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PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY

SUPPLEMENT

Monthly series - July 1968 to December 1974

EXPLANATORY NOTES

Introduction

Publications of this index have so far included annual figures for the period 1969-70 to 1975-76 together with recent monthly series. This Supplement presents index numbers for the months of July 1968 to December 1974 inclusive. Annual index numbers for the financial years 1968-69 to 1974-75 are also shown in this Supplement.

Changes introduced since initial publication

2. Since these indexes were first published on 26 October 1976 some changes have been introduced which are reflected in this Supplement. An index for the *Clothing and footwear Sub-division* was introduced in the second issue of this series published on 3 December 1976. In the third issue, published on 23 December 1976, the title of the *Manufacturing Division Index* was changed to *All Manufacturing Industry Index*.

Interpretation

3. Prices of the articles included in these indexes are affected by many different influences. In the Food, beverages and tobacco Sub-division, for example, some items are subject to considerable short-term fluctuations which do not necessarily indicate changes in trend; in order to isolate some of the more uneven price movements a special grouping 'Food, beverages and tobacco, excluding meat and abattoir by-products, and raw sugar' is also published.

Scope and composition

4. The composition of the indexes presented in this publication is based on articles produced by establishments classified to Division C, Manufacturing, of the Australian Standard Industrial Classification (ASIC). The indexes are on a *net sector basis*; that is, they relate in concept only to those articles which are

produced in defined 'sectors' of Australian manufacturing industry for sale or transfer to other sectors or for export or for use as capital equipment. Articles which are sold or transferred to other establishments within the sector for further processing (as materials, components, fuels, etc.) are excluded. Capital equipment produced is within the scope of the index even if sold or transferred to other manufacturing establishments in the sector.

5. This publication includes a *net* index for the Manufacturing Division of ASIC and *net* indexes for selected sub-divisions, as described in the following two paragraphs.

6. The *All Manufacturing Industry Index* represents price movements of goods which are produced by establishments in Division C, Manufacturing, for sale or transfer to establishments outside Manufacturing Division or for use as capital equipment. Articles sold or transferred by establishments in Manufacturing Division to other establishments in that division for further processing are outside the scope of this index. In other words, the pricing and weights for the *All Manufacturing Industry Index* reflect sales and transfers of articles *at the point of exit from Manufacturing Division*.

7. Indexes are also shown for *selected sub-divisions within the Manufacturing Division*. For the selected sub-divisions, only a minor proportion of sales and transfers is to other Manufacturing sub-divisions. Therefore the relevant components of the *All Manufacturing Industry Index* are considered representative for the purpose of compiling net indexes for these sub-divisions. These indexes reflect movements in prices of articles produced primarily by the respective sub-divisions for sale or transfer, outside the Manufacturing Division or to other sub-divisions within Manufacturing or for use as capital equipment. In each of the remaining sub-divisions there is a significant

proportion of sales to other sub-divisions. To compile net indexes for these sub-divisions it is necessary to establish weights appropriate to each sub-division and to price some additional items. As this work is completed the scope of the published series will be expanded progressively to include indexes on a *net* basis for all 12 sub-divisions of Manufacturing Articles produced in these remaining sub-divisions and sold outside Manufacturing Division are, of course, already included in the All Manufacturing Industry Index.

Method of calculation

8. The indexes are *fixed weights* indexes and are calculated by the method known as the *weighted arithmetic mean of price relatives*.

Derivation of items and weights

9. The items included in these indexes were selected on the basis of values of articles produced 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.

10. The selected items were allocated weights in accordance with estimated *net* sector production (see paragraph 4) in the year 1971-72 valued at the relevant prices appearing in the *reference base year 1968-69*. Many of the selected items carry not only the weight of directly priced articles but also the weight of unpriced articles whose prices are considered to move similarly to those of directly priced articles.

Weighting patterns and classifications

11. The selected items have been combined into the published industry groupings using the Australian Standard Industrial Classification (ASIC). In the case of Sub-division 21-22, 'Food, beverages and tobacco', an index series is also published for the special grouping 'Food, beverages and tobacco, excluding meat and abattoir by-products, and raw sugar', in order to isolate some of the more uneven price movements which frequently occur in this Sub-division.

12. The articles included in the index have been combined according to the ASIC groups to which they are primary (i.e. the group in which each article is typically produced). Percentage contributions of articles to the *All Manufacturing Industry Index aggregate* are shown in the Appendix to this issue. Percentage contributions of articles to each of the *selected sub-division index aggregates* may be obtained on application to the ABS.

Prices

13. Most of the prices used in these indexes relate to the mid-point of the month. Prices are generally obtained, by way of mailed questionnaires, from principal manufacturers of the goods concerned, but in some cases prices collected in connection with other indexes are used (adjusted to the correct pricing basis as far as possible). Prices are manufacturers' selling prices exclusive of excise and sales tax, and reflect the effects of subsidies and bounties paid to manufacturers.

14. The prices reflect industry selling practices. For example, if costs such as handling and distribution are included in the manufacturer's selling price this is the price used in the index. Where handling and distribution charges are paid separately by the purchaser the prices used exclude such charges.

15. Price series relate to *goods of fixed specifications* with the aim of incorporating in the index price changes for representative articles of *constant quality*. Consistent with this approach, prices in general relate to a standard representative set of transactions (in terms of quantity discounts, delivery arrangements, destination, etc.) in order to avoid variations in price that are attributable solely to a changing mix of transactions over time.

Model pricing

16. Transactions which involve unique or complex products present special problems in the measurement of price change. Examples are fabricated structural steel, and metal working machinery. A technique, known as model pricing, is used to measure price change in cases where the same (i.e. constant quality) items are not produced and sold repetitively over time. A particular product of some recent period which is typical of a firm's output is specified in detail, and becomes the 'model'. A price is reported for this model at each index point of time. Although the model product may not be regularly sold in the market place, it does provide a consistent measure of price change in a field where the items actually sold vary over time in terms of design and quality.

Specification and continuity of standards

17. As indicated above, price series used in these indexes relate to goods of fixed specifications in order to measure price changes for representative products of constant quality. As long as the articles and standards originally specified remain available and representative, there is no difficulty in compiling continuous price series.

18. When a significant change in specifications occurs, the prices of the new article must be suitably adjusted to make them comparable with prices for the old standard before they are used in the index.

19. In those cases where both the old and the new articles have been selling in reasonable quantities, side by side in the same market, over a reasonable period of time, the common practice is to neutralise the price difference by the simple device of 'splicing' the price series for the new article to the price series for the old. The level of the price series is not affected at the point of splicing. A continuous price series is built up using the old article for measuring price changes up to the time of the splice and the new article thereafter.

20. In some cases, simple splicing of the prices of the new article to the existing price series is not a satisfactory way of neutralising changes in quality. This situation occurs, e.g. when the price of a new model of an article reflects not only the extent of modifications but also a degree of price change, upwards or downwards, for reasons quite distinct from these modifications. In these circumstances a simple splicing of the old and new prices would eliminate the elements of pure price change as well as the elements of change in quality. It is necessary in such cases to assess the degree of pure price change involved and reflect this in the price series before splicing.

21. Such assessments must of necessity be a matter of judgment, but they are made only after careful consideration of as much relevant information as can be obtained, including details of physical change (e.g. volume, size, material content), price changes for similar items, and detailed cost and price data concerning components or features of manufactured goods.

Discounts

22. Discounts also pose special problems. For the purpose of these indexes the aim is to determine *actual transaction prices*. It has therefore been necessary to obtain information about both 'special' and normal 'trade' discounts. Where special discounts are identified, their effects are reflected in the indexes. However, because of the forms which special discounts may take and the ways in which they may be applied, it is not

always feasible to measure them even on an approximate basis. Significant changes in special discounts, to the extent that they are determined, will be incorporated in the indexes. This may sometimes be on a partly estimated basis.

Index numbers

23. The indexes have been compiled for each month from July 1968 and for financial years from 1968-69, on the reference base year 1968-69. Index numbers for financial years are simple averages of the relevant monthly index numbers except in a few instances where monthly index numbers have been revised slightly but previously published annual index numbers have been preserved (the difference between the annual index number and the average of the monthly index numbers is only 0.1 index points in these cases).

Related publications

24. Users may also wish to refer to the following price indexes which are available on request:

Price Index of Materials Used in Manufacturing Industry (Reference No. 9.13)

Price Index of Materials Used in Building Other than House Building (Reference No. 9.6)

Price Index of Materials Used in House Building (Reference No. 9.9)

Price Index of Electrical Installation Materials (Reference No. 9.5)

Price Indexes of Metallic Materials (Reference No. 9.10)

25. Other ABS publications which may be of interest include:

Wage Rates Indexes, Preliminary (Reference No. 6.37)

Wage Rates and Earnings (Reference No. 6.16)

Average Weekly Earnings (Reference No. 6.18)

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)
(Base of each index : Year 1968-69 = 100.0) (b)

All Manufacturing Industry Index (d)		Selected net sub-division indexes (c)							
		Food, beverages and tobacco (21-22)							
		Total	Excluding meat and abattoir by-products, and raw sugar	Clothing and footwear (24)	Wood, wood products and furniture (25)	Glass, clay and other non-metallic mineral products (28)	Fabricated metal products (31)	Transport equipment (32)	Other industrial machinery and equipment and household appliances (33)
1968-69	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
July	99.7	101.1	99.5	99.4	98.4	99.0	98.9	99.5	99.1
August	99.4	100.1	99.5	99.4	98.4	99.0	99.0	99.5	99.0
September	99.5	100.4	99.6	99.6	98.7	99.0	99.2	99.6	99.1
October	99.2	99.2	99.6	99.6	98.9	99.0	99.3	99.6	99.3
November	99.3	99.0	99.6	99.7	99.1	99.2	99.7	99.6	99.4
December	99.4	98.7	100.0	99.8	99.2	100.5	99.8	99.5	99.9
January	99.9	99.6	100.1	99.9	100.6	100.6	100.3	100.1	100.2
February	100.1	99.3	100.1	100.2	100.9	100.7	100.4	100.1	100.6
March	100.3	99.9	100.2	100.4	100.8	100.0	100.7	100.2	100.6
April	100.8	100.4	100.5	100.7	101.4	100.9	100.9	100.7	100.9
May	101.0	100.8	100.6	100.7	101.5	101.1	101.2	100.7	101.2
June	101.3	101.5	100.7	100.7	101.8	101.1	101.1	100.7	100.7
1969-70	103.9	105.1	101.6	102.5	104.5	102.9	102.7	102.4	103.2
July	102.2	103.5	101.0	101.0	102.5	101.3	101.1	101.5	101.1
August	102.5	104.3	101.1	101.4	102.7	101.9	101.0	101.5	101.6
September	102.5	104.1	101.3	101.4	103.3	102.0	100.9	101.5	102.1
October	102.8	104.7	101.4	101.8	103.7	102.1	101.1	101.5	102.2
November	102.8	103.9	101.2	102.0	103.8	102.2	101.6	102.0	102.3
December	102.8	103.0	101.0	102.3	104.6	102.3	101.6	102.0	102.5
January	103.8	104.4	101.5	102.5	105.0	103.3	102.6	103.0	103.2
February	104.5	105.3	101.6	103.1	105.1	104.0	103.0	103.2	103.8
March	105.1	106.1	101.7	103.6	105.0	103.9	104.1	103.2	104.3
April	105.4	106.7	102.1	103.6	105.7	103.6	104.7	103.4	104.7
May	105.8	107.1	102.4	103.7	106.1	103.8	105.1	103.4	105.0
June	106.0	107.8	102.7	104.3	106.3	104.0	105.3	103.4	105.3

For footnotes see end of table.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)
(Base of each index : Year 1968-69 = 100.0) (b)

All Manufacturing Industry Index (d)		Selected net sub-division indexes (c)							
		Food, beverages and tobacco (21-22)							
		Total	Excluding meat and abattoir by-products, and raw sugar	Clothing and footwear (24)	Wood, wood products and furniture (25)	Glass, clay and other non-metallic mineral products (28)	Fabricated metal products (31)	Transport equipment (32)	Other industrial machinery and equipment and household appliances (33)
1970-71	108.5	111.4	106.3	107.2	112.1	108.1	107.5	105.5	106.7
July	106.3	107.7	103.2	104.9	107.8	104.6	105.3	103.8	105.0
August	106.7	108.6	104.0	105.1	109.1	105.0	105.3	103.9	105.2
September	107.0	109.2	104.4	105.7	109.0	105.3	106.3	103.9	105.4
October	107.3	110.0	104.9	105.8	109.4	105.5	106.3	104.3	105.3
November	107.2	109.8	105.0	105.9	109.5	106.0	106.6	104.7	105.5
December	107.4	110.4	105.7	106.0	109.8	106.9	106.7	104.7	105.7
January	108.3	111.0	106.4	107.3	111.7	109.3	107.5	105.9	106.3
February	109.5	112.8	106.9	108.8	115.5	109.6	108.3	106.2	107.6
March	110.0	113.4	107.7	109.1	115.7	110.3	109.0	106.6	107.9
April	110.5	114.0	108.6	109.2	115.8	111.5	109.1	107.1	108.2
May	110.8	115.0	108.9	109.1	116.0	111.6	109.6	107.4	108.6
June	110.8	114.3	109.3	109.3	116.3	111.7	110.5	107.4	109.3
1971-72	113.9	117.3	112.3	112.8	118.4	114.7	116.5	111.3	114.0
July	111.4	114.6	109.7	109.8	116.5	111.7	112.4	109.4	109.4
August	112.0	115.1	109.9	110.3	117.3	112.0	113.8	109.6	110.5
September	112.4	115.5	110.7	111.4	117.0	112.3	114.4	110.6	111.6
October	112.7	115.7	110.9	111.9	117.5	113.1	114.7	110.9	112.1
November	113.0	116.2	111.4	112.4	117.6	114.3	115.7	111.1	112.6
December	113.3	116.2	112.2	112.5	118.3	115.0	115.8	111.1	114.2
January	114.2	117.9	113.3	113.0	118.5	115.8	115.9	111.5	115.5
February	114.8	118.5	113.6	114.4	119.2	116.3	116.9	111.5	115.5
March	115.3	119.1	113.6	114.2	119.2	116.4	117.5	112.1	116.3
April	115.5	119.2	113.6	114.3	119.7	116.7	118.5	112.3	116.4
May	115.8	119.6	114.5	114.3	120.0	116.6	120.4	112.6	116.8
June	116.1	120.4	114.7	114.7	120.9	116.5	121.4	112.6	117.3

For footnotes see end of table.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)
(Base of each index : Year 1968-69 = 100.0) (b)

All Manufacturing Industry Index (d)		Selected net sub-division indexes (c)							
		Food, beverages and tobacco (21-22)		Clothing and footwear (24)	Wood, wood products and furniture (25)	Glass, clay and other non- metallic mineral products (28)	Fabricated metal products (31)	Transport equipment (32)	Other industrial machinery and equipment and household appliances (33)
		Total	Excluding meat and alcoholic by-products, and raw sugar						
1972-73	120.7	127.7	117.9	119.9	125.1	119.6	125.1	116.0	119.8
July	116.8	121.0	115.3	115.1	121.4	116.7	122.2	114.4	117.4
August	117.2	122.0	115.2	116.1	121.7	116.8	122.4	114.6	117.3
September	117.7	122.4	115.4	118.1	121.7	117.4	122.6	115.1	117.6
October	118.0	122.9	115.9	118.1	122.1	117.4	123.2	115.1	118.0
November	118.6	123.7	116.3	118.5	122.7	117.5	123.7	115.1	118.4
December	119.4	124.8	116.9	119.0	122.9	118.8	124.0	115.6	119.9
January	120.4	127.0	117.7	119.9	124.6	120.4	124.4	116.4	120.1
February	121.5	130.0	118.8	121.5	124.4	121.1	124.6	116.5	120.6
March	123.2	133.1	120.0	122.1	127.2	121.4	127.1	116.7	121.4
April	124.3	134.6	120.6	122.6	128.4	121.6	127.7	117.2	121.9
May	124.8	135.1	121.2	123.2	131.1	122.9	128.6	117.3	122.0
June	125.9	135.4	121.7	124.4	133.0	123.6	130.8	117.6	123.4
1973-74	134.6	142.8	129.5	136.7	148.8	129.6	142.3	124.9	132.4
July	128.0	137.5	123.4	127.4	136.4	124.1	132.9	120.2	125.9
August	129.1	139.3	124.3	128.4	137.0	124.5	133.8	120.2	126.9
September	129.9	140.9	124.5	131.9	138.0	124.8	134.3	121.2	127.8
October	130.3	140.4	125.3	132.1	140.5	126.7	135.3	122.1	127.4
November	131.1	140.8	126.6	132.4	141.8	127.0	136.8	122.1	129.2
December	132.3	141.4	127.4	133.6	145.8	127.8	138.5	122.7	130.2
January	134.6	145.2	129.7	136.1	147.3	129.1	141.2	123.6	131.5
February	136.0	145.7	131.1	139.8	149.2	130.2	141.9	124.8	131.7
March	137.3	145.6	133.2	141.9	151.5	131.7	144.3	126.3	133.3
April	139.4	145.7	134.9	143.7	158.5	133.5	149.9	128.0	137.7
May	141.8	145.9	136.2	145.4	167.8	135.0	155.3	130.4	140.4
June	144.6	145.2	137.1	147.4	171.7	141.3	163.5	136.9	146.6

For footnotes see end of table.

PRICE INDEXES OF ARTICLES PRODUCED BY MANUFACTURING INDUSTRY (a)

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

All Manufacturing Industry Index (d)		Selected net sub-division indexes (c)							
		Food, beverages and tobacco (21-22)							
		Total	Excluding meat and abattoir by-products, and raw sugar	Clothing and footwear (24)	Wood, wood products and furniture (25)	Glass, clay and other non- metallic mineral products (28)	Fabricated metal products (31)	Transport equipment (32)	Other industrial machinery and equipment and household appliances (33)
1974-75	158.1	153.0	151.7	161.3	190.0	158.3	183.2	151.2	158.9
July	148.3	148.8	139.3	151.8	176.8	145.2	167.3	139.4	149.3
August	150.2	151.4	141.4	153.7	178.7	147.5	170.5	140.6	150.7
September	152.3	151.8	145.5	156.4	182.5	149.7	174.9	144.0	152.7
October	154.3	152.8	147.1	159.0	185.2	150.1	176.7	146.9	155.0
November	154.9	148.0	149.7	159.7	187.5	154.3	179.7	149.5	157.5
December	158.5	156.8	152.4	159.7	188.6	156.4	180.8	151.4	158.9

(a) For a full description of Division C, 'Manufacturing' and the selected sub-divisions see Australian Standard Industrial Classification (ASIC), Preliminary Edition, 1969. (b) Figures are shown to one decimal place to avoid distortions that would occur in rounding the index numbers to the nearest whole number. (c) Indexes for the remaining sub-divisions of Manufacturing Division are in process of development. The indexes are on a 'net sub-division' basis; see paragraphs 4 and 7. ASIC sub-division codes are shown in brackets at the head of the columns. (d) This index is on a 'net division' basis and relates to concept only to articles which are produced in the Manufacturing Division of ASIC (Division C) for sale or transfers outside the Division; see paragraphs 4 and 6.

D. V. YOUNGMAN
Acting Australian Statistician

APPENDIX

PERCENTAGE CONTRIBUTION OF ARTICLES TO
ALL MANUFACTURING INDUSTRY INDEX

This table illustrates the composition of the All Manufacturing Industry Index. The items whose prices are used in the index have been grouped under the headings of the ASIC sub-divisions and groups in which they are primarily produced.

	Percentage contribution of articles to the All Manufacturing Industry Index (a)	
	%	%
<i>Food, beverages and tobacco</i>		29.25
Meat products	10.11	
Milk products	3.92	
Fruit and vegetable products	1.99	
Margarine and oils, and fats NEC	0.60	
Flour mill and cereal food products	1.21	
Break, cakes and biscuits	2.40	
Sugar		
Other food products	4.33	
Beverages and malt	3.37	
Tobacco products	1.32	
<i>Textiles</i>		2.20
Textiles, yarns and woven fabrics	1.00	
Other textile products	1.20	
<i>Clothing and footwear</i>		6.32
Knitting mills		
Clothing	1.33	
Footwear	3.82	
	1.17	
<i>Wood, wood products and furniture</i>		4.29
Wood and wood products		
Furniture and mattresses	2.58	
	1.71	
<i>Paper, paper products and printing</i>		2.06
Paper and paper products	0.53	
Printing and publishing	1.53	

APPENDIX (continued)

	Percentage contribution of articles to the All Manufacturing Industry Index (a)	
	%	%
<i>Chemical, petroleum and coal products</i>		8.87
Basic chemicals	1.33	
Other chemical and related products	4.28	
Petroleum refining	3.04	
Petroleum and coal products NEC	0.22	
		4.77
<i>Glass, clay and other non-metallic mineral products</i>		
Glass and glass products	0.31	
Clay products	1.22	
Cement and concrete products	2.61	
Other non-metallic mineral products	0.63	
		7.90
<i>Basic metal products</i>		
Basic iron and steel	4.38	
Non-ferrous metal basic products	3.52	
		7.01
<i>Fabricated metal products</i>		
Fabricated structural metal products	3.24	
Sheet metal products	1.49	
Other fabricated metal products	2.28	
		10.23
<i>Transport equipment</i>		
Motor vehicles and parts	9.01	
Other transport equipment	1.22	
		12.87
<i>Other industrial machinery & equipment & household appliances</i>		
Photographic and professional scientific equipment	0.42	
Appliances and electrical equipment	7.20	
Industrial machinery and equipment	5.25	
		4.23
<i>Miscellaneous manufacturing products</i>		
Leather and leather products	0.38	
Rubber products	1.31	
Plastic and related products	1.45	
Other manufactures	1.09	
	100.00	100.00
All Manufacturing Industry		

(a) Percentage contribution to the index aggregate based on estimated net production (i.e. production for sale or transfer outside the Manufacturing Division) in 1971-72, valued at relevant prices in 1968-69.