

PRICES

INTRODUCTION

As part of the interactive process between suppliers and consumers of goods and services, decisions about whether to enter into business transactions can be identified at the production stage, or at the point of wholesaling or retailing. Insofar as price is a factor influencing these decisions the "price mechanism" is said to operate.

For the purposes of economic planning and decision making, whether by individuals, government and its agencies, or private enterprise, prices and price movements are a constant subject of study and measurement. Included in a range of available techniques of measurement is the method of calculating indexes. This chapter outlines particular applications of the index method, namely, movements in retail and wholesale prices, with special reference to those indexes currently produced by the Australian Statistician. Generally, more detailed information can be found in the *Labour Report* (reference number 6.7), published by the Australian Statistician.

RETAIL PRICE INDEXES

General background

Retail price index numbers for Australian cities are compiled by the Australian Statistician; they aim to measure the degrees of change in prices in selected fields of household expenditure. The retail price index at present prepared by the Australian Statistician is known as the Consumer Price Index (see pages 632-7).

In the compiling of the retail price indexes, the price of each selected item is multiplied by its quantity "weight" and then by its appropriate population or household "weight". The sum of these products for all items at any given date represents an "aggregate expenditure". The "aggregate expenditures" for successive periods are converted into an index by representing the aggregate of a selected or "base" period by an appropriate number (e.g., 100 or 1,000), and calculating index numbers for all periods to such base by the proportions which their aggregates bear to the aggregate of the base period.

The list of items must of necessity be a selected list because it is impossible in practice to obtain at regular intervals prices of all goods and services entering into household expenditure. Considerable difficulty is often experienced in ensuring that the selected items remain a true sample. Some items which it would be desirable to include must be excluded because comparative prices cannot be accurately ascertained for them at different times. Similarly, many items of small aggregate or individual importance are excluded.

The lists used simply comprise selected items combined in certain proportions for the purpose of measuring price variations, and are representative of the

fields covered, the proportions approximating to those in average consumption so far as can be ascertained. It must be emphasised that retail price indexes are designed to measure the extent of changes in price levels only. While they may be used to indicate the effect of price change on cost of living, they do not in fact measure the absolute cost of living nor the extent of changes in the cost of living. They measure, as nearly as may be, the proportionate change in the aggregate cost of specified quantities and qualities of the items included in the index.

Retail price indexes are sometimes used as a measure of change in the "purchasing power of money". Strictly speaking, such a measure relates only to purchasing power over the list of items in the index combined in their specified proportions. The validity of its use in any broader sense or in dealing with a particular problem is a question for judgment by prospective users on the facts of the case and in the light of the definition of the index. It is impossible to compile a single general measure that will show, for all purposes and in all classes of transactions, the change in the value of money from one time to another.

Retail price indexes may also be used by industrial tribunals and other authorities for the adjustment of wages and salaries. The Australian Statistician has an important function in stating explicitly what such indexes measure and how they are constructed, in order that authorities using them may be fully informed as to their suitability for particular purposes. The following section refers in part to the past use of retail price indexes for wage adjustments. The Australian Conciliation and Arbitration Commission, in its 1975 National Wage decision, determined to adjust its award wages and salaries quarterly, from March quarter 1975, on the basis of movements in the Consumer Price Index unless persuaded by argument to the contrary.

Past retail price indexes

Before the current Consumer Price Index, five series of retail price indexes were compiled at various times in Australia by the Australian Statistician. The respective indexes were:

(1) The 'A' *Series Index* (covering food, groceries, and house rents) was first compiled in 1912 with the year 1911 as base = 1,000. It was discontinued in June 1938. From 1913 to May 1933 this Index was used for wage adjustment purposes by the Commonwealth Court of Conciliation and Arbitration.

(2) The 'B' *Series Index* (covering food, groceries, and rent of four and five roomed houses) was first compiled in 1925 and continued until December quarter 1953. It was the food and rent constituent of the 'C' Series Index and was designed to replace the 'A' Series Index for general statistical purposes. The 'B' Series Index was not used by industrial tribunals in connection with the adjustment of wages.

(3) The 'C' *Series Index* (covering food, groceries, rent of four and five roomed houses, clothing, household drapery, household utensils, fuel, lighting, fares, smoking, and some other miscellaneous items) was first compiled in 1921. It was used by the Commonwealth Court of Conciliation and Arbitration for the purposes of quarterly wage adjustments from May 1934 to August 1953. Some State tribunals continued to use or consider this Index in their proceedings until it was discontinued. It was last issued on its original basis for December quarter 1960.

(4) The 'D' *Series Index*, derived by combining the 'A' and 'C' Series Indexes, was used by the Commonwealth Court of Conciliation and Arbitration from May 1933 to May 1934 and was then discontinued.

(5) The *Interim Index* (covering food, groceries, rent of four and five roomed

houses, clothing, household drapery, household utensils, fuel, lighting, fares, smoking, certain services, and some other miscellaneous items) was first compiled in 1954 with the year 1952-53 as base = 100. As its title indicates, it was constructed as a transitional index. Its compilation was discontinued following its replacement by the Consumer Price Index in June quarter 1960.

'Court' Index

In 1937 the Commonwealth Court of Conciliation and Arbitration introduced a 'Court' Index for the purpose of making automatic quarterly adjustments to the basic wage within its jurisdiction. A 'Court' Index (Second Series) was created by the Court in 1946 and a 'Court' Index (Third Series) was created in November 1950 to provide for the automatic adjustment of the increased amounts of adjustable basic wage then determined by the Court at those dates. By decision of the Court the 'Court' Index ceased to be issued by the Industrial Registrar at December quarter 1953. These 'Court' Indexes were an arithmetical conversion of the 'C' Series Retail Price Index.

Consumer Price Index

Introduction

This retail price index was first compiled in 1960, retrospective to September quarter 1948. It replaced both the 'C' Series Retail Price Index and the Interim Retail Price Index in the official statistical publications of the Australian Bureau of Statistics. The title "Consumer Price Index" does not imply that the index differs in definition or purpose from previous retail price indexes. The Consumer Price Index is designed to measure quarterly variations in retail prices of goods and services representing a high proportion of the expenditure of urban wage-earner households in the aggregate.

The incidence of change in the pattern of household expenditure has been such as to make it necessary to construct not one but a series of new indexes introducing additional items and changes in weighting patterns at short intervals. The Consumer Price Index, therefore, consists of a sequence of seven short-term retail price indexes, chain-linked at June quarter 1952, June quarter 1956, March quarter 1960, December quarter 1963, December quarter 1968, and December quarter 1973 into one series with reference base year 1966-67 = 100.0.

Composition and weighting pattern

The Consumer Price Index covers a wide range of commodities and services arranged in the following five major groups: food, clothing and drapery, housing, household supplies and equipment, and miscellaneous. These groups do not include every item of household expenditure; it is both impracticable and unnecessary for them to do so.

Groups and sub-groups at December quarter 1973 are shown in the following table. The Consumer Price Index is essentially a combination of selected items under various headings, and the percentage contribution to the index aggregate for groups and sub-groups, and for the items themselves, should not be regarded as dissecting actual household expenditure into its various components. The percentage contributions from December quarter 1973 are based on estimated consumption expenditures in 1971-72, valued at December quarter 1973 prices. They indicate the relative influence given to the various components in measuring the degree of price change from the beginning of the current linked series.

AUSTRALIA—CONSUMER PRICE INDEX: COMPOSITION AND
WEIGHTING PATTERN AT DECEMBER QUARTER 1973 :
SIX STATE CAPITAL CITIES COMBINED

Group, sub-group	Percentage contribution to total index aggregate at December quarter 1973	
	Group	Sub-group
Food—	28.3	
Cereal products		3.0
Dairy produce		4.6
Preserved fruit and vegetables		1.1
Potatoes and onions		1.6
Soft drink, ice cream, and confectionery		4.0
Meat		10.7
Snacks, take away food		0.9
Other food		2.4
Clothing and drapery—	12.1	
Men's clothing		3.3
Women's clothing		4.0
Boys' clothing		0.5
Girls' clothing		0.4
Piece goods, etc.		0.8
Footwear		2.3
Household drapery		0.9
Housing—	14.4	
Rent, privately owned dwellings		6.3
Rent, government owned houses		0.6
Home ownership		7.5
Household supplies and equipment—	11.3	
Fuel and light		2.9
Household appliances		2.2
Furniture and floor coverings		2.0
Other household utensils, sundries, and stationery		2.0
Personal requisites and pro- prietary medicines		2.3
Miscellaneous—	33.9	
Fares		1.9
Motoring		12.9
Cigarettes and tobacco		3.6
Beer		4.5
Wines and spirits		1.2
Recreational goods and services		2.0
Postal and telephone services		1.3
Newspapers and magazines		1.1
Other services		5.5
Total	100.0	100.0

As explained earlier, substantial changes in the pattern of expenditure of wage-earner households make it necessary to construct indexes with additional items and changes in the weighting patterns at intervals. These indexes are "linked" to form a "chain" of fixed weight aggregative indexes. Under this method, average percentage price movements are assessed on one pattern up to the time of the link and on another pattern thereafter.

Linking ensures that the series reflects only price variations and not differences in the cost of old and new combinations and lists of items. The introduction of new items and weights by linking does not of itself affect the level of the Consumer Price Index.

The principal changes in composition and weighting which have been effected at link dates are :

(1) June quarter 1952—introduction of private motoring ; changed proportions in modes of house occupancy ; changed weights for fuel and light and fares.

(2) June quarter 1956—changed proportions in modes of house occupancy; changed weights for fuel and light, fares, and private motoring.

(3) March quarter 1960—introduction of television.

(4) December quarter 1963—introduction of furniture; changed proportions in modes of house occupancy; changed weights for fuel and light, fares, and motoring.

(5) December quarter 1968—changed proportions in modes of house occupancy; introduction of poultry, rented privately owned flats, heating oil, briquettes, and health services (by dentists, doctors, hospitals, and health insurance funds).

(6) December quarter 1973—changed weights for all items; items fried chicken, meat pies, hamburgers, and sandwiches added to the 'Food group' forming a new sub-group, 'Snacks, take away food'; a new sub-group, 'Recreational goods and services' added to the 'Miscellaneous group', this sub-group also includes radio and television operation and cinema admission, as well as new items: camera, film, film processing, and phonograph records; weights for the motoring section took account of data from the 1971 Survey of Motor Vehicle Usage; local weights for individual cities were used for hairdressing, dry cleaning, cinema admission, and health services.

The sets of weights used for the different periods covered by the Consumer Price Index have been derived from the analysis of statistics of production and consumption, censuses of population and retail establishments, the Survey of Motor Vehicle Usage, the continuing Survey of Retail Establishments, from information supplied by manufacturing, commercial, and other relevant sources, and from special surveys.

AUSTRALIA—CONSUMER PRICE INDEX : COMPARISON OF THE SEVEN LINKED SERIES

Linked series	Percentage contribution to total index (weighted average, six capital cities)					
	Food group	Clothing and drapery group	Housing group	Household supplies and equipment group	Miscellaneous group	Total
First—						
June quarter 1949	31.3	22.8	11.4	13.1	21.4	100.0
June quarter 1952	35.7	23.0	9.2	12.2	19.9	100.0
Second—						
June quarter 1952	33.6	21.6	9.4	11.7	23.7	100.0
June quarter 1956	34.3	20.0	10.5	10.9	24.3	100.0
Third—						
June quarter 1956	33.7	19.7	10.5	11.6	24.5	100.0
March quarter 1960	33.0	19.5	11.0	11.5	25.0	100.0
Fourth—						
March quarter 1960	32.1	19.0	10.7	13.2	25.0	100.0
December quarter 1963	31.6	18.8	12.0	12.6	25.0	100.0
Fifth—						
December quarter 1963	32.1	16.9	12.6	14.5	23.9	100.0
December quarter 1968	32.8	15.8	13.2	13.1	25.1	100.0
Sixth—						
December quarter 1968	31.3	14.1	14.2	12.5	27.9	100.0
Seventh—						
December quarter 1973	28.3	12.1	14.4	11.3	33.9	100.0

NOTE. The differences between the proportions at the beginning and end of each linked series reflect disparate price movements over that period. The differences in proportion between the end of one series and the beginning of the next series reflect changes in composition or weighting.

For information on the Eighth and Ninth Links, see the supplement at the end of this *Year Book*.

All Groups index numbers, and group index numbers for each of the five major groups are compiled and published regularly for the six State capital cities separately and combined, and for Canberra. The separate city indexes measure price movements within each city individually. They enable comparisons to be made between cities about differences in the degree of price movement, but not about differences in price level. Similarly, the separate group indexes measure price movement of each group individually. They enable comparisons to be made about differences in the degree of price change in the different groups, but do not show the comparative cost of the different groups.

AUSTRALIA—CONSUMER PRICE INDEX : ALL GROUPS : SIX STATE CAPITAL CITIES AND CANBERRA

(Base of index for each city and for six State capital cities combined: year 1966-67 = 100.0) (a)

Year	Six capitals (b)	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart	Canberra
1963-64	90.6	91.4	90.4	89.6	90.2	89.8	91.7	92.5
1964-65	94.0	94.5	94.0	93.0	93.9	92.6	94.6	95.3
1965-66	97.4	97.7	97.5	97.5	97.0	96.1	98.0	98.1
1966-67	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1967-68	103.3	103.2	103.7	103.3	102.9	102.9	104.6	102.6
1968-69	106.0	106.2	106.2	105.5	105.3	105.5	106.1	104.4
1969-70	109.4	110.6	108.7	108.4	108.2	109.4	108.5	107.4
1970-71	114.6	116.8	113.1	114.2	112.5	114.1	112.6	113.0
1971-72	122.4	126.3	119.7	121.6	119.2	120.7	119.9	119.4
1972-73	129.8	133.9	127.2	128.6	126.5	127.3	126.7	126.3
1973-74	146.6	151.3	144.0	146.1	143.9	140.6	142.6	142.8
1974-75	171.1	176.1	167.9	168.7	169.7	166.1	166.7	164.9
1975-76	193.3	199.0	189.5	190.9	190.5	189.6	190.0	187.3

(a) Figures after the decimal point have limited significance. They are inserted to avoid the distortions that would occur in rounding.

(b) Weighted average of six State capital cities.

MELBOURNE—CONSUMER PRICE INDEX

(Base of each index : year 1966-67 = 100.0)

Year	Food	Clothing and drapery	Housing	Household supplies and equipment	Miscellaneous	All groups
1963-64	90.3	95.5	89.4	93.6	85.7	90.4
1964-65	95.1	96.9	92.0	95.8	90.6	94.0
1965-66	99.0	98.0	96.3	98.7	95.1	97.5
1966-67	100.0	100.0	100.0	100.0	100.0	100.0
1967-68	106.3	102.1	103.8	101.4	102.5	103.7
1968-69	107.3	104.2	107.9	102.9	107.3	106.2
1969-70	109.1	107.4	112.2	103.5	110.2	108.7
1970-71	112.7	111.5	117.8	105.8	115.8	113.1
1971-72	116.8	117.9	124.9	108.9	127.1	119.7
1972-73	125.9	125.4	133.1	112.1	134.5	127.2
1973-74	148.8	142.3	148.3	122.0	149.1	144.0
1974-75	161.7	172.0	180.6	141.8	178.6	167.9
1975-76	177.8	200.4	214.0	158.3	199.5	189.5

NOTE. For information on the Ninth Series of the Consumer Price Index, see the supplement at the end of this Year Book.

Until December quarter 1968 the Consumer Price Index had been compiled for each quarter from September quarter 1948 and for each financial year from 1948-49, the reference base year using 1952-53 = 100.0. From March quarter 1969 the reference base year was changed to that of 1966-67 = 100.0 and index numbers for past periods were re-calculated on the new base year. Apart from slight rounding differences, index numbers for past periods have exactly the same percentage movement on either reference base.

Long-term price movements

The index numbers shown in the following table are presented as a continuous series, but they give only a broad indication of long-term trends in

retail price levels. They are derived by linking a number of indexes that differ markedly in scope.

The successive indexes used are: from 1901 to 1914, the 'A' Series Retail Price Index; from 1914 to 1946-47, the 'C' Series Retail Price Index; from 1946-47 to 1948-49, a composite of the Consumer Price Index Housing Group (partly estimated) and the 'C' Series Retail Price Index, excluding rent; and from 1948-49 onwards, the Consumer Price Index.

AUSTRALIA—RETAIL PRICE INDEX NUMBERS, 1901 TO 1976 :
SIX STATE CAPITAL CITIES COMBINED
(Base : year 1911 = 100)

Year	Index number	Year	Index number	Year	Index number	Year	Index number
1901	88	1920 (a)	193	1939	153	1958	435
1902	93	1921 (a)	168	1940	159	1959	443
1903	91	1922 (a)	162	1941	167	1960	459
1904	86	1923	166	1942	181	1961	471
1905	90	1924	164	1943	188	1962	469
1906	90	1925	165	1944	187	1963	472
1907	90	1926	168	1945	187	1964	483
1908	95	1927	166	1946	190	1965	502
1909	95	1928	167	1947	198	1966	517
1910	97	1929	171	1948	218	1967	534
1911	100	1930	162	1949	240	1968	548
1912	110	1931	145	1950	262	1969	564
1913	110	1932	138	1951	313	1970	586
1914 (a)	114	1933	133	1952	367	1971	621
1915 (a)	130	1934	136	1953	383	1972	658
1916 (a)	132	1935	138	1954	386	1973	720
1917 (a)	141	1936	141	1955	394	1974	829
1918 (a)	150	1937	145	1956	419	1975	954
1919 (a)	170	1938	149	1957	429	1976	1083

(a) November.

The prices of food and groceries in December 1975 shown in the following table are averages of prices for specified grades, qualities, brands, etc., charged by a number of selected retailers in Melbourne. The specified grades, etc., and the retailers have been selected as representative to measure price change over time. Prices of potatoes and onions are collected weekly and averaged to arrive at monthly prices, while prices of the other items are collected as at the mid-point of each month. The prices are approximate indicators of price levels and changes therein. They do not purport to be the actual averages of all retail sales of these items. In some cases, the averages shown are price relatives.

MELBOURNE—AVERAGE RETAIL PRICES (a) OF SELECTED
COMMODITIES, SEPTEMBER 1976

Item	Unit	Price	Item	Unit	Price
		cents			cents
Bread, ordinary white, delivered	900 g	44.0	Bacon, rashers, pre-pack	250 g	111.5
Flour, self-raising	1 kg pkt	41.2	Salmon, imported pink	220 g can	82.2
Breakfast cereal, corn based	500 g pkt	60.3	Tomato sauce	300 ml bot.	34.6
Biscuits, dry	226 g pkt	35.9	Spaghetti (in tomato sauce)	440 g can	32.5
Tea	250 g pkt	46.9	Prepared baby food	125 g can	16.1
Sugar	2 kg pkt	56.5	Beef, rib (without bone)	lb	77.6
Peaches	822 g can	56.9	Beef, steak, rump	lb	139.1
Pears	822 g can	57.6	Beef, steak, chuck	lb	59.1
Potatoes	lb	15.2	Beef, silverside, corned	lb	79.3
Onions	lb	22.7	Sausages	lb	49.8
Butter	500 g	79.9	Pork, leg	lb	120.3
Margarine, table poly-unsaturated	500 g pkt	81.3	Pork, chops	lb	122.2
Eggs	doz 55 g	103.0	Lamb, leg	lb	87.1
Milk, frsh, bottled, delivered	2x600 ml	36.0	Lamb, chops, loin	lb	103.5
			Lamb, chops, forequarter	lb	71.5

(a) In some cases, the average prices are price relatives.

Price data is shown in the following table for some of the items shown in the previous table for selected years. Note should be taken of indicated changes in pricing basis. The figures represent the means of the monthly prices in the years covered.

MELBOURNE—COMPARISON OF AVERAGE RETAIL PRICES (a)
OF SELECTED COMMODITIES, SELECTED YEARS

Item	Unit	1939	1945	1955	1965	1975
		cents	cents	cents	cents	cents
Groceries—						
Bread, delivered	900 g	4.5	4.6	12.2	15.9	(b) 37.9
Flour, self-raising	1 kg pkt	6.2	6.2	15.1	15.7	(c) 35.5
Tea	$\frac{1}{2}$ lb pkt	23.1	22.5	70.4	63.2	41.6
Sugar	2 kg pkt	3.3	3.3	7.5	(d) 9.1	(e) 48.0
Peaches, canned	822 g can	7.9	11.1	(f) 27.6	27.5	(g) 46.9
Pears, canned	822 g can	8.4	11.8	(f) 29.2	28.2	(g) 46.0
Potatoes	7 lb	14.8	7.0	34.2	29.1	56.4
Onions	1 lb	2.9	2.2	7.6	10.6	18.1
Dairy produce—						
Butter	454 g	16.3	17.1	42.4	49.8	(h) 64.8
Eggs, new laid	60 g doz	16.0	21.7	55.7	(i) 60.4	(j) 90.5
Bacon, rashers	lb	16.6	19.0	59.6	99.4	92.6
Milk, fresh	qt	6.0	6.2	(k) 15.0	17.1	32.8
Meat—						
Beef, rib	lb	7.2	9.6	(l) 33.1	52.3	67.5
Beef, steak, rump	lb	13.0	17.6	45.4	81.2	124.1
Beef, steak, chuck	lb	5.9	8.4	28.2	43.5	53.4
Beef, corned, silverside	lb	7.5	10.5	33.0	49.8	76.4
Sausages	lb	4.6	6.8	16.8	25.3	43.9
Pork, leg	lb	10.5	13.3	44.1	56.6	113.8
Pork, loin	lb	10.8	14.0	45.0	58.7	113.0
Pork, chops	lb	11.1	14.7	45.5	58.6	115.5

(a) In some cases, the average prices are price relatives.

(b) 2 lb loaf to March 1975.

(c) 2 lb pkt to March 1974.

(d) 1 lb to December 1963. Not comparable with previous series.

(e) 4 lb pkt to August 1972.

(f) 30 oz tin to December 1954.

(g) 29 oz tin to December 1974.

(h) 1 lb to December 1974.

(i) From August 1965, description changed from extra large to 24 oz.

(j) 55 g to June 1972.

(k) Bottled.

(l) Without bone-in.

WHOLESALE PRICE INDEXES

General background

Earlier indexes of wholesale prices compiled by the Australian Bureau of Statistics were the Melbourne Wholesale Price Index and the Wholesale Price (Basic Materials and Foodstuffs) Index.

New series of wholesale price index numbers relating to articles produced by defined areas of the economy are being developed. Four wholesale price indexes have already been published. They are the Price Index of Materials used in Building Other than House Building (issued in April 1969), the Price Index of Materials used in House Building (issued in November 1970), the Price Index of Metallic Materials used in Manufacture of Fabricated Metal Products (issued

in December 1972), and the Price Index of Materials used in Manufacturing Industry (issued in July 1975).

Two special purpose wholesale price measures, the Price Index of Electrical Installation Materials and Price Indexes of Copper Materials used in Manufacture of Electrical Equipment, are also published by the Australian Bureau of Statistics.

Specific indexes

Melbourne Wholesale Price Index

An index of Melbourne wholesale prices was computed from 1912 to 1961. It related mainly to basic materials and foods weighted in accordance with consumption in the years immediately preceding 1912. Neither the list of items nor the weighting was varied except for some changes in the building materials group in 1949. The series has some historical significance as a measure of changes in the prices, since the year 1861, of its component items combined in the proportions in which they were in common use about the year 1910.

Wholesale Price (Basic Materials and Foodstuffs) Index

This Index related to commodities priced in their primary or basic form wherever possible and as nearly as might have been at the point where they first made an effective impact on the local price structure. With a few important exceptions, prices were from Melbourne sources. The weights were based on estimates of the average annual consumption of the commodities in Australia during the period 1928-29 to 1934-35, inclusive. General publication of this Index was discontinued in December 1970.

Price Indexes of Materials used in Building

The first of the two indexes in this series, Materials used in Building other than House Building, was introduced in April 1969, and the second, Materials used in House Building, in September 1970. Together they provide an up-to-date replacement for the building materials group of the Wholesale Price (Basic Materials and Foodstuffs) Index. They are issued monthly.

Prices for use in both these indexes are collected as at the mid-point of the month to which the index refers, or as near to it as practicable. They relate to specified standards of each commodity and are obtained in all State capital cities from the representative suppliers of materials used in building. There are some exceptions to the use of local prices in the indexes for each capital city.

Price Index of Materials used in Building Other than House Building

This Index measures changes in the wholesale prices of selected materials used in the construction of buildings other than houses and low-rise flats (in general those up to three storeys). It includes seventy-two items, combined in eleven groups, in addition to an All Groups index. Although the selected materials (or many of them) are also used in house and low-rise flat building, in building repair, maintenance, and alteration work, and in engineering construction work (e.g., projects such as roads, dams, and bridges), the weighting pattern of the Index, being designed for the specific purpose already mentioned, is not applicable to these other activities of the construction industry. In addition, since the weights are based on an average materials usage over a range of types of building within the defined area, the Index is not necessarily applicable to any specific building or type of building included in that area.

MELBOURNE—WHOLESALE PRICE INDEX OF MATERIALS
USED IN BUILDING OTHER THAN HOUSE BUILDING

(Base of each index : year 1966-67 = 100.0)

Group	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Concrete mix, cement, and sand	111.9	124.9	129.6	135.6	162.6	191.8
Cement products	115.1	122.6	133.4	145.0	176.7	215.3
Bricks, stone, etc.	115.8	123.0	130.8	146.0	169.3	189.8
Timber, board, and joinery	113.4	118.7	127.7	156.7	189.9	212.0
Steel and iron products	116.0	128.4	136.4	155.5	197.8	239.6
Aluminium products	117.1	125.0	134.5	149.6	174.2	194.1
Other metal products	120.8	118.6	123.1	153.2	152.7	164.3
Plumbing fixtures	121.6	136.4	149.8	167.7	210.2	249.9
Miscellaneous materials	110.2	115.5	123.6	133.6	164.8	187.6
Electrical installation materials	110.9	114.7	120.5	138.3	157.4	177.4
Mechanical services components	119.4	128.0	132.8	144.3	181.4	201.6
All groups	115.1	123.9	131.2	148.0	180.6	209.4

The Index is a fixed weights index and is calculated by the method known as "the weighted arithmetic mean of price relatives". The items and weights were derived from reported values of materials used in selected representative buildings constructed in or about 1966-67. The single weighting pattern relates to the whole of Australia, and is applied (with minor exceptions) in calculating indexes for each State capital city.

Index numbers for each of the eleven groups and for All Groups have been compiled for the six State capital cities, separately and combined, for each month from July 1966 and for the financial years from 1966-67. The reference base year for each index is 1966-67 = 100.0.

Price Index of Materials used in House Building

This Index measures changes in the prices of selected materials used in the construction of houses. Its composition is in accordance with the usage of materials in actual houses which were selected as representative for the purpose. The Index does not purport to represent buildings of any kind other than houses. The house building construction types included are those which have brick, brick veneer, timber, or asbestos cement sheeting as the principal material for the outer walls.

For the purposes of uniformity and ease of use, the reference base year for the index is 1966-67 = 100.0, the same as that used for the Wholesale Price Index of Materials used in Building other than House Building. However, because of the later time at which the weighting source data were collected, the weighting base approximates more closely to the year 1968-69.

The Index is a fixed weights index and is also calculated by the same method used for the Price Index of Materials used in Building Other than House Building, i.e., "the weighted arithmetic mean of price relatives".

The items and weights used in the Index were derived from reported values of each material used in selected representative houses constructed in or about 1968-69 in each State capital city. The selection took account, within the four major construction types, of a range of characteristics of these houses, e.g., internal partitions, windows, roofing, etc., as well as whether such items as paths and fences were included in the job. As opposed to the Wholesale Price Index of Materials used in Building Other than House Building, each State capital city has a unique weighting pattern which reflects the difference in the estimated relative importance of given items as between cities.

MELBOURNE—WHOLESALE PRICE INDEX OF MATERIALS
USED IN HOUSE BUILDING

(Base of each index : year 1966-67 = 100.0)

Group	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Concrete mix, cement, and sand	110.4	122.0	127.2	132.8	159.7	189.4
Cement products	129.9	138.2	141.5	160.6	205.2	241.1
Clay bricks, tiles, etc.	115.7	123.5	132.0	148.7	172.4	192.3
Timber, board, and joinery	109.2	114.5	125.3	158.7	190.5	207.3
Steel products	113.9	126.4	135.3	154.5	196.5	231.9
Other metal products	114.0	119.4	124.8	147.1	168.5	185.4
Plumbing fixtures, etc.	110.9	120.5	131.2	146.4	177.4	204.6
Electrical installation materials	114.7	119.6	125.3	145.3	165.9	181.0
Installed appliances	102.7	104.3	106.8	115.1	145.3	166.8
Plaster and plaster products	111.6	119.2	120.4	124.2	151.4	168.1
Miscellaneous materials	111.4	116.5	124.7	135.8	161.6	186.7
All groups	112.3	118.9	126.5	147.8	178.4	200.1

Items are combined in eleven groups in addition to the All Groups index. Some items carry the weight of similar items not directly priced. They are described in terms of fixed specifications with the aim of recording price changes for representative materials of constant quality.

Index numbers for each of the eleven groups and for All Groups have been compiled for the six State capital cities, separately and combined, for each month from July 1966 and for the financial years from 1966-67. The reference base year for each index is 1966-67 = 100.0.

Price Indexes of Metallic Materials

Each of the two indexes in this monthly series is a fixed weights index compiled on the reference base year 1968-69 = 100.0, using the method of "the weighted arithmetic mean of price relatives". Separate indexes have not been calculated for each State capital city.

Prices for each of the items relate to representative goods of fixed specifications and are sufficiently detailed to ensure that price changes incorporated in the indexes are measured, as far as possible, on the basis of constant quality.

The price series used are obtained monthly, by mail, from major Australian manufacturers of the relevant materials. In the main, prices are collected at the mid-point of each month. Prices collected are, as far as possible, those normally charged to representative manufacturers for goods delivered into their stores.

Price Index of Metallic Materials used in Manufacture of Fabricated Metal Products

This Index comprises important metallic materials selected and combined in accordance with a weighting pattern reflecting value of usage as reported at the 1968-69 Census of Manufacturing Establishments for establishments classified to the Fabricated Metal Products Sub-division of Manufacturing Industry (Australian Standard Industrial Classification, Sub-division 31). Index numbers are compiled on an Australia-wide basis for four groupings and an All Groups combination as shown in the following table :

AUSTRALIA—WHOLESALE PRICE INDEX OF METALLIC MATERIALS
USED IN MANUFACTURE OF FABRICATED METAL PRODUCTS

(Base of each index : year 1968-69 = 100.0)

Group	Value weight	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
	per cent						
Iron and steel	83.2	106.7	116.2	122.6	131.7	161.1	200.2
Aluminium	8.9	104.5	106.8	109.2	118.2	141.9	158.0
Copper and brass	5.7	106.5	106.2	106.6	138.1	131.1	137.5
Other metallic materials	2.2	90.0	83.6	98.7	151.3	192.4	207.8
All groups	100.0	106.2	114.1	120.0	131.3	158.4	193.1

Price Index of Materials used in Manufacturing Industry

This Index is based on materials used by establishments classified to Division C, Manufacturing, of the Australian Standard Industrial Classification (ASIC). The index is on a net basis, i.e., it relates in concept only to those materials which are used by establishments within the Manufacturing Division in Australia and which have been produced by establishments outside that Division. Such outside establishments are either Australian establishments classified to other divisions of Australian industry (e.g., mining or agriculture) or are overseas establishments (including overseas manufacturing establishments).

Materials purchased by establishments classified to the Australian Manufacturing Division from other establishments in that Division are outside the scope of the Index and are excluded, but similar materials when purchased from overseas are included. Thus, for example, prices of Australian produced cotton fabric (a product of establishments classified to the Manufacturing Division) are excluded from the Index, while prices of imported cotton fabric are included. It follows that the weight attributed to cotton fabric in the Index relates only to cotton fabric of imported origin. A material which undergoes transformation at a number of stages during manufacturing will be, at each stage, an input to particular manufacturing industries. However, in keeping with the scope and net basis of this Index, the material is priced only at the stage it first enters manufacturing. An example is the usage of copper ore. Prices of copper ore are reflected in the Index; however, prices of copper ingots used in the manufacture of copper pipes, or of copper pipes used in the manufacture of plumbing items, are not included in the Index. In other words, the pricing and weights for the Index reflect usage of materials at the point of entry to the Manufacturing Division.

It is intended to develop a set of price indexes relating to major ASIC subdivisions of the Manufacturing Division. The proposed indexes will reflect movements in prices of materials used and articles produced by particular sub-divisions (e.g., Sub-division 23, Textiles) and will therefore include materials which are the products of other sub-divisions and which are not within the scope of the current Index.

The Index is a fixed weights index and is calculated by the method known as "the weighted arithmetic mean of price relatives".

The items included in the Index were selected on the basis of values of materials used in 1971-72 by establishments classified to the Manufacturing Division of ASIC. The selection was made from data reported in the 1971-72 Census of Manufacturing Establishments, and in 1971-72 statistics of imports.

The selected items were allocated weights in accordance with estimated manufacturing usage in the year 1971-72. Many of the items carry not only the weight of directly priced materials but also the weight of unpriced materials whose prices are considered to move similarly to those of directly priced materials.

Items have been combined into broad index groups using two different classifications. The classifications used for this purpose are the Australian Standard Industrial Classification (ASIC) and the Standard International Trade Classification (SITC).

The following table shows index numbers for index groups based on ASIC, using industry of origin and distinguishing home produced and imported materials:

AUSTRALIA—PRICE INDEX OF MATERIALS USED IN MANUFACTURING
INDUSTRY : GROUP INDEX NUMBERS BASED ON INDUSTRY OF ORIGIN
(Base of each index : year 1968-69 = 100.0)

Group	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Home produced materials—						
Agriculture	99.2	103.5	125.2	147.9	132.2	132.3
Forestry and fishing	110.1	120.9	130.9	157.3	187.8	213.7
Mining	98.6	97.1	100.4	119.0	129.0	162.8
Electricity	99.4	101.7	103.7	109.9	124.6	137.9
Total home produced materials	99.3	102.0	117.2	137.6	131.6	141.9
Imported materials—						
Agriculture	101.8	95.5	105.2	130.6	149.3	166.5
Mining	105.3	112.0	109.1	196.3	357.8	423.6
Manufacturing	102.0	103.3	104.4	113.1	149.5	162.6
Total imported materials	102.5	104.1	105.1	127.1	181.5	202.9
All groups	100.1	102.5	113.9	134.7	145.1	158.5

It should be noted that "industry of origin" in some instances may not be identical with the industry from which manufacturers directly purchase their materials. For example, some manufacturers purchase natural gas from establishments classified to ASIC Division B (Mining), while other manufacturers purchase this item from establishments classified to ASIC Division D (Electricity, Gas, and Water). However, for the purposes of this Index, the index item "Gas", which covers both natural gas and town gas, is included in the category "Home produced—Mining".

Index numbers in the following table are in groups based on SITC. This is a commodity-based classification.

AUSTRALIA—PRICE INDEX OF MATERIALS USED IN MANUFACTURING
INDUSTRY : GROUP INDEX NUMBERS BASED ON STANDARD
INTERNATIONAL TRADE CLASSIFICATION
(Base of each index : year 1968-69 = 100.0)

Group	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Home produced and imported materials—						
Food, live animals, and tobacco	100.9	104.7	122.8	145.9	132.4	132.5
Raw materials (excluding fuels)	99.8	100.8	115.9	140.7	149.3	162.6
Electricity, gas, and fuels	97.3	99.1	99.1	126.2	179.5	229.0
Imported manufacturing materials—						
Chemicals	97.2	95.6	91.4	96.3	141.9	149.4
Metal manufactures, machinery, transport, equipment, and parts	108.4	114.9	119.3	118.6	148.7	179.6
Other manufactured goods	98.5	97.5	97.4	106.1	137.4	148.4
All groups	100.1	102.5	113.9	134.7	145.1	158.5

The measurement of price change in this field is particularly subject to index number problems arising from the combination of disparate price movements with marked changes in the relative importance of some items. The effect of these on the continuing representativeness of the measures will be most marked for some of the groupings into which the All Groups index is disaggregated. This has been particularly so in the case of the commodity group "Electricity, gas, and fuels" where marked changes in the usage of items have occurred together with extremely disparate price movements, such as the significant decreases in the price of gas associated with the increasing usage of natural gas and the large increases in prices of imported crude petroleum since late 1973.

In concept, pricing for the new index is at the point at which the materials physically enter the manufacturing sector. Therefore, as far as possible, prices are on a "delivered into store" basis.

Transfers which do not take place on the open market present problems in the measurement of price change. An example is where a vertically-integrated enterprise extracts a mineral (mining activity) and also processes it (manufacturing activity). Since the material is transferred from one part of the enterprise to another there is usually no transaction price. In such instances various methods of imputing movements in market prices have been adopted. Depending on circumstances and the availability of data, these methods include using movements in opportunity cost (based, for example, on the price of the material in an established market) or movements in cost based on expenses actually incurred in obtaining the material. Imputations of this kind enter partly into price series for items such as iron ore, bauxite, nickel, and coal.

In the case of seasonally produced items such as fruit and vegetables, where deliveries do not occur over the whole year, the previous season's prices are in general repeated for the months outside the selling season until the subsequent season's prices become operative.

For many seasonal items, and items with prices determined on an annual basis, the final prices are sometimes not known until or after the relevant season or year, and sometimes not for many months after the close of the season or year. The incorporation of such final prices may involve revisions to index numbers for the "Agriculture" group of the home produced category and the "Food, Live Animals, and Tobacco" group.

Prices collected are mainly monthly average prices rather than prices relating to the mid-point of the month. This is because there is a high frequency of price change for many of the materials included in the Index, and prices at one point of time within a month are not always representative of the average prices for a whole month.

Price series for electricity and gas are based on the average realised cost per unit of actual monthly sales to "industrial" users by selected major suppliers and are, therefore, subject to fluctuations because of changing usage patterns.

Price Indexes of Copper Materials used in Manufacture of Electrical Equipment

The construction of these special purpose wholesale price indexes is based on information supplied by the Electricity Supply Association of Australia and the Australian Electrical Manufacturers' Association, whose members use measures of this type for the price adjustment of contracts.

Four copper materials—busbar, paper covered strip, polyvinyl chloride cable, and enamelled winding wire—have been combined into five separate indexes in accordance with weighting patterns reflecting value of usage in each of five selected activities of the Electrical Machinery Equipment and Supplies Class of Manufacturing Industry (Australian Standard Industrial Classification, Class 3326). The indexes, each of which has separate weighting patterns for the four copper

materials, have been compiled on an Australia-wide basis for the five selected manufacturing activities and are shown in the following table :

AUSTRALIA—WHOLESALE PRICE INDEXES OF COPPER MATERIALS
USED IN MANUFACTURE OF ELECTRICAL EQUIPMENT :
INDEX NUMBERS FOR SELECTED ACTIVITIES
(Base of each index : year 1968-69 = 100.0)

Copper materials used in manufacture of—	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
Electric motors and motor control equipment	104.0	104.8	110.4	136.0	133.1	139.7
High voltage and low voltage switch gear	105.7	104.9	111.2	148.0	137.1	145.3
Distribution transformers	101.3	101.3	105.7	130.1	122.4	128.1
Power transformers	100.3	95.2	98.3	128.0	116.3	122.4
General transformers	103.0	104.0	109.4	137.0	128.9	135.3

Price Index of Electrical Installation Materials

This special purpose wholesale price index was introduced in 1964 and index numbers have been published from August 1959 to February 1969 on a quarterly basis and thereafter at monthly intervals. It is compiled on the reference base year 1959-60 = 100.0, using the method known as "the weighted arithmetic mean of price relatives".

The items in this Index have been selected as representative of materials used in electrical installation in structures such as hospitals, schools, factories, and multi-storeyed commercial buildings and flats. These items are divided into three main groups for which separate indexes in addition to the All Groups index are compiled. The combination of materials selected is fixed with regard to quantity and quality.

In general, the weights for the Index were derived from information relating to the values of materials used in selected representative projects in Sydney and Melbourne during the three years 1960-61 to 1962-63. The projects selected for this purpose had a minimum electrical materials and labour content of \$10,000.

The items are priced at the middle of the month for which index numbers are published. The basis of pricing is the price to electrical contractors, delivered on site or into store, in the metropolitan areas of Sydney and Melbourne. The price series used relate to specific standards for each item and in some cases are combinations of prices for different makes, types, etc.

The units of quantity specified as the basis for collecting prices are representative lots normally purchased by electrical contractors. Index numbers are compiled on an Australia-wide basis for three groupings and an All Groups combination as shown in the following table :

AUSTRALIA—WHOLESALE PRICE INDEX OF ELECTRICAL
INSTALLATION MATERIALS
(Base of each index : year 1959-60 = 100.0)

Group	Value weight	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76
	per cent						
Conductors	40	128.4	126.7	133.5	165.1	168.2	178.1
Conduit and accessories	25	112.6	120.9	126.8	138.5	169.6	199.0
Switchboard and switchgear material	35	129.2	137.7	144.2	156.6	192.3	224.5
All groups	100.0	124.8	129.1	135.5	155.5	177.0	199.6

COMPARISON OF SELECTED PRICE INDEXES

The following table compares changes in the Consumer Price Index and wholesale price indexes for the years 1970-71 to 1975-76 :

AUSTRALIA—COMPARISON OF SELECTED PRICE INDEXES

Year	Consumer Price Index (All groups)		Wholesale price indexes (All groups)			
	Melbourne	Six State capital cities (a)	Materials used in House Building		Materials used in Building Other than House Building	
			Melbourne	Six State capital cities (a)	Melbourne	Six State capital cities (a)
INDEX NUMBERS (BASE OF EACH INDEX : YEAR 1966-67 = 100.0)						
1970-71	113.1	114.6	112.3	115.7	115.1	115.5
1971-72	119.7	122.4	118.9	122.7	123.9	123.0
1972-73	127.2	129.8	126.5	131.1	131.2	128.9
1973-74	144.0	146.6	147.8	151.3	148.0	145.8
1974-75	167.9	171.1	178.4	183.4	180.6	179.2
1975-76	189.5	193.3	200.1	208.1	209.4	206.2
PERCENTAGE CHANGE OVER PRECEDING YEAR						
1970-71	+ 4.0	+ 4.8	+ 4.8	+ 4.3	+ 4.8	+ 4.5
1971-72	+ 5.8	+ 6.8	+ 5.9	+ 6.1	+ 7.6	+ 6.5
1972-73	+ 6.3	+ 6.0	+ 6.4	+ 6.8	+ 5.9	+ 4.8
1973-74	+13.2	+12.9	+16.8	+15.4	+12.8	+13.1
1974-75	+16.6	+16.7	+20.7	+21.2	+22.0	+22.9
1975-76	+12.9	+13.0	+12.2	+13.5	+15.9	+15.1

(a) Weighted average of six State capital cities.

EXPORT PRICE INDEX

For the period from July 1959 to June 1969 changes in the level of export prices of selected major groups of items were indicated by a fixed weights index which made no allowance for variations in quantities exported (see pages 223-4 of the *Victorian Year Book* 1970). Since June 1969 the Index has been compiled on an interim basis which incorporates a re-weighting of the items contained in the previous series and the inclusion of some additional items.

In the interim series, weights have been derived from values of exports for the year 1969-70 and the group weights have been adjusted to reflect the proportion that the value of wool bore to the value of all exports in that year. In addition to the twenty-nine items of the previous index, the interim index includes a further four items, namely, iron ore, bauxite, alumina, and mineral sands. Pending re-grouping in the final index these items are not attached to any of the previous single groups whose item content is therefore unchanged. The four new items are incorporated in the All Groups index number, but only from the link date of June 1969. The thirty-three items contained in the interim series constituted 74 per cent of the total value of Australian exports (merchandise and non-merchandise) in 1969-70.

The price series used in these indexes relate generally to specified standards for each commodity and in most cases are combinations of prices for a number of representative grades, types, etc. For some commodities, price movements in the predominant market or markets are used, while for other commodities average realisations in all export markets are used. As nearly as possible, prices used are on the basis f.o.b. at the main Australian ports of export.

Index numbers for each of the groups of the previous index and for All Groups are shown in the following table (linked at June 1969). The Index is published monthly and the index figures in the table are simple averages of the twelve monthly index numbers in each respective year.

AUSTRALIA—EXPORT PRICE INDEX NUMBERS

(Base of each index : year 1959-60 = 100.0)

Year	Wool	Meats	Dairy produce	Cereals	Dried and canned fruits	Sugar	Hides and tallow	Metals and coal	Gold	All groups
1963-64	120	105	93	107	98	175	73	101	100	114
1964-65	102	110	94	107	100	100	91	123	101	105
1965-66	107	120	86	107	102	84	107	122	101	107
1966-67	103	124	84	114	101	67	89	117	101	105
1967-68	95	125	79	109	95	67	67	120	104	100
1968-69	99	131	72	104	97	72	73	123	117	102
1969-70 (a)	87	148	73	96	99	93	94	143	109	103
1970-71 (a)	67	152	88	100	102	113	94	139	109	101
1971-72 (a)	72	147	135	99	103	127	96	138	126	104
1972-73 (a)	179	178	119	102	106	136	139	142	180	134
1973-74 (a)	172	201	109	184	152	176	161	196	289	160
1974-75 (a)	121	132	127	256	176	378	141	263	391	181
1975-76 (a)	127	150	122	240	162	335	151	286	359	187

(a) Interim series.

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 9.13 Wholesale price indexes—Price Index of Materials used in Manufacturing Industry