

# **MANUFACTURING INDUSTRY**

**TASMANIA**

EMBARGO: 11:30AM (CANBERRA TIME) WED 10 NOV 1999

## **C O N T E N T S**

|                     | <i>page</i> |
|---------------------|-------------|
| Notes.....          | 2           |
| Main features ..... | 3           |

## **T A B L E S**

### **MANUFACTURING ESTABLISHMENTS**

|  |    |
|--|----|
| <b>1</b> Summary of operations—1992–93 to 1997–98 .....      | 7  |
| <b>2</b> Effect of changes to definitions .....              | 9  |
| <b>3</b> Summary of operations—industry class .....          | 10 |
| <b>4</b> Summary of operations—employment size .....         | 15 |
| <b>5</b> Exported goods produced—broad employment size ..... | 19 |
| <b>6</b> Summary of operations—proportion of exports .....   | 20 |

## **A D D I T I O N A L I N F O R M A T I O N**

|                         |    |
|-------------------------|----|
| Explanatory notes ..... | 21 |
| Technical note .....    | 27 |
| Standard errors .....   | 28 |
| Glossary .....          | 29 |

- For further information about these and related statistics, contact John Ridley on Sydney 02 9268 4541, or Client Services in any ABS office as shown on the back cover of this publication.

## NOTES

### ANNUAL MANUFACTURING INDUSTRY COLLECTION

The 1997–98 collection was conducted as a sample survey of approximately 19,000 manufacturing establishments, which were requested to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. A sub-sample of approximately 7,000 establishments was also asked to provide detailed structural and performance data, and value of sales for commodities produced.



### ABOUT THIS ISSUE

This issue includes estimates for 'Industry value added' (IVA) which measures the value added by an industry to the intermediate inputs used by the industry. Under new international standards, this measure replaces 'Industry gross product' (IGP) in manufacturing industry statistics as the measure of the industry's contribution to gross domestic product. Table 1 presents estimates for 1997–98 for both IGP and IVA. It should also be noted that IVA is not the same variable as 'Value added' which was published for manufacturing establishments until 1992–93.

Estimates for turnover in this publication have also been affected (but only to a minor extent) by the new international standards. Table 2 presents percentage differences between estimates for turnover calculated on the basis of the most recent international standards and corresponding estimates calculated on the basis of the standards which applied previously, and percentage differences between IVA and IGP.

See paragraphs 11–14 of the Explanatory Notes and the Glossary for details of the composition of the relevant variables described above and for explanations of the differences between the new and previous standards as they apply to estimates in this publication.



### DATA TO BE RELEASED IN OTHER PUBLICATIONS

Detailed manufacturing industry statistics for each State have been released progressively in a series of publications *Manufacturing Industry, [State], 1997–98* (Cat. nos 8221.1–8221.6). The publication for New South Wales (Cat. no. 8221.1) also contains selected data for the Australian Capital Territory.

Commodity data will be released in *Manufacturing Production, Commodities Produced, Australia, 1997–98* (Cat. no. 8365.0), to be released in December 1999.

Management unit data and a wide range of manufacturing related Australian Bureau of Statistics (ABS) data, as well as data from other sources, will be presented in the compendium publication *Manufacturing, Australia, 1999* (Cat. no. 8225.0), to be released in December 1999.

Stevan R. Matheson  
Regional Director

## MAIN FEATURES

### OVERVIEW

Turnover for the year 1997–98 by manufacturing establishments operating in Tasmania was \$4,998m, which resulted in an industry value added (IVA) for the year of \$1,581m. For turnover, this represents a 5.4% increase in current price terms from the \$4,743m recorded for 1996–97. These manufacturing establishments employed 20,900 persons at the end of June 1998 and paid \$729m in wages and salaries in 1997–98.

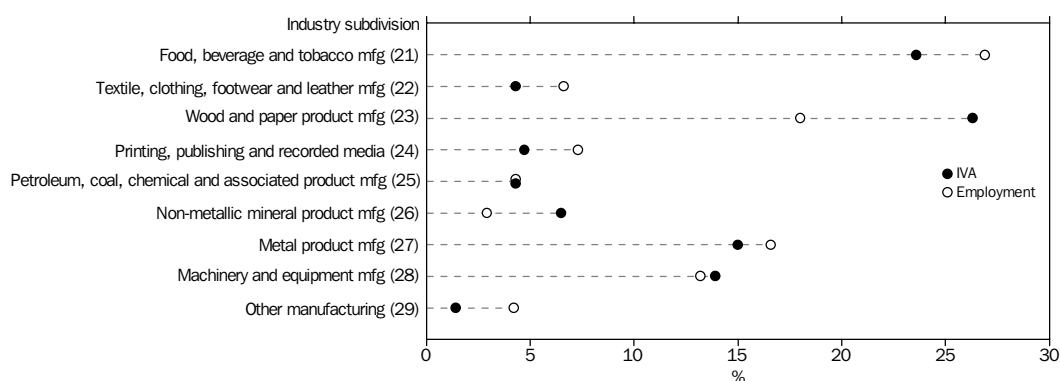
The percentage of Australian manufacturing employment in Tasmania at the end of June 1998 was 2.2%, a decrease of 0.1 percentage point on that reported at the end of June 1997. The Tasmanian industry subdivisions which made a significant contribution to national manufacturing employment at the end of June 1998 at the industry subdivision level were Wood and paper product manufacturing (6.0%) and Food, beverage and tobacco manufacturing (3.3%).

The percentage contribution by Tasmania to total Australian manufacturing turnover and IVA in 1997–98 was 2.3% in each case. For turnover, this represents the same percentage contribution as in 1996–97. The Tasmanian industry subdivision which made a significant contribution to national manufacturing turnover and IVA in 1997–98 at the industry subdivision level was Wood and paper product manufacturing (10.3% and 10.5% respectively). This industry subdivision also contributed 26.3% to total manufacturing IVA in Tasmania, which is the highest relative contribution, by far, of this industry subdivision to any State/Territory's total manufacturing IVA. The next highest contribution of this industry subdivision to any State/Territory's total manufacturing IVA was for Queensland (6.5%).

### INDUSTRY VALUE ADDED

IVA (see the Glossary for its definition) for 1997–98 was \$1,581m.

### DISTRIBUTION OF IVA AND EMPLOYMENT



The industry subdivisions with the largest contribution to total manufacturing IVA and the most notable industry classes (or groups) within those subdivisions (as a percentage of Tasmania's total manufacturing IVA) were:

- Wood and paper product manufacturing (26.3%), where the only industry group available for publication, Log sawmilling and timber dressing (ANZSIC Group 231), contributed 12.5%.

## MAIN FEATURES *continued*

### INDUSTRY VALUE ADDED *continued*

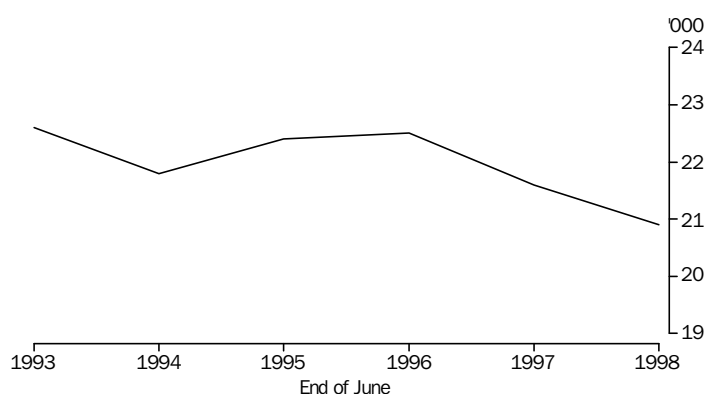
- Food, beverage and tobacco manufacturing (23.6%), where the industry groups Other food manufacturing (ANZSIC Group 217 at 7.1%), Fruit and vegetable processing (ANZSIC Group 213 at 5.1%) and Dairy product manufacturing (ANZSIC Group 212 at 4.6%) were the most substantial.
- Metal product manufacturing (15.0%), where the industry class Copper, silver, lead and zinc smelting, refining (ANZSIC Class 2723 at 7.4%) was the most substantial.
- Machinery and equipment manufacturing (13.9%).

Industry groups making a notable contribution to industry value added and not included in the subdivisions listed above included Cement, lime, plaster and concrete product manufacturing (ANZSIC Group 263 at 6.0%) and Publishing (ANZSIC Group 242 at 2.9%).

### EMPLOYMENT AND WAGES

The Tasmanian manufacturing industry employed 20,900 persons at the end of June 1998 and paid \$729m in wages and salaries in 1997–98. This represents an average of \$34,900 paid in annual wages and salaries per person employed at the end of June 1998, an increase of 1.2% on the \$34,500 recorded twelve months earlier.

#### EMPLOYMENT



Tasmanian manufacturing employment decreased from June 1993 (22,600 persons) to June 1994 (21,800 persons), before making a recovery to June 1996 (22,500 persons). Employment in the Tasmanian manufacturing industry then decreased to June 1997 (21,600 persons), followed by a further fall of 700 persons or 3.3% between June 1997 and June 1998 (20,900 persons). Over the five years from June 1993 to June 1998, employment fell by 7.7% or 1,700 persons.

Between June 1997 and June 1998, employment decreased in five of the nine manufacturing industry subdivisions, remained steady in one and increased in the other three. The industry subdivisions with the largest percentage decreases were Non-metallic mineral product manufacturing (down 28.4%), Machinery and equipment manufacturing (down 11.4%) and Textile, clothing, footwear and leather manufacturing (down 10.3%). The largest percentage increase was recorded by Petroleum, coal, chemical and associated product manufacturing (up 13.5%).

Average wages and salaries paid per person employed at the end of June rose in four of the nine manufacturing industry subdivisions, remained unchanged in one and fell in the other four between 1996–97 and 1997–98.

## MAIN FEATURES *continued*

### EMPLOYMENT AND WAGES *continued*

The industry subdivisions to record the largest percentage increases in wages and salaries paid per person employed at the end of June were:

- Machinery and equipment manufacturing (up 18.4%—\$31,900 to \$37,800), where five (out of six) industry groups and 16 (out of 22) industry classes recorded an increase.
- Food, beverage and tobacco manufacturing (up 5.2%—\$31,200 to \$32,800), where five (out of eight) industry groups and 12 (out of 21) industry classes recorded an increase. The industry group to record the largest percentage increase was Fruit and vegetable processing (ANZSIC Group 213) (up 27.4%—\$35,500 to \$45,200). However, the largest industry group in the subdivision had a dampening effect—Other food manufacturing (ANZSIC Group 217) (down 4.7%—\$31,400 to \$29,900). This latter group accounted for 30% of both employment and wages and salaries in the industry subdivision.

The industry subdivision to record the largest percentage decrease between 1996–97 and 1997–98 in wages and salaries paid per person employed at the end of June was Wood and paper product manufacturing (down 6.5%—\$39,600 to \$37,000), where all three industry groups and seven (out of 11) industry classes recorded a decrease.

### TURNOVER

Note: Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. The effect on the data following the adoption of the new international standards is shown in table 2. These factors need to be taken into consideration in interpreting the following commentary.

Turnover rose, in current pricing terms, by \$254m to \$4,998m for 1997–98. This represents a 5.4% increase on the \$4,743m recorded for 1996–97.

Six of the nine manufacturing industry subdivisions recorded an increase in turnover between 1996–97 and 1997–98. Food, beverage and tobacco manufacturing remained the largest contributor to total manufacturing turnover in 1997–98, followed by Wood and paper product manufacturing and Metal product manufacturing. Machinery and equipment manufacturing recorded the largest increase in both dollar (up \$77m) and percentage (up 20.3%) terms. A large percentage increase was also recorded by Petroleum, coal, chemical and associated product manufacturing (up 17.2%). The second largest increase in dollar terms was recorded by Metal product manufacturing (up \$75m). The industry subdivisions to record a decrease in turnover were Non-metallic mineral product manufacturing (down 8.1%), Other manufacturing (down 4.7%) and Textile, clothing, footwear and leather manufacturing (down 3.6%).

### EXPORTS

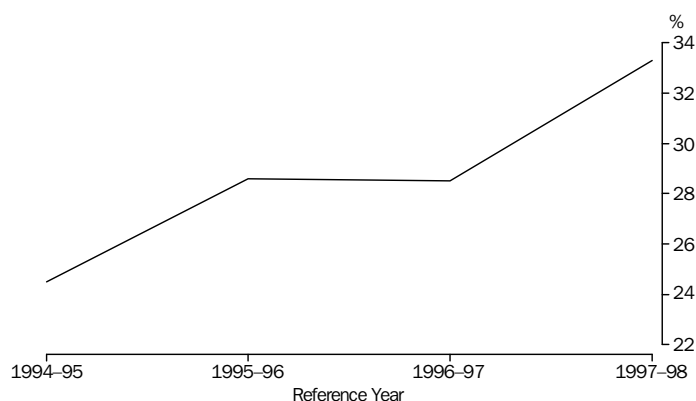
For 1997–98, Tasmanian manufacturers directly exported \$1,586m of the goods that they produced. This represents a 23.2% increase on the \$1,287m recorded for 1996–97. The percentage of the total sales and transfers out of goods for sale produced that were exported has also increased (from 28.5% for 1996–97 to 33.3% for 1997–98). In 1997–98, Tasmania directly exported a higher percentage of goods than any other State. This was also the case from 1994–95 to 1996–97 (inclusive).

## MAIN FEATURES *continued*

### EXPORTS *continued*

Manufacturers' direct exports increased in eight out of the nine industry subdivisions between 1996–97 and 1997–98. The most significant contributors to the overall dollar increase in direct exports were Machinery and equipment manufacturing (up \$84m or 28.2% of the total increase) and Metal product manufacturing (up \$82m or 27.5% of the total increase).

### EXPORTS AS A PROPORTION OF GOODS PRODUCED



Commencing with the 1994–95 manufacturing collection, data on exports have been consistently collected as part of the annual manufacturing collection. Exports as a proportion of sales and transfers out of goods for sale produced has increased from 24.5% for 1994–95 to 33.3% for 1997–98. The proportion was steady between 1995–96 (28.6%) and 1996–97 (28.5%).

The value of direct exports has increased, in current prices, from \$1,026m for 1994–95 to \$1,586m for 1997–98. The most significant contributors to this increase were Metal product manufacturing (up \$261m—up 12.7 percentage points to a ratio value of 59.9%) and Machinery and equipment manufacturing (up \$133m—up 9.1 percentage points to 63.1%).

| INDUSTRY SUBDIVISION |  |          | Employment<br>at end<br>of June(c) | Wages and<br>salaries(d)(e) | Turnover(e) | Industry<br>gross<br>product(e) | Industry<br>value<br>added(e) | Ratio of<br>wages and<br>salaries to<br>turnover(e) | Turnover<br>per person<br>employed<br>(e)(f) |
|----------------------|--|----------|------------------------------------|-----------------------------|-------------|---------------------------------|-------------------------------|---|--|
| ANZSIC<br>code       | Description  |          | '000                               | \$m                         | \$m         | \$m                             | \$m                           | ratio   | \$'000                                       |
| 21                   | Food, beverage and tobacco mfg                       | 1997-98  | 5.6                                | 184.5                       | (g)1 416.3  | (h)360.4                        | (h)373.9                      | 0.13  | 251.8  |
|                      |  | 1996-97r | 5.7                                | 176.2                       | 1 358.0     | 383.2                           | ..                            | 0.13  | 240.3  |
|                      |  | 1995-96  | 5.7                                | (i)159.9                    | 1 361.1     | 426.8                           | ..                            | 0.12  | 238.1  |
|                      |  | 1994-95  | 5.7                                | 162.1                       | 1 303.6     | ..                              | ..                            | 0.12  | 227.7  |
|                      |  | 1993-94  | 6.1                                | 166.4                       | 1 348.4     | ..                              | ..                            | 0.12  | 221.7  |
|                      |  | 1992-93  | 6.0                                | 148.0                       | 1 226.8     | 333.0                           | ..                            | 0.12  | 205.3  |
| 22                   | Textile, clothing, footwear and leather mfg          | 1997-98  | 1.4                                | 39.4                        | (g)191.3    | (h)65.4                         | (h)68.4                       | 0.21  | 138.8  |
|                      |  | 1996-97  | 1.5                                | 44.0                        | 198.4       | 67.7                            | ..                            | 0.22  | 129.1  |
|                      |  | 1995-96  | 1.8                                | (i)48.0                     | 223.0       | 70.7                            | ..                            | 0.22  | 126.1  |
|                      |  | 1994-95  | 1.9                                | 46.1                        | 209.7       | ..                              | ..                            | 0.22  | r112.1                                       |
|                      |  | 1993-94  | 1.9                                | 47.4                        | 198.2       | ..                              | ..                            | 0.24  | 105.4  |
|                      |  | 1992-93  | 1.8                                | 42.6                        | 185.8       | 57.5                            | ..                            | 0.23  | 101.3  |
| 23                   | Wood and paper product mfg                           | 1997-98  | 3.8                                | 139.0                       | (g)1 183.4  | (h)403.3                        | (h)415.6                      | 0.12  | 315.4  |
|                      |  | 1996-97r | 3.8                                | 152.5                       | 1 140.2     | 478.8                           | ..                            | 0.13  | 296.2  |
|                      |  | 1995-96  | 4.0                                | (i)146.3                    | 1 126.1     | 542.4                           | ..                            | 0.13  | 283.5  |
|                      |  | 1994-95  | 4.1                                | 143.4                       | 1 114.0     | ..                              | ..                            | 0.13  | r271.9                                       |
|                      |  | 1993-94  | 3.6                                | 113.1                       | 892.2       | ..                              | ..                            | 0.13  | 245.7  |
|                      |  | 1992-93  | 4.5                                | 174.2                       | 961.8       | 353.5                           | ..                            | 0.18  | 211.8  |
| 24                   | Printing, publishing and recorded media              | 1997-98  | 1.5                                | 52.1                        | (g)182.3    | (h)70.8                         | (h)73.8                       | 0.29  | 119.0  |
|                      |  | 1996-97  | 1.6                                | 54.8                        | 180.7       | 83.9                            | ..                            | 0.30  | 112.3  |
|                      |  | 1995-96  | 1.8                                | (i)56.9                     | 167.2       | 87.3                            | ..                            | 0.34  | 91.1   |
|                      |  | 1994-95  | 1.8                                | 51.0                        | 159.2       | ..                              | ..                            | 0.32  | 86.9   |
|                      |  | 1993-94  | 1.8                                | 50.2                        | 143.3       | ..                              | ..                            | 0.35  | 81.4   |
|                      |  | 1992-93  | 1.6                                | 42.5                        | 125.5       | 64.8                            | ..                            | 0.34  | 80.1   |
| 25                   | Petroleum, coal, chemical and associated product mfg | 1997-98  | 0.9                                | 31.3                        | (g)198.6    | (h)66.6                         | (h)68.7                       | 0.16  | 222.9  |
|                      |  | 1996-97r | 0.8                                | 26.8                        | 169.4       | 50.0                            | ..                            | 0.16  | 215.9  |
|                      |  | 1995-96  | 0.7                                | (i)31.2                     | 214.9       | 56.7                            | ..                            | 0.15  | 297.1  |
|                      |  | 1994-95  | 0.9                                | 33.7                        | 220.9       | ..                              | ..                            | 0.15  | r253.2                                       |
|                      |  | 1993-94  | 0.9                                | 27.7                        | 210.0       | ..                              | ..                            | 0.13  | 237.3  |
|                      |  | 1992-93  | 0.9                                | 30.5                        | 227.7       | 73.2                            | ..                            | 0.13  | 254.4  |
| 26                   | Non-metallic mineral product mfg                     | 1997-98  | 0.6                                | 22.6                        | (g)226.1    | (h)100.3                        | (h)102.3                      | 0.10  | 376.3  |
|                      |  | 1996-97  | 0.8                                | 31.3                        | 246.0       | r90.6                           | ..                            | 0.13  | 293.1  |
|                      |  | 1995-96  | 0.9                                | (i)30.0                     | 258.0       | 121.6                           | ..                            | 0.12  | 279.8  |
|                      |  | 1994-95  | 1.0                                | 30.3                        | 250.1       | ..                              | ..                            | 0.12  | r257.1                                       |
|                      |  | 1993-94  | 1.0                                | 28.8                        | 242.3       | ..                              | ..                            | 0.12  | 252.4  |
|                      |  | 1992-93  | 0.8                                | 25.9                        | 193.7       | 66.4                            | ..                            | 0.13  | 230.6  |

(a) See paragraph 5 of the Explanatory Notes.

(b) For factors affecting comparability of data over the time periods shown, see paragraphs 11-18 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Value data are at current prices and, therefore, do not discount the impact of price changes.

(f) Turnover divided by the number of persons employed at the end of June. Includes working proprietors.

(g) Commencing with the 1997-98 manufacturing collection, new international standards apply to the calculation of turnover. The effect on the data following the adoption of the new international standards is shown in table 2. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(h) Commencing with the 1997-98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. Industry gross product is also shown for 1997-98. The effect on the data following the adoption of the new international standards is shown in table 2. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

(i) For 1995-96, excludes provision expenses for employee entitlements. See paragraph 18 of the Explanatory Notes.

| INDUSTRY SUBDIVISION      |                             |          | Employment<br>at end<br>of June(c) | Wages and<br>salaries(d)(e) | Turnover(e) | Industry<br>gross<br>product(e) | Industry<br>value<br>added(e) | Ratio of<br>wages and<br>salaries to<br>turnover(e) | Turnover<br>per person<br>employed<br>(e)(f) |
|---------------------------|-----------------------------|----------|------------------------------------|-----------------------------|-------------|---------------------------------|-------------------------------|---|--|
| ANZSIC<br>code            | Description                 |          | '000                               | \$m                         | \$m         | \$m                             | \$m                           | ratio   | \$'000                                       |
|                           |                             |          |                                    |                             |             |                                 |                               |   |  |
| 27                        | Metal product mfg           | 1997-98  | 3.5                                | 140.1                       | (g)1 085.8  | (h)225.0                        | (h)236.7                      | 0.13  | 313.7  |
|                           |                             | 1996-97r | 3.4                                | 143.7                       | 1 010.4     | 184.3                           | ..                            | 0.14  | 300.5  |
|                           |                             | 1995-96  | 3.4                                | (i)112.6                    | 1 023.6     | 340.0                           | ..                            | 0.11  | 299.4  |
|                           |                             | 1994-95  | 3.4                                | 114.4                       | 817.1       | ..                              | ..                            | 0.14  | 237.1  |
|                           |                             | 1993-94  | 3.4                                | 132.5                       | 795.2       | ..                              | ..                            | 0.17  | 235.5  |
|                           |                             | 1992-93  | 4.2                                | 150.8                       | 839.1       | 197.2                           | ..                            | 0.18  | 201.8  |
| 28                        | Machinery and equipment mfg | 1997-98  | 2.8                                | 103.9                       | (g)454.6    | (h)211.9                        | (h)219.0                      | 0.23  | 165.2  |
|                           |                             | 1996-97r | 3.1                                | 99.0                        | 377.9       | 136.8                           | ..                            | 0.26  | 121.6  |
|                           |                             | 1995-96  | 3.2                                | (i)94.9                     | 384.7       | 141.5                           | ..                            | 0.25  | 121.7  |
|                           |                             | 1994-95  | 2.8                                | 79.5                        | 269.0       | ..                              | ..                            | 0.30  | 96.9   |
|                           |                             | 1993-94  | 2.5                                | 65.6                        | 233.0       | ..                              | ..                            | 0.28  | 93.4   |
|                           |                             | 1992-93  | 2.0                                | 47.5                        | 177.9       | 59.1                            | ..                            | 0.27  | 89.1   |
| 29                        | Other manufacturing         | 1997-98  | 0.9                                | 15.9                        | (g)59.5     | (h)21.9                         | (h)22.5                       | 0.27  | 67.2   |
|                           |                             | 1996-97  | 0.8                                | 15.9                        | r62.4       | 21.2                            | ..                            | 0.25  | 74.3   |
|                           |                             | 1995-96  | 1.0                                | (i)17.3                     | 60.9        | 24.4                            | ..                            | 0.28  | 60.2   |
|                           |                             | 1994-95  | 0.8                                | 15.2                        | 61.6        | ..                              | ..                            | 0.25  | 73.5   |
|                           |                             | 1993-94  | 0.8                                | 13.4                        | 54.2        | ..                              | ..                            | 0.25  | 69.6   |
|                           |                             | 1992-93  | 0.8                                | 15.5                        | 58.2        | 19.9                            | ..                            | 0.27  | 71.6   |
| 21-29 Total manufacturing |                             | 1997-98  | 20.9                               | 728.8                       | (g)4 997.9  | (h)1 525.5                      | (h)1 581.0                    | 0.15  | 239.4  |
|                           |                             | 1996-97  | 21.6                               | 744.3                       | r4 743.5    | r1 496.5                        | ..                            | 0.16  | 219.8  |
|                           |                             | 1995-96  | 22.5                               | (i)697.0                    | 4 819.4     | 1 811.5                         | ..                            | 0.14  | 213.9  |
|                           |                             | 1994-95  | 22.4                               | 675.6                       | 4 405.3     | ..                              | ..                            | 0.15  | 196.4  |
|                           |                             | 1993-94  | 21.8                               | 645.1                       | 4 116.8     | ..                              | ..                            | 0.16  | 188.4  |
|                           |                             | 1992-93  | 22.6                               | 677.4                       | 3 996.5     | 1 224.6                         | ..                            | 0.17  | 176.7  |

(a) See paragraph 5 of the Explanatory Notes.

(b) For factors affecting comparability of data over the time periods shown, see paragraphs 11-18 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Value data are at current prices and, therefore, do not discount the impact of price changes.

(f) Turnover divided by the number of persons employed at the end of June. Includes working proprietors.

(g) Commencing with the 1997-98 manufacturing collection, new international standards apply to the calculation of turnover. The effect on the data following the adoption of the new international standards is shown in table 2. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(h) Commencing with the 1997-98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. Industry gross product is also shown for 1997-98. The effect on the data following the adoption of the new international standards is shown in table 2. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

(i) For 1995-96, excludes provision expenses for employee entitlements. See paragraph 18 of the Explanatory Notes.



| INDUSTRY SUBDIVISION             |  | Effect on<br>estimates<br>of turnover | Difference<br>between IVA<br>estimates and<br>IGP estimates |
|----------------------------------|--|---------------------------------------|---|
| ANZSIC<br>code                   | Description  | %                                     | %   |
| 21                               | Food, beverage and tobacco mfg                       | —                                     | 3.8   |
| 22                               | Textile, clothing, footwear and leather mfg          | —                                     | 4.6   |
| 23                               | Wood and paper product mfg                           | —                                     | 3.1   |
| 24                               | Printing, publishing and recorded media              | —                                     | 4.3   |
| 25                               | Petroleum, coal, chemical and associated product mfg | 0.1                                   | 3.2   |
| 26                               | Non-metallic mineral product mfg                     | —                                     | 2.0   |
| 27                               | Metal product mfg                                    | —                                     | 5.2   |
| 28                               | Machinery and equipment mfg                          | —                                     | 3.4   |
| 29                               | Other manufacturing                                  | —                                     | 2.9   |
| <b>21–29 Total manufacturing</b> |  | <b>—</b>                              | <b>3.6</b>  |

(a) This table presents percentage differences between estimates for turnover calculated on the basis of the most recent international standards and corresponding estimates calculated on the basis of the standards which applied previously, and percentage differences between IVA and IGP (the previous measure of an industry's contribution to GDP). Paragraphs 11–14 of the Explanatory Notes provide details of the changes to the international standards.

(b) Industry group and industry class estimates have been affected similarly, with one exception. IVA for Book and other publishing (ANZSIC Class 2423) is 56.3% lower than IGP for 1997–98.

| INDUSTRY CLASS                                     |   | Employment<br>at end<br>of June(b) | Wages and<br>salaries(c) | Turnover(d)    | Industry<br>value<br>added(e) | Turnover<br>per person<br>employed(f) | Industry<br>value added<br>per person<br>employed(g) |
|--|---|------------------------------------|--------------------------|----------------|-------------------------------|---------------------------------------|--|
| ANZSIC<br>code                                     | Description                                     | no.                                | \$m                      | \$m            | \$m                           | \$'000                                | \$'000   |
| <b>FOOD, BEVERAGE AND TOBACCO MFG</b>              |   |                                    |                          |                |                               |                                       |  |
| <b>Meat and meat product mfg</b>                   |   |                                    |                          |                |                               |                                       |  |
| 2113   | Bacon, ham and smallgood mfg                    | 217                                | 4.7                      | 31.4           | 6.4                           | 144.6                                 | 29.3   |
| 211  | Total(h)  | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>Dairy product mfg</b>                           |   |                                    |                          |                |                               |                                       |  |
| 2121   | Milk and cream processing                       | 176                                | 6.7                      | 72.0           | 12.9                          | 409.8                                 | 73.3   |
| 2122   | Ice cream mfg                                   | 5                                  | 0.1                      | 0.4            | 0.1                           | 69.7                                  | 25.3   |
| 2129   | Dairy product mfg n.e.c.                        | 575                                | 17.9                     | 209.4          | 59.0                          | 364.0                                 | 102.6  |
| 212  | Total   | 756                                | 24.6                     | 281.7          | 72.0                          | 372.7                                 | 95.3   |
| 213  | <b>Fruit and vegetable processing</b>           | 943                                | 42.6                     | 353.4          | 80.7                          | 374.6                                 | 85.6   |
| 214  | <b>Oil and fat mfg</b>                          | 7                                  | 0.1                      | 0.6            | 0.3                           | 80.9                                  | 37.6   |
| 215  | <b>Flour mill and cereal food mfg</b>           | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>Bakery product mfg</b>                          |   |                                    |                          |                |                               |                                       |  |
| 2161   | Bread mfg                                       | 312                                | 11.1                     | 34.4           | 11.9                          | 110.4                                 | 38.1   |
| 2162   | Cake and pastry mfg                             | 290                                | 6.8                      | 31.8           | 10.8                          | 109.5                                 | 37.3   |
| 216  | Total(h)  | 602                                | 17.9                     | 66.2           | 22.7                          | 109.9                                 | 37.7   |
| <b>Other food mfg</b>                              |   |                                    |                          |                |                               |                                       |  |
| 2174   | Prepared animal and bird feed mfg               | 80                                 | 2.6                      | 50.6           | 6.2                           | 634.8                                 | 77.3   |
| 2179   | Food mfg n.e.c.                                 | 45                                 | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 217  | Total(h)  | 1 752                              | 52.4                     | 411.2          | 111.5                         | 234.6                                 | 63.6   |
| <b>Beverage and malt mfg</b>                       |   |                                    |                          |                |                               |                                       |  |
| 2181   | Soft drink, cordial and syrup mfg               | 19                                 | 0.1                      | 0.8            | 0.1                           | 45.0                                  | 6.0  |
| 2182   | Beer and malt mfg                               | 222                                | 7.3                      | 63.6           | 19.1                          | 286.4                                 | 86.2   |
| 218  | Total(h)  | 257                                | 7.6                      | 65.8           | 19.7                          | 256.0                                 | 76.8   |
| 219  | <b>Tobacco product mfg</b>                      | —                                  | —                        | —              | —                             | —                                     | —  |
| <b>21</b>  | <b>Total food, beverage and tobacco mfg</b>     | <b>5 624</b>                       | <b>184.5</b>             | <b>1 416.3</b> | <b>373.9</b>                  | <b>251.8</b>                          | <b>66.5</b>  |
| <b>TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG</b> |   |                                    |                          |                |                               |                                       |  |
| 221  | <b>Textile fibre, yarn and woven fabric mfg</b> | 437                                | 14.7                     | 53.5           | 17.6                          | 122.3                                 | 40.3   |
| <b>Textile product mfg</b>                         |   |                                    |                          |                |                               |                                       |  |
| 2221   | Made-up textile product mfg                     | 172                                | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 2223   | Rope, cordage and twine mfg                     | 20                                 | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 222  | Total(h)  | 418                                | 12.7                     | 72.9           | 24.8                          | 174.7                                 | 59.4   |
| <b>Knitting mills</b>                              |   |                                    |                          |                |                               |                                       |  |
| 2232   | Cardigan and pullover mfg                       | 37                                 | 0.7                      | 3.0            | 1.2                           | 80.3                                  | 32.8   |
| 223  | Total(h)  | 37                                 | 0.7                      | 3.0            | 1.2                           | 80.3                                  | 32.8   |

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

(d) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(e) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

(f) Turnover divided by the number of persons employed at the end of June. Includes working proprietors.

(g) Industry value added divided by the number of persons employed at the end of June. Includes working proprietors.

(h) The total shown is that for all ANZSIC classes within this industry group. Data for other ANZSIC classes within the industry group are either not available for publication (due to confidentiality restrictions) or there are no units classified to those ANZSIC classes.

| INDUSTRY CLASS                                 |  | Employment<br>at end<br>of June(b) | Wages and<br>salaries(c) | Turnover(d)    | Industry<br>value<br>added(e) | Turnover<br>per person<br>employed(f) | Industry<br>value added<br>per person<br>employed(g) |
|--|--|------------------------------------|--------------------------|----------------|-------------------------------|---------------------------------------|--|
| ANZSIC<br>code                                 | Description  | no.                                | \$m                      | \$m            | \$m                           | \$'000                                | \$'000   |
| <b>Clothing mfg</b>                            |  |                                    |                          |                |                               |                                       |  |
| 2242   | Women's and girls' wear mfg                              | 15                                 | 0.2                      | 0.4            | 0.2                           | 24.0                                  | 10.5   |
| 2249   | Clothing mfg n.e.c.                                      | 80                                 | 0.9                      | 3.2            | 1.4                           | 39.9                                  | 17.2   |
| 224  | Total(h)   | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 225  | <b>Footwear mfg</b>                                      | 358                                | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 226  | <b>Leather and leather product mfg</b>                   | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>22</b>                                      | <b>Total textile, clothing, footwear and leather mfg</b> | <b>1 378</b>                       | <b>39.4</b>              | <b>191.3</b>   | <b>68.4</b>                   | <b>138.8</b>                          | <b>49.6</b>  |
| <b>WOOD AND PAPER PRODUCT MFG</b>              |  |                                    |                          |                |                               |                                       |  |
| <b>Log sawmilling and timber dressing</b>      |  |                                    |                          |                |                               |                                       |  |
| 2313   | Timber resawing and dressing                             | 848                                | 26.5                     | 122.9          | 52.6                          | 145.0                                 | 62.1   |
| 231  | Total(h)   | 1 737                              | 53.8                     | 507.8          | 196.9                         | 292.4                                 | 113.4  |
| <b>Other wood product mfg</b>                  |  |                                    |                          |                |                               |                                       |  |
| 2323   | Wooden structural component mfg                          | 358                                | 7.1                      | 26.2           | 8.9                           | 73.1                                  | 24.8   |
| 2329   | Wood product mfg n.e.c.                                  | 74                                 | 0.9                      | 4.3            | 1.8                           | 58.3                                  | 24.5   |
| 232  | Total(h)   | 645                                | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 233  | <b>Paper and paper product mfg</b>                       | 1 371                              | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>23</b>                                      | <b>Total wood and paper product mfg</b>                  | <b>3 752</b>                       | <b>139.0</b>             | <b>1 183.4</b> | <b>415.6</b>                  | <b>315.4</b>                          | <b>110.8</b>   |
| <b>PRINTING, PUBLISHING AND RECORDED MEDIA</b> |  |                                    |                          |                |                               |                                       |  |
| <b>Printing and services to printing</b>       |  |                                    |                          |                |                               |                                       |  |
| 2411   | Paper stationery mfg                                     | 6                                  | 0.1                      | 0.3            | 0.1                           | 50.2                                  | 21.1   |
| 2412   | Printing   | 562                                | 16.0                     | 63.6           | 23.9                          | 113.2                                 | 42.5   |
| 2413   | Services to printing                                     | 78                                 | 2.2                      | 5.3            | 3.2                           | 68.2                                  | 41.1   |
| 241  | Total  | 646                                | 18.2                     | 69.2           | 27.2                          | 107.2                                 | 42.2   |
| <b>Publishing</b>                              |  |                                    |                          |                |                               |                                       |  |
| 2421   | Newspaper printing or publishing                         | 844                                | 33.4                     | 111.3          | 46.2                          | 131.8                                 | 54.7   |
| 2422   | Other periodical publishing                              | 33                                 | *0.4                     | *1.3           | 0.4                           | ***38.3                               | 10.5   |
| 2423   | Book and other publishing                                | 9                                  | 0.1                      | 0.6            | 0.1                           | 71.3                                  | 12.1   |
| 242  | Total  | 886                                | 33.9                     | 113.1          | 46.6                          | 127.6                                 | 52.6   |
| 243  | <b>Recorded media manufacturing and publishing</b>       | —                                  | —                        | —              | —                             | —                                     | —  |
| <b>24</b>                                      | <b>Total printing, publishing and recorded media</b>     | <b>1 532</b>                       | <b>52.1</b>              | <b>182.3</b>   | <b>73.8</b>                   | <b>119.0</b>                          | <b>48.2</b>  |

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(c) Excludes the drawings of working proprietors.

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(g) Industry value added divided by the number of persons employed at the end of June. Includes working proprietors.

(h) The total shown is that for all ANZSIC classes within this industry group. Data for other ANZSIC classes within the industry group are either not available for publication (due to confidentiality restrictions) or there are no units classified to those ANZSIC classes.

| INDUSTRY CLASS  |   | Employment<br>at end<br>of June(b) | Wages and<br>salaries(c) | Turnover(d)  | Industry<br>value<br>added(e) | Turnover<br>per person<br>employed(f) | Industry<br>value added<br>per person<br>employed(g) |
|---|---|------------------------------------|--------------------------|--------------|-------------------------------|---------------------------------------|--|
| ANZSIC<br>code  | Description   | no.                                | \$m                      | \$m          | \$m                           | \$'000                                | \$'000   |
| <b>PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG</b> |   |                                    |                          |              |                               |                                       |  |
| 251   | <b>Petroleum refining</b>   | —                                  | —                        | —            | —                             | —                                     | —  |
| 252   | <b>Petroleum and coal product mfg n.e.c.</b>                      | —                                  | —                        | —            | —                             | —                                     | —  |
| <b>Basic chemical mfg</b>                                   |   |                                    |                          |              |                               |                                       |  |
| 2535  | Inorganic industrial chemical mfg n.e.c.                          | 33                                 | 1.3                      | 7.5          | 1.9                           | 229.3                                 | 56.8   |
| 253   | <i>Total(h)</i>   | <i>n.p.</i>                        | <i>n.p.</i>              | <i>n.p.</i>  | <i>n.p.</i>                   | <i>n.p.</i>                           | <i>n.p.</i>  |
| <b>Other chemical product mfg</b>                           |   |                                    |                          |              |                               |                                       |  |
| 2542  | Paint mfg   | 13                                 | 0.4                      | 1.7          | 0.5                           | 128.9                                 | 37.7   |
| 2543  | Medicinal and pharmaceutical product mfg                          | 169                                | 9.3                      | 58.0         | 28.5                          | 343.3                                 | 168.5  |
| 2545  | Soap and other detergent mfg                                      | 16                                 | n.p.                     | n.p.         | n.p.                          | n.p.                                  | n.p.   |
| 2546  | Cosmetic and toiletry preparation mfg                             | 7                                  | 0.2                      | 2.4          | 0.2                           | 359.0                                 | 29.1   |
| 2549  | Chemical product mfg n.e.c.                                       | 9                                  | 0.2                      | 0.2          | -0.1                          | 19.9                                  | -14.1  |
| 254   | <i>Total(h)</i>   | <i>n.p.</i>                        | <i>n.p.</i>              | <i>n.p.</i>  | <i>n.p.</i>                   | <i>n.p.</i>                           | <i>n.p.</i>  |
| 255   | <b>Rubber product mfg</b>   | 104                                | 3.0                      | 14.9         | 5.6                           | 143.4                                 | 54.4   |
| <b>Plastic product mfg</b>                                  |   |                                    |                          |              |                               |                                       |  |
| 2562  | Plastic extruded product mfg                                      | 85                                 | 2.0                      | 12.8         | 2.6                           | 150.5                                 | 30.1   |
| 2563  | Plastic bag and film mfg  | 3                                  | —                        | 0.4          | 0.1                           | 132.5                                 | 28.0   |
| 256   | <i>Total(h)</i>   | 340                                | 8.3                      | 39.8         | 11.8                          | 117.1                                 | 34.6   |
| <b>25</b>   | <b>Total petroleum, coal, chemical and associated product mfg</b> | <b>891</b>                         | <b>31.3</b>              | <b>198.6</b> | <b>68.7</b>                   | <b>222.9</b>                          | <b>77.1</b>  |
| <b>NON-METALLIC MINERAL PRODUCT MFG</b>                     |   |                                    |                          |              |                               |                                       |  |
| 261   | <b>Glass and glass product mfg</b>                                | <i>n.p.</i>                        | <i>n.p.</i>              | <i>n.p.</i>  | <i>n.p.</i>                   | <i>n.p.</i>                           | <i>n.p.</i>  |
| <b>Ceramic mfg</b>  |   |                                    |                          |              |                               |                                       |  |
| 2629  | Ceramic product mfg n.e.c.  | 16                                 | 0.1                      | 0.4          | 0.2                           | 22.4                                  | 9.5  |
| 262   | <i>Total(h)</i>   | <i>n.p.</i>                        | <i>n.p.</i>              | <i>n.p.</i>  | <i>n.p.</i>                   | <i>n.p.</i>                           | <i>n.p.</i>  |
| <b>Cement, lime, plaster and concrete product mfg</b>       |   |                                    |                          |              |                               |                                       |  |
| 2635  | Concrete product mfg n.e.c.                                       | 123                                | 4.0                      | 13.1         | 5.4                           | 107.1                                 | 44.3   |
| 263   | <i>Total(h)</i>   | 431                                | 18.4                     | 210.2        | 95.3                          | 488.1                                 | 221.2  |
| 264   | <b>Non-metallic mineral product mfg n.e.c.</b>                    | 80                                 | 2.0                      | 7.9          | 3.6                           | 98.8                                  | 44.4   |
| <b>26</b>   | <b>Total non-metallic mineral product mfg</b>                     | <b>601</b>                         | <b>22.6</b>              | <b>226.1</b> | <b>102.3</b>                  | <b>376.3</b>                          | <b>170.3</b>   |

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| INDUSTRY CLASS                                   |  | Employment<br>at end<br>of June(b) | Wages and<br>salaries(c) | Turnover(d)    | Industry<br>value<br>added(e) | Turnover<br>per person<br>employed(f) | Industry<br>value added<br>per person<br>employed(g) |
|--|--|------------------------------------|--------------------------|----------------|-------------------------------|---------------------------------------|--|
| ANZSIC<br>code                                   | Description                                      | no.                                | \$m                      | \$m            | \$m                           | \$'000                                | \$'000   |
| <b>METAL PRODUCT MFG</b>                         |  |                                    |                          |                |                               |                                       |  |
| <b>Iron and steel mfg</b>                        |  |                                    |                          |                |                               |                                       |  |
| 2712   | Iron and steel casting and forging               | 110                                | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 271  | Total(h)   | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>Basic non-ferrous metal mfg</b>               |  |                                    |                          |                |                               |                                       |  |
| 2723   | Copper, silver, lead and zinc smelting, refining | n.p.                               | 38.1                     | 433.8          | 116.7                         | n.p.                                  | n.p.   |
| 2729   | Basic non-ferrous metal mfg n.e.c.               | —                                  | 0.1                      | 0.5            | 0.2                           | ..                                    | ..   |
| 272  | Total(h)   | 1 368                              | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 273  | <b>Non-ferrous basic metal product mfg</b>       | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>Structural metal product mfg</b>              |  |                                    |                          |                |                               |                                       |  |
| 2741   | Structural steel fabricating                     | 419                                | 12.9                     | 43.2           | 14.6                          | 103.0                                 | 34.9   |
| 2742   | Architectural aluminium product mfg              | 326                                | 9.2                      | 35.1           | 10.8                          | 107.9                                 | 33.2   |
| 2749   | Structural metal product mfg n.e.c.              | 12                                 | 0.2                      | 0.5            | 0.2                           | 41.2                                  | 17.1   |
| 274  | Total  | 757                                | 22.3                     | 78.8           | 25.6                          | 104.1                                 | 33.9   |
| 275  | <b>Sheet metal product mfg</b>                   | 332                                | 8.8                      | 35.3           | 12.5                          | 106.4                                 | 37.8   |
| <b>Fabricated metal product mfg</b>              |  |                                    |                          |                |                               |                                       |  |
| 2761   | Hand tool and general hardware mfg               | 45                                 | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| 2762   | Spring and wire product mfg                      | 19                                 | 0.5                      | 2.4            | 1.1                           | 122.4                                 | 56.8   |
| 2769   | Fabricated metal product mfg n.e.c.              | 444                                | 12.3                     | 45.6           | 17.5                          | 102.8                                 | 39.5   |
| 276  | Total(h)   | 592                                | 14.8                     | 56.2           | 22.0                          | 94.9                                  | 37.1   |
| <b>27</b>  | <b>Total metal product mfg</b>                   | <b>3 461</b>                       | <b>140.1</b>             | <b>1 085.8</b> | <b>236.7</b>                  | <b>313.7</b>                          | <b>68.4</b>  |
| <b>MACHINERY AND EQUIPMENT MFG</b>               |  |                                    |                          |                |                               |                                       |  |
| 281  | <b>Motor vehicle and part mfg</b>                | 609                                | 26.8                     | 66.2           | 34.6                          | 108.7                                 | 56.9   |
| <b>Other transport equipment mfg</b>             |  |                                    |                          |                |                               |                                       |  |
| 2822   | Boatbuilding                                     | 113                                | 2.9                      | 8.8            | 3.4                           | 78.4                                  | 30.1   |
| 2824   | Aircraft mfg                                     | 4                                  | 0.2                      | 0.5            | 0.2                           | 125.3                                 | 49.3   |
| 282  | Total(h)   | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>Photographic and scientific equipment mfg</b> |  |                                    |                          |                |                               |                                       |  |
| 2831   | Photographic and optical good mfg                | 12                                 | 0.3                      | 2.2            | 0.6                           | 183.3                                 | 47.9   |
| 2832   | Medical and surgical equipment mfg               | 48                                 | 1.1                      | 2.5            | 1.0                           | 52.8                                  | 20.5   |
| 2839   | Professional and scientific equipment mfg n.e.c. | 15                                 | 0.3                      | 1.0            | 0.6                           | 65.3                                  | 37.3   |
| 283  | Total  | 75                                 | 1.7                      | 5.7            | 2.1                           | 76.2                                  | 28.3   |
| <b>Electronic equipment mfg</b>                  |  |                                    |                          |                |                               |                                       |  |
| 2841   | Computer and business machine mfg                | 10                                 | 0.2                      | 1.6            | 0.2                           | 164.6                                 | 17.9   |
| 2849   | Electronic equipment mfg n.e.c.                  | 30                                 | 0.5                      | 1.3            | 0.6                           | 45.5                                  | 20.5   |
| 284  | Total(h)   | 39                                 | 0.7                      | 3.0            | 0.8                           | 75.4                                  | 19.8   |

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| INDUSTRY CLASS                                |   | Employment<br>at end<br>of June(b) | Wages and<br>salaries(c) | Turnover(d)    | Industry<br>value<br>added(e) | Turnover<br>per person<br>employed(f) | Industry<br>value added<br>per person<br>employed(g) |
|---|---|------------------------------------|--------------------------|----------------|-------------------------------|---------------------------------------|--|
| ANZSIC<br>code                                | Description   | no.                                | \$m                      | \$m            | \$m                           | \$'000                                | \$'000   |
| <b>Electrical equipment and appliance mfg</b> |   |                                    |                          |                |                               |                                       |  |
| 2854  | Electric light and sign mfg                           | 38                                 | 1.2                      | 5.3            | 2.0                           | 138.3                                 | 53.0   |
| 2859  | Electrical equipment mfg n.e.c.                       | 139                                | 6.1                      | 22.8           | 8.0                           | 164.7                                 | 57.4   |
| 285   | Total(h)  | n.p.                               | n.p.                     | n.p.           | n.p.                          | n.p.                                  | n.p.   |
| <b>Industrial machinery and equipment mfg</b> |   |                                    |                          |                |                               |                                       |  |
| 2861  | Agricultural machinery mfg                            | 41                                 | 0.8                      | 4.5            | 0.9                           | 110.1                                 | 20.8   |
| 2864  | Machine tool and part mfg                             | 57                                 | 1.2                      | 3.2            | 1.5                           | 56.3                                  | 26.0   |
| 2865  | Lifting and material handling equipment mfg           | 168                                | 6.0                      | 20.4           | 9.6                           | 120.9                                 | 56.8   |
| 2867  | Commercial space heating and<br>cooling equipment mfg | —                                  | 0.1                      | 0.4            | —                             | ..                                    | ..   |
| 286   | Total(h)  | 739                                | 25.8                     | 114.2          | 36.4                          | 154.5                                 | 49.2   |
| <b>28</b>                                     | <b>Total machinery and equipment mfg</b>              | <b>2 752</b>                       | <b>103.9</b>             | <b>454.6</b>   | <b>219.0</b>                  | <b>165.2</b>                          | <b>79.6</b>  |
| <b>OTHER MANUFACTURING</b>                    |   |                                    |                          |                |                               |                                       |  |
| 291   | <b>Prefabricated building mfg</b>                     | 39                                 | 0.8                      | 5.7            | 1.3                           | 145.5                                 | 33.6   |
| <b>Furniture mfg</b>                          |   |                                    |                          |                |                               |                                       |  |
| 2929  | Furniture mfg n.e.c.                                  | 203                                | 3.0                      | 7.6            | 3.6                           | 37.5                                  | 17.9   |
| 292   | Total(h)  | 757                                | 13.8                     | 49.7           | 19.7                          | 65.6                                  | 26.0   |
| <b>Miscellaneous manufacturing</b>            |   |                                    |                          |                |                               |                                       |  |
| 2941  | Jewellery and silverware mfg                          | 14                                 | 0.3                      | 0.9            | 0.3                           | 62.2                                  | 21.3   |
| 2942  | Toy and sporting good mfg                             | 17                                 | 0.2                      | 0.8            | 0.3                           | 45.1                                  | 15.3   |
| 2949  | Manufacturing n.e.c.                                  | 58                                 | 0.8                      | 2.5            | 1.0                           | 42.9                                  | 16.8   |
| 294   | Total   | 89                                 | 1.3                      | 4.1            | 1.5                           | 46.3                                  | 17.2   |
| <b>29</b>                                     | <b>Total other manufacturing</b>                      | <b>886</b>                         | <b>15.9</b>              | <b>59.5</b>    | <b>22.5</b>                   | <b>67.2</b>                           | <b>25.4</b>  |
| <b>21–29</b>                                  | <b>TOTAL MANUFACTURING</b>                            | <b>20 878</b>                      | <b>728.8</b>             | <b>4 997.9</b> | <b>1 581.0</b>                | <b>239.4</b>                          | <b>75.7</b>  |

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

(d) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(e) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

(f) Turnover divided by the number of persons employed at the end of June. Includes working proprietors.

(g) Industry value added divided by the number of persons employed at the end of June. Includes working proprietors.

(h) The total shown is that for all ANZSIC classes within this industry group. Data for other ANZSIC classes within the industry group are either not available for publication (due to confidentiality restrictions) or there are no units classified to those ANZSIC classes.

| Employment size group                                 | Employment at<br>end of June(c)..... |              | Wages and<br>salaries(d)(e)..... |              | Turnover(e)(f)..... |              | Industry value<br>added(e)(g)..... |              |
|---|--------------------------------------|--------------|----------------------------------|--------------|---------------------|--------------|------------------------------------|--------------|
|   | no.                                  | %            | \$m                              | %            | \$m                 | %            | \$m                                | %            |
| FOOD, BEVERAGE AND TOBACCO MANUFACTURING              |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons   | 89                                   | 1.6          | 1.2                              | 0.7          | 18.9                | 1.3          | 3.3                                | 0.9          |
| 5–9 persons   | 137                                  | 2.4          | 2.7                              | 1.5          | 34.3                | 2.4          | 13.9                               | 3.7          |
| 10–19 persons   | 266                                  | 4.7          | 6.2                              | 3.4          | 68.5                | 4.8          | 15.9                               | 4.2          |
| 20–49 persons   | 657                                  | 11.7         | 18.9                             | 10.3         | 242.0               | 17.1         | 54.6                               | 14.6         |
| 50–99 persons   | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| Total less than 100 persons                           | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 100–199 persons                                       | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons                                       | 1 856                                | 33.0         | 63.6                             | 34.5         | 464.3               | 32.8         | 121.1                              | 32.4         |
| 500–999 persons                                       | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 1 000 or more persons                                 | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons                             | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| <b>Total</b>  | <b>5 624</b>                         | <b>100.0</b> | <b>184.2</b>                     | <b>100.0</b> | <b>1 415.3</b>      | <b>100.0</b> | <b>373.9</b>                       | <b>100.0</b> |
| TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons   | 85                                   | 6.2          | 0.7                              | 1.8          | 4.2                 | 2.2          | 1.7                                | 2.4          |
| 5–9 persons   | 92                                   | 6.7          | 1.4                              | 3.5          | 5.5                 | 2.9          | 2.1                                | 3.0          |
| 10–19 persons   | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 20–49 persons   | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 50–99 persons   | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| Total less than 100 persons                           | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 100–199 persons                                       | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons                                       | 831                                  | 60.3         | 25.8                             | 65.5         | 103.6               | 54.1         | 43.5                               | 63.6         |
| 500–999 persons                                       | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 1 000 or more persons                                 | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons                             | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| <b>Total</b>  | <b>1 378</b>                         | <b>100.0</b> | <b>39.4</b>                      | <b>100.0</b> | <b>191.3</b>        | <b>100.0</b> | <b>68.4</b>                        | <b>100.0</b> |
| WOOD AND PAPER PRODUCT MANUFACTURING                  |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons   | 233                                  | 6.2          | 2.9                              | 2.1          | 72.8                | 6.2          | 18.1                               | 4.4          |
| 5–9 persons   | 282                                  | 7.5          | 6.0                              | 4.3          | 23.9                | 2.0          | 9.6                                | 2.3          |
| 10–19 persons   | 294                                  | 7.8          | 7.1                              | 5.1          | 29.8                | 2.5          | 12.1                               | 2.9          |
| 20–49 persons   | 473                                  | 12.6         | 11.7                             | 8.4          | 59.7                | 5.0          | 21.2                               | 5.1          |
| 50–99 persons   | 500                                  | 13.3         | 20.3                             | 14.6         | 293.7               | 24.8         | 115.8                              | 27.9         |
| Total less than 100 persons                           | 1 782                                | 47.5         | 47.9                             | 34.5         | 479.9               | 40.6         | 176.9                              | 42.6         |
| 100–199 persons                                       | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons                                       | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 500–999 persons                                       | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 1 000 or more persons                                 | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons                             | 1 971                                | 52.5         | 91.0                             | 65.5         | 703.4               | 59.4         | 238.8                              | 57.4         |
| <b>Total</b>  | <b>3 752</b>                         | <b>100.0</b> | <b>139.0</b>                     | <b>100.0</b> | <b>1 183.3</b>      | <b>100.0</b> | <b>415.6</b>                       | <b>100.0</b> |

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1997–98 but were not operating at 30 June 1998. See paragraph 19 of the Explanatory Notes.

(f) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(g) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

| Employment size group  | Employment at<br>end of June(c)..... |              | Wages and<br>salaries(d)(e)..... |              | Turnover(e)(f)..... |              | Industry value<br>added(e)(g)..... |              |
|--|--------------------------------------|--------------|----------------------------------|--------------|---------------------|--------------|------------------------------------|--------------|
|  | no.                                  | %            | \$m                              | %            | \$m                 | %            | \$m                                | %            |
| PRINTING, PUBLISHING AND RECORDED MEDIA                        |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons  | 110                                  | 7.2          | 2.0                              | 3.9          | 8.2                 | 4.5          | 2.8                                | 3.7          |
| 5–9 persons  | 108                                  | 7.0          | 2.6                              | 5.0          | 8.2                 | 4.5          | 3.9                                | 5.3          |
| 10–19 persons  | 109                                  | 7.1          | 2.5                              | 4.9          | 9.1                 | 5.0          | 4.6                                | 6.3          |
| 20–49 persons  | 229                                  | 14.9         | 6.7                              | 12.9         | 21.7                | 11.9         | 5.7                                | 7.7          |
| 50–99 persons  | 308                                  | 20.1         | 10.2                             | 19.7         | 43.4                | 23.8         | 13.5                               | 18.3         |
| Total less than 100 persons                                    | 864                                  | 56.4         | 24.1                             | 46.3         | 90.6                | 49.7         | 30.4                               | 41.2         |
| 100–199 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 500–999 persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 1 000 or more persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons                                      | 668                                  | 43.6         | 28.0                             | 53.7         | 91.8                | 50.3         | 43.4                               | 58.8         |
| <b>Total</b>   | <b>1 532</b>                         | <b>100.0</b> | <b>52.1</b>                      | <b>100.0</b> | <b>182.3</b>        | <b>100.0</b> | <b>73.8</b>                        | <b>100.0</b> |
| PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons  | 49                                   | 5.5          | 1.2                              | 3.7          | 6.6                 | 3.3          | 2.4                                | 3.5          |
| 5–9 persons  | 80                                   | 9.0          | 2.2                              | 7.1          | 14.2                | 7.1          | 3.5                                | 5.0          |
| 10–19 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 20–49 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 50–99 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| Total less than 100 persons                                    | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 100–199 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 500–999 persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 1 000 or more persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons                                      | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| <b>Total</b>   | <b>891</b>                           | <b>100.0</b> | <b>31.3</b>                      | <b>100.0</b> | <b>198.6</b>        | <b>100.0</b> | <b>68.6</b>                        | <b>100.0</b> |
| NON-METALLIC MINERAL PRODUCT MANUFACTURING                     |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons  | 85                                   | 14.1         | 1.0                              | 4.4          | 4.9                 | 2.2          | 1.3                                | 1.3          |
| 5–9 persons  | 39                                   | 6.5          | 0.9                              | 3.8          | 9.7                 | 4.3          | 2.1                                | 2.0          |
| 10–19 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 20–49 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 50–99 persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total less than 100 persons                                    | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 100–199 persons  | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 500–999 persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 1 000 or more persons  | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons                                      | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| <b>Total</b>   | <b>601</b>                           | <b>100.0</b> | <b>22.6</b>                      | <b>100.0</b> | <b>226.1</b>        | <b>100.0</b> | <b>102.3</b>                       | <b>100.0</b> |

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1997–98 but were not operating at 30 June 1998. See paragraph 19 of the Explanatory Notes.

(f) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(g) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.



| Employment size group                        | Employment at<br>end of June(c)..... |              | Wages and<br>salaries(d)(e)..... |              | Turnover(e)(f)..... |              | Industry value<br>added(e)(g)..... |              |
|--|--------------------------------------|--------------|----------------------------------|--------------|---------------------|--------------|------------------------------------|--------------|
|  | no.                                  | %            | \$m                              | %            | \$m                 | %            | \$m                                | %            |
| <b>METAL PRODUCT MANUFACTURING</b>           |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons                                  | 233                                  | 6.7          | 4.3                              | 3.1          | 18.5                | 1.7          | 6.8                                | 2.9          |
| 5–9 persons                                  | 291                                  | 8.4          | 7.0                              | 5.0          | 36.7                | 3.4          | 14.3                               | 6.0          |
| 10–19 persons                                | 451                                  | 13.0         | 11.4                             | 8.3          | 52.6                | 4.9          | 16.1                               | 6.8          |
| 20–49 persons                                | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 50–99 persons                                | 372                                  | 10.7         | 11.8                             | 8.5          | 43.5                | 4.0          | 17.7                               | 7.5          |
| <i>Total less than 100 persons</i>           | <i>n.p.</i>                          | <i>n.p.</i>  | <i>n.p.</i>                      | <i>n.p.</i>  | <i>n.p.</i>         | <i>n.p.</i>  | <i>n.p.</i>                        | <i>n.p.</i>  |
| 100–199 persons                              | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 200–499 persons                              | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 500–999 persons                              | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 1 000 or more persons                        | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| <i>Total 100 or more persons</i>             | <i>n.p.</i>                          | <i>n.p.</i>  | <i>n.p.</i>                      | <i>n.p.</i>  | <i>n.p.</i>         | <i>n.p.</i>  | <i>n.p.</i>                        | <i>n.p.</i>  |
| <b>Total</b>                                 | <b>3 461</b>                         | <b>100.0</b> | <b>138.6</b>                     | <b>100.0</b> | <b>1 081.0</b>      | <b>100.0</b> | <b>236.2</b>                       | <b>100.0</b> |
| <b>MACHINERY AND EQUIPMENT MANUFACTURING</b> |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons                                  | 202                                  | 7.3          | 3.8                              | 3.7          | 11.2                | 2.5          | 4.0                                | 1.9          |
| 5–9 persons                                  | 161                                  | 5.9          | 3.8                              | 3.8          | 12.1                | 2.7          | 4.6                                | 2.1          |
| 10–19 persons                                | 322                                  | 11.7         | 9.0                              | 8.9          | 40.6                | 9.1          | 13.4                               | 6.1          |
| 20–49 persons                                | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 50–99 persons                                | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| <i>Total less than 100 persons</i>           | <i>1 018</i>                         | <i>37.0</i>  | <i>29.6</i>                      | <i>29.4</i>  | <i>112.1</i>        | <i>25.0</i>  | <i>39.5</i>                        | <i>18.1</i>  |
| 100–199 persons                              | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 200–499 persons                              | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 500–999 persons                              | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 1 000 or more persons                        | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| <i>Total 100 or more persons</i>             | <i>1 734</i>                         | <i>63.0</i>  | <i>71.0</i>                      | <i>70.6</i>  | <i>335.9</i>        | <i>75.0</i>  | <i>178.4</i>                       | <i>81.9</i>  |
| <b>Total</b>                                 | <b>2 752</b>                         | <b>100.0</b> | <b>100.6</b>                     | <b>100.0</b> | <b>448.0</b>        | <b>100.0</b> | <b>217.9</b>                       | <b>100.0</b> |
| <b>OTHER MANUFACTURING</b>                   |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons                                  | 220                                  | 24.8         | 2.8                              | 17.8         | 13.8                | 23.1         | 5.0                                | 22.0         |
| 5–9 persons                                  | 69                                   | 7.8          | 1.3                              | 8.2          | 6.5                 | 11.0         | 2.1                                | 9.3          |
| 10–19 persons                                | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 20–49 persons                                | 174                                  | 19.6         | 4.1                              | 26.0         | 13.4                | 22.5         | 5.2                                | 23.3         |
| 50–99 persons                                | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| <i>Total less than 100 persons</i>           | <i>n.p.</i>                          | <i>n.p.</i>  | <i>n.p.</i>                      | <i>n.p.</i>  | <i>n.p.</i>         | <i>n.p.</i>  | <i>n.p.</i>                        | <i>n.p.</i>  |
| 100–199 persons                              | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 200–499 persons                              | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 500–999 persons                              | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| 1 000 or more persons                        | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| <i>Total 100 or more persons</i>             | <i>n.p.</i>                          | <i>n.p.</i>  | <i>n.p.</i>                      | <i>n.p.</i>  | <i>n.p.</i>         | <i>n.p.</i>  | <i>n.p.</i>                        | <i>n.p.</i>  |
| <b>Total</b>                                 | <b>886</b>                           | <b>100.0</b> | <b>15.9</b>                      | <b>100.0</b> | <b>59.5</b>         | <b>100.0</b> | <b>22.5</b>                        | <b>100.0</b> |

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1997–98 but were not operating at 30 June 1998. See paragraph 19 of the Explanatory Notes.

(f) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(g) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

| Employment size group       | Employment at<br>end of June(c)..... |              | Wages and<br>salaries(d)(e)..... |              | Turnover(e)(f)..... |              | Industry value<br>added(e)(g)..... |              |
|-----------------------------|--------------------------------------|--------------|----------------------------------|--------------|---------------------|--------------|------------------------------------|--------------|
|                             | no.                                  | %            | \$m                              | %            | \$m                 | %            | \$m                                | %            |
| TOTAL MANUFACTURING         |                                      |              |                                  |              |                     |              |                                    |              |
| 0–4 persons                 | 1 305                                | 6.3          | 19.9                             | 2.7          | 159.2               | 3.2          | 45.3                               | 2.9          |
| 5–9 persons                 | 1 260                                | 6.0          | 27.9                             | 3.8          | 151.1               | 3.0          | 56.0                               | 3.5          |
| 10–19 persons               | 2 004                                | 9.6          | 51.3                             | 7.1          | 295.3               | 5.9          | 87.4                               | 5.5          |
| 20–49 persons               | 2 614                                | 12.5         | 76.0                             | 10.5         | 466.1               | 9.3          | 142.9                              | 9.1          |
| 50–99 persons               | 2 640                                | 12.6         | 89.7                             | 12.4         | 716.2               | 14.4         | 235.4                              | 14.9         |
| Total less than 100 persons | 9 823                                | 47.0         | 264.7                            | 36.6         | 1 787.7             | 35.9         | 567.0                              | 35.9         |
| 100–199 persons             | 2 550                                | 12.2         | 90.5                             | 12.5         | 592.7               | 11.9         | 236.7                              | 15.0         |
| 200–499 persons             | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 500–999 persons             | n.p.                                 | n.p.         | n.p.                             | n.p.         | n.p.                | n.p.         | n.p.                               | n.p.         |
| 1 000 or more persons       | —                                    | —            | —                                | —            | —                   | —            | —                                  | —            |
| Total 100 or more persons   | 11 055                               | 53.0         | 458.9                            | 63.4         | 3 197.6             | 64.1         | 1 012.3                            | 64.1         |
| <b>Total</b>                | <b>20 878</b>                        | <b>100.0</b> | <b>723.6</b>                     | <b>100.0</b> | <b>4 985.3</b>      | <b>100.0</b> | <b>1 579.3</b>                     | <b>100.0</b> |

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1997–98 but were not operating at 30 June 1998. See paragraph 19 of the Explanatory Notes.

(f) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(g) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

| INDUSTRY SUBDIVISION |  | Sales and transfers<br>out of goods for<br>sale produced by<br>this establishment | Amount exported<br>by this business unit<br>or by its agent | Exports as a proportion<br>of sales and transfers<br>out of goods for sale<br>produced by this<br>establishment |
|----------------------|--|---|---|---|
| ANZSIC<br>code       | Description  | \$m   | \$m   | %   |
| 0–49 PERSONS         |  |   |   |   |
| 21                   | Food, beverage and tobacco mfg                       | n.p.  | n.p.  | n.p.  |
| 22                   | Textile, clothing, footwear and leather mfg          | 21.8  | 0.1   | 0.4   |
| 23                   | Wood and paper product mfg                           | 183.4   | 53.0  | 28.9  |
| 24                   | Printing, publishing and recorded media              | 36.3  | 0.3   | 0.8   |
| 25                   | Petroleum, coal, chemical and associated product mfg | n.p.  | n.p.  | n.p.  |
| 26                   | Non-metallic mineral product mfg                     | n.p.  | n.p.  | n.p.  |
| 27                   | Metal product mfg                                    | n.p.  | n.p.  | n.p.  |
| 28                   | Machinery and equipment mfg                          | n.p.  | n.p.  | n.p.  |
| 29                   | Other manufacturing                                  | n.p.  | n.p.  | n.p.  |
| 21–29                | Total manufacturing                                  | 983.5   | 179.1   | 18.2  |
| 50–99 PERSONS        |  |   |   |   |
| 21                   | Food, beverage and tobacco mfg                       | n.p.  | n.p.  | n.p.  |
| 22                   | Textile, clothing, footwear and leather mfg          | n.p.  | n.p.  | n.p.  |
| 23                   | Wood and paper product mfg                           | n.p.  | n.p.  | n.p.  |
| 24                   | Printing, publishing and recorded media              | n.p.  | n.p.  | n.p.  |
| 25                   | Petroleum, coal, chemical and associated product mfg | n.p.  | n.p.  | n.p.  |
| 26                   | Non-metallic mineral product mfg                     | —   | —   | —   |
| 27                   | Metal product mfg                                    | n.p.  | n.p.  | n.p.  |
| 28                   | Machinery and equipment mfg                          | n.p.  | n.p.  | n.p.  |
| 29                   | Other manufacturing                                  | n.p.  | n.p.  | n.p.  |
| 21–29                | Total manufacturing                                  | 692.6   | 311.4   | 45.0  |
| 100 OR MORE PERSONS  |  |   |   |   |
| 21                   | Food, beverage and tobacco mfg                       | n.p.  | n.p.  | n.p.  |
| 22                   | Textile, clothing, footwear and leather mfg          | n.p.  | n.p.  | n.p.  |
| 23                   | Wood and paper product mfg                           | n.p.  | n.p.  | n.p.  |
| 24                   | Printing, publishing and recorded media              | 34.7  | —   | —   |
| 25                   | Petroleum, coal, chemical and associated product mfg | n.p.  | n.p.  | n.p.  |
| 26                   | Non-metallic mineral product mfg                     | n.p.  | n.p.  | n.p.  |
| 27                   | Metal product mfg                                    | n.p.  | n.p.  | n.p.  |
| 28                   | Machinery and equipment mfg                          | 316.9   | 243.3   | 76.8  |
| 29                   | Other manufacturing                                  | n.p.  | n.p.  | n.p.  |
| 21–29                | Total manufacturing                                  | 3 088.6   | 1 095.1   | 35.5  |
| TOTAL                |  |   |   |   |
| 21                   | Food, beverage and tobacco mfg                       | 1 368.6   | 301.2   | 22.0  |
| 22                   | Textile, clothing, footwear and leather mfg          | n.p.  | n.p.  | n.p.  |
| 23                   | Wood and paper product mfg                           | 1 163.4   | 325.4   | 28.0  |
| 24                   | Printing, publishing and recorded media              | n.p.  | n.p.  | n.p.  |
| 25                   | Petroleum, coal, chemical and associated product mfg | n.p.  | n.p.  | n.p.  |
| 26                   | Non-metallic mineral product mfg                     | 223.8   | 1.0   | 0.4   |
| 27                   | Metal product mfg                                    | 1 058.9   | 634.0   | 59.9  |
| 28                   | Machinery and equipment mfg                          | 407.0   | 256.8   | 63.1  |
| 29                   | Other manufacturing                                  | n.p.  | n.p.  | n.p.  |
| 21–29                | Total manufacturing                                  | 4 764.7   | 1 585.6   | 33.3  |

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraphs 20–22 of the Explanatory Notes.

(c) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. Also, this table excludes those manufacturing establishments which operated during 1997–98 but were not operating at 30 June 1998. See paragraph 19 of the Explanatory Notes.

| INDUSTRY SUBDIVISION   |  | Employment at<br>end of June(c) | Wages and<br>salaries(d) | Turnover(e) | Industry value<br>added(f) |
|--|--|---------------------------------|--------------------------|-------------|----------------------------|
| ANZSIC<br>code   | Description  | %                               | %                        | %           | %                          |
| ESTABLISHMENTS THAT DO NOT EXPORT  |  |                                 |                          |             |                            |
| 21   | Food, beverage and tobacco mfg                       | 42.2                            | 44.6                     | 42.2        | 38.1                       |
| 22   | Textile, clothing, footwear and leather mfg          | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 23   | Wood and paper product mfg                           | 49.4                            | 39.2                     | 27.0        | 26.6                       |
| 24   | Printing, publishing and recorded media              | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 25   | Petroleum, coal, chemical and associated product mfg | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 26   | Non-metallic mineral product mfg                     | 78.9                            | 83.0                     | 93.8        | 93.1                       |
| 27   | Metal product mfg                                    | 46.4                            | 31.9                     | 16.2        | 25.0                       |
| 28   | Machinery and equipment mfg                          | 24.9                            | 16.5                     | 14.4        | 10.3                       |
| 29   | Other manufacturing                                  | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| <b>21–29 Total manufacturing</b>   |  | <b>48.1</b>                     | <b>41.6</b>              | <b>34.8</b> | <b>36.0</b>                |
| ESTABLISHMENTS WITH EXPORTS UP TO AND INCLUDING 50% OF SALES OF GOODS THAT THEY PRODUCED |  |                                 |                          |             |                            |
| 21   | Food, beverage and tobacco mfg                       | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 22   | Textile, clothing, footwear and leather mfg          | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 23   | Wood and paper product mfg                           | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 24   | Printing, publishing and recorded media              | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 25   | Petroleum, coal, chemical and associated product mfg | 12.0                            | 7.7                      | 6.0         | 5.4                        |
| 26   | Non-metallic mineral product mfg                     | 21.1                            | 17.0                     | 6.2         | 6.9                        |
| 27   | Metal product mfg                                    | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 28   | Machinery and equipment mfg                          | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 29   | Other manufacturing                                  | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| <b>21–29 Total manufacturing</b>   |  | <b>32.2</b>                     | <b>33.9</b>              | <b>28.7</b> | <b>30.8</b>                |
| ESTABLISHMENTS WITH EXPORTS OF MORE THAN 50% OF SALES OF GOODS THAT THEY PRODUCED        |  |                                 |                          |             |                            |
| 21   | Food, beverage and tobacco mfg                       | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 22   | Textile, clothing, footwear and leather mfg          | —                               | —                        | —           | —                          |
| 23   | Wood and paper product mfg                           | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 24   | Printing, publishing and recorded media              | —                               | —                        | —           | —                          |
| 25   | Petroleum, coal, chemical and associated product mfg | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 26   | Non-metallic mineral product mfg                     | —                               | —                        | —           | —                          |
| 27   | Metal product mfg                                    | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 28   | Machinery and equipment mfg                          | n.p.                            | n.p.                     | n.p.        | n.p.                       |
| 29   | Other manufacturing                                  | —                               | —                        | —           | —                          |
| <b>21–29 Total manufacturing</b>   |  | <b>19.7</b>                     | <b>24.5</b>              | <b>36.5</b> | <b>33.2</b>                |

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraphs 20–22 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

(e) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(f) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

## EXPLANATORY NOTES

### INTRODUCTION

- 1** This publication presents final statistics for Tasmania compiled from a survey of manufacturing establishments for 1997–98, with some comparative statistics relating to preceding years. The emphasis of this publication is on the release of statistics for the main data items included in the survey.
- 2** Manufacturing, as specified in Division C of the Australian and New Zealand Standard Industrial Classification (ANZSIC), broadly relates to the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand.
- 3** The manufacturing collection is conducted on an annual basis. For the 1997–98 collection, a sample of approximately 19,000 establishments nationally were asked to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. Data on industry value added (IVA) are also available from this collection. In addition, a variety of samples was selected to produce data on a range of other variables. The next manufacturing census will be conducted in respect of 2001–02, with sample surveys conducted for the next three years.
- 4** Estimates of IVA were compiled using data from the 19,000 sample population and a sub-sample of approximately 7,000 establishments which were asked to provide detailed structural and performance data. These 7,000 establishments were also asked to supply value of sales for commodities produced. (These commodity data will be published in the publication *Manufacturing Production, Commodities Produced, Australia, 1997–98* (Cat. no. 8365.0).) A sample of approximately 5,200 manufacturing management units was asked the detailed information required to derive operating profit before tax. Selected data from the annual manufacturing collection and data from other collections are included in the compendium publication *Manufacturing, Australia, 1999* (Cat. no. 8225.0).

### SCOPE AND COVERAGE

- 5** The business unit for which statistics are presented in this publication is the establishment. A manufacturing establishment is one predominantly engaged in manufacturing activities, but the data collected for it cover all activities of the establishment (including non-manufacturing activities). Conversely, there are some establishments predominantly engaged in non-manufacturing activities which also undertake limited manufacturing activities; these are excluded from the collection.
- 6** A small number of manufacturing establishments engage, in a significant way, in a variety of activities which are normally carried out by different industries. For example, a predominantly manufacturing establishment may also undertake significant amounts of wholesaling. Similarly, a manufacturing establishment may produce significant volumes of a variety of goods which are normally produced in different manufacturing industries. In such cases, the original establishment is 'split' into a separate establishment for each significant activity which belongs to a separate industry. For the 1997–98 manufacturing collection, 'significant' was defined as turnover of \$7.3 million or more.

## EXPLANATORY NOTES *continued*

### SCOPE AND COVERAGE *continued*

**7** The statistics in this publication exclude some very small manufacturers. Those excluded are manufacturers not employing staff at 30 June of the reference year (such as sole proprietorships or family partnerships) which had not registered as group employers with the Australian Taxation Office. Though a substantial number, these businesses would contribute only marginally to aggregate data were they to be included. In addition, the Australian Bureau of Statistics (ABS) attempts to obtain data for those businesses which ceased operation during the year, but it is not possible to obtain data for all of them.

### STANDARD UNITS

**8** For the definition of the standard business units now in use, see the Glossary.

### RELIABILITY OF ESTIMATES

**9** For information on this subject, see the Technical Note.

### DATA ADJUSTED

**10** Data in this issue have been adjusted to allow for lags in processing new businesses to the ABS business register, i.e. adjustments have been made to allow for new businesses which had commenced operations but for which details had not been processed to the ABS business register in time for inclusion in the annual manufacturing industry collection. Adjustments of this type will continue to be applied in future periods. The majority of businesses affected by these lags are small in size. The effect of these adjustments on 1997–98 turnover for Tasmania is an increase of 0.2% while the effect on employment is an increase of 1.3%. All industry subdivisions were affected to a similar degree.

### COMPARABILITY WITH PREVIOUS STATISTICS

**11** Commencing with estimates for 1997–98, the definition of turnover has changed in line with new international standards for measuring economic variables. The composition of turnover estimates under the new standards is as follows:

|        |   |
|--------|---|
|        | Turnover (as previously defined)            |
| plus   | Income from intellectual property royalties |
| equals | Turnover (new standards)                    |

**12** Conceptually, some further differences exist between turnover on the old and new bases (particularly in relation to own account production of computer software, own account mineral exploration, and own account production of literary, entertainment or artistic originals). However, as these activities are relatively unimportant for manufacturing industries, no attempt has been made to measure them.

**13** Commencing with estimates for 1997–98, under new international standards, contribution to gross domestic product (GDP) by manufacturing industries will be measured by the variable 'Industry value added' (IVA). Estimates for IVA measure the value added by an industry to the intermediate inputs used by that industry. Previously, the corresponding contribution to GDP was measured by the variable 'Industry gross product' (IGP). It should also be noted that IVA is not the same variable as 'Value added' which was published for manufacturing establishments until 1992–93.

## EXPLANATORY NOTES *continued*

### COMPARABILITY WITH PREVIOUS STATISTICS *continued*

**14** Composition of IVA estimates and their relationship to IGP estimates are:

|        |   |
|--------|---|
|        | Turnover (new standards)  |
| plus   | Closing inventories   |
| less   | Opening inventories   |
| less   | Intermediate input expenses (see the operating expenses entry in the Glossary)  |
| equals | IVA   |
|        | IVA   |
| plus   | Intellectual property royalty expenses  |
| less   | Intellectual property royalty income  |
| less   | Computer software expenses not capitalised by the business  |
| less   | Selected indirect taxes (For manufacturing industries, the main types are fringe benefits tax, payroll tax, land rates and land taxes.) |
| equals | IGP   |

**15** Commencing with the 1993–94 manufacturing collection, manufacturers not employing staff at 30 June of the reference year (such as sole proprietorships or family partnerships) which had registered as group employers with the Australian Taxation Office have been included in the manufacturing collection. Data in respect of these 'non-employers' were excluded from the scope of the manufacturing collection for the 1988–89 to 1992–93 (inclusive) reference years. However, the inclusion of these types of businesses has only had a marginal affect on statistical aggregates.

**16** Commencing with the 1994–95 manufacturing collection, multi-establishment management units have been 'collapsed' for reporting purposes into single establishment management units, unless they had significant activity in more than one industry and/or State or Territory. The effect of this process is that most manufacturing businesses which previously reported for more than one establishment were asked to combine operations by those establishments into a single reporting unit. The effect of this on manufacturing statistics as contained in this publication has been minimal.

**17** As explained above, about 7,000 establishments included in the 1997–98 collection were asked to supply value of sales for commodities produced. A similar sampling procedure has been followed since the 1993–94 collection. The availability of this fine level commodity/activity data for these units has enabled ABS survey processing staff to better identify those establishments which were actually in the scope of the manufacturing collection and those which should not be included in the manufacturing collection, because (for example) they were actually wholesalers or retailers. These fine level commodity/activity data have also enabled an objective industry code to be determined for the responding units in the samples, compared to the more subjective industry coding which occurred for all units in the 1992–93 manufacturing collection. The industry code for the units not responding or not included in any of these commodity samples has continued to be a subjectively determined code.

**18** For the 1995–96 collection only, provision expenses for employee entitlements were excluded from wages and salaries. For all other years, these provision expenses are included in wages and salaries.

## EMPLOYMENT SIZE DATA

**19** Summary of operations data at the industry subdivision level classified by the employment size of individual manufacturing establishments (see the Glossary for its definition) are presented in table 4. Similarly, exports of goods produced data at the industry subdivision level classified by the broad employment size of individual manufacturing establishments are presented in table 5. The statistics in these two tables relate only to those manufacturing establishments operating at 30 June 1998. As such, the figures presented represent a slightly different population from those presented in the other tables from the manufacturing collection. These other tables include data for those manufacturing establishments which operated at any time during 1997–98.

## EXPORTS BY MANUFACTURERS

**20** All establishments included in the manufacturing collection were asked whether they exported and, if so, what percentage of their sales of goods produced plus transfers out of goods produced by the establishment for sale were exported by their business or an agent on their behalf. The data presented in table 5 are derived by applying the percentage of exports reported for each exporting unit and then aggregating that figure. The data in table 5 exclude those manufacturing establishments which operated during 1997–98 but were not operating at 30 June 1998.

**21** The statistics presented in table 5 for the value of exports by manufacturers or their agents are not intended to be the same as the value of exports classified by manufacturing industry of origin as published by the ABS in international trade statistics. These latter statistics are intended to measure total exports regardless of which business or organisation does the exporting (and to identify the probable industry from which the goods originated), whereas the statistics in tables 5 and 6 only include exports directly undertaken by the manufacturer or by its agent.

**22** The data in table 5 showing exports by manufacturers or their agents can be expected to show a much lower value than the exports data from the international trade series. The main reason is that for many exports of goods manufactured in Australia, the actual exporting activity is undertaken by a business other than the manufacturer. Also, the value of goods produced on a commission or fee basis for non-manufacturing businesses and which are then exported is not included in the data in tables 5 and 6. Examples of relevant commission work are the 'slaughtering fee' charged by an abattoir for processing livestock owned by a meat exporter and the 'tolling fee' charged by an aluminium smelter to process ores owned by other (e.g. mining) businesses. Also excluded from tables 5 and 6 are any exports by manufacturers of goods which were not produced by that manufacturer. These and other goods exported (e.g. re-exports) are included in the international trade data. Finally, differences in valuation of exports arise because the value of exports in the international trade series would include the value to the manufacturer plus profit margins for the exporter and for any intermediaries between the manufacturer and the exporter.



## EXPLANATORY NOTES *continued*

### REGIONAL DATA

**23** The ABS conducts a manufacturing census one year in five, from which detailed regional data are available (with the last census being conducted in respect of 1996–97). In other years, an annual manufacturing survey is conducted. Due to sampling constraints, regional data have not been available from annual manufacturing surveys. However, investigations currently underway indicate that it may be possible to produce reliable estimates in sample survey years for most Tasmanian statistical divisions. Estimates for these areas for 1997–98 are expected to be available early next year, on request, for a charge.

### ACKNOWLEDGMENT

**24** ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

### INFORMATION PAPER

**25** The *Information Paper: Availability of Statistics Related to Manufacturing* (Cat. no. 8205.0) outlines the vast amount of published and unpublished data available from the annual manufacturing industry collection, as well as data from other ABS collections.

### RELATED PUBLICATIONS

**26** A series of publications *Manufacturing Industry, [State], 1997–98* (Cat. nos 8221.1–8221.6) will be produced for each State. The publication for New South Wales (Cat. no. 8221.1) also contains selected data for the Australian Capital Territory. These publications have been released progressively.

**27** Users may also wish to refer to the following publications:

- *Business Operations and Industry Performance, Australia, 1997–98* (Cat. no. 8140.0), to be released in December 1999—Annual publication
- *Business Operations and Industry Performance, Australia, Preliminary, 1997–98* (Cat. no. 8142.0), released on 27 May 1999—Annual publication
- *Environment Protection Expenditure, Australia, 1995–96 and 1996–97* (Cat. no. 4603.0), released on 2 July 1999—Biennial publication
- *Information Paper: Availability of Statistics Related to Manufacturing, 1996* (Cat. no. 8205.0), released on 21 March 1996—Irregular publication
- *Information Paper: Availability of Statistics Related to Manufacturing, 1997* (Cat. no. 8205.0), released on 16 January 1998—Irregular publication
- *Information Paper: Improvements to ABS Economic Statistics, 1997* (Cat. no. 1357.0), released on 22 August 1997—Irregular publication
- *Inventories and Sales, Selected Industries, Australia* (Cat. no. 5629.0)—Quarterly publication
- *Labour Force, Australia* (Cat. no. 6203.0)—Monthly publication
- *Manufacturing, Australia, 1999* (Cat. no. 8225.0), to be released in December 1999—Annual publication
- *Manufacturing Industry, Australia, 1997–98* (Cat. no. 8221.0), released on 13 September 1999—Annual publication
- *Manufacturing Industry, Australia, Preliminary, 1998–99* (Cat. no. 8201.0), to be released in March 2000—Annual publication
- *Manufacturing Production, Commodities Produced, Australia, 1997–98* (Cat. no. 8365.0), to be released in December 1999—Annual publication

## EXPLANATORY NOTES *continued*

### BACK DATA AND UNPUBLISHED STATISTICS

**28** A range of manufacturing industry statistics publications is available for previous years. As well, a considerable amount of data from the annual manufacturing collection exists in unpublished form. More detailed information to satisfy individual user requirements may be available on request. In general, unpublished data consist of finer industry dissections of the published data. Other more detailed data may also be available. A charge is made for providing unpublished information. The information paper (Cat. no. 8205.0) referred to in paragraphs 25 and 27 also provides more details.

### ROUNDING

**29** Where figures have been rounded, discrepancies may occur between totals and the sums of the component items. Due to data being adjusted for lags in processing new businesses to the ABS business register (see paragraph 10), this 'rounding rule' also applies to employment counts.

**30** Proportions, ratios and other calculated figures shown in this publication have been calculated using unrounded estimates and may be different from, but are more accurate than, calculations based on the rounded estimates.

### SYMBOLS AND OTHER USAGES

|        |  |
|--------|--|
| ABS    | Australian Bureau of Statistics  |
| ANZSIC | Australian and New Zealand Standard Industrial Classification  |
| GDP    | Gross Domestic Product   |
| IGP    | Industry Gross Product   |
| IVA    | Industry Value Added   |
| mfg    | manufacturing  |
| n.e.c. | not elsewhere classified   |
| n.p.   | not available for publication but included in totals where applicable  |
| r      | figure or series revised since previous issue  |
| *      | data subject to standard errors greater than or equal to 25% of the estimate, but less than 50% of the estimate  |
| **     | data subject to standard errors greater than or equal to 50% of the estimate, but less than 100% of the estimate |
| ***    | data subject to standard errors greater than or equal to the estimate  |
| . .    | not applicable   |
| —      | nil or rounded to zero   |

## TECHNICAL NOTE DATA RELIABILITY

### SAMPLE ERROR

**1** The 1997–98 manufacturing survey was designed primarily to deliver industry class estimates for Australia and States for the data items employment, wages and salaries, turnover and IVA. For the two Territories, the sample was designed to deliver industry subdivision data only.

**2** All 1997–98 (and 1992–93, 1994–95 and 1995–96) data contained in this publication have been obtained from samples of manufacturers. As such, these data are subject to sampling variability; that is, they may differ from the figures that would have been produced if the data had been obtained from all manufacturers in the population. The measure of the likely difference as used by the ABS is given by the standard error, which indicates the extent to which an estimate might have varied by chance because the data were obtained from only a sample of units. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the data had been obtained from all units, and about 19 chances in 20 that the difference will be less than two standard errors.

**3** The standard error can also be expressed as a percentage of the estimate, and this is known as the relative standard error. The relative standard errors for the 1997–98 employment, wages and salaries, turnover and IVA data presented in this publication are all less than 2% for industry subdivisions except for Other manufacturing (for which they are marginally higher) (see page 28) and 5% or less for 84% of the estimates for industry classes.

**4** Relative standard errors at the industry subdivision level for Tasmania for selected data items representing the full range of data contained in this publication are shown in the section Standard Errors. Detailed relative standard errors can be made available on request.

### NON-SAMPLE ERROR

**5** The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of inadequacies in available sources from which the population frame was compiled, imperfections in reporting by providers, errors made in collection such as in recording and coding data, and errors made in processing data. Inaccuracies of this kind are referred to collectively as non-sampling error and they may occur in any enumeration, whether it be a full census or a sample.

**6** While it is not possible to quantify non-sampling error, every effort is made to reduce it to a minimum. Collection forms are designed to be easy to complete and assist businesses to report accurately. Efficient and effective operating procedures and systems are used to compile the statistics.

## STANDARD ERRORS SELECTED DATA ITEMS

| INDUSTRY SUBDIVISION             |  | Employment<br>at end of<br>June(a) | Wages<br>and<br>salaries(b) | Turnover(c) | Industry<br>value<br>added(d) | Amount<br>exported<br>by this<br>business<br>unit or by<br>its agent |
|----------------------------------|--|------------------------------------|-----------------------------|-------------|-------------------------------|--|
| ANZSIC<br>code                   | Description  | %                                  | %                           | %           | %                             | %  |
| 21                               | Food, beverage and tobacco mfg                       | 1.2                                | 1.0                         | 1.1         | 1.4                           | 2.0  |
| 22                               | Textile, clothing, footwear and leather mfg          | 0.6                                | 0.4                         | 0.2         | 0.1                           | —  |
| 23                               | Wood and paper product mfg                           | 1.7                                | 0.8                         | 0.4         | 0.5                           | —  |
| 24                               | Printing, publishing and recorded media              | 1.5                                | 1.4                         | 1.4         | 1.3                           | 5.6  |
| 25                               | Petroleum, coal, chemical and associated product mfg | 0.7                                | 0.6                         | 0.2         | 0.3                           | —  |
| 26                               | Non-metallic mineral product mfg                     | 1.8                                | 1.5                         | 0.3         | 0.7                           | 4.4  |
| 27                               | Metal product mfg                                    | 1.5                                | 1.0                         | 0.3         | 0.6                           | —  |
| 28                               | Machinery and equipment mfg                          | 0.9                                | 0.8                         | 0.7         | 0.5                           | —  |
| 29                               | Other manufacturing                                  | 5.1                                | 3.1                         | 3.3         | 3.6                           | 4.3  |
| <b>21–29 Total manufacturing</b> |  | <b>0.6</b>                         | <b>0.4</b>                  | <b>0.3</b>  | <b>0.4</b>                    | <b>0.4</b>   |

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

(c) Commencing with the 1997–98 manufacturing collection, new international standards apply to the calculation of turnover. For more details, see paragraphs 11 and 12 of the Explanatory Notes.

(d) Commencing with the 1997–98 manufacturing collection, industry value added replaces industry gross product as the measure of an industry's contribution to gross domestic product. For more details, see paragraphs 13 and 14 of the Explanatory Notes.

## G L O S S A R Y

|  |  |
|--|--|
| <b>ABS</b>   | Australian Bureau of Statistics  |
| <b>Amount exported by this business unit or by its agent</b> | This represents the sales value of goods produced by an establishment (or for it on commission), including the value of manufactured goods transferred to other establishments of the business unit for sale, that are exported (or are intended for export) outside Australia by the business unit or by its agent.   |
| <b>ANZSIC</b>  | Australian and New Zealand Standard Industrial Classification  |
| <b>Capitalised work done for own use</b>                     | <p>Capitalised work done by the employees or proprietors of an establishment for use by the business unit or for rental or lease to other businesses. The main types of work are manufacturing, constructing, installing or repairing assets and development of computer software. This work is valued at the capitalised costs of the materials and the wages and salaries involved.</p> <p>Conceptually, this item should also include own account mineral exploration and own account production of literary, entertainment or artistic originals. However, these activities are relatively unimportant for manufacturers and have not been measured for manufacturing industries.</p>  |
| <b>Change in inventories</b>                                 | The value of total closing inventories minus total opening inventories.  |
| <b>Closing inventories</b>                                   | The value of all inventories of finished goods, work-in-progress, raw materials, fuels, containers and packaging as at the end of the reference period.  |
| <b>Commission manufacturing</b>                              | <p>Significant amounts of manufacturing are undertaken on a commission basis by one manufacturer on behalf of another manufacturer or by a manufacturer on behalf of a non-manufacturer. Typically, a commission manufacturing transaction will involve a client commissioning the production of goods by a producing establishment from materials provided by the client. Ownership of those materials remains with the client. Similarly, the goods made from those materials are owned by the client.</p> <p>For the purposes of the estimates in this publication, the producing establishment reports the commission fee as service income along with wages and salaries and any other expenses incurred.</p> <p>If the client is a manufacturing establishment, then in addition to data for their own manufacturing operations, the client reports the sales and stocks of the commissioned goods, the cost of the materials provided to the producing establishment, the commission fee paid and the value of any other intermediate inputs related to the commission transaction. If the client is not a manufacturing establishment, no data are reported by the client.</p> |
| <b>Employment at end of June</b>                             | The number of working proprietors, working partners, permanent, part-time, temporary and casual employees, and managerial and executive employees working for an establishment during the last pay period ending in June each year. Employees absent on paid or prepaid leave are included, as are employees on workers' compensation who continue to be paid through the payroll system. Non-salaried directors, self-employed persons such as consultants, contractors and persons paid solely by commission without a retainer, and volunteer workers are excluded.   |

|  |   |
|--|---|
| <b>Enterprise group</b>  | A unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the <i>Corporations Legislation Amendment Act 1991</i> ). These may be legal entities such as trusts and partnerships as well as companies. Majority ownership is not required for control to be exercised.  |
| <b>Establishment</b>   | The establishment is the smallest accounting unit of a business, within a State or Territory, controlling its productive activities and maintaining a specified range of detailed data i.e. the data needed to compile turnover, opening and closing inventories, purchases and transfers in, motor vehicle running expenses, freight and cartage expenses, commission expenses, rent, leasing and hiring expenses, and repair and maintenance expenses. In general, an establishment covers all operations at a physical location, but may consist of groups of locations provided they are within the same State or Territory. The majority of establishments operate at one location only. |
| <b>Establishments that do not export</b>   | Establishments that reported no exports (either by their business unit or for them by an agent) of goods that they produced.  |
| <b>Establishments with exports of more than 50% of sales</b>   | Establishments that reported exports (either by their business unit or for them by an agent) of more than 50% of sales and transfers out of goods for sale that they produced.  |
| <b>Establishments with exports up to and including 50% of sales</b>  | Establishments that reported exports (either by their business unit or for them by an agent) of up to and including 50% of sales and transfers out of goods for sale that they produced.  |
| <b>Exports as a proportion of sales and transfers out of goods for sale produced by this establishment (Table 5)</b> | For an individual establishment, this represents the percentage of the total sales and transfers out of goods for sale produced by the establishment (or for it on commission) which are exported (or are intended for export) outside Australia by the business unit or by its agent. In table 5, the ratio is calculated by dividing the total value of goods exported by the total value of sales and transfers out of goods for sale produced by all establishments, not just the aggregated value for those units which exported.  |
| <b>Funding by Federal, State or Local Governments for operational costs</b>  | Funding by Federal, State or Local Governments for operational costs (e.g. wages and salaries, rent). Included are bounties, subsidies, export grants, Jobstart and apprenticeship schemes.   |
| <b>Industry class</b>  | Within ANZSIC, there is a structure comprising four levels ranging from industry division (broadest level) to the industry class (finest level). At the industry class level, the activities are narrowly defined and recognised by a four-digit code, e.g. industry class 2331 for Pulp, paper and paperboard manufacturing. Usually, an activity is primarily confined to one class. However, some activities may be primary to more than one class.  |
| <b>Industry gross product (IGP)</b>  | For periods prior to 1997–98, estimates of IGP represented the measure of the contribution by manufacturing industries to gross domestic product (GDP). However, commencing with estimates for 1997–98 following introduction of new international standards for measuring economic variables, IGP has been replaced by the variable industry value added (IVA) for the purpose of measuring industry contribution to GDP.  |

**Industry gross product (IGP)** *continued* The relationship between IVA estimates and IGP estimates is:

|        |   |
|--------|---|
|        | IVA   |
| plus   | Intellectual property royalty expenses  |
| less   | Intellectual property royalty income  |
| less   | Computer software expenses not capitalised by the business  |
| less   | Selected indirect taxes (For manufacturing industries, the main types are fringe benefits tax, payroll tax, land rates and land taxes.) |
| equals | IGP   |

**Industry group** This is the intermediate level within the manufacturing industry division of ANZSIC and is recognised by a three-digit code, e.g. industry group 233 for Paper and paper product manufacturing. It gives more detail than the industry subdivision and is created in a way that groups like industry classes together.

**Industry subdivision** This is the broadest level category within the manufacturing industry division of ANZSIC and is recognised by a two-digit code, e.g. industry subdivision 23 for Wood and paper product manufacturing. Industry subdivisions are built up from industry groups which, in turn, are built up from industry classes. The following list gives the manufacturing industry subdivision codes and their descriptions:

- |    |  |
|----|--|
| 21 | Food, beverage and tobacco mfg                       |
| 22 | Textile, clothing, footwear and leather mfg          |
| 23 | Wood and paper product mfg                           |
| 24 | Printing, publishing and recorded media              |
| 25 | Petroleum, coal, chemical and associated product mfg |
| 26 | Non-metallic mineral product mfg                     |
| 27 | Metal product mfg                                    |
| 28 | Machinery and equipment mfg                          |
| 29 | Other manufacturing                                  |

**Industry value added (IVA)** IVA represents the value added by an industry to the intermediate inputs used by the industry. Commencing with estimates for 1997–98, IVA has replaced industry gross product (IGP) as the measure of the contribution by manufacturing industries to gross domestic product. See the entry for industry gross product for an explanation of the differences between IVA and IGP.

The derivation of IVA is as follows:

|        |   |
|--------|---|
|        | Turnover (new standards)  |
| plus   | Closing inventories   |
| less   | Opening inventories   |
| less   | Intermediate input expenses (for details, see the entry for operating expenses) |
| equals | IVA   |

However, it should be noted that IVA is not a measure of operating profits before tax. Wages, salaries and most other labour costs are not taken into account in its calculation and nor are most insurance premiums, interest expenses or depreciation and a number of lesser expenses (see the entry for operating expenses for further detail).

|   |  |
|---|--|
| <b>Industry value added (IVA) per person employed</b> | IVA of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.  |
| <b>Intermediate inputs</b>                            | Intermediate inputs consist of materials and certain services which are used up in the production process. Definitions of relevant component items are also included in this Glossary. It is calculated as: <div> <div>Intermediate input expenses (for details, see the entry for operating expenses)</div> <div>plus Opening inventories</div> <div>less Closing inventories</div> </div>  |
| <b>Location</b>                                       | A location is a physical unit of the establishment. It consists usually of an unbroken physical area or site, occupied by an establishment, at which, or from which, the establishment engages in productive activity on a relatively permanent basis. An establishment can consist of one or more locations. In specified circumstances, non-contiguous sites occupied by the same establishment can be combined to form a location.  |
| <b>Management unit</b>                                | The management unit is the highest-level unit within a business, having regard to industry homogeneity, for which accounts are maintained; in nearly all cases, it coincides with the legal entity owning the business (that is, company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'division' or 'line of business'. A division or line of business is recognised where separate and comprehensive accounts are compiled for it. |
| <b>Manufacturing establishment</b>                    | An establishment predominantly engaged in manufacturing activities. The data collected for such establishments cover all activities of the establishment (including non-manufacturing activities). Conversely, there are some establishments predominantly engaged in non-manufacturing activities which also undertake limited manufacturing activities and which are excluded.   |
| <b>Manufacturing management unit</b>                  | A management unit predominantly engaged in manufacturing activities. The data collected for such management units cover all activities of the management unit (including in respect of non-manufacturing activities). Conversely, there are some management units predominantly engaged in non-manufacturing activities which have establishments engaged in manufacturing activities and which are excluded.  |
| <b>Opening inventories</b>                            | The value of all inventories of finished goods, work-in-progress, raw materials, fuels, containers and packaging as at the beginning of the reference period.  |
| <b>Operating expenses</b>                             | For the purposes of calculating economic and accounting variables for manufacturing industries, operating expenses incurred by businesses are divided into several categories. However, some expenses are excluded entirely from all such calculations. These expenses are abnormal expenses, capitalised expenses, income tax and other direct taxes, sales taxes and excise payable to Governments, capital repayments or losses on asset sales, dividends, donations or foreign exchange losses.  |



**Operating expenses**  
*continued*

Remaining expenses are categorised as follows:

Intermediate input expenses

Intermediate input expenses cover the major expenses incurred by manufacturers in producing and distributing goods and services produced (except labour costs), namely:

- purchases and transfers in of materials, components, containers and packaging materials, electricity, fuels and water, and purchases of goods for resale
- motor vehicle running expenses, freight and cartage expenses, repair and maintenance expenses
- rent, leasing and hiring expenses (except for finance lease payments)
- contract, subcontract and commission expenses

Also included in the calculation of intermediate inputs are advertising expenses, audit and other accounting expenses, bank fees and charges (except interest), cleaning expenses, environmental protection expenses, intellectual property royalty expenses, legal fees, management fees, paper, printing and stationery expenses, postal and telecommunication expenses, staff training expenses, and travelling, accommodation and entertainment expenses.

Excluded from this category are selected labour costs and other operating expenses as defined below:

Selected labour costs

Wages and salaries including provision expenses for employee entitlements  
Employer contributions to superannuation funds  
Workers' compensation costs  
Payroll tax and Fringe benefits tax

Other operating expenses

This group of expenses is not included in the calculation of the above economic variables but is included in the calculation of the accounting variable operating profit before tax. Included in this group of expenses are bad and doubtful debts, computer software expenses not capitalised by businesses, depreciation and amortisation, insurance premiums (except workers' compensation and compulsory third party motor vehicle insurance premiums), interest expenses, land rates and taxes, mineral/petroleum expenses not capitalised by businesses, and natural resource royalties expenses.

**Own account capital work**

Capitalised work done by the employees or proprietors of an establishment for use by the business unit or for rental or lease to other businesses. The main types of work are manufacturing, constructing, installing or repairing assets and development of computer software. This work is valued at the capitalised costs of the materials and the wages and salaries involved.

Conceptually, this item should also include own account mineral exploration and own account production of literary, entertainment or artistic originals. However, these activities are relatively unimportant for manufacturers and have not been measured for manufacturing industries.

|   |   |
|---|---|
| <b>Purchases</b>  | Purchases of materials, components, containers and packaging materials, electricity, fuels and water, and of goods for resale. The purchase of parts and fuel for motor vehicles is excluded.   |
| <b>Purchases and transfers in</b>   | Purchases of materials, components, containers and packaging materials, electricity, fuels and water, and of goods for resale, plus transfers in of goods from other establishments of the same business for further processing, assembly, installation or for sale or resale. Transfers in are valued, for statistical purposes, at prices commensurate with the prices which would have been paid if the establishments concerned had been under separate ownership, i.e. at commercial selling price. The purchase of parts and fuel for motor vehicles is excluded.   |
| <b>Reference period</b>   | Businesses are asked to report data for the financial year ended 30 June. However, if a business has a different financial year, it is asked to report for the 12-month period which ends between 1 October of the previous year and 30 September of the current year. This period is then used as a substitute for the financial year ended 30 June. For example, for the 1997–98 collection, a business may have reported data for the year ended 31 December 1997.   |
| <b>Sales and transfers out of goods</b>   | Includes sales of goods whether or not produced by the business and sales of goods produced for the business on a commission basis (see the entry for commission manufacturing). Also includes transfers of goods to other establishments of the same business or to related businesses and installation and delivery charges not separately invoiced to customers. Sales are valued net of discounts given and exclusive of excise, sales tax and duties receivable on behalf of the Government. Exports are valued f.o.b. (export freight charges are excluded). Transfers to other establishments of the same business are valued, for statistical purposes, at commercial value (i.e. the value which would have applied had the establishments concerned been under separate ownership).   |
| <b>Sales and transfers out of goods for sale produced by this establishment (Table 5)</b> | Sales as defined in sales and transfers out of goods, plus transfers out of goods produced by this establishment for sale. Transfers to other establishments of the same business are valued, for statistical purposes, at commercial value (i.e. the value which would have applied had the establishments concerned been under separate ownership).   |
| <b>Service income</b>   | <p>Income received from service activities. Included are income from work done or sales made on a commission basis, income from repair, maintenance or servicing, installation and delivery charges separately invoiced to customers, advertising income and management fees/charges received from related or unrelated businesses. Service income is valued net of discounts given. For periods commencing with 1997–98, under new international standards, income from intellectual property royalties and rent, leasing and hiring income (except from finance leases) have also been classified as service income. Rent, leasing and hiring income is income derived from the ownership of land, buildings, vehicles, machinery or equipment, excluding any income from finance leases.</p> <p>For further explanation on the treatment of commission manufacturing activities, see the entry for commission manufacturing.</p> |
| <b>Statistical division</b>   | A general purpose spatial unit and is the largest and most stable spatial unit within each State and Territory in the Main Structure of the <i>Australian Standard Geographical Classification</i> (Cat. no. 1216.0).   |



**Turnover** Turnover comprises sales (exclusive of excise and sales tax) of goods whether or not produced by the establishment and transfers of goods to other establishments of the same business, plus service income, funding by Federal, State or Local Governments for operational costs, and own account capital work. Definitions of the various component items appear in this Glossary.

Excluded from turnover are interest income, income from natural resource royalties, funding by Federal, State or Local Governments for specific capital items, dividends, and receipts from the sale of fixed tangible assets.

There are some conceptual differences between turnover as estimated in this publication and turnover as defined by the new international standards. These differences are explained as part of the definition of the component item own account capital work. Full compliance with the new standards would make very little difference to estimates of turnover.

Note (a): The above definition of turnover is used in calculating the variable industry value added. A slightly different definition of turnover was used prior to 1997–98 to calculate the now superseded variable industry gross product. This earlier definition excluded income from intellectual property royalties and the value of computer software developed in-house for use by the business or for rental or lease to other businesses.

Note (b): Transfers to other establishments of the same business referred to in the definition of turnover are valued, for statistical purposes, at prices commensurate with the prices which would have been received if the establishments concerned had been under separate ownership, i.e. at commercial selling price. A significant proportion of the commodities manufactured by some industries is manufactured on commission for non-manufacturing businesses from materials owned and supplied by those businesses. As a consequence, the turnover figures do not reflect the gross value of those commodities but only the commission earned relating to them.

**Turnover per person employed** Turnover of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.

**Wages and salaries** The gross wages and salaries (including capitalised wages and salaries) of all employees of the establishment. The item includes severance, termination and redundancy payments, but excludes reimbursements or allowances to employees for travel, entertainment, etc. For the 1995–96 collection only, provision expenses for employee entitlements (e.g. provisions for annual leave and leave bonus, long service leave, sick leave, and severance, termination and redundancy payments) are excluded. The drawings of working proprietors are also excluded.

**Wages and salaries to turnover ratio** The wages and salaries paid by manufacturing establishments which operated during the year ended 30 June as a proportion of the turnover of manufacturing establishments which operated during the same year.

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