



PRICE INDEXES OF METALLIC MATERIALS, AUSTRALIA JUNE 1984

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EXPLANATORY NOTES

NOTE: This publication introduces, in Table 2, revised *Price Indexes of Copper Materials Used in the Manufacture of Electrical Equipment*, on a reference base 1983-84 = 100.0. These indexes have been compiled using a revised sample of prices and replace the previously published indexes which had a reference base of 1968-69 = 100.0 and which were last published for August 1983. A more detailed description of the revised indexes is given in the Appendix to this publication. The Appendix also shows the composition of each of the revised indexes and explains how the revised indexes can be linked to the previous indexes to obtain a continuous series on the reference base of the previous indexes.

Introduction

Table 1 of this publication contains index numbers for the *Price Index of Metallic Materials Used in the Manufacture of Fabricated Metal Products*. This index is described in paragraph 3 below and a detailed description is contained in *Labour Report No. 57, 1972*.

Items and weights

2. All the indexes included in this publication are fixed weights indexes.

3. The items included in the *Price Indexes of Metallic Materials Used in the Manufacture of Fabricated Metal Products* are important metallic materials whose prices are combined in accordance with a weighting pattern representing the value of usage as reported in the 1968-69 Census of Manufacturing Establishments, for establishments classified to the Fabricated Metal Products Subdivision of Manufacturing Industry (Australian Standard Industrial Classification—Subdivision 31).

4. The Appendix to this publication describes the items and weights used to compile the three *Price Indexes of Copper Materials Used in the Manufacture of Electrical Equipment* presented in this publication: *Industrial electric motors*; *Distribution transformers*; and *Power transformers*. The items were selected and allocated weights in accordance with the estimated average values of copper materials used in the manufacture of each type of equipment in the year 1982-83, revalued to the relevant

prices applying in the reference base year 1983-84. The estimated values were derived from data reported by a sample of manufacturers for representative types of equipment in each category. The weights attributed to each item in each index reflect the average usage by industry in 1982-83 and, as such, do not necessarily reflect the relative values of materials used by particular manufacturers.

Prices

5. Most of the prices used in these indexes relate to the mid-point of the month. Prices are those charged to the manufacturers of fabricated metal products and electrical equipment by major manufacturers or distributors for materials delivered into store. Price series relate to goods of fixed specifications with the aim of incorporating in the index price changes for representative materials of constant quality.

Interpretation of the indexes

6. Because the 'All groups' index included in Table 1 is significantly affected by rapidly changing prices for silver, a special grouping 'All groups excluding silver' is included in order to indicate more accurately the general trend in prices for metallic materials.

7. The copper materials index for *Industrial electric motors* in Table 2 is intended to measure price movements of copper materials used in electric motors for industrial applications only. As a result, this index will not necessarily reflect the price movements of copper materials used in the manufacture of other smaller types of electric motors, such as those used as components in white goods or other domestic appliances.

8. Changes in index numbers for individual months should not be interpreted in isolation and without reference to changes over longer periods, because short term movements may reflect irregular fluctuations in metal prices.

9. Index numbers for financial years are simple averages of the relevant monthly index numbers.

10. Index numbers for the most recent month are preliminary and subject to revision. However, it may be necessary from time to time to revise index numbers for earlier periods if incorrect prices for those periods are detected or if the sample of prices used to compile the indexes is found to be defective.

Related publications

11. Users may also wish to refer to the following price index publications which are available on request:

Price Indexes of Articles Produced by Manufacturing Industry, Australia (6412.0)—issued monthly

Price Index of Materials Used in Manufacturing Industry, Australia (6411.0)—issued monthly

Price Index of Materials Used in Building Other than House Building, Six State Capital Cities and Darwin (6407.0)—issued monthly

Price Index of Materials Used in House Building, Six State Capital Cities (6408.0)—issued monthly

12. Current publications produced by the ABS are listed in the *Catalogue of Publications, Australia* (1101.0). The ABS also issues, on Tuesdays and Fridays, a *Publications Advice* (1105.0) which lists publications to be released in the next few days. The *Catalogue* and *Publications Advice* are available from any ABS office.

Symbols and other usages

- p preliminary—figure or series subject to revision
- nil or rounded to zero
- n.a. not available

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TABLE 1. PRICE INDEX OF METALLIC MATERIALS USED IN THE MANUFACTURE OF FABRICATED METAL PRODUCTS GROUP AND ALL GROUPS INDEX NUMBERS AND PERCENTAGE CHANGES
(Base of each index: Year 1968-69 = 100.0)

	<i>Iron and steel</i>	<i>Aluminium</i>	<i>Copper and brass</i>	<i>Zinc</i>	<i>Silver</i>	<i>All groups</i>	<i>All groups excluding silver</i>
<i>Value weight (%) (a)</i>	83.2%	8.9%	5.7%	0.5%	1.7%	100.0%	
1981-82	370.2	291.2	210.0	373.8	406.3	354.7	353.7
1982-83	407.7	312.2	231.1	400.3	624.6	392.8	388.7
1983-84p	437.9	360.4	239.9	483.1	607.4	422.9	419.6
1982-83—							
May	419.9	317.7	257.6	421.5	816.4	408.3	401.2
June	422.6	330.0	256.4	423.0	754.7	410.5	404.5
1983-84—							
July	423.3	334.3	256.8	435.9	766.4	411.8	405.6
August	430.4	335.3	255.4	443.1	765.5	417.7	411.7
September	432.7	348.3	248.2	453.2	754.9	420.3	414.4
October	435.6	360.5	235.7	455.3	612.3	420.6	417.3
November	435.8	362.3	229.8	468.3	534.3	419.4	417.3
December	438.1	361.0	233.4	476.8	573.2	422.1	419.4
January	439.9	362.2	234.2	488.8	508.1	422.7	421.1
February	439.9	362.7	232.1	495.0	541.5	423.2	421.1
March	441.4	374.5	232.8	498.8	566.9	426.0	423.5
April	446.1	374.5	242.0	514.3	559.5	430.4	428.1
May	446.0	374.8	239.6	530.3	551.9	430.1	428.0
June p	446.1	374.9	238.9	537.4	554.6	430.3	428.1
Percentage change between—							
June 1983 and June 1984	+5.6	+13.6	-6.8	+27.0	-26.5	+4.8	+5.8
May 1984 and June 1984	—	—	-0.3	+1.3	+0.5	—	—

(a) Composition and weighting pattern as at reference base year; see paragraph 3 of Explanatory notes.

TABLE 2. PRICE INDEXES OF COPPER MATERIALS USED IN THE MANUFACTURE OF ELECTRICAL EQUIPMENT
INDEX NUMBERS (a)
(Base of each index: Year 1983-84 = 100.0)

	<i>Copper materials used in the manufacture of—</i>		
	<i>Industrial electric motors</i>	<i>Distribution transformers</i>	<i>Power transformers</i>
1981-82	n.a.	88.3	87.1
1982-83	n.a.	98.0	97.0
1983-84	100.0	100.0	100.0
1982-83—			
May	n.a.	108.4	108.3
June	n.a.	107.4	107.4
1983-84—			
July	107.1	107.7	107.4
August	106.1	106.7	106.4
September	104.3	104.5	103.7
October	98.4	98.7	97.8
November	94.9	95.1	94.3
December	98.2	97.3	97.7
January	98.2	97.3	97.3
February	96.6	96.2	95.9
March	97.1	97.2	96.6
April	100.6	100.5	101.8
May	98.9	99.3	100.4
June	99.6	99.5	100.6

(a) Index numbers for all series from July 1983 onward are based on revised weights (see paragraph 4 of the Explanatory notes). Index numbers prior to July 1983 are based on the previous weights and are as published in the August 1983 issue except that they have been converted from reference base 1968-69 = 100.0 to reference base 1983-84 = 100.0 (see paragraph 8 of the Appendix).

APPENDIX

PRICE INDEXES OF COPPER MATERIALS USED IN THE MANUFACTURE OF ELECTRICAL EQUIPMENT

Introduction

This Appendix describes three new *Price Indexes of Copper Materials Used in the Manufacture of Electrical Equipment*, namely:

- Industrial electric motors;
- Distribution transformers; and
- Power transformers

Up to August 1983 the ABS published the following Price Indexes of Copper Materials Used in the Manufacture of Electrical Equipment:

- Electric motors and motor control equipment;
- High voltage and low voltage switchgear;
- Distribution transformers;
- Power transformers; and
- General transformers.

2. Following discussions between the ABS, the Australian Electrical and Electronic Manufacturers Association (AEEEMA) and the Electricity Supply Association of Australia (ESAA), the 'General transformers' index has been discontinued and the 'Electric motors and motor control equipment' index has been replaced by a new index for 'Electric motors' only. Discussions are continuing about the possible need for a new index to replace the previously published 'High and low voltage switchgear' index and for an index for 'Motor control equipment'.

3. These indexes measure changes in prices of copper materials used in producing each type of equipment. The indexes relate to copper materials only; other types of materials used (e.g. steel; transformer oil) are not included within the scope of these indexes.

Items and weights

4. The indexes are fixed weight indexes. The items were selected and allocated weights in accordance with the estimated average values of copper materials used in the manufacture of each type of equipment in the year 1982-83, revalued to the relevant prices applying in the *reference base year 1983-84*. The estimated values were derived from data reported by a sample of manufacturers for representative types of equipment in each category. The weights attributed to each item in each index reflect the average usage by industry in 1982-83 and, as such, do not necessarily reflect the relative values of materials used by particular manufacturers.

5. The percentage contributions for individual items in each index are shown in Table A1. It should be noted that some items are included in more than one index: enamelled winding wire is an item in both the Industrial electric motors index and the Distribution transformers index; strip is included in all the indexes; and busbar is included in the Industrial electric motors index and the

Power transformers index. The types of each material priced reflect the actual types used in the manufacture of each type of electrical equipment. For example, the prices for strip reflect the current usage of paper covered strip, enamelled strip, or bare strip in each type of equipment.

Prices

6. Most of the prices used in these indexes are collected at the mid-point of the month to which the indexes refer. Prices used are those actually charged to the manufacturers of electrical equipment by major manufacturers or distributors for copper materials delivered into store. Price series relate to goods of fixed specifications with the aim of incorporating in the index price changes for representative materials of constant quality.

Index numbers

7. While the items and weights shown in Table A1 of the Appendix will remain fixed, the particular types of materials priced for each index, and the proportions in which they are combined within each item, will be revised from time to time to reflect changes in manufacturing practice. Such changes will not be allowed to affect index levels.

Linking revised and previously published indexes

8. The indexes previously published were compiled up to August 1983 and had a reference base of 1968-69 = 100.0. The revised indexes, which have been compiled from July 1983, are on a reference base 1983-84 = 100.0. In Table 2 the old and new index series for Distribution transformers and Power transformers have been linked to provide continuous series. Because there are significant differences between the composition of the Industrial electrical motors index and the previous Electric motors and motor control equipment index, the two have not been linked to form a continuous series.

9. The following information is supplied to assist users who have a need to convert index numbers from the new reference base to the old. In this example index numbers for Distribution transformers are used, but the same procedure can be followed for other indexes.

10. A conversion factor is calculated as follows:

Distribution transformers index—

index number for August 1983 (on base 1983-84 = 100.0) is 106.7

index number for August 1983 (on base 1968-69 = 100.0) is 214.0

conversion factor $214.0 \div 106.7 = 2.006$

This factor can be applied to any Distribution transformers index number on the new reference base to obtain the corresponding index number on the old reference base.

11. Table A2 shows conversion factors calculated on the above basis, using August 1983 as the link month. If July 1983 is preferred as the link month the procedure to be followed is the same as that outlined above except that July 1983 index numbers are substituted.

12. As noted in paragraph 8, the composition of the Industrial electric motors index is significantly different from that of the previous Electric motors and motor control equipment index and, for this reason, it is not recommended that users attempt to link the two to produce a continuous index series.

13. Users who have any queries concerning linking or any other matters contained in this Appendix should contact Mr T. L. Harlow by telephoning (062) 526197.

AUSTRALIAN BUREAU OF STATISTICS
CANBERRA

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TABLE A1. PRICE INDEXES OF COPPER MATERIALS USED IN THE MANUFACTURE OF ELECTRICAL EQUIPMENT : COMPOSITION AND WEIGHTING IN REFERENCE YEAR 1983-84

<i>Index</i>	<i>Item</i>	<i>Percentage contribution of items to index(a)</i>
<i>Industrial electric motors</i>	Enamelled winding wire	59.4
	Strip	33.1
	Busbar	6.7
	Cable	0.8
		100.0
<i>Distribution transformers</i>	Enamelled winding wire	82.5
	Strip	17.5
		100.0
<i>Power transformers</i>	Strip	98.3
	Busbar	1.7
		100.0

(a) Percentage contributions reflect estimated usage in 1982-83 revalued to average 1983-84 prices.

TABLE A2. PRICE INDEXES OF COPPER MATERIALS USED IN THE MANUFACTURE OF ELECTRICAL EQUIPMENT : CONVERSION FACTORS(a)

<i>Indexes to be converted</i>		<i>Factors for conversion of index numbers from base year 1983-84 = 100.0 to base year 1968-69 = 100.0(b)</i>
<i>New series (Base year 1983-84 = 100.0)</i>	<i>Previous series (Base year 1968-69 = 100.0)</i>	
Industrial electric motors	Electric motors and motor control equipment	n.s.(c)
Distribution transformers	Distribution transformers	2.006
Power transformers	Power transformers	2.227

(a) See paragraphs 8 to 13 of the Appendix. (b) Calculated as shown in paragraph 10. (c) See paragraphs 8 and 12.