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## Introduction

**P**rices 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 %
<b>Food</b>	
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
<b>Total</b>	<b>18.324</b>
<b>Clothing</b>	
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
<b>Total</b>	<b>6.264</b>
<b>Housing</b>	
Rents	4.865
Home ownership	11.035
<b>Total</b>	<b>15.900</b>
<b>Household equipment and operation</b>	
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
<b>Total</b>	<b>18.370</b>
<b>Transportation</b>	
Private motoring	14.755
Urban transport fares	1.212
<b>Total</b>	<b>15.967</b>
<b>Tobacco and alcohol</b>	
Alcoholic drinks	5.061
Cigarettes and tobacco	2.414
<b>Total</b>	<b>7.475</b>

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 %
<b>Health and personal care</b>	
Health services	3.961
Personal care products	2.097
Hairdressing services	0.792
<b>Total</b>	<b>6.850</b>
<b>Recreation and education</b>	
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
<b>Total</b>	<b>10.850</b>
<b>Total All groups</b>	<b>100.000</b>

(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
INDEX NO.(c)									
1990-91	104.9	105.8	104.9	106.2	105.1	104.9	105.1	105.7	<b>105.3</b>
1991-92	106.7	108.1	107.0	108.9	105.9	107.1	107.8	108.0	<b>107.3</b>
1992-93	107.7	108.9	108.5	111.2	106.2	108.5	109.5	109.5	<b>108.4</b>
1993-94	109.2	111.1	110.6	113.4	108.5	111.7	111.4	111.5	<b>110.4</b>
1994-95	113.0	114.1	114.7	116.9	112.3	115.2	115.1	114.7	<b>113.9</b>
1995-96	118.7	118.4	119.1	121.2	116.7	119.6	120.3	119.5	<b>118.7</b>
CHANGE FROM PREVIOUS YEAR (%)									
1990-91	4.9	5.8	4.9	6.2	5.1	4.9	5.1	5.7	<b>5.3</b>
1991-92	1.7	2.2	2.0	2.5	0.8	2.1	2.6	2.2	<b>1.9</b>
1992-93	0.9	0.7	1.4	2.1	0.3	1.3	1.6	1.4	<b>1.0</b>
1993-94	1.4	2.0	1.9	2.0	2.2	2.9	1.7	1.8	<b>1.8</b>
1994-95	3.5	2.7	3.7	3.1	3.5	3.1	3.3	2.9	<b>3.2</b>
1995-96	5.0	3.8	3.8	3.7	3.9	3.8	4.5	4.2	<b>4.2</b>

(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
INDEX NO.(b)									
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)

2000 REFERENCE PERIODS OF CONSUMER PRICE INDEX (a)							
				Private sector goods and services(c)			Treasury Underlying Rate(d)
Year	All groups	All groups excluding housing	All groups excluding interest and 'volatile items' (b)	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
<b>Total</b>	<b>48.868</b>

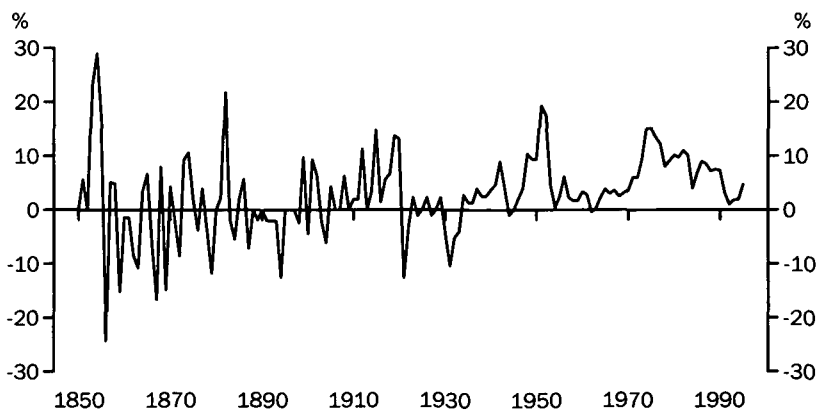
Source: Consumer Price Index, September Quarter 1994.

## 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 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.

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.

**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	<b>104.0</b>
1991-92	101.8	101.2	<b>101.4</b>
1992-93	107.8	105.7	<b>106.4</b>
1993-94	108.8	102.5	<b>104.7</b>
1994-95	112.7	104.9	<b>107.6</b>
1995-96	117.6	105.9	<b>110.0</b>

(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
1995-96	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*.



## Bibliography

### ABS publications

- Australian Consumer Price Index: Concepts, Sources and Methods* (6461.0).  
*Australian Consumer Price Index 12th Series Review* (6450.0).  
*A Guide to the Consumer Price Index* (6440.0).  
*Australian Harmonised Export Commodity Classification* (1233.0).  
*Australian Standard Industrial Classification, Volume 1 — The Classification* (1201.0).  
*Average Retail Prices of Selected Items, Eight Capital Cities* (6403.0).  
*Consumer Price Index* (6401.0).  
*Export Price Index, Australia* (6405.0).  
*House Price Indexes: Eight Capital Cities* (6416.0).  
*Import Price Index, Australia* (6414.0).  
*Information Paper: Review of the Price Indexes of Articles Produced by Manufacturing Industry* (6418.0).  
*Labour Report, Nos 1–61*.  
*Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0).  
*Price Index of Copper Materials* (6410.0).  
*Price Index of Materials Used in Building Other Than House Building, Eight Capital Cities* (6407.0).  
*Price Indexes of Materials Used in Coal Mining* (6415.0).  
*Price Index of Materials Used in House Building, Six State Capital Cities and Canberra* (6408.0).  
*Price Indexes of Materials Used in Manufacturing Industries, Australia* (6411.0).  
*Producer and Foreign Trade Price Indexes: Concepts, Sources and Methods* (6419.0).

### Other publications

- Reserve Bank of Australia, United Nations Statistics Division, *Monthly Bulletin of Statistics*.  
*The Reserve Bank of Australia Bulletin*, various issues

