalled \$284,737m, up 9% on 30 June 1995. The rise in Australia's net foreign liabilities since 30 June 1995 was the net effect of rises of \$34,966m in the level of foreign investment in Australia and \$11,212m in the level of Australian investment abroad. Of the rise in the level of foreign investment in Australia, \$11,492m was attributable to foreign borrowing.

Table 29.30 shows a reconciliation between opening and closing levels for foreign investment in Australia, Australian investment abroad and Australia's net international investment position. The table also shows income payable on foreign investment in Australia, income receivable on Australian investment abroad and net income payable.

29.29 NET INTERNATIONAL INVESTMENT POSITION



Source: *Balance of Payments and International Investment Position, Australia, 1993-94* (5363.0) and *International Investment Position, Australia, June Quarter 1995* (5306.0).

29.30 INTERNATIONAL INVESTMENT POSITION AND INCOME

	Changes in levels of investment during the year						Levels of investment at end of year \$m	Investment income(a) \$m
	Levels of investment at beginning of year \$m	Reinvestment of earnings of direct investors \$m	Other transactions \$m	Exchange rate variations \$m	Other changes \$m	Total \$m		
FOREIGN INVESTMENT IN AUSTRALIA								
Equity								
1993-94	123 895	3 570	16 306	167	12 169	32 212	156 107	7 991
1994-95	156 107	6 256	6 873	92	-2 141	11 079	167 186	12 155
1995-96	167 186	6 187	12 134	-31	4 677	22 967	190 153	12 736
Borrowing								
1993-94	209 529	..	7 452	-6 281	-3 563	-2 392	207 137	10 950
1994-95	207 137	..	8 371	6 703	1 780	16 853	223 990	12 303
1995-96	223 990	..	22 424	-12 577	1 645	11 492	235 482	12 850
Other investment								
1993-94	6 880	..	831	-71	1 332	2 092	8 972	88
1994-95	8 972	..	1 487	-49	151	1 588	10 560	53
1995-96	10 560	..	389	57	60	507	11 067	22
Total								
1993-94	340 305	3 570	24 589	-6 185	9 938	31 911	372 216	19 029
1994-95	372 216	6 256	16 731	6 745	-211	29 520	401 736	24 511
1995-96	401 736	6 187	34 947	-12 550	6 383	34 966	436 703	25 609

For footnotes see end of table.

...continued

29.30 INTERNATIONAL INVESTMENT POSITION AND INCOME — *continued*

	Levels of investment at beginning of year \$m	Changes in levels of investment during the year					Levels of Investment at end of year \$m	Investment income(a) \$m
		Reinvestment of earnings of direct investors \$m	Other transactions \$m	Exchange rate variations \$m	Other changes \$m	Total \$m		
AUSTRALIAN INVESTMENT ABROAD								
Equity								
1993-94	73 661	2 434	7 014	-3 819	2 337	7 967	81 628	3 192
1994-95	81 628	3 866	-640	4 488	982	8 697	90 324	4 744
1995-96	90 324	4 015	7 612	-7 879	1 464	5 212	95 536	5 625
Reserve assets								
1993-94	20 823	..	1 037	-976	-223	-162	20 661	853
1994-95	20 661	..	-1 971	1 308	186	-477	20 184	988
1995-96	20 184	..	817	-1 307	-635	-1 125	19 059	606
Lending								
1993-94	20 581	..	4 060	-1 078	-1 052	1 930	22 511	824
1994-95	22 511	..	-873	1 165	-968	-676	21 835	750
1995-96	21 835	..	8 847	-2 332	271	6 785	28 619	1 246
Other investment								
1993-94	7 513	..	1 594	-95	-4	1 495	9 009	31
1994-95	9 009	..	-790	94	98	-597	8 411	53
1995-96	8 411	..	873	-41	-492	340	8 751	59
Total								
1993-94	122 578	2 434	13 706	-5 968	1 058	11 230	133 808	4 901
1994-95	133 808	3 866	-4 274	7 055	299	6 946	140 754	6 534
1995-96	140 754	4 015	18 148	-11 560	608	11 212	151 966	7 536
INTERNATIONAL INVESTMENT POSITION(b)								
Net equity								
1993-94	50 234	1 136	9 292	3 986	9 831	24 245	74 479	4 798
1994-95	74 479	2 390	7 513	-4 396	-3 124	2 382	76 861	7 412
1995-96	76 861	2 172	4 522	7 849	3 213	17 755	94 617	7 111
Net foreign debt(c)								
1993-94	168 215	..	2 355	-4 227	-2 288	-4 160	163 965	9 272
1994-95	163 965	..	11 215	4 230	2 562	18 006	181 972	10 565
1995-96	181 972	..	12 760	-8 937	2 009	5 832	187 804	10 998
Other investment								
1993-94	-633	..	-764	24	1 336	596	-37	57
1994-95	-37	..	2 277	-143	52	2 186	2 149	—
1995-96	2 149	..	-483	98	552	167	2 316	-37
Total								
1993-94	217 726	1 136	10 883	-217	8 880	20 681	238 408	14 127
1994-95	238 408	2 390	21 005	-310	-510	22 574	260 982	17 977
1995-96	260 982	2 172	16 799	-991	5 774	23 755	284 737	18 072

(a) Investment income is calculated before the deduction of withholding tax. Includes reinvested earnings of direct investors.

(b) Australia's net international investment position equals foreign investment in Australia less Australian investment abroad.

(c) Foreign borrowing by Australian residents less the sum of reserve assets and Australian lending abroad.

Source: *International Investment Position, Australia, June Quarter 1996 (5306.0)*.

Foreign debt

The level of borrowing by Australian residents at a particular date can be equated with Australia's gross foreign debt. The level of Australian lending abroad and official reserve assets at the same date are deducted from the level of borrowing to arrive at Australia's net foreign debt. Accordingly foreign debt is a subset of the financial obligations that comprise a country's

international investment position. As table 29.31 shows, the level of net foreign debt at 30 June 1996 was \$187,804m, up 3% on 30 June 1995. The increase during 1995-96 resulted from net capital transactions of \$12,760m, exchange rate variations of -\$8,937m and other factors of \$2,009m.

29.31 LEVELS OF FOREIGN DEBT

	At 30 June				
	1992 \$m	1993 \$m	1994 \$m	1995 \$m	1996 \$m
Foreign borrowing (gross debt)(a)					
Official					
Commonwealth government and Reserve Bank	16 848	21 469	22 913	28 176	36 176
State government	29 602	38 888	39 840	47 028	41 985
Total official	46 450	60 357	62 752	75 204	78 161
Non-official					
Financial enterprises					
Public sector	21 258	23 402	23 559	15 928	14 525
Private sector	63 247	64 321	67 424	83 051	95 708
Total financial enterprises	84 505	87 723	90 983	98 979	110 233
Trading enterprises					
Public sector	12 423	11 694	9 597	9 126	4 973
Private sector	48 954	49 756	43 804	40 682	42 115
Total trading enterprises	61 377	61 450	53 401	49 808	47 088
Total non-official	145 882	149 173	144 385	148 787	157 321
Total	192 331	209 529	207 137	223 990	235 482
Public sector					
Official	46 450	60 357	62 752	75 204	78 161
Non-official	33 681	35 096	33 156	25 054	19 498
Total public sector	80 131	95 452	95 909	100 257	97 659
Private sector	112 201	114 077	111 228	123 733	137 824
Australian lending abroad and reserve assets					
Official					
Reserve assets	22 240	20 823	20 661	20 184	19 059
Lending	175	140	661	58	21
Total official	22 415	20 963	21 322	20 242	19 080
Non-official					
Financial enterprises	13 795	16 765	20 167	21 927	29 000
Trading enterprises	2 056	3 676	1 683	-151	-401
Total non-official	15 851	20 441	21 850	21 776	28 599
Total	38 266	41 404	43 172	42 019	47 678
Public sector					
Official	22 415	20 963	21 322	20 242	19 080
Non-official	8 158	8 322	7 903	8 696	9 450
Total public sector	30 573	29 285	29 224	28 939	28 529
Private sector	7 693	12 119	13 948	13 080	19 149
Net foreign debt(a)(b)					
Official	24 035	39 394	41 431	54 961	59 081
Non-official					
Financial enterprises	70 710	70 958	70 816	77 052	81 233
Trading enterprises	59 321	57 774	51 718	49 959	47 489
Total non-official	130 030	128 732	122 534	127 010	128 722
Total	154 066	168 125	163 965	181 972	187 804
Public sector					
Official	24 035	39 394	41 431	54 961	59 081
Non-official	25 522	26 774	25 254	16 357	10 048
Total public sector	49 558	66 168	66 685	71 319	69 130
Private sector	104 508	101 958	97 281	110 653	118 674

(a) As a result of a change in the methodology used to value non-equity securities issued on foreign capital markets, levels from 30 June 1992 are not strictly comparable with levels for earlier periods. (b) Foreign borrowings by Australian residents less the sum of Australian lending abroad and reserve assets.

Source: *International Investment Position, Australia, June Quarter 1996* (5306.0).

Net foreign debt of the public sector (official sector plus public trading and financial enterprises) fell by 3% during 1995–96, falling to \$69,130m at 30 June 1996 and accounting for 37% of total net foreign debt at that date. Net foreign debt of the private sector increased by 7% to \$118,674m. The increase in total net foreign debt was attributable to the official sector and financial enterprises, with trading enterprises recording a small decrease

International investment ratios

Table 29.32 shows that, at 30 June 1996, the ratio of Australia's net foreign liabilities to GDP was 58.6%. This was the highest financial year result on record for this ratio. The ratio of net foreign debt to GDP was 38.6%, and the ratio of

net equity and other investment to GDP was 19.9%.

As shown in table 29.3*i*, the ratio of net investment income payable abroad to exports of goods and services was 18.5% in 1995–96, a decrease of 2.3 percentage points over the previous year.

The net debt service ratio, that is, net investment income payable abroad on net foreign debt as a percentage of exports of goods and services, was 11.3% in 1995–96. The ratio of net investment income payable on equity and other foreign investment to exports of goods and services decreased 1.4 percentage points to 7.2% over the year.

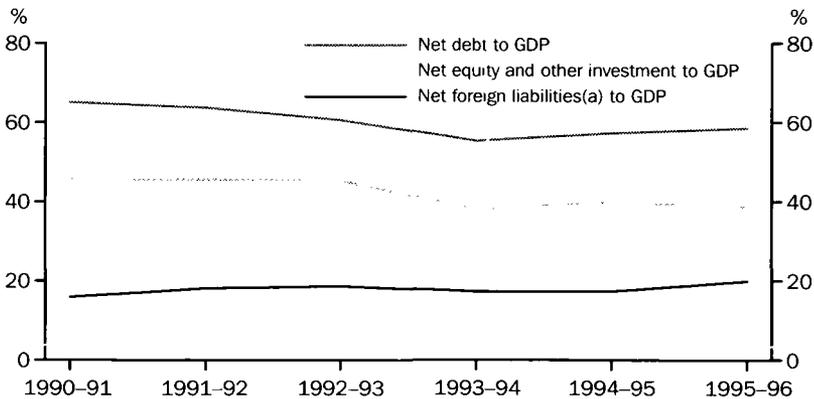
29.32 NET FOREIGN LIABILITIES, Ratios to GDP

Year	Net foreign liabilities at end of period			Ratios of net foreign liabilities to GDP(a)			
	Annual GDP at current prices	Foreign debt \$m	Equity and other investment \$m	Total \$m	Foreign debt %	Equity and other investment %	Total %
1990–91	378 964	142 249	48 361	190 611	37.6	12.8	50.3
1991–92	387 164	154 066	46 374	200 439	39.8	12.0	51.8
1992–93	405 764	168 125	49 601	217 726	41.4	12.2	53.7
1993–94	430 424	163 965	74 442	238 408	38.1	17.3	55.4
1994–95	455 616	181 972	79 010	260 982	39.9	17.3	57.3
1995–96	486 054	187 804	96 933	284 737	38.6	19.9	58.6

(a) These ratios are derived by expressing net foreign liabilities at a particular date as a percentage of GDP(I) for the year preceding this date.

Source: *International Investment Position, Australia, June Quarter 1996 (5306.0)*.

29.33 RATIO OF NET FOREIGN LIABILITIES TO GDP



(a) Net international investment position.

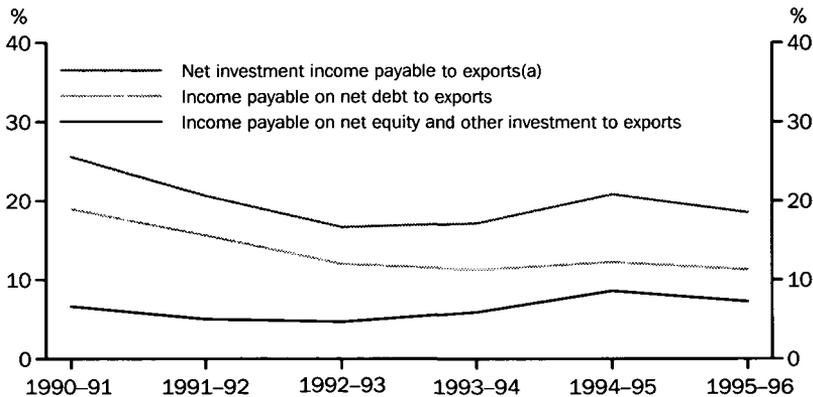
Source: *International Investment Position Australia June Quarter 1996 (5306.0)*

29.34 NET INVESTMENT INCOME, Ratios to Exports

Year	Exports of goods and services	Net investment income payable abroad			Ratios of net investment income payable to exports(a)		
		Foreign debt \$m	Equity and other investment \$m	Total \$m	Foreign debt %	Equity and other investment %	Total %
1990–91	66 257	12 566	4 387	16 952	19.0	6.6	25.6
1991–92	69 959	10 932	3 507	14 439	15.6	5.0	20.6
1992–93	76 396	9 165	3 563	12 728	12.0	4.7	16.7
1993–94	82 361	9 272	4 855	14 127	11.3	5.9	17.2
1994–95	86 381	10 565	7 412	17 977	12.2	8.6	20.8
1995–96	97 600	10 998	7 074	18 072	11.3	7.2	18.5

(a) These ratios are derived by expressing net income payable as a percentage of exports of goods and services for the year preceding this date.

Source: *International Investment Position, Australia, June Quarter 1996 (5306.0)*.

29.35 RATIO OF NET INVESTMENT INCOME TO EXPORTS(a)

(a) These ratios are derived by expressing net investment income payable as a percentage of exports of goods and services for the year.

Source: *International Investment Position, Australia, June Quarter, 1996 (5306.0)*.

International investment by country

Tables 29.36 and 29.37 show the countries investing in Australia or receiving investment from Australia. The classification is based upon the country of residence of the foreign creditor or debtor holding Australia's liabilities or financial assets. It does not necessarily reflect either the country of ultimate beneficial ownership of the investment, the country of immediate source of funds, or the country to which amounts borrowed will in fact be repaid.

The United States was the leading investor country at 30 June 1995, with \$88,649m (22%) of the total stock of foreign investment in Australia,

followed by the United Kingdom with \$76,034m and Japan with \$50,913m. The level of borrowing raised on the international capital markets (e.g. Eurobonds and similar issues) was \$76,329m at 30 June 1995.

As at 30 June 1995, Australian investment abroad was highest in the United States, with a level of \$35,683m (25%), followed by the United Kingdom with \$27,709m, New Zealand with \$10,746m and Japan with \$8,718m.

29.36 FOREIGN INVESTMENT IN AUSTRALIA, By Country(a)

	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
CAPITAL TRANSACTIONS						
OECD						
USA	2 111	6 882	4 337	10 297	8 878	2 148
Japan	7 887	2 092	-136	-3 057	-1 622	756
Switzerland	493	-945	-266	31	258	-253
EU						
United Kingdom	112	5 055	1 904	3 533	8 654	2 130
Other (b)	756	-604	-925	849	4 376	2 649
Total EU	868	4 451	979	4 382	13 030	4 779
Other OECD	185	1 988	406	834	1 436	326
Total OECD	11 544	14 468	5 320	12 487	21 980	7 756
ASEAN	644	-1 083	663	-1 137	961	-376
Other countries(c)	666	1 881	2 399	1 676	3 677	-141
International capital markets	10 234	3 026	5 491	5 584	516	11 533
International institutions	-30	757	82	-954	12	321
Unallocated	2 050	1 944	1 766	686	1 814	4 380
Total	25 108	20 993	15 721	18 342	28 960	23 473
APEC	10 727	9 958	7 400	8 722	11 976	3 035
INVESTMENT INCOME						
OECD						
USA	4 345	3 969	3 176	4 963	5 517	5 217
Japan	3 632	3 145	2 897	2 225	2 187	2 773
Switzerland	541	478	406	477	439	443
EU						
United Kingdom	3 287	3 026	2 723	3 174	3 542	4 542
Other (b)	1 427	995	952	1 085	1 195	1 642
Total EU	4 714	4 021	3 675	4 259	4 737	6 184
Other OECD	373	150	78	606	366	398
Total OECD	13 605	11 763	10 232	12 530	13 246	15 015
ASEAN	691	545	355	376	275	375
Other countries(c)	628	992	790	901	770	933
International capital markets	4 024	4 950	4 571	3 337	3 712	3 957
International institutions	34	39	25	40	35	-4
Unallocated	999	1 887	2 178	808	991	3 434
Total	19 981	20 176	18 151	17 992	19 029	23 710
APEC	8 766	7 763	7 142	8 955	8 928	9 584
LEVELS OF INVESTMENT AT 30 JUNE						
OECD						
USA	47 428	55 267	58 071	74 321	83 995	88 649
Japan	47 836	51 026	52 393	51 479	49 008	50 913
Switzerland	7 530	7 248	6 587	8 077	8 132	7 132
EC						
United Kingdom	50 646	54 300	59 722	63 509	75 317	76 034
Other (b)	22 187	21 462	22 066	23 256	31 166	36 178
Total EU	72 833	75 762	81 788	86 765	106 483	112 212
Other OECD	9 771	12 224	11 920	11 071	12 382	12 266
Total OECD	185 398	201 527	210 759	231 713	260 000	271 172
ASEAN	7 723	6 729	8 014	7 500	8 893	8 436
Other countries(c)	11 716	13 309	15 964	19 869	21 831	22 584
International capital markets	46 632	50 117	54 321	60 706	61 185	76 329
International institutions	257	1 014	1 097	142	154	476
Unallocated	14 883	17 803	18 986	18 369	18 732	21 946
Total	266 609	290 499	309 141	338 299	370 795	400 943
APEC	111 795	124 617	142 412	159 760	170 261	177 411

(a) Revised data by country for 1989-90, 1990-91 and 1991-92 is not available. (b) Prior to 1994-95 Austria, Finland and Sweden are included in 'Other OECD'. (c) Prior to 1994-95 Mexico is included in 'Other countries'.

Source: Balance of Payments and International Investment Position, Australia, 1994-95 (5363.0).

29.37 AUSTRALIAN INVESTMENT ABROAD, By Country(a)(b)

Country of investment	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
CAPITAL TRANSACTIONS						
OECD						
USA	2 324	264	-187	685	3 475	-2 103
New Zealand	1 691	293	-86	1 195	264	1 437
United Kingdom	1 314	1 900	-966	1 011	3 686	1 728
Japan	810	1 034	110	-206	2 828	-3 479
Other OECD(c)(d)	296	5 037	-679	-458	1 840	495
Total OECD	6 435	8 528	-1 808	2 227	12 093	-1 922
ASEAN						
Papua New Guinea	160	144	138	146	257	21
Other countries(d)	n.p.	-3 995	1 733	366	7	773
Reserve Bank gold(e)	—	—	—	-19	—	—
Unallocated	n.p.	-27	316	523	2 889	666
Total	5 931	4 347	772	4 021	15 777	353
INVESTMENT INCOME						
OECD						
USA	1 960	1 267	879	1 646	731	1 766
New Zealand	334	237	306	253	559	664
United Kingdom	-91	15	623	847	1 150	1 411
Japan	98	189	113	90	13	116
Other OECD(c)(d)	248	918	955	1 326	1 042	833
Total OECD	2 549	2 626	2 876	4 162	3 495	4 790
ASEAN						
Papua New Guinea	-10	207	227	224	164	164
Other countries(d)	910	78	131	351	372	255
Unallocated	292	186	350	99	630	997
Total	3 961	3 223	3 703	5 085	4 902	6 522
LEVELS OF INVESTMENT AT 30 JUNE						
OECD						
USA	27 135	26 494	28 097	30 868	32 822	35 683
New Zealand	6 504	7 074	7 449	8 692	8 781	10 746
United Kingdom	18 014	18 934	20 520	20 589	25 777	27 709
Japan	5 115	6 339	6 207	7 885	11 211	8 718
Other OECD(c)(d)	15 268	20 151	21 789	22 019	21 752	23 461
Total OECD	72 036	78 992	84 062	90 053	100 343	106 317
ASEAN						
Papua New Guinea	1 623	1 687	n.p.	2 291	2 381	2 157
Other countries(d)	10 251	6 493	n.p.	9 101	10 210	10 581
Reserve Bank gold(e)	3 541	3 804	3 639	4 448	4 208	4 316
Unallocated	4 290	4 778	6 589	9 577	9 512	9 701
Total	96 221	99 801	109 289	121 532	133 060	141 226

(a) Revised data for 1989-90 to 1993-94 is not available. (b) No country data for 1995-96 available. (c) Prior to 1994-95 Austria, Finland and Sweden are included in 'Other OECD'. (d) Prior to 1994-95 Mexico is included in 'Other Countries'. (e) Gold held by the Reserve Bank as part of reserve assets that cannot be allocated by country.

Source: *Balance of Payments and International Investment Position, Australia, 1994-95* (5363.0).

International investment by industry

The industry classification used in Australian international investment statistics is based upon the Australian and New Zealand Standard Industrial Classification (ANZSIC), 1993 edition. For foreign investment in Australia it reflects the industry of the enterprise group receiving that investment. Industry statistics should be treated with some caution as they do not necessarily reflect the industry in which the funds are ultimately employed.

As shown in table 29.38, when analysed by industry, the largest inflows of investment during 1994–95 were into Government

administration and defence (\$12,537m), finance and insurance (\$6,039m), and manufacturing (\$5,644m). Net withdrawals of investment were recorded for a number of industries, the largest being retail trade (\$1,805m).

At 30 June 1995, the level of foreign investment was highest in the finance and insurance category, with \$132,608m (33%). This was followed by manufacturing (\$76,426m); government administration and defence (\$74,765m); mining (\$37,995m); and wholesale trade (\$25,891m)

29.38 FOREIGN INVESTMENT IN AUSTRALIA, By Industry(a)

	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95
	\$m	\$m	\$m	\$m	\$m	\$m
CAPITAL TRANSACTIONS						
Mining						
Coal, oil and gas	1 482	474	-36	-618	536	-834
Other mining	40	1 013	-47	853	704	127
Services to mining (including exploration)	286	-242	-159	-377	625	402
Total mining	1 808	1 245	-241	-142	1 865	-305
Manufacturing						
Food, beverages and tobacco	-13	1 476	1 252	1 239	2 298	444
Textiles, clothing, footwear and leather	240	-59	53	83	-61	159
Wood and paper product	243	-54	103	71	582	131
Printing, publishing and recorded media	481	45	-57	1 529	4 653	1 762
Petroleum, coal, chemical and assoc. product	1 788	825	356	705	954	1 459
Non-metallic mineral product	-84	-129	-84	53	-148	31
Metal product	-285	-279	930	433	960	517
Machinery and equipment	148	-211	168	77	154	1 147
Other	8	-21	18	-7	73	-8
Total manufacturing	2 526	1 593	2 740	4 182	9 466	5 644
Other industries						
Agriculture, forestry, fishing and hunting	-130	183	-64	111	-27	-277
Electricity, gas and water	171	-74	-784	-699	-865	-1 029
Construction	43	327	407	416	490	402
Wholesale trade	1 122	1 666	1 591	663	-3 697	-1 041
Retail trade	350	173	374	394	822	-1 805
Transport and storage	831	931	-519	-216	689	44
Finance and insurance(b)	11 664	13 759	8 828	1 239	10 786	6 039
Property and business services	2 043	1 776	709	-338	536	405
Government administration and defence(c)	3 185	-104	1 904	11 404	8 087	12 537
Other industries(d)	971	671	19	686	141	1 402
Unallocated	523	-1 153	758	641	667	1 458
Total	25 108	20 993	15 721	18 342	28 960	23 473
INVESTMENT INCOME						
Mining						
Coal, oil and gas	1 103	1 185	1 016	1 440	1 551	1 266
Other mining	707	956	515	492	600	903
Services to mining (including exploration)	85	17	24	56	44	27
Total mining	1 896	2 158	1 555	1 987	2 195	2 196
Manufacturing						
Food, beverages and tobacco	753	827	886	886	703	961
Textiles, clothing, footwear and leather	61	26	25	37	34	66
Wood and paper product	100	64	78	81	91	128
Printing, publishing and recorded media	238	249	424	620	661	531
Petroleum, coal, chemical and assoc. product	963	604	566	988	870	796
Non-metallic mineral product	36	-51	-12	np	20	33
Metal product	1 294	1 013	612	403	477	567
Machinery and equipment	311	-137	-17	562	466	1 126
Other	2	-3	-	np	1	3
Total manufacturing	3 757	2 591	2 562	3 589	3 323	4 211

For footnotes see end of table.

...continued

29.38 FOREIGN INVESTMENT IN AUSTRALIA, By Industry(a) — *continued*

	1989-90 \$m	1990-91 \$m	1991-92 \$m	1992-93 \$m	1993-94 \$m	1994-95 \$m
INVESTMENT INCOME — <i>(continued)</i>						
Other industries						
Agriculture, forestry, fishing and hunting	-10	90	50	69	28	7
Electricity, gas and water	295	317	277	224	73	125
Construction	55	12	71	43	40	91
Wholesale trade	1 770	1 159	573	921	1 265	1 658
Retail trade	275	178	127	223	257	194
Transport and storage	881	763	664	655	711	977
Finance and insurance(a)	4 959	7 216	6 738	5 591	5 688	6 626
Property and business services	588	456	479	290	403	650
Government administration and defence(c)	4 043	3 804	3 905	3 537	4 067	3 973
Other industries(d)	161	150	149	-87	-264	326
Unallocated	1 310	1 281	998	949	1 244	2 676
Total	19 981	20 176	18 151	17 992	19 029	23 710
LEVELS OF INVESTMENT AT 30 JUNE						
Mining						
Coal, oil and gas	11 521	12 023	12 098	11 895	12 268	11 131
Other mining	15 101	14 807	15 878	17 601	21 493	21 526
Services to mining (including exploration)	4 399	4 194	4 077	5 268	6 294	5 338
Total mining	31 022	31 023	32 053	34 764	40 055	37 995
Manufacturing						
Food, beverages and tobacco	12 905	14 075	13 681	14 724	16 979	17 372
Textiles, clothing, footwear and leather	680	618	611	625	752	932
Wood and paper product	1 434	1 444	1 671	1 730	2 422	2 726
Printing, publishing and recorded media	2 929	2 492	2 794	7 068	11 098	14 433
Petroleum, coal, chemical and assoc. product	12 999	11 888	12 750	13 241	15 508	15 226
Non-metallic mineral product	932	968	805	753	634	625
Metal product	11 686	12 356	13 626	14 955	16 591	17 943
Machinery and equipment	5 247	5 813	6 093	5 939	6 288	7 050
Other	81	65	62	50	137	120
Total manufacturing	48 893	49 720	52 091	59 087	70 410	76 426
Other industries						
Agriculture, forestry, fishing and hunting	699	2 241	1 277	1 445	1 337	779
Electricity, gas and water	5 326	5 335	4 775	4 364	3 717	2 770
Construction	1 609	1 990	2 192	2 596	3 207	3 633
Wholesale trade	20 944	22 843	24 803	25 157	25 436	25 891
Retail trade	4 008	4 878	5 456	5 489	5 511	3 727
Transport and storage	8 185	9 085	8 957	8 819	9 694	9 533
Finance and insurance(b)	83 058	97 720	107 510	112 670	122 816	132 608
Property and business services	16 440	18 854	18 774	16 912	17 743	20 540
Government administration and defence(c)	38 675	40 258	43 448	58 078	60 909	74 765
Other industries(d)	4 381	4 884	5 395	6 282	7 001	8 680
Unallocated	3 370	1 669	2 409	2 637	2 959	3 594
Total	266 609	290 499	309 141	338 299	370 795	400 943

(a) The industry categories shown are based on the 1993 edition of ANZSIC and relate to the predominant activity of the enterprise group receiving the investment funds. This is not necessarily the industry of the end use of the funds. (b) Includes the Reserve Bank and the State government components of general government. (c) Includes the Commonwealth government components of general government. (d) Consists of: Communications, Community services and Recreation, personal and other services.

Source: *Balance of Payments and International Investment Position, Australia, 1994-95* (5363.0).

Foreign ownership in Australia

Table 29.39 contains estimates of foreign ownership of Australian equity.

Of the total equity on issue by Australian enterprise groups at 31 December 1995, non-residents held equity valued at \$182b (30%) and residents held \$420.3b (70%).

When analysed by sector, it can be seen that the proportion of equity held by non-residents in private corporate trading enterprises increased from 40% at 30 June 1992 to 42% at 30 June 1994. It has varied between 42% and 45% since then, with 44% being recorded at 31 December 1995.

The value of non-residents' equity in banks rose steadily over the period 30 June 1992 to 31 December 1995. However, as a proportion of the total equity issued by banks, foreign-owned equity at 31 December 1995 was the same as at 30 June 1992. During that period the highest proportion of total equity held by non-residents was at 30 September 1994 (25%).

Non-resident equity holdings in non-bank deposit-taking institutions rose steadily as a proportion of the amount on issue, from 23% at 30 June 1992 to 29% at 31 December 1994. Although the amount of equity issued by the sector held by non-residents has continued to rise, the percentage of foreign ownership at 31 December 1995 has fallen to 24%.

The other financial institutions sector is largely composed of general insurers. Foreign ownership of equity in these institutions declined from 15% at 30 June 1992 to 11% at 30 June 1994, stayed at this level until 30 June 1995, rose to 12% at 30 September 1995 and remained at this level at 31 December 1995.

It should be noted that data problems may impact on the accuracy of the analysis. The estimated market value of equity, as shown in table 29.39, is considered to be of poor quality for some sectors. In particular, estimates of the market value of the amount issued by private corporate trading enterprises are considered poor because they are largely built up from counterpart and other information obtained from ABS Surveys of Foreign Investment and Balance Sheet Information. This sector covers equity issued by both listed and unlisted private corporate trading enterprises, of which there are over half a million.

These problems aside, it should also be noted that it is possible to supplement the information on foreign ownership derived from the financial accounts by making use of the comprehensive information about the rest of the world sector from the international investment database. This is described in the article *Foreign Ownership of Equity in Australian Enterprise Groups* published in the March quarter 1996 issue of *International Investment Position, Australia* (5306.0). The article includes a regional analysis and an analysis by degree of foreign influence.

29.39 OWNERSHIP OF EQUITY(a)

	Unit	Value of equity outstanding at end of period									
		1991-92	1992-93	1993-94	1994-95				1995-96		
					Sept.	Dec.	Mar.	June	Sept.	Dec.	
All sectors											
Amount issued	\$b	435.3	482.6	550	560.2	542.5	543.7	569.4	594.3	602.3	
Amount held by rest of the world	\$b	110.9	122.5	154.9	162.6	157.9	159.9	166.2	175.5	182	
Percentage of foreign ownership	%	25	25	28	29	29	29	29	30	30	
Selected sub-sectors(b)											
Private corporate trading enterprises											
Amount issued(c)	\$b	235.7	259.8	321.6	333.4	313.7	310.6	330.2	351.7	357.7	
Amount held by rest of the world	\$b	95.3	104.9	133.5	140.8	136.2	138.5	143.9	152.2	158.1	
Percentage foreign ownership	%	40	40	42	42	43	45	44	43	44	
Banks											
Amount issued(c)	\$b	35.7	43.3	47.8	45.5	46.7	51.6	52.5	57.4	60.5	
Amount held by rest of the world	\$b	7.6	8.9	11.3	11.6	11.4	11.5	12.1	12.1	12.9	
Percentage foreign ownership	%	21	21	24	25	24	22	23	21	21	
Non-bank deposit taking institutions											
Amount issued(c)	\$b	12.1	14.2	13.8	14.1	14.4	14.5	14.9	14.7	15.3	
Amount held by rest of the world	\$b	2.8	3.4	3.9	4.0	4.2	4.1	4.2	4.0	3.7	
Percentage foreign ownership	%	23	24	28	28	29	28	28	27	24	
Other financial institutions(d)											
Amount issued(c)	\$b	23.4	28.6	37.7	37.9	36.7	35.9	38.7	40.1	40.7	
Amount held by rest of the world	\$b	3.6	3.6	4.2	4.2	4.0	4.1	4.3	4.8	4.9	
Percentage foreign ownership	%	15	13	11	11	11	11	11	12	12	

(a) Equity includes units in trusts. (b) Not all sub-sectors have been shown. In particular, data for life offices and superannuation funds are not shown due to unresolved measurement and conceptual issues. Data for general government, Reserve Bank and public trading enterprises are also not shown as there is no foreign ownership in these sub-sectors. (c) These estimated market values are considered to be of poor quality. They should be used cautiously. (d) Excludes life offices and superannuation funds. See footnote (b).

Source: *International Investment Position, Australia, March Quarter 1996* (5306.0).

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- Aboriginals and the Government, **1994**, 403
- Australia's Indigineous People, A profile of, **1996**, 113
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- Australian Defence Force Academy, **1988**, 198
- Australian Institute of Sport, **1984**, 684
- Australian mineral industry, historical development, **1988**, 592
- Australians at war, **1988**, 192
- Australian statisticians and the development of official statistics, **1988**, 1
- Black coal in Australia, **1982**, 395
- Blue-green algae, **1992**, 410
- Bushfires — an integral part of Australia's environment, **1995**, 515
- Census 1986 — a portrait of Australia, **1986**, 122
- Cinema, The Australian — an overview, **1989**, 658
- Commonwealth–State financial arrangements, Developments of, **1988**, 859
- Communications, Impact of technology on, **1988**, 772
- Constitution of the Commonwealth of Australia, **1988**, 115
- Crime Victims Survey, **1986**, 240
- Drought in Australia, **1988**, 620
- Endangered Australian species, **1990**, 603
- Ethnic and cultural diversity in Australia, **1995**, 129
- Flag, the Australian, **1989**, 35
- Foreign Affairs, Department of — a brief history, **1988**, 173
- Great Barrier Reef Marine Park, conservation and management, **1990**, 459
- Halley's Comet, Australia and, **1986**, 657
- Home nursing in Australia, history, **1985**, 202
- Household and Family Trends in Australia, **1994**, 149
- Human quarantine, the Australian approach, **1988**, 404
- Indigenous Peoples of Australia, Statistics on the, **1994**, 409
- Integrated Economic Censuses, Australia, **1970**, 1041
- International Year of Youth, **1985**, 244
- Land use, changing patterns, **1988**, 547
- Landforms and their history, **1988**, 202
- Mabo Case, The, and the Native Title Act, **1995**, 49
- Manufacturing industries in Australia, Development of, **1988**, 671
- Meteorology, History of, in Australia, **1988**, 248
- Mineral industry, Australian, historical development, **1988**, 592
- National Estate, Australia's, **1988**, 488

National Film and Sound Archive, **1989**, 376

National Museum of Australia, **1989**, 380

Parliament House — Australia's new Parliament House, **1984**, 51

Parliament of the Commonwealth of Australia, **1988**, 152

Pensions and benefits in Australia, History of, **1988**, 379

Poverty and deprivation in Australia, **1996**, 226

Quarantine, human, Australian approach to, **1988**, 404

Recent decline in Australian fertility, **1981**, 114

Republic, an Australian: issues and options, **1995**, 35

Salinity, **1990**, 202

Snowy Mountains Scheme, **1986**, 430

Space, International Year, **1992**, 573

Tourism in Australia, **1985**, 633

Weather map, Reading the, **1994**, 43

Youth, International Year of, **1985**, 244

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INDEX

A

- | | | | |
|---|--------------------------|--|----------|
| ABARE'S "Women on farms" survey | 365-366 | wheat | 374-376 |
| ABC Symphony Orchestras | 294-295 | emerging agricultural industries | 396 |
| Aboriginal and Torres Strait Island people | 88-91, 147, 207-209, 490 | employment in agriculture | 365-367 |
| Aboriginal and Torres Strait Islander Liaison Officers (AILO) program | 166 | financial statistics of farm businesses | 369-372 |
| ABSTUDY | 253 | gross indebtedness | 371-372 |
| health | 207-209 | turnover | 370-371 |
| housing assistance programs | 490 | Foundation of Australian Agricultural Women | 365 |
| population | 88-91 | gross value of agricultural commodities produced | 368-369 |
| Support Network for Aboriginal Parents | 166 | land used for agriculture | 372-373 |
| Training for Aboriginals and Torres Strait Islanders Program (TAP) | 147 | livestock | 387-394 |
| ABSTUDY | 253 | cattle | 387-390 |
| Acid rain | 450 | dairying | 389-390 |
| Advanced English for Migrants Program (AEMP) | 146-147 | meat production and slaughterings | 392-393 |
| Africa | 46 | pigs | 391 |
| Age Pension | 158 | poultry | 392 |
| Aged Care Assessment Program | 175 | sheep | 390-391 |
| Agriculture | 359-398 | Office of the Status of Women | 366 |
| agricultural environment | 361 | women in agriculture | 365-367 |
| agricultural improvements | 362 | ABARE'S "Women on farms" survey | 365-366 |
| fertilisers | 362 | communications and technology | 367 |
| irrigation | 362 | education and qualifications | 367 |
| Australian Bureau of Agricultural and Resource Economics (ABARE) | 365-366, 436 | social issues | 366-367 |
| Australian Women in Agriculture | 365 | wool | 394-396 |
| apparent consumption of foodstuffs | 396-397 | production | 394-395 |
| beekeeping | 396 | marketing arrangements | 395-396 |
| characteristics of Australian farms | 363-364 | receivals | 395 |
| cereal grains | 374-381 | World Rural Women's Day | 365 |
| Country Women's Association | 366 | Air Force <i>see</i> Defence | |
| crops | 374-386 | Air pollution | 449 |
| barley | 378-379 | Airservices Australia | 539 |
| cereal grains | 374-381 | Alternative Birthing Services Program | 219 |
| cotton | 385 | Americas | 44-45 |
| fodder crops | 386 | Analogue Mobile Phone Service (AMPS) | 549 |
| grain sorghum | 379-380 | Ansett Group | 534, 536 |
| grapes | 383-384 | Antarctica | 53-54 |
| maize | 380 | Antarctic Treaty | 53 |
| oats | 377-378 | Antarctic Treaty Consultative Meetings (ACTM) | 53 |
| oilseeds | 384-385 | ANL Ltd | 539 |
| rice | 380-381 | ANZUS Treaty | 44, 49 |
| sugar | 385-386 | ARRB Transport Research Ltd | 538-539 |
| vegetables | 381-382 | Army <i>see</i> Defence | |
| | | Arts Council of Australia | 305 |
| | | ASEAN <i>see</i> Association of South East Asian Nations | |
| | | ASEAN Free Trade Area (AFTA) | 39 |

BreastScreen Australia	219
Brunei	40
Bureau of Industry Economics	465
Bureau of Resource Sciences (BRS)	436
Bureau of Tourism Research	509
Bureau of Transport and Communications Economics	538
Burma	41
Business	315-344
employment	323-324
industry contribution to Gross Domestic Product	315-317
industry contribution to capital expenditure	325
industry structure	317-321
labour productivity	324
operations and performance	321-323
women in small business	327-334

C

Cairns Group	52
Cambodia	41
Canada	44
Carer Pension	160
Cattle	399-402
Central Lowlands 5-6	
Child Disability Allowance	160
Chemical Weapons Convention	50-51
Childcare Assistance System	167
Childcare Cash Rebate	167
China	42
Civil Aviation Safety Authority	539
Climate	8-20
climatic controls	8-9
El Niño/La Niña phenomenon	9
Southern Oscillation (SO)	9
tropical cyclones	8-9
cloud	15-16
droughts	16-17
floods	17
fog	16
frost	14-15
global radiation	15
humidity	15
rainfall and other precipitation	9-12
annual	9-10
rainday frequency	10
rainfall intensity	10-11
seasonal	10
snow	12
thunderstorms and hail	12

sunshine	15
temperature	12-14
average monthly maxima	12
average monthly minima	12
average temperatures	12
extreme maxima	12-13
extreme minima	13
heat waves	13-14
winds	16
Coal	422-424, 426
Coastal geomorphology	7
Colours of Australia	35
Commonwealth Employment Service Advisory Committee (CESAC)	145
Commonwealth of Independent States	45
Commonwealth Heads of Government Meeting (CHOGM)	51
Commonwealth of Nations Harare Declaration	51
Commonwealth Ministerial Action Group (CMAG)	51
Commonwealth Rehabilitation Service (CRS)	173
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	408, 435, 581
Commonwealth/State Disability Agreement (CSDA)	172
Commonwealth-State Housing Agreement (CSHA)	489-490
Communicable Diseases Network- Australia New Zealand	228
Communications	545-565
carriers	546-548
Optus	547-548
Telstra	546-547
Vodafone	548
household use of telecommunications and related technologies	549-550
mobile phones	549
Analogue Mobile Phone Service (AMPS)	549
Global System for Mobile Communication (GSM)	549
postal communications	550-551
Australian Postal Corporation	550-551
service providers	548
telecommunications services within Australia	545-549

<i>Special article</i> Household adoption		<i>Housing Assistance Act 1989</i>	489
of digital technologies	553-565	housing assistance programs for	
ABS survey	553	Aboriginal and Torres Strait	
analysis	554-555	Islander people	490
diffusion scenarios	558-559	Ministerial Working Group on	
digital connectivity	553-554	Regional Affairs	488
further research	563-564	number of bedrooms	481-482
future diffusion pathways	559-560	regional development	488
intention to spend	555	rent assistance	489
interest in online services	555	residential care for older people	489
probability of acquiring a computer	557	Supported Assistance	
propensity to acquire modems	560-562	Accommodation Program (SAAP)	489
reasons for not having computer		types of dwellings	481-482
and/or modem	555	housing finance	486-488
results	556-557	industrial disputes	479
tree analysis	556	labour costs	478-479
Community Aged Care Services		trade union membership	480
Packages	175	Consumer Price Index (CPI)	653-660
Community Rainforest Reforestation		Continental drift	7
Program	402	Convention on the Conservation of	
Community Research Project (CRP)	166-167	Southern Bluefin Tuna (CCSBT)	415
Community Service Officers (CSOs)	166	Coordinated Care Trials	219
Comprehensive Test Ban Treaty	50	cotton	385
Construction and housing	469-491	Council for Security Cooperation in	
construction	469-480	the Asia-Pacific (CSAP)	48
building activity at constant prices	475	Country Women's Association	366
conversions, etc.	474	CREATE Australia	303
engineering construction	477-478	Crime and justice	261-281
new house	472	courts	275-277
new other residential building	472-473	criminal courts	275-276
non-residential building	474-475	national criminal courts statistics	276-277
price indexes of materials used in		correctional services	277-280
building	476	indigenous imprisonment	278
price indexes of materials used in		prisoners in Australia	277-280
house building	476	crimes reported by police	269-274
price indexes of materials used in		assault	269
building other than house		drug offences	274
building	476-477	firearms	273-274
residential building	471-474	homicide	269
trends in the construction industry	469-471	kidnapping/abduction	269
value of residential building	474	personal crime	269
home ownership and renting	482-483	robbery	269
house price indexes	485-486	sexual assault	269
housing	481-490	criminal justice system	263-264
Australian Institute of Health and		expenditure on public order and	
Welfare	488-489	safety	264-265
accessibility and affordability	484-488	police	265-266
Commonwealth Government		Australian Federal Police (AFP)	265
initiatives	488-490	Commonwealth policing agencies	265-266
Commonwealth-State Housing		National Crime Authority	265
Agreement (CSHA)	489-490	size of police forces	265-266
Crisis Accommodation Program (CAP)	489	National crime statistics	266-274
Disabilities Services Program	490	crime victimisation surveys	266

Democratic People's Republic of Korea	43	education attendance and the labour force	249-250
Department of Employment, Education, Training and Youth Affairs (DEETYA)	254	educational attainment	251-252
Department of the Environment, Sport and Territories	405	participation in education	249
Department of Health and Family Services	171-179, 234	expenditure on education	255-258
Department of Industry, Technology and Regional Development	465	funding of schools	240
Department of Primary Industries and Energy (DPIE)	405	Government assistance to students	252-253
Department of Industry, Science and Tourism	579-580	ABSTUDY	253
Department of Social Security	157-167	Assistance for Isolated Children Scheme (AIC)	254
Disability Services Program (DSP)	172-173	AUSTUDY	253
Department of Veterans' Affairs	175-182	AUSTUDY/ABSTUDY supplement	253
diamonds	425	Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA)	254-255
Disability Support Pension	159	National Council for Vocational Education Research (NCVER)	255
Drug offences	274	number of schools, students and teaching staff	236-238
		apparent retention rates	239-240
		other schooling arrangements	238-239
		other organisations	255
		pre-school education	234
		primary and secondary education	234-240
		curriculum development	235
		National Goals for Schooling	235
		primary schooling	235
		school attendance	234
		school organisation and operation	234
		secondary schooling	235-236
		special programs	234-235
		Standards and Curriculum Council	255
		TAFE system	245-248
		tertiary education	240-248
		Australian National Training Authority	246
		Australian Vocational Education and Training Management Information Statistical Standard (AVETMISS)	247
		higher education	241-248
		vocational education and training	245-248
		Electoral Commission	31
		El Niño/La Niña phenomenon	9
		Employment and Skills Formation Council	254
		Employer Incentives Program	1-15
		Energy	441-452
		average consumption increase	441
		contribution to GDP	441
		electricity and gas operations	445-449
		energy supply, conversion and end use	444-445
		energy use and the environment	449-450

E

Eastern Highlands	6		
Education	231-359		
administration of education at the national level	254		
Australian International Education Foundation Council	254		
Australian Language and Literacy Council	254		
Australian Research Council	254		
Department of Employment, Education, Training and Youth Affairs (DEETYA)	254		
Employment and Skills Formation Council	254		
Higher Education Council	254		
National Board of Employment, Education and Training (NBEET)	254		
Schools Council	254		
adult education	252		
Australian Council for Educational Research (ACER)	255		
Australian Qualifications Framework Advisory Board (AQFAB)	255		
Commonwealth and State Government responsibilities	233-234		
educational characteristics of the population	249-252		

money	619-620	Forestry	401-408
money supply measures	620	Commonwealth government	
payments statistics	620-621	initiatives,	405-408
non-bank deposit-taking institutions	594-600	Community Rainforest Reforestration	
authorised money market dealers	597	Program	402
cash management trusts	600	Commonwealth Scientific and	
credit cooperatives	596	Industrial Research Organisation	
finance companies	599	(CSIRO)	408
general financiers	599-600	Department of the Environment,	
money market corporations	597-598	Sport and Territories	405
pastoral finance companies	598	Department of Primary Industries and	
permanent building societies	595-596	Energy (DPIE)	405
other financial institutions	605-609	farm forestry	406
common funds	607	Farm Forestry Program	402
cooperative housing societies	609	Forest and Wood Products Research	
general insurance companies	606	and Development Corporation	408
health insurance	605-606	Forest Industry Structural Adjustment	
public unit trusts	608	Package	407
securitised	608-609	Government administration	405
Firearms	273-274	National Afforestation Program (NAP)	402
Fisheries Research and		National Forests Inventory	407
Development Corporation (FRDC)	416	National Forest Policy Statement	
Fishing <i>see</i> Forestry and Fishing		(NFPS)	405-406
Fodder crops	386	National Forests Inventory	407
Foreign debt	730-732	National Plantations Inventory	407
Forest and Wood Products Research		native forest	401-402
and Development Corporation	408	plantations	402
Forest Industry Structural		plantation initiatives under the NFPS	406
Adjustment Package	407	pulp mill guidelines	407-408
Forestry and fishing	401-419	Regional Farm Agreements	406
fishing	409-417	tropical forests	403
aquaculture	416-417	tropical timber	407
Australian Fisheries Management		Wood and Paper Industry Strategy	407
Authority (AFMA)	415	wood and paper products	403-404
Australian Fishing Zone (AFZ)	414-415	forest estate	401-403
<i>Commonwealth Fisheries</i>		native forest	401-402
<i>Management Act 1991</i>	414	plantations	402
Convention on the Conservation of		tropical forests	403
Southern Bluefin Tuna (CCSBT)	415	Ministerial Council on Forestry,	
exports and imports	413-414	Fisheries and Aquaculture	
<i>Fisheries Administration Act 1991</i>	415	(MCFFA)	402, 405
fisheries research	416	Forum Fisheries Agency	43
Fisheries Research and Development		Foundation of Australian Agricultural	
Corporation (FRDC)	416	Women	365
fisheries resources	409-410	Fruit (excluding grapes)	382-383
fisheries legislation and territorial			
arrangements	414-416		
individual transferable quotas	415		
Law of the Sea	415		
processing of fish, crustaceans and			
molluscs	413		
production	410-413		
recreational fishing	417		

G

General Agreement on Tariffs and	
Trade (GATT)	52
Geography	3-7
area	3-4

- | | | | |
|--|---------|---|--------------|
| external causes | 212 | Australian Quarantine and Inspection Service (AQIS) | 225-226 |
| dementia deaths | 213-214 | Australian Radiation Laboratory | 227-228 |
| perinatal deaths | 210 | Australian Red Cross | 228 |
| dental health | 201-202 | Cancer registries | 228 |
| disability | 202-203 | Communicable Diseases Network-
Australia New Zealand | 228 |
| health care delivery | 214-216 | Department of Health and Family
Services | 224 |
| comparison of public and private
hospitals | 216 | Health and Community Services
Ministerial Council | 223-224 |
| Medicare | 214 | International Agency for Research on
Cancer | 223 |
| private hospitals | 215 | National Cancer Statistics Clearing
House | 228 |
| public hospitals | 214-215 | National Health and Medical Research
Council (NHMRC) | 224-225 |
| same day surgery | 215 | National Heart Foundation of Australia | 228 |
| use of hospitals | 215 | National Occupational Health and
Safety Commission (NOHSC) | 226-227 |
| health care financing | 219-223 | Private Health Insurance
Administration Council (PHIAC) | 225 |
| Commonwealth Government funding
of hospitals | 220 | Therapeutic Goods Administration
(TGA) | 227 |
| health insurance coverage | 221 | World Health Organisation | 223 |
| household expenditure on medical
care and health | 220-221 | health status | 197-201, 207 |
| Medicare financing | 220 | health work force | 216 |
| Pharmaceutical Benefits Scheme | 221 | healthy lifestyles and risk factors | 197-199 |
| total health expenditure | 219-220 | overweight and obesity | 197-198 |
| health of indigenous Australians | 207-209 | physical activity | 198 |
| access to services | 207-208 | use of illicit drugs | 198-199 |
| alcohol | 208 | use of medication | 199 |
| breastfeeding | 208-209 | use of tobacco and alcohol | 198 |
| disability and handicap | 209 | HIV and AIDS | 204-205 |
| health-related actions | 207 | women's health | 218-219 |
| health risk factors | 208-209 | Alternative Birthing Services Program | 219 |
| mortality | 209 | BreastScreen Australia | 219 |
| perceived health-related and
substance use problems | 208 | cancer screening programs | 218 |
| relative weight | 208 | National Cervical Screening Program | 219 |
| self-reported health status | 207 | National Education Program on
Female Genital Mutilation | 219 |
| smoking | 208 | National Women's Health Program | 218 |
| health programs | 216-217 | Health and Community Services
Ministerial Council | 223 |
| Aboriginal health | 216-217 | Higher Education Council | 254 |
| diet and nutrition | 217-218 | Home and Community Care
Program (HACC) | 173 |
| drugs | 218 | Homicide | 269 |
| family planning | 218 | Hong Kong | 42 |
| homeless youth | 217 | Housing <i>see</i> Construction and
Housing | |
| injury prevention and control | 217 | household adoption of digital
technologies | 553-65 |
| mental health | 217 | | |
| National Diabetes Action Plan | 217 | | |
| organ and tissue donation | 218 | | |
| programs for the aged and people
with disabilities | 217 | | |
| survivors of torture and trauma | 218 | | |
| health-related organisations | 223-228 | | |
| Australia and New Zealand Food
Authority | 226 | | |
| Australian Institute of Health and
Welfare | 224 | | |

I			
Income and welfare	151-194	Maternity Allowance	165
Department of Health and Family Services	167-175	Mature Age Allowance (MAA)	161-162
Aged Care Assessment Program	174	Migrant Liaison Officers (MLO) program	165
Aged Care Assessment Teams (ACATs)	174	Multilingual Telephone Interpreter Service	165
Assistance with Care and Housing for the Aged (ACHA)	175	Newstart Allowance (NSA)	160-161
Australian Hearing Services	173	parenting allowance	164-165
child care	167	payments for families with children	162-165
Childcare Assistance System	167	payments for people with disabilities and the sick	159-160
Childcare Cash Rebate	167	payments for the retired	158-159
children's Services Program	167-168	payments for the unemployed	160-162
Commonwealth Rehabilitation Service (CRS)	172-173	Partner Allowance	162
Commonwealth/State Disability Agreement (CSDA)	172-173	Rent Assistance	165
Community Aged Care Services Packages	175	Sickness Allowance	160
community based care for aged and disabled people	175	Sole Parent Pension	163
Disability Services Program (DSP)	172	Special Benefit	165
Home and Community Care Program (HACC)	173	Support Network for Aboriginal Parents	165
National Childcare Accreditation Council	167	Youth Service Units (YSUs)	166
people's need for assistance because of age or disability	168-169, 172-173	Youth Training Allowance (YTA)	161
residential care for aged people	174	Department of Veterans' Affairs	175-182
Special Services and Supplementary Services (SUPS)	167	Community and Residential Support Programs	180
use of child care	168	Compensation Program	176-180
Department of Social Security	157-167	Defence Service Homes Scheme	179-180
Aboriginal and Torres Strait Islander Liaison Officers (AILO) program	165	Extreme Disablement Adjustment health program	180-181
Age Pension	162	Housing Sub-program (Defence Service Homes Scheme)	179-180
Carer Pension	160	Income Support Sub-program	178-179
Child Disability Allowance	160	Office of Australian War Graves	181-182
Child Support Scheme	164	Repatriation Commission	175
Community Research Project (CRP)	166-167	Repatriation Comprehensive Care Scheme	180
Community Service Officers (CSOs)	166	Veterans' Children Education Scheme	177-178
Customer Service	165	Vietnam Veterans Counselling Service	181
Disability Support Pension	159	household income and expenditure	153-157
Family Payment	162	household expenditure	155-157
Family Tax Payment	162-163	household income	153-155
Financial Information Service (FIS)	166	income distribution	154-155
income support programs	157-165	income units receiving government income support	155
international agreements and payment of pensions abroad	166	levels of expenditure	156-157
Jobs, Education and Training Program (JET)	164	voluntary work	169-171
Job Search Allowance (JSA)	160-161	activities performed	171
		characteristics of volunteers	170
		fields of voluntary work	170-171
		reasons for becoming a volunteer	171
		time spent on voluntary work	171

<i>Special article</i> Government	
redistribution of income in Australia	184-194
allocated and actual outlays	193
definition of household types	194
income concepts and definitions	192-193
income inequality	190
fiscal measures	190-191
income redistribution	191-192
redistribution between household types	184-189
direct benefits	185-186
direct taxes	186
final income	188-189
indirect benefits	187
indirect taxes	188
private income	184-185
redistribution between income groups	189-190
India	41
Indian Ocean	46-47
Indonesia	39-40
Indian Ocean Rim Association for Regional Cooperation (IOR-ARC)	47
Industry Commission	465
Industry overview	315-334
business operations and performance	321-323
debt charges	321
operating profits	321
performance ratios	321
Economic Activity Survey	319
employment industries	323-324
industry contribution to capital expenditure	325
industry contribution to Gross Domestic Product	315-317
distribution industries	316
goods-producing industries	316
National Accounts	315
service industries	316
industry structure	317-321
classification of businesses	317-321
employment	318
numbers of businesses	318
sales of goods and services	317
size of businesses	317
labour productivity	324
<i>Special article</i> Women in Small Business	327-334
hours worked by female small business operators	330-332
participation of women in small business	327-333
women as decision makers in small business	332
women in small business by industry	327-328
women small business operators	329-330
women working in their own small business	328-329
Industry Research and Development Board	580
Inhumane Weapons Convention	51
Insurance and Superannuation Commission	606
Intergovernmental Committee on Ecologically Sustainable Development (ICEDSD)	3-46
Intergovernmental Panel on Climate Change	341
International accounts and trade balance of payments	697, 715-720
classification	716
conceptual framework	715-716
exports and imports of goods and services	719-727
statistical overview	716-719
foreign debt	730-732
foreign ownership in Australia	697, 739-740
international investment	697, 728-738
classification	728
foreign debt	730-732
investment by country	733-735
investment by industry	736-738
investment position	728-730
investment ratios	732-733
international merchandise trade	697
classification	698
conceptual framework	697-698
exports and imports by commodity	703-711
exports and imports by country	700-703
exports and imports by industry of origin	712
exports and imports by State/Territory	699-700
export price index	714-715
import price index	712-714
total merchandise exports and imports	699
valuation	698
International Agency for Research on Cancer	223
International Atomic Energy Agency (IAEA)	49
International Civil Aviation Organisation	340
International Forum on the Indian Ocean Region (IFIOR)	46

International relations	37-62	Australian Agency for International Development (AusAID)	55
Africa	46	ACIAR	58
aid programs	46	Bilateral security linkages	48
humanitarian operations	46	Cairns Group	52
peacekeeping operations	46	Commonwealth of Nations	51
Southern African Development Community (SADC)	46	Commonwealth Heads of Government Meeting (CHOGM)	51
Americas	44-45	Commonwealth Ministerial Action Group (CMAG)	51
Canada	44	Harare Declaration	51
United States	44	Consular services and passports	54-55
Antarctica	53-54	cultural relations	54
Antarctic Treaty	53	country and regional assistance	58-59
Antarctic Treaty Consultative Meetings (ACTM)	53	disarmament and arms control	50-51
ANZUS Treaty	44, 49	Biological Weapons Convention	50-51
ASEAN <i>see</i> Association of South East Asian Nations		Chemical Weapons Convention	50-51
ASEAN Free Trade Area (AFTA)	39	Comprehensive Test Ban Treaty	50
ASEAN Regional Forum (ARF)	39, 47-48	Inhumane Weapons Convention	51
Council for Security Cooperation in the Asia-Pacific (CSAP)	48	South Pacific Nuclear Free Zone Treaty	50
Asia Pacific Economic Cooperation (APEC)	47	development assistance, Papua New Guinea	44
second meeting in Bogor	47	Environment <i>see</i> international environment	
third meeting in Osaka	47	Environmental Protection to the Antarctic Treaty	53
Osaka Action Agenda	47	Europe	45
Association of South East Asian Nations (ASEAN)	39	Commonwealth of Independent States	45
membership	39	Dayton Framework Agreement	45
Australia Commerce and Industry Office (Taipei)	42	European Union	45
Australia-Indonesia Agreement on Maintaining Security	39	Russia	45
Australia-Japan Ministerial Committee (AJMC)	43	Yugoslavia	45
Australia-New Zealand Closer Economic Relations Trade Agreement (CER)	44	Human rights	54
Australia-Papua New Guinea Joint Declaration of Principles (JDP)	44	AusAID	54
Australia-Papua New Guinea Ministerial Forum	44	Indian Ocean	46-47
Australia-Papua New Guinea Torres Strait Agreement	44	Indian Ocean Rim Association for Regional Cooperation (IOR-ARC)	47
Australia-Papua New Guinea Treaty on Development Cooperation	44	International Forum on the Indian Ocean Region (IFIOR)	46
Australia-United States Joint Security Declaration	44	International environment	53
Australia-United States Ministerial Consultations (AUSMIN)	44	United Nations Conference on Environment and Development (UNCED)	53
Joint Communique	44	International trade relations	51
Joint Security Declaration	44	General Agreement on Tariffs and Trade (GATT)	52
		Latin America	45
		Law of the Sea	52
		United Nations Convention on the Law of the Sea	52
		Middle East	45-56
		Multinational Force and Observers (MFO)	46

Multinational Interception Force (MIF)	46	Philippines	40
United Nations Truce Supervision Organisation (UNTSO)	46	Singapore	40
Multilateral, humanitarian and non-government organisation assistance	57-58	Sri Lanka	42
community programs	58	Thailand	40-41
emergencies and refugees	57-58	Vietnam	41
international organisations	57	South Pacific	43-44
multilateral development banks	57	Forum Fisheries Agency	43
North Asia	42-43	New Zealand	44
Democratic People's Republic of Korea	43	Papua New Guinea	44
China	42	South Pacific Commission	43
Hong Kong	42	South Pacific Forum	43
Japan	42-43	South Pacific Regional Environmental Program	43
Japanese investment in Australia	43	Torres Strait Agreement	44
Japanese tourist trade in Australia	42-43	Treaties	54
Korea <i>see</i> Democratic People's Republic of Korea; Republic of Korea		Environmental Protection to the Antarctic Treaty	53
Korean Peninsula Energy Development Organisation (KEDO)	43	United Nations Convention on the Law of the Sea	52
Republic of Korea	43	World Trade Organisation	39, 44, 52
Republic of Korea fee-paying students	43	Iron ore	421-424
Republic of Korea tourist trade in Australia	43		
Taiwan	42	J	
Taiwan-Australia Double Tax Agreement	42	Japan	42-43
Taiwanese tourist trade in Australia	42	Jobs, Education and Training Program (JET)	164
Nuclear issues	49-50	Job Search Allowance (JSA)	160-161
International Atomic Energy Agency (IAEA)	49	Job Seeker Preparation and Support	147
Nuclear Non-Proliferation Treaty (NPT)	49	JobStart	145
Overseas Aid Program	55	K	
AusAID	55	Kidnapping/abduction	269
country and regional assistance	56-57	Korea <i>see</i> Democratic People's Republic of Korea; Republic of Korea	
Overseas representation	58-60	Korean Peninsula Energy Development Organisation (KEDO)	43
regional security dialogues	47-48		
ASEAN Regional Forum (ARF)	39, 47-48	L	
South and south-east Asia	39-42	Labour	101-149
Bangladesh	42	Commonwealth Employment Service Advisory Committee (CESAC)	145
Brunei	40	employment	107-115
Burma	41	labour mobility	111-112
Cambodia	41	persons employed at home	112-114
India	41	underemployed workers	114-115
Indonesia	39, 40	government employment programs	143-148
Laos	41	case management services	148
Malaysia	40		
Pakistan	41		

petroleum, coal, chemical and associated products	455, 460, 463	secondary tax arrangements in petroleum industry	434
price indexes	462-463	bauxite and alumina	421, 424
principal manufactured commodities	461-462	coal	421, 426
printing, publishing and recorded media	459	contribution to Gross Domestic Product (GDP)	421
production	455	crude oil and condensate	421-422, 426
Productivity Commission	465	diamonds	425
printing, publishing and recorded media	455-456, 459-460	employment	421
Queensland	456	exports	423-424
research and experimental development	464-465	gold	421, 424
sales and output	460-461	imports	424
share of GDP	455	iron ore	421, 424
South Australia	457	Liquefied petroleum gas	426-427
structure of manufacturing industry	456-465	mineral production	422-423
technology	464	bauxite	422, 424
textiles, clothing, footwear and leather	455-456, 459-460	coal	422, 426
Total Quality Control/Management (TIC/TQM)	464	metallic minerals	422
trade union membership	459	oil and gas	421, 426
transport equipment	464	Western Australia	422
turnover	456-457	mineral exploration	429
Victoria	456	drilling methods used in Australia	430
woollen woven fabrics	461	mineral exploration expenditure	429-430
woven fabrics of man-made fibres	462	overseas exploration	431
wood and paper products	455, 459, 463-464	petroleum exploration expenditure	431
Maternity Allowance	165	mineral resources and geology	429
Mature Age Allowance (MAA)	161-162	mineral sands	421, 424-425
Medicare	214-220	minerals processing and treatment	428
Middle East	45-46	natural gas	427
Migrant Liaison Officers (MLO) program	165	oil and gas resources	428
Migration	91-9	research	435-436
Minerals <i>see</i> mining		Australian Bureau of Agriculture and Research Economics (ABARE)	436
Mining	421-437	Australian Geological Survey Organisation (AGSO)	435
administrative and financial arrangements	432-435	Australian Mineral Industries Research Association Ltd	436
crude oil marketing and pricing arrangements	434	Bureau of Resource Sciences (BRS)	436
incentives to encourage petroleum exploration and development	435	Commonwealth Scientific and Industrial Research Organisation (CSIRO)	435-436
mineral rights	432	turnover	421
mineral royalties	433	bauxite	421
mining and exploration for other than petroleum — legislation	432	coal	421
petroleum mining and exploration - legislation	432-433	copper	421
pricing and approval system for liquefied natural gas	434	gold	421
pricing of Liquefied petroleum gas	434	iron ore	421
		mineral sands	421
		oil and gas	421
		other minerals	421
		silver	421
		uranium	425

<i>Nuclear Non-Proliferation (Safeguards) Act 1987</i>	425	valuation issues	691-692
Olympic Dam	425	land	690-691
Ranger deposit	425	subsoil assets	689
Ministerial Council on Education, Employment, Training and Youth Affairs (MCEETYA)	235, 254	ABS approach	690
Ministerial Council on Forestry, Fisheries and Aquaculture (MCFFA)	402, 405	valuation issues	690
Ministerial Working Group on Regional Affairs	488	National Afforestation Program (NAP)	402
Multilingual Telephone Interpreter Service	165	National Anthem of Australia	35
Multinational Force and Observers (MFO)	46	National Board of Employment, Education and Training (NBEET)	254
Multinational Interception Force (MIF)	46	National Cancer Statistics Clearing House	228
Murray-Darling system	7, 17, 352	National Cervical Screening Program	219
Musica Viva	294-295	National Childcare Accreditation Council	167
		National Council for Vocational Education Research (NCVER)	255
		National Criminal Courts Statistics Unit	276-277
		National Crime Authority	265
		National Diabetes Action Plan	217
		National Education Program on Female Genital Mutilation	219
		National Estate	285-286
		National Film and Sound Archive	293
		National Forests Inventory	407
		National Forest Policy Statement (NFPS)	402
		National Goals for Schooling	235
		National Greenhouse Gas Inventory	339-341
		National Greenhouse Response Strategy (NGHRS) 338-339	
		National Health and Medical Research Council (NHMRC)	224-225
		National Heart Foundation of Australia	228
		National Institute of Dramatic Art (NIDA)	303
		National Occupational Health and Safety Commission (NOHSC)	226-227
		National Plantations Inventory	407
		National Pollutant Inventory	342
		National Road Transport Commission	539
		National Strategy for Ecologically Sustainable Development (NSESD)	346
		National Transmission Agency (NTA)	309, 545
		National Waste Database (NWD) project	342
		National Women's Health Program	218
		Natural gas	427
		Navy <i>see</i> Defence	
		New Zealand	44
		Newstart Allowance (NSA)	160-161
N			
National accounts	671-693		
constant price of 'real' GDP	673		
financial accounts	687		
implicit price deflators (IPD) 674			
input-output tables	685-687		
basic structure	685		
relationship to national income and expenditure accounts	685		
Input-output tables for seven industry sectors	685-687		
measurement of GDP	671-673		
expenditure approach	671-672		
income approach, 671			
production approach	672		
national income, expenditure and product accounts	674-683		
domestic production account	674-677		
national capital account	679-682		
national income and outlay account	678-679		
overseas transactions account	682-683		
State accounts	684		
gross state product (GSP)	684		
<i>Special article</i> National Resources in			
National Balance Sheets	689-693		
background	689		
conclusion	692		
data	692		
endnotes	693		
forests	691		
ABS approach	691		

North Asia	42
Nuclear Non-Proliferation Treaty (NPT)	49

O

Oats	377-378
Office of Australian War Graves	181-182
Office of the Status of Women	366
Oilseeds	384-385
Optus	547-548
Organisation of Economic Cooperation and Development (OECD)	337-338

P

Pakistan	41
Papua New Guinea	44
Partner Allowance	162
Personal crime	269
Philippines	40
Pharmaceutical Benefits Scheme	221
Population	73-100
Australia's cultures	88-99
Aboriginal and Torres Strait Islander population	88-91
migration	91-99
births, deaths and marriages	81-88
births	85-86
deaths	86-88
de facto marriages	83-84
divorce	84-85
households and families	82
life expectancy	87-88
marriages	82-83
language	98-99
migration	91-99
citizenship	94-96
country of origin	94
language	98-99
religion	96-98
population structure	73-81
age and sex	79-81
distribution	76-79
growth	75-76
size	73-74
religion	96-98
Pigs	391
Prices	653-667
alternative measures of consumer price inflation	657-658

exclusion of shelter	657
underlying inflation rate	657
construction price indexes	662-663
materials used in house building	662-663
materials used in other than house building	663
Consumer Price Index (CPI)	653-660
conceptual basis	654
CPI basket, 653	
CPI population group	653
index population	653
long-term price series	659-660
periodic reviews	654-655
price collection	655-656
price movements by city	656-657
price movements by broad commodity group	657
Treasury's underlying inflation rate	658-659
weighting pattern	655
international comparisons	660
international trade price indexes	665-666
export price index	665
import price index	665-666
lending by financial institutions	618
manufacturing price indexes	664-665
articles produced by manufacturing	664-665
materials used in manufacturing	664
Producer Price indexes	661-662
long-term price series	661-662
Private Health Insurance Administration Council (PHIAC)	225
Productivity Commission	465

Q

Qantas	534, 536
--------	----------

R

R&D <i>see</i> Research and Development	
research and development (R&D)	569
business sector	572-574
expenditure and resources devoted to R&D	569
expenditure on R&D — compared internationally	569-571
funding	571-578
general government sector	574-576
higher education sector	577-578
Industry Research and Development Board	580
private non-government sector	578-579

R&D Tax Concession Program	580	effects of innovation on business performance	587
Strategic Assistance for R&D (R&D START)	580	objectives leading businesses to innovate	587
Research and Development (R&D) Tax Concession Program	580	proportion of manufacturers innovating	584-585
Regional Forest Agreements	406-407	reasons for not innovating	585-586
Religion	96-98	sources of ideas leading businesses to innovate	586-587
Rent Assistance	165	Service industries	495-505
Repatriation Commission	175	employment	495-496
Repatriation Comprehensive Care Scheme	180	full-time	495-490
Republic of Korea	43	part-time	495-496
Rice	380-381	gross product	496-497
Robbery	269	number of businesses	495
Russia	45	statistics for selected service industries	497-504
<hr/>			
S			
Schools Council	254	architectural, consultant engineering and surveying services	500
Science and technology	569-588	clubs (hospitality) and pubs, taverns and bars	503-504
AusIndustry	580	computer services	498
Australian Institute of Marine Science (AIMS)	581-582	film and video production and distribution	500-501
Australian Nuclear Science and Technology Organisation (ANSTO)	581	gambling services	503
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	580, 581	legal and accounting services	499-500
<i>Science and Industry Research Act 1949</i>	581	motion picture exhibition	501
Department of Industry, Science and Tourism	579-580	private medical practice industry	502
official organisations and administration	579-582	radio and television services	501-502
research and development (R&D)	569	real estate agents industry	498
business sector	572-574	sports industry	502-503
expenditure and resources devoted to R&D	569	Sexual assault	269
expenditure on R&D - compared internationally	569-571	Sheep	390-391
funding	571-578	Sickness Allowance	160
general government sector	574-576	Singapore	40
higher education sector	577-578	SkillShare	147
Industry Research and Development Board	580	Solar energy	450
private non-government sector	578-579	Sole Parent Pension	163
R&D Tax Concession Program	580	South and south-east Asia	39-42
Strategic Assistance for R&D (R&D START)	580	South Pacific	43-44
<i>Special article</i> Understanding the innovation process in manufacturing	584-588	South Pacific Commission	43
		South Pacific Forum	43
		South Pacific Nuclear Free Zone Treaty	50
		South Pacific Regional Environmental Program	43
		Southern African Development Community (SADC)	46
		Southern Oscillation (SO)	9
		Special Benefit	165
		Special Broadcasting Service (SBS)	301-302, 545
		Special Employer Support Program	145

Special Services and Supplementary Services (SUPS)	167	export earnings	509
Sri Lanka	42	growth rate	509
Standards and Curriculum Council	255	inbound tour operators	515-516
State and Territory government 23		international inbound tourism	512-516
Commonwealth assistance to the States and Territories	637	country/region of residence	512-513
Parliaments	33	destination patterns	512, 514
Acts of the Parliaments	34-35	expenditure	513
<i>Australia (Request and Consent) Act 1986</i>	35	length of stay	512-513
Governors	24-25	purpose of trips	512-513
Lower Houses	23	source of visitors	512
Upper Houses	23	month of visit	512, 514
State/Territory government finance	639-643	international outbound tourism	516-518
Strategic Assistance for R&D (R&D START)	580	destination patterns	516, 517
Strategy and Intelligence Program	67-68	length of stay abroad	517
Sugar	385-386	month of departure	518
Superannuation Guarantee		purpose of trips	516-518
Legislation	131	traveller numbers	516
Support Network for Aboriginal Parents	165	tourism marketing expenditure overseas	516
Supported Assistance		tourist accommodation	518-520
Accommodation Program (SAAP)	489	Training and Skills (TASK) Program	146
		Training for Aboriginals and Torres Strait Islanders Program (TAP)	147
		Training for Employment Program (TEP)	146
		Transport	525-541
		air transport	534-538
		accidents and casualties	537-538
		airports	537
		air transport registrations and licences	537
		Ansett Group	534, 536
		domestic activity	536-537
		international activity	534-536
		multiple designation and the International Air Services Commission	540
		Qantas	534, 536
		government transport organisations	538-540
		Airservices Australia	539
		ANL Ltd	539
		ARRB Transport Research Ltd	538-539
		Australian Maritime Safety Authority (AMSA)	539
		Australian Road Transport Advisory Committee	538
		Australian Transport Council	538
		AUSTROADS	538
		Bureau of Transport and Communications Economics	538
		Civil Aviation Safety Authority	539
		Federal Airports Corporation	540
		National Road Transport Commission	539
		international agreements	540
T			
Taiwan	42		
Taxation	631, 633-634, 638-639		
Commonwealth			
government taxes	631, 633-634, 638-639		
Local government taxes	646		
State and Territory government taxes	642		
Thailand	40-41		
Telstra	546-547		
Therapeutic Goods Administration (TGA)	227		
Torres Strait Agreement	44		
Total Quality Control/Management (TIC/TQM) 464			
Tourism	509-521		
Bureau of Tourism Research	509		
domestic tourism	510-511		
accommodation	511		
destination patterns	510		
purpose of trips	510		
visitor nights	510		
economic importance	509-510		
expenditure by tourists	509, 514-515		
domestic tourism	509		
international tourism	509		

international organisations	540
International Air Services Commission	540
International Civil Aviation Organisation	540
rail transport	530-532
government railways	530-532
non-government railways	532
road transport	525-530
drivers' and riders' licences	529
length of the road system	525
registered motor vehicles	525-527
registration of new vehicles	527-528
road traffic accidents	530
use of motor vehicles	528-529
water transport	533-534
Australian fleet	533
coastal shipping cargo	533-34

U

United Nations Conference on Environment and Development (UNCED)	53
United Nations Convention on the Law of the Sea	52
United States	44
Uranium	441
Urban air quality	450

V

Vegetables	381-382
Veterans' Children Education Scheme	177
Vietnam	41
Vietnam Veterans Counselling Service 181	
Vodaphone	546,548

W

Western Plateau	5
Wheat	374-376
Wind energy	450-451
Wood as energy source	451
Wood and Paper Industry Strategy	407
World Health Organisation	223
World Rural Women's Day	365
World Tourism Organisation	509
World Trade Organisation	39, 44, 52

Y

Youth Service Units (YSUs)	166
Youth Training Allowance (YTA)	161
Yugoslavia	45

一	二	三	四	五	六	七	八	九	十
十一	十二	十三	十四	十五	十六	十七	十八	十九	二十
二十一	二十二	二十三	二十四	二十五	二十六	二十七	二十八	二十九	三十
三十一	三十二	三十三	三十四	三十五	三十六	三十七	三十八	三十九	四十
四十一	四十二	四十三	四十四	四十五	四十六	四十七	四十八	四十九	五十
五十一	五十二	五十三	五十四	五十五	五十六	五十七	五十八	五十九	六十
六十一	六十二	六十三	六十四	六十五	六十六	六十七	六十八	六十九	七十
七十一	七十二	七十三	七十四	七十五	七十六	七十七	七十八	七十九	八十
八十一	八十二	八十三	八十四	八十五	八十六	八十七	八十八	八十九	九十
九十一	九十二	九十三	九十四	九十五	九十六	九十七	九十八	九十九	一百