

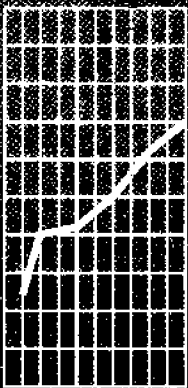


1994-95

EMBARGO: 11.30 AM (CANBERRA TIME) MON 28 APR 1997

# Manufacturing Industry

## Tasmania



# NOTES

## ABOUT THIS ISSUE

The data item 'Number of establishments' has not been included in this publication and will be omitted from all 1994-95 and later years' publications relating to the annual manufacturing industry collection. In recent years, year to year movements in numbers of establishments have borne little relationship to the changes in economic performance of the industries involved. For this reason, the Australian Bureau of Statistics (ABS) does not encourage the use of the number of establishments as an analytical tool. However, the data can be made available on request, with notes on their limitations. For further information, see paragraph 21 of the Explanatory notes.

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## SYMBOLS AND OTHER USAGES

ANZSIC Australian and New Zealand Standard Industrial Classification  
ASIC Australian Standard Industrial Classification  
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 sampling variability of between 25% and 50%  
\*\* data subject to sampling variability of greater than 50%  
— nil or rounded to zero

\*\*\*\*\*

## INQUIRIES

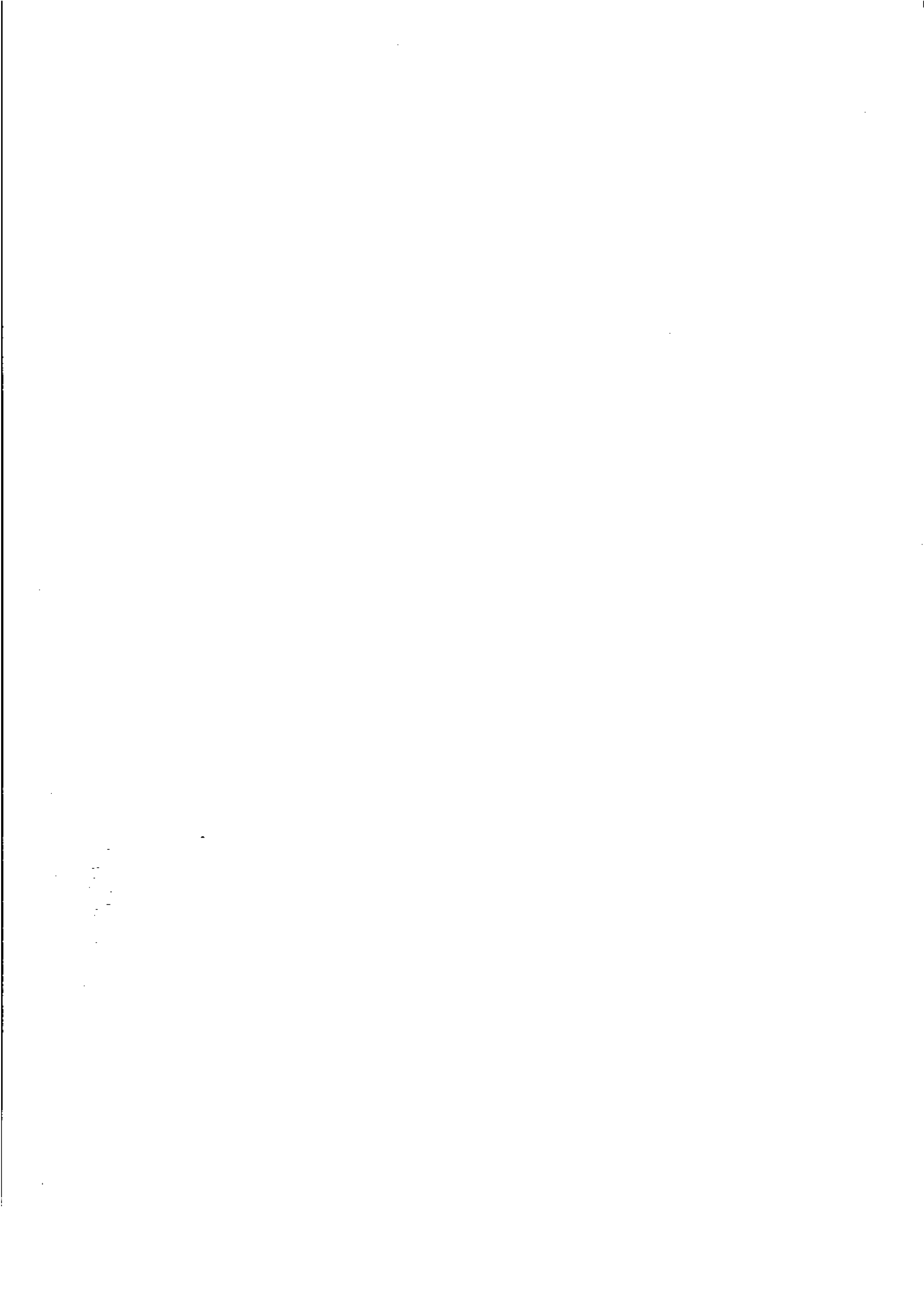
For information about other ABS statistics and services, please refer to the back of this publication.

For further information about statistics in this publication and the availability of related unpublished statistics, contact John Ridley on (02) 9268 4541.

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# PREFACE

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## BACKGROUND

This publication contains detailed industry statistics compiled from a survey of manufacturing establishments (see paragraphs 5 to 11 of the Explanatory notes) conducted in respect of 1994-95, with some comparative statistics for earlier years. It expands and updates the information which was published in *Manufacturing Industry, Australia, Preliminary, 1994-95* (8201.0), which was released on 23 August 1996 and *Manufacturing Industry, Australia, 1994-95* (8221.0), which was released on 31 January 1997.

For the 1994-95 manufacturing collection, a sample of approximately 20,000 manufacturing establishments, nationally, was approached to provide data on employment, wages and salaries, turnover and whether their products were exported. Information related to exports emanating from the manufacturing sector are shown in tables 5 and 6.

Guidelines to the quality of estimates from the sample surveys as measured by the standard (sampling) error are shown on page 36.

In addition to data for the above items, this publication contains additional data to provide a more complete picture of the manufacturing industry. The additional data include information on percentage change in gross product at factor cost (average 1989-90 prices) (table 3).

A sample of approximately 7,500 out of the establishments referred to above was also asked to supply value of sales for commodities produced. These commodity data will be published in *Manufacturing Production, Australia: Principal Commodities Produced, 1994-95* (8365.0), expected to be released later in 1997.

## AUSTRALIAN AND NEW ZEALAND STANDARD INDUSTRIAL CLASSIFICATION (ANZSIC)

This publication continues to use the Australian and New Zealand Standard Industrial Classification (ANZSIC), which replaced the Australian Standard Industrial Classification (ASIC) used prior to the 1992-93 reference year. Manufacturing collections dating back to the 1989-90 reference year have been coded to industry using ANZSIC and, therefore, all time series comparisons in this publication are made on a consistent ANZSIC basis. ASIC-based data are not available from 1992-93.

## DATA AS CONTAINED IN THIS PUBLICATION

All manufacturing data in this publication have been adjusted to allow for lags in processing new businesses to the ABS business register, and omission of some businesses from the business register. More information on these adjustments can be found in paragraphs 13 and 14 of the Explanatory notes.

As explained above, about 7,500 establishments included in the 1994-95 collection were asked to supply value of sales for commodities produced. Similarly, 18,000 establishments included in the 1993-94 collection were asked to supply this information. This has meant that the industry code for the responding units included in either (or both) of these commodity samples has been able to be determined on an objective industry coding basis, compared to the more subjective industry coding which has

occurred for non-responding units and for all units in each of the three prior manufacturing collections. More information on this subject can be found in paragraph 18 of the Explanatory notes.

Because of the above reasons, comparison of industry class (especially) level data published in the 1993-94 and later issues of this publication with data published in the 1992-93 and earlier issues of this publication should be undertaken with caution.

**UNPUBLISHED DATA**

A considerable amount of data from the annual manufacturing collection is available in unpublished form. More detailed information to satisfy individual user requirements may be available on request. In general, unpublished data for 1994-95 consist of finer industry dissections of the data presented in tables 3 to 6. Further details can be obtained by referring to the *Information Paper: Availability of Statistics Related to Manufacturing, 1996* (8205.0) or by contacting the NSW Office of the ABS — see page 2 for contact details.

Denis W. Rogers  
Regional Director  
Tasmania

# SUMMARY OF FINDINGS

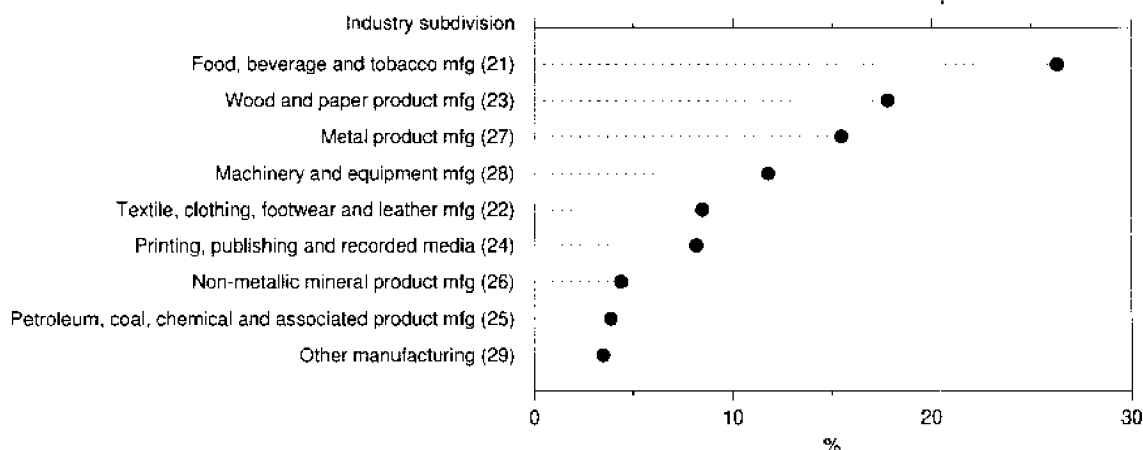
## OVERVIEW

Turnover for the year 1994-95 by manufacturing establishments operating in Tasmania was \$4,354m. This represents a 5.8% increase, in current price terms, from the \$4,114m turnover recorded for the year 1993-94. In constant price terms (1989-90 prices), manufacturing gross product at factor cost increased by 1.1% in 1994-95 from 1993-94. Manufacturing employment at the end of June 1995 was 22,100, some 1.9% higher than 12 months earlier. This is the first annual increase since the ANZSIC series was introduced (for the 1989-90 collection) and also the first rise since June 1989.

## EMPLOYMENT (TABLES 1 AND 2)

The 1994-95 manufacturing survey estimated that 22,100 persons were employed at the end of June 1995. As in previous years, Food, beverage and tobacco manufacturing (26.3%), Wood and paper product manufacturing (17.8%) and Metal product manufacturing (15.5%) were the major contributors. Other manufacturing (3.5%) and Petroleum, coal, chemical and associated product manufacturing (3.9%) remain the smallest contributors.

Distribution of employment, June 1995



Manufacturing employment increased by 1.9% between June 1994 and June 1995. Four of the nine industry subdivisions recorded increases in the level of employment over this period and four recorded no change. Wood and paper product manufacturing (up 10.9% from 3,500 persons to 3,900 persons), Machinery and equipment manufacturing (up 4.3% from 2,500 persons to 2,600 persons) and Other manufacturing (up 4.3% from 700 persons to 800 persons) recorded the largest percentage increases.

The industry subdivision recording the decrease was Food, beverage and tobacco manufacturing (down 3.7% from 6,000 persons to 5,800 persons).

## SUMMARY OF FINDINGS *continued*

The percentage contribution by Tasmania to total Australian manufacturing employment at the end of June 1995 was 2.4%, the same contribution as 12 months earlier. The percentage contribution to total manufacturing employment by the other States and Territories at the end of June 1995 was: New South Wales 33.0%, Victoria 31.6%, Queensland 15.0%, South Australia 9.4%, Western Australia 7.7%, the Australian Capital Territory 0.5% and the Northern Territory 0.3%.

The Tasmanian industry subdivisions which made a relatively significant contribution to national manufacturing employment at the end of June 1995 at the industry subdivision level were Wood and paper product manufacturing (6.2%) and Food, beverage and tobacco manufacturing (3.6%).

### Longer term trends (June 1990 to June 1995)

Employment in the Tasmanian manufacturing industry decreased by 4,900 persons (down 18.2% from 27,000 persons to 22,100 persons) over the period June 1990 to June 1995. Five industry subdivisions recorded decreases in the level of employment over this period, with Other manufacturing (down 37.3% from 1,200 persons to 800 persons), Wood and paper product manufacturing (down 36.3% from 6,200 persons to 3,900 persons), Petroleum, coal, chemical and associated product manufacturing (down 31.8% from 1,300 persons to 900 persons) and Metal product manufacturing (down 29.3% from 4,800 persons to 3,400 persons) recording the largest percentage decreases. Machinery and equipment manufacturing (up 14.8% from 2,300 persons to 2,600 persons) and Non-metallic mineral product manufacturing (up 8.6% from 900 persons to 1,000 persons) recorded increases in employment over the period. Textile, clothing, footwear and leather manufacturing (1,900 persons) and Printing, publishing and recorded media (1,800 persons) recorded the same level of employment at both June 1990 and 1995.

The decrease in Tasmanian employment over the period June 1990 and June 1995 was the second largest, in percentage terms, by any State or Territory. The largest decrease in both absolute and percentage terms was recorded by Victoria, where employment decreased by 66,100 persons (down 18.4% from 358,700 persons to 292,500 persons). Other large percentage decreases were recorded by South Australia (down 14.1% from 101,400 persons to 87,100 persons) and New South Wales (down 14.0% from 354,900 persons to 305,400 persons). The Northern Territory recorded a marginal decrease (down 0.8%). During this period, the Australian Capital Territory (up 5.9% from 3,900 persons to 4,200 persons) recorded the highest percentage increase of any State or Territory. Employment increased marginally in Western Australia (up 0.4% from 71,200 persons to 71,500 persons) and Queensland (up 0.1% from 138,500 persons to 138,600 persons).

The percentage contribution by Tasmania to Australian manufacturing employment has declined since June 1990 (decreasing by 0.2 percentage points to 2.4%), as did Victoria (down 2.2 percentage points to 31.6%), New South Wales (down 0.5 percentage points to 33.0%) and South Australia (down 0.2 percentage points to 9.4%). Queensland increased its percentage share of employment over this period (up 1.9 percentage points to 15.0%), as did Western Australia (up 1.0 percentage points to 7.7%). Both Territories maintained their minor shares of Australian manufacturing employment over the period.



## SUMMARY OF FINDINGS *continued*

### TURNOVER (TABLES 1 AND 2)

Turnover for the year 1994-95 by manufacturing establishments operating in Tasmania was \$4,354m. This represents a 5.8% increase, in current price terms, from \$4,114m turnover recorded for the year 1993-94. Food, beverage and tobacco manufacturing remains the industry subdivision with the largest contribution to turnover in the manufacturing industry.

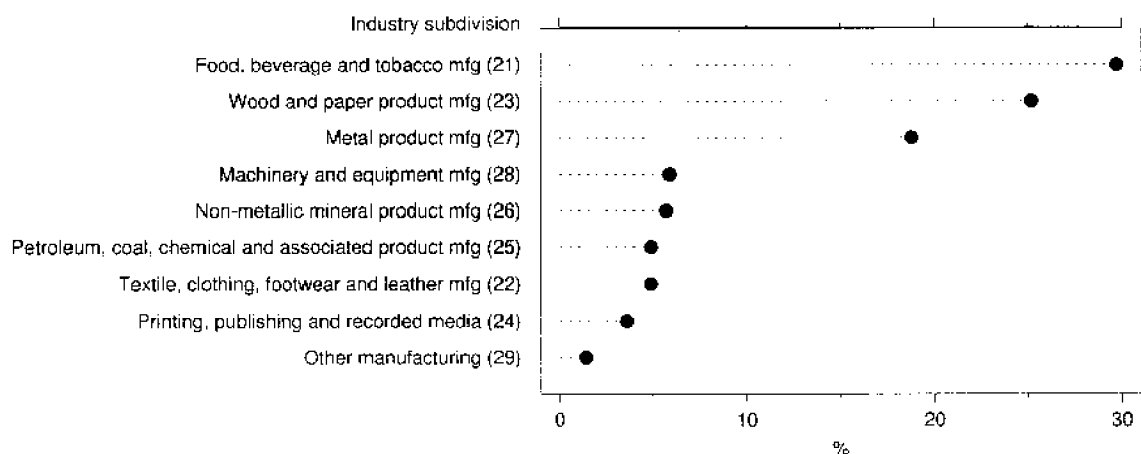
Turnover increased, in current price terms, in eight of the nine industry subdivisions over the period 1993-94 to 1994-95. The industry subdivision recording the largest percentage increase was Wood and paper product manufacturing (up 23.8% from \$887m to \$1,098m). This industry subdivision alone accounted for 88.1% of the total increase in manufacturing turnover for the State from 1993-94 to 1994-95. Food, beverage and tobacco manufacturing recorded the decrease in turnover over the period (down 3.8% from \$1,342m to \$1,291m).

The industry subdivisions contributing the largest proportions to total manufacturing turnover and the most notable industry groups (of those available for publication) within those subdivisions as a percentage of total manufacturing turnover were:

- Food, beverage and tobacco manufacturing (29.7%), where the industry groups Other food manufacturing (ANZSIC group 217 at 9.2%), Meat and meat-product manufacturing (ANZSIC group 211 at 4.5%) and Dairy product manufacturing (ANZSIC class 212 at 4.4%) were the most substantial.
- Wood and paper product manufacturing (25.2%), where the industry group Log sawmilling and timber dressing (ANZSIC group 231 at 11.2%) was the most substantial.
- Metal product manufacturing (18.8%), where the data for the most substantial industry groups are not available for publication.

Industry groups (of those available for publication) making a notable contribution to total turnover and not included in the subdivisions listed above included Cement, lime, plaster and concrete product manufacturing (ANZSIC group 263 at 4.4%), Basic chemical manufacturing (ANZSIC group 253 at 2.9%), Motor vehicle and part manufacturing (ANZSIC group 281 at 2.2%) and Publishing (ANZSIC group 242 at 2.0%).

#### Distribution of turnover



## SUMMARY OF FINDINGS *continued*

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The percentage contribution by Tasmania to total Australian manufacturing turnover in 1994-95 was 2.3%. This represents a marginal increase on the contribution reported in 1993-94. The percentage contribution to turnover by the other States and Territories in 1994-95 was: New South Wales 33.9%, Victoria 31.8%, Queensland 14.5%, South Australia 9.2%, Western Australia 7.7%, the Northern Territory 0.4% and the Australian Capital Territory 0.3%.

The Tasmanian industry subdivision which made a relatively significant contribution to national manufacturing turnover in 1994-95 at the industry subdivision level was Wood and paper product manufacturing (9.7%).

### Longer term trends (1989-90 to 1994-95)

Turnover for the manufacturing industry in Tasmania increased, in current price terms, by 4.9% over the period 1989-90 to 1994-95. Five industry subdivisions recorded increases and four recorded decreases over the same period. The industry subdivisions with the largest percentage increases were Non-metallic mineral product manufacturing (up 59.2% from \$157m to \$250m), Machinery and equipment manufacturing (up 32.1% from \$193m to \$255m) and Printing, publishing and recorded media (up 31.6% from \$119m to \$157m). The industry subdivisions recording the largest percentage decreases were Other manufacturing (down 28.5% from \$84m to \$60m) and Petroleum, coal, chemical and associated product manufacturing (down 13.4% from \$246m to \$213m).

Three of the States recorded a decrease in their contribution to Australian turnover between 1989-90 and 1994-95. Tasmania decreased its contribution by 0.2 percentage points (to 2.3% of Australian manufacturing turnover), as did Victoria (down 1.0 percentage points to 31.8%) and Western Australia (down 0.2 percentage points to 7.7%). The three States to record an increase were Queensland (up 0.7 percentage points to 14.5%), New South Wales (up 0.5 percentage points to 33.9%) and South Australia (up 0.3 percentage points to 9.2%). The Northern Territory (at 0.4%) and the Australian Capital Territory (at 0.3%) maintained their share of Australian turnover over the period.

### RATIO OF WAGES AND SALARIES TO TURNOVER (TABLES 1 AND 2)

In 1994-95, the ratio of wages and salaries to turnover for Tasmania's manufacturing industry was 0.15; that is, on average, 15 cents in wages and salaries is paid for each \$1.00 of turnover. This ratio is lower than both the 0.16 measured in 1993-94 and the 0.17 measured in 1989-90.

The wages and salaries to turnover ratio decreased in six of the nine industry subdivisions between 1989-90 and 1994-95, with the largest falls being recorded by Wood and paper product manufacturing (0.16 to 0.13), Metal product manufacturing (0.17 to 0.14) and Other manufacturing (0.28 to 0.25). The ratio was the same for both 1989-90 and 1994-95 for Food, beverage and tobacco manufacturing (0.13) and Textile, clothing, footwear and leather manufacturing (0.22). Machinery and equipment manufacturing (up from 0.28 to 0.29) was the industry subdivision whose ratio increased.

## SUMMARY OF FINDINGS *continued*

Of the industries available for publication, the largest ratios of wages and salaries to turnover in 1994-95 were recorded in Services to printing (ANZSIC class 2413) (0.40), Hand tool and general hardware manufacturing (ANZSIC class 2761) (0.36) and Boatbuilding (ANZSIC class 2822) (0.35). Of the industries available for publication, the smallest ratios of wages and salaries to turnover were recorded in Flour mill product manufacturing (ANZSIC class 2151) (0.06), Concrete slurry manufacturing (ANZSIC class 2633) (0.08) and Seafood processing (ANZSIC class 2173) (0.12).

### TURNOVER PER PERSON EMPLOYED (TABLES 1 AND 2)

Turnover per person employed for total manufacturing in Tasmania for 1994-95 was \$197,400, which is 3.8% higher than the figure recorded 12 months earlier. The subdivisions to record the highest values for this ratio were Wood and paper product manufacturing (\$279,100) and Non-metallic mineral product manufacturing (\$260,200). Other manufacturing recorded the lowest value for this ratio (\$76,900). Various factors affect the magnitude of turnover per person employed. In general, industries which are labour intensive will record lower values of turnover per person employed than will those industries which are capital intensive.

### GROSS PRODUCT AT FACTOR COST (AVERAGE 1989-90 PRICES) (TABLE 3)

Constant price estimates of gross product at factor cost are the most accurate measure of the relative growth or decline of the manufacturing industry, as they discount the impact of price changes. In constant price terms, manufacturing gross product at factor cost increased by 1.1% from \$1,357m in 1993-94 to \$1,372m in 1994-95.

Six of the nine industry subdivisions recorded an increase in constant price estimates of gross product at factor cost over the period 1993-94 to 1994-95. The largest percentage increases were recorded by Wood and paper product manufacturing (up 20.4%), Machinery and equipment manufacturing (up 15.1%) and Other manufacturing (up 12.4%). The industry subdivisions recording the largest percentage decreases were Metal product manufacturing (down 8.2%) and Food, beverage and tobacco manufacturing (down 7.0%).

#### Longer term trends (1989-90 to 1994-95)

Over the period 1989-90 to 1994-95, manufacturing gross product at factor cost in constant price terms decreased by 5.2%. Five of the nine industry subdivisions recorded a decrease with the other four industry subdivisions recording increases.

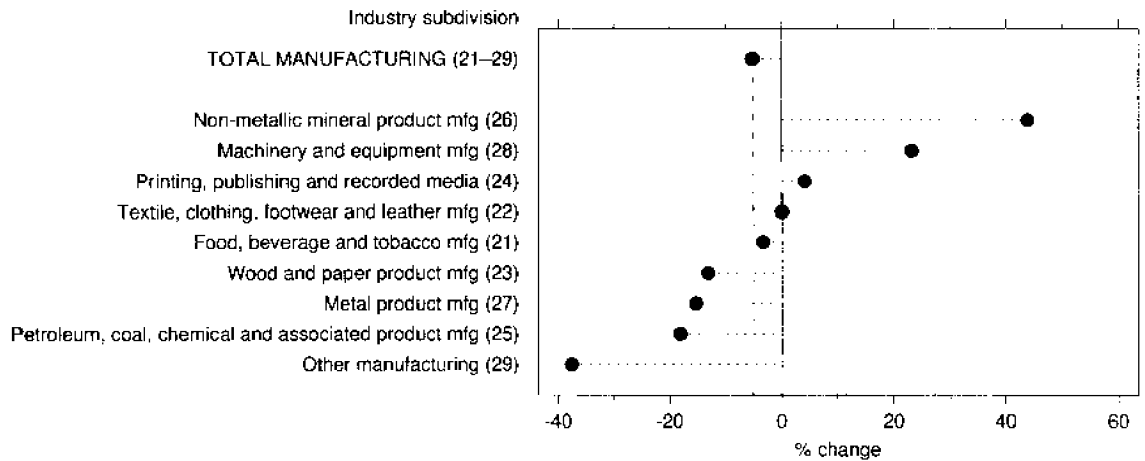
The largest percentage decreases were recorded by Other manufacturing (down 37.5%), Petroleum, coal, chemical and associated product manufacturing (down 18.1%), Metal product manufacturing (down 15.3%) and Wood and paper product manufacturing (down 13.1%). The largest percentage increases were recorded by Non-metallic mineral product manufacturing (up 43.8%) and Machinery and equipment manufacturing (up 23.2%).

Over the period 1989-90 to 1994-95, there was an increase in gross product per person employed (average 1989-90 prices) of 15.9%. Eight of the nine industry subdivisions recorded an increase over this period. The largest percentage increases were recorded by Wood and paper product manufacturing (up 36.3%), Non-metallic mineral product

# SUMMARY OF FINDINGS *continued*

manufacturing (up 32.4%), Petroleum, coal, chemical and associated product manufacturing (up 20.0%) and Metal product manufacturing (up 19.7%). Other manufacturing (down 0.3%) recorded a marginal decrease over the period.

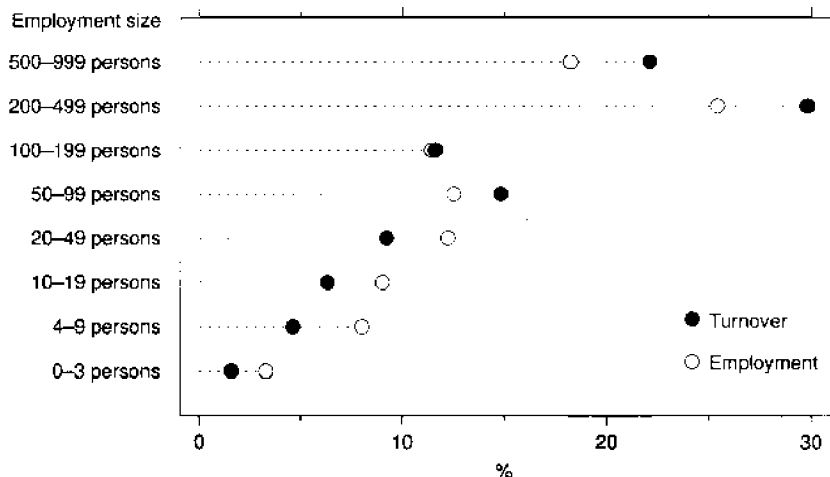
Gross product at factor cost (1989-90 prices), 1989-90 to 1994-95



## EMPLOYMENT SIZE (TABLE 4)

Large establishments (i.e. those employing 100 or more persons) accounted for 55.0% of employment at the end of June 1995 and 63.5% of manufacturing turnover for 1994-95. Establishments employing 20-99 persons accounted for 24.7% of employment and 24.0% of turnover. Small establishments (i.e. those employing 0-19 persons) accounted for 20.3% of employment and 12.5% of turnover. Manufacturing establishments employing between 500 and 999 persons at the end of June 1995 employed 18.2% of all persons working in the manufacturing industry in Tasmania and contributed 22.1% of all manufacturing turnover.

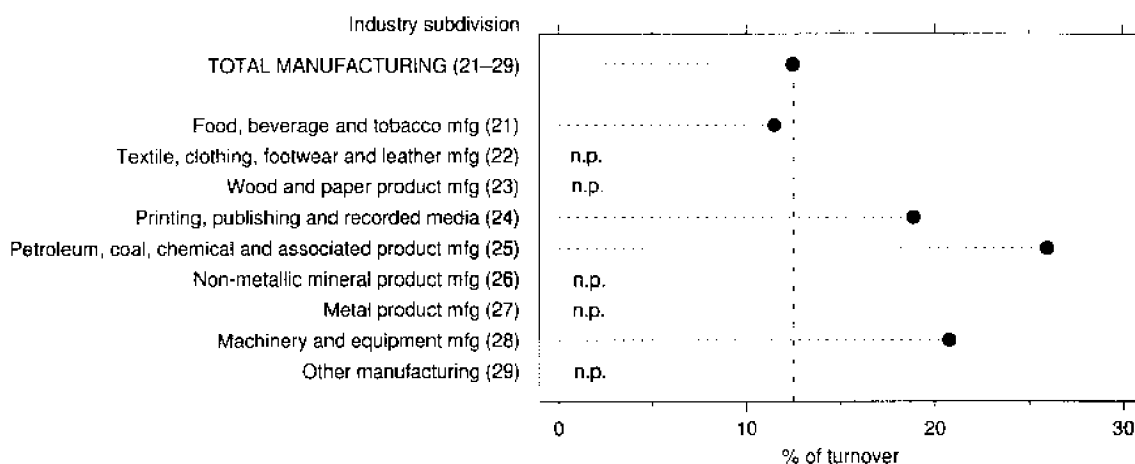
### Distribution of manufacturing turnover and employment



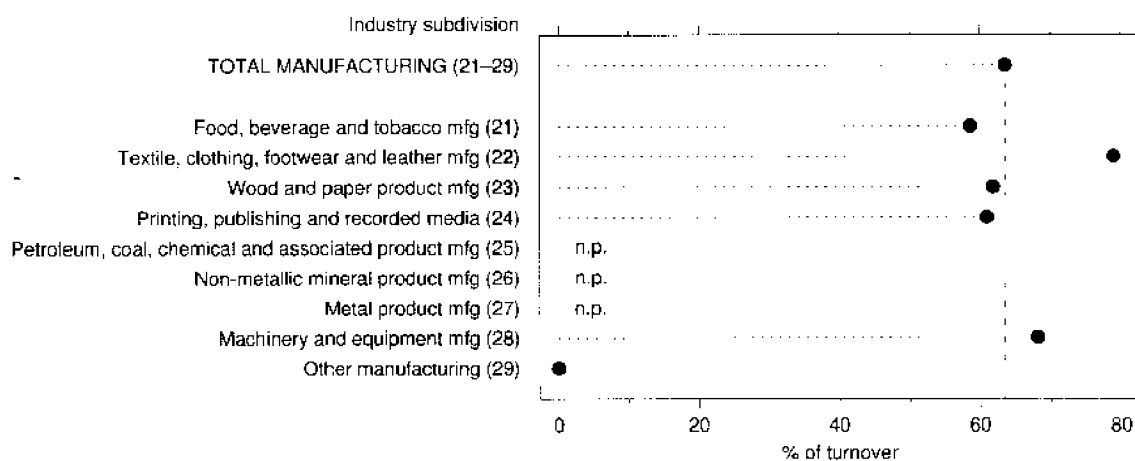
## SUMMARY OF FINDINGS *continued*

For five of the six industry subdivisions available for publication, more than 50% of turnover was contributed by large establishments (employing 100 or more persons). Of these, the industries where large establishments contributed most to turnover were Textile, clothing, footwear and leather manufacturing (79.0%) and Machinery and equipment manufacturing (68.2%). For the industry subdivisions available for publication, small establishments (employing 0–19 persons) made a relatively significant contribution to turnover for Petroleum, coal, chemical and associated product manufacturing (26.0%). Data for this employment size for Other manufacturing are not available for publication. However, establishments employing 0–9 persons contributed 35.4% to the turnover of this industry subdivision.

### Distribution of turnover by employment size, 0–19 persons



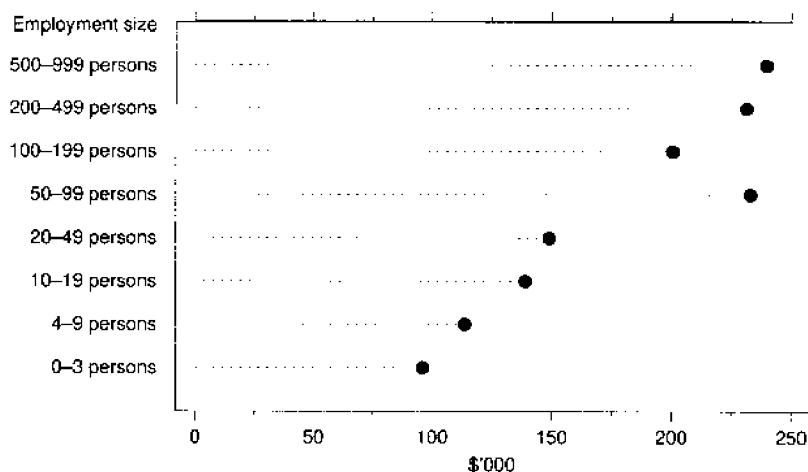
### Distribution of turnover by employment size, 100 or more persons



Small establishments (employing 0–19 persons) displayed a much lower ratio of turnover per person employed at the end of June 1995 (\$122,000) than establishments in the larger size categories. Large establishments (employing 100 or more persons) recorded an average turnover per person employed of \$227,700, with establishments employing between 500 and 999 persons having a ratio of \$239,500.

# SUMMARY OF FINDINGS *continued*

## Turnover per person employed



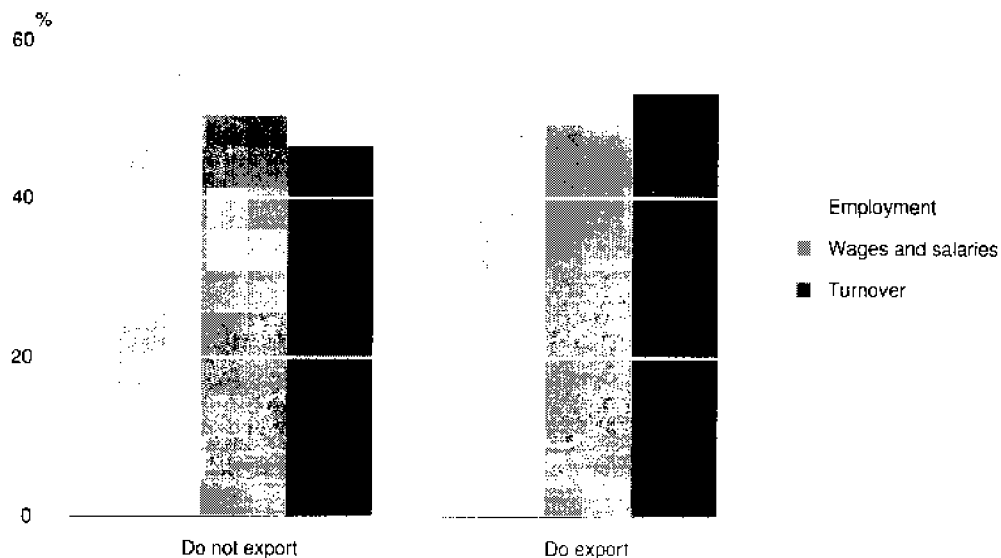
### EXPORTS BY MANUFACTURERS (TABLES 5 AND 6)

It should be noted that tables 5 and 6 do not include all exports of goods manufactured in Tasmania. Rather, they show the extent to which Tasmanian manufacturers are directly involved in the export process. Further information about the data in tables 5 and 6 is contained in paragraphs 26 to 29 of the Explanatory notes.

For 1994-95, the percentage of the sales of goods produced in the manufacturing industry which were subsequently exported was 24.8%. Of the three industry subdivisions available for publication, Machinery and equipment manufacturing recorded the highest percentage contribution with 57.1%, followed by Wood and paper product manufacturing (25.5%) and Printing, publishing and recorded media (0.6%).

Establishments that export contributed about one half to manufacturing activity in Tasmania, with a proportion of employment (43.2%), wages and salaries (49.4%) and turnover (53.4%).

### Distribution of selected variables by non-exporters and exporters



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# 1

## MFG ESTABLISHMENTS(a), Summary of Operations(b)

INDUSTRY SUBDIVISION			Employment at end of June(c)	Wages and salaries(d)(e)	Turnover(e)	Ratio of wages and salaries to turnover(e)	Turnover per person employed(e)(f)
ANZSIC code	Description		'000	\$m	\$m	Ratio	'000
21	Food, beverage and tobacco mfg	1994-95	5.8	163.8	1 291.5	0.13	222.9
		1993-94	6.0	165.4	1 342.3	0.12	223.0
		1992-93	6.0	148.8	1 234.0	0.12	205.9
		1991-92	6.1	154.5	1 182.5	0.13	193.0
		1990-91	6.2	150.5	1 178.8	0.13	190.9
		1989-90	6.6	149.1	1 123.4	0.13	170.8
22	Textile, clothing, footwear and leather mfg	1994-95	1.9	46.4	211.3	0.22	112.3
		1993-94	1.9	47.8	200.3	0.24	105.4
		1992-93	1.9	42.9	187.1	0.23	100.8
		1991-92	1.8	40.2	180.5	0.22	98.8
		1990-91	1.8	38.8	186.0	0.21	101.9
		1989-90	1.9	41.6	184.9	0.22	96.4
23	Wood and paper product mfg	1994-95	3.9	139.8	1 097.6	0.13	279.1
		1993-94	3.5	111.8	886.6	0.13	250.1
		1992-93	4.5	172.8	953.8	0.18	213.3
		1991-92	5.1	207.5	970.5	0.21	192.1
		1990-91	5.6	193.4	1 117.2	0.17	199.1
		1989-90	6.2	179.3	1 130.6	0.16	183.3
24	Printing, publishing and recorded media	1994-95	1.8	50.4	157.0	0.32	86.6
		1993-94	1.8	50.4	143.8	0.35	81.9
		1992-93	1.6	42.7	126.2	0.34	80.5
		1991-92	1.8	43.1	130.2	0.33	73.9
		1990-91	1.7	43.0	126.4	0.34	72.9
		1989-90	1.8	39.8	119.3	0.33	66.2
25	Petroleum, coal, chemical and associated product mfg	1994-95	0.9	32.9	213.0	0.15	245.3
		1993-94	0.9	27.8	209.3	0.13	236.8
		1992-93	0.9	30.4	227.0	0.13	253.1
		1991-92	0.9	32.3	214.1	0.15	234.8
		1990-91	0.9	44.2	238.0	0.19	255.1
		1989-90	1.3	39.7	246.0	0.16	193.4
26	Non-metallic mineral product mfg	1994-95	1.0	30.1	249.7	0.12	260.2
		1993-94	1.0	29.2	244.2	0.12	252.3
		1992-93	0.8	26.2	195.1	0.13	229.8
		1991-92	0.9	27.1	163.2	0.17	181.3
		1990-91	0.9	25.7	154.8	0.17	175.7
		1989-90	0.9	21.4	156.8	0.14	177.4

For footnotes see end of table.



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## MFG ESTABLISHMENTS(a), Summary of Operations(b) *continued*

INDUSTRY SUBDIVISION		Employment at end of June(c)	Wages and salaries(d)(e)	Turnover(e)	Ratio of wages and salaries to turnover(e)	Turnover per person employed(e)(f)	
ANZSIC code	Description	'000	\$m	\$m	Ratio	\$'000	
27	Metal product mfg	1994-95	3.4	114.6	819.1	0.14	240.2
		1993-94	3.3	132.7	796.6	0.17	240.4
		1992-93	4.1	150.0	834.6	0.18	204.0
		1991-92	4.4	148.6	821.7	0.18	187.3
		1990-91	4.7	154.6	902.4	0.17	193.9
		1989-90	4.8	153.8	912.8	0.17	189.3
28	Machinery and equipment mfg	1994-95	2.6	74.8	254.8	0.29	97.5
		1993-94	2.5	66.8	236.9	0.28	94.6
		1992-93	2.0	48.7	188.9	0.26	92.8
		1991-92	1.8	48.5	206.7	0.23	112.0
		1990-91	2.3	55.9	202.6	0.28	87.7
		1989-90	2.3	53.8	192.8	0.28	84.7
29	Other manufacturing	1994-95	0.8	14.8	59.7	0.25	76.9
		1993-94	0.7	13.4	54.2	0.25	72.7
		1992-93	0.8	15.5	58.2	0.27	74.0
		1991-92	0.9	17.6	62.3	0.28	72.5
		1990-91	1.0	20.7	67.8	0.31	67.1
		1989-90	1.2	23.2	83.5	0.28	67.4
<b>21-29</b>	<b>Total manufacturing</b>	<b>1994-95</b>	<b>22.1</b>	<b>667.6</b>	<b>4 353.7</b>	<b>0.15</b>	<b>197.4</b>
		<b>1993-94</b>	<b>21.6</b>	<b>645.4</b>	<b>4 114.2</b>	<b>0.16</b>	<b>190.2</b>
		<b>1992-93</b>	<b>22.5</b>	<b>678.1</b>	<b>4 005.0</b>	<b>0.17</b>	<b>177.6</b>
		<b>1991-92</b>	<b>23.7</b>	<b>719.5</b>	<b>3 931.8</b>	<b>0.18</b>	<b>166.1</b>
		<b>1990-91</b>	<b>25.1</b>	<b>726.9</b>	<b>4 173.9</b>	<b>0.17</b>	<b>166.1</b>
		<b>1989-90</b>	<b>27.0</b>	<b>701.6</b>	<b>4 150.1</b>	<b>0.17</b>	<b>153.9</b>

(a) See paragraph 8 of the Explanatory notes.

(b) For factors affecting comparability of data over the time periods shown, see paragraphs 15 to 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.

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Ratio of wages and salaries to turnover	Turnover per person employed(d)
ANZSIC code	Description	No.	\$m	\$m	Ratio	\$ 000
<b>FOOD, BEVERAGE AND TOBACCO MFG</b>						
<b>Meat and meat product mfg</b>						
2111	Meat processing	674	19.2	136.1	0.14	201.8
211	Total(e)	1 018	27.7	196.7	0.14	193.3
<b>Dairy product mfg</b>						
2129	Dairy product mfg n.e.c.	558	n.p.	n.p.	n.p.	n.p.
212	Total(e)	703	18.4	192.7	0.10	273.9
213	Fruit and vegetable processing	n.p.	n.p.	n.p.	n.p.	n.p.
214	Oil and fat mfg	—	—	—	—	—
<b>Flour mill and cereal food mfg</b>						
2151	Flour mill product mfg	67	2.1	36.2	0.06	539.3
215	Total(e)	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Bakery product mfg</b>						
2161	Bread mfg	480	10.2	40.3	0.25	83.9
2162	Cake and pastry mfg	266	5.3	20.6	0.26	77.3
216	Total(e)	746	15.5	60.8	0.25	81.6
<b>Other food mfg</b>						
2173	Seafood processing	682	22.9	192.3	0.12	282.0
2179	Food mfg n.e.c.	99	1.0	5.4	0.19	54.5
217	Total(e)	1 731	52.5	400.5	0.13	231.4
<b>Beverage and malt mfg</b>						
2182	Beer and malt mfg	198	n.p.	n.p.	n.p.	n.p.
218	Total(e)	369	11.2	95.2	0.12	258.3
219	Tobacco product mfg	—	—	—	—	—
<b>21</b>	<b>Total food, beverage and tobacco mfg</b>	<b>5 795</b>	<b>163.8</b>	<b>1 291.5</b>	<b>0.13</b>	<b>222.9</b>
<b>TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG</b>						
<b>Textile fibre, yarn and woven fabric mfg</b>						
2212	Synthetic fibre textile mfg	199	n.p.	n.p.	n.p.	n.p.
221	Total(e)	717	20.2	72.3	0.28	100.8
<b>Textile product mfg</b>						
2221	Made-up textile product mfg	380	n.p.	n.p.	n.p.	n.p.
222	Total(e)	649	n.p.	n.p.	n.p.	n.p.
223	Knitting mills	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Clothing mfg</b>						
2249	Clothing mfg n.e.c.	38	0.5	1.6	0.30	42.6
224	Total(e)	75	1.2	3.6	0.33	47.6
225	Footwear mfg	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Leather and leather product mfg</b>						
2261	Leather tanning and fur dressing	37	n.p.	n.p.	n.p.	n.p.
226	Total(e)	37	n.p.	n.p.	n.p.	n.p.
<b>22</b>	<b>Total textile, clothing, footwear and leather mfg</b>	<b>1 882</b>	<b>46.4</b>	<b>211.3</b>	<b>0.22</b>	<b>112.3</b>

For footnotes see end of table.

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Ratio of wages and salaries to turnover	Turnover per person employed(d)
ANZSIC code	Description	No.	\$m	\$m	Ratio	\$'000
<b>WOOD AND PAPER PRODUCT MFG</b>						
<b>Log sawmilling and timber dressing</b>						
2311	Log sawmilling	829	20.4	102.0	0.20	123.1
231	Total(e)	1 902	57.4	486.6	0.12	255.8
<b>Other wood product mfg</b>						
2323	Wooden structural component mfg	257	4.6	16.6	0.28	64.7
2329	Wood product mfg n.e.c.	139	2.7	9.6	0.28	69.1
232	Total(e)	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Paper and paper product mfg</b>						
2331	Pulp, paper and paperboard mfg	1 340	n.p.	n.p.	n.p.	n.p.
233	Total(e)	n.p.	n.p.	n.p.	n.p.	n.p.
<b>23</b>	<b>Total wood and paper product mfg</b>	<b>3 933</b>	<b>139.8</b>	<b>1 097.6</b>	<b>0.13</b>	<b>279.1</b>
<b>PRINTING, PUBLISHING AND RECORDED MEDIA</b>						
<b>Printing and services to printing</b>						
2411	Paper stationery mfg	**29	**0.6	2.2	**0.25	**77.6
2412	Printing	706	18.8	62.7	0.30	88.8
2413	Services to printing	63	1.9	4.6	0.40	72.9
241	Total	798	21.2	69.6	0.31	87.2
<b>Publishing</b>						
2421	Newspaper printing or publishing	995	28.8	85.3	0.34	85.8
242	Total(e)	1 016	29.1	87.5	0.33	86.1
243	Recorded media manufacturing and publishing	—	—	—	—	—
<b>24</b>	<b>Total printing, publishing and recorded media</b>	<b>1 814</b>	<b>50.4</b>	<b>157.0</b>	<b>0.32</b>	<b>86.6</b>
<b>PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG</b>						
251	Petroleum refining	—	—	—	—	—
252	Petroleum and coal product mfg n.e.c.	—	—	—	—	—
253	Basic chemical mfg	346	16.6	125.0	0.13	361.2
254	Other chemical product mfg	206	8.9	50.9	0.17	246.6
255	Rubber product mfg	44	1.3	5.4	0.24	124.3
<b>Plastic product mfg</b>						
2564	Plastic product, rigid fibre reinforced, mfg	100	2.0	8.2	0.25	82.5
2565	Plastic foam product mfg	19	n.p.	n.p.	n.p.	n.p.
256	Total(e)	272	6.2	31.7	0.20	116.4
<b>25</b>	<b>Total petroleum, coal, chemical and associated product mfg</b>	<b>868</b>	<b>32.9</b>	<b>213.0</b>	<b>0.15</b>	<b>245.3</b>

For footnotes see end of table.

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Ratio of wages and salaries to turnover	Turnover per person employed(d)
ANZSIC code	Description	No.	\$m	\$m	Ratio	\$'000
<b>NON-METALLIC MINERAL PRODUCT MFG</b>						
261	Glass and glass product mfg	230	n.p.	n.p.	n.p.	n.p.
<b>Ceramic mfg</b>						
2629	Ceramic product mfg n.e.c.	13	0.1	0.3	0.32	23.4
262	Total(e)	106	n.p.	n.p.	n.p.	n.p.
<b>Cement, lime, plaster and concrete product mfg</b>						
2633	Concrete slurry mfg	118	2.9	37.0	0.08	312.7
2635	Concrete product mfg n.e.c.	172	n.p.	n.p.	n.p.	n.p.
263	Total(e)	559	18.1	192.4	0.09	344.0
264	Non-metallic mineral product mfg n.e.c.	*65	*1.4	*4.6	0.30	71.5
<b>26</b>	<b>Total non-metallic mineral product mfg</b>	<b>960</b>	<b>30.1</b>	<b>249.7</b>	<b>0.12</b>	<b>260.2</b>
<b>METAL PRODUCT MFG</b>						
<b>Iron and steel mfg</b>						
2711	Basic iron and steel mfg	395	n.p.	n.p.	n.p.	n.p.
271	Total(e)	n.p.	n.p.	n.p.	n.p.	n.p.
272	Basic non-ferrous metal mfg	n.p.	n.p.	n.p.	n.p.	n.p.
273	Non-ferrous basic metal product mfg	44	1.1	1.7	0.64	37.4
<b>Structural metal product mfg</b>						
2741	Structural steel fabricating	368	12.0	49.8	0.24	135.5
2742	Architectural aluminium product mfg	352	8.2	37.4	0.22	106.2
2749	Structural metal product mfg n.e.c.	22	0.5	3.5	0.14	158.1
274	Total	742	20.7	90.8	0.23	122.3
<b>Sheet metal product mfg</b>						
2751	Metal container mfg	89	n.p.	n.p.	n.p.	n.p.
2759	Sheet metal product mfg n.e.c.	197	n.p.	n.p.	n.p.	n.p.
275	Total	286	7.1	44.5	0.16	155.3
<b>Fabricated metal product mfg</b>						
2761	Hand tool and general hardware mfg	61	1.7	4.6	0.36	75.1
2762	Spring and wire product mfg	17	n.p.	n.p.	n.p.	n.p.
2769	Fabricated metal product mfg n.e.c.	236	4.6	15.5	0.30	65.8
276	Total(e)	490	10.7	35.9	0.30	73.4
<b>27</b>	<b>Total metal product mfg</b>	<b>3 410</b>	<b>114.6</b>	<b>819.1</b>	<b>0.14</b>	<b>240.2</b>
<b>MACHINERY AND EQUIPMENT MFG</b>						
281	Motor vehicle and part mfg	962	34.4	93.9	0.37	97.6
<b>Other transport equipment mfg</b>						
2822	Boatbuilding	99	2.4	6.8	0.35	68.2
282	Total(e)	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Photographic and scientific equipment mfg</b>						
2839	Professional and scientific equipment mfg n.e.c.	10	0.1	0.6	0.15	58.4
283	Total(e)	66	1.3	4.4	0.30	67.3
<b>Electronic equipment mfg</b>						
2849	Electronic equipment mfg n.e.c.	11	0.2	0.7	0.25	65.6
284	Total(e)	37	0.7	2.5	0.26	68.5

For footnotes see end of table.

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Ratio of wages and salaries to turnover	Turnover per person employed(d)
ANZSIC code	Description	No.	\$m	\$m	Ratio	\$'000
<b>Electrical equipment and appliance mfg</b>						
2854	Electric light and sign mfg	53	0.8	3.3	0.23	62.5
2859	Electrical equipment mfg n.e.c.	*68	*1.8	6.6	**0.27	**97.4
285	Total(e)	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Industrial machinery and equipment mfg</b>						
2861	Agricultural machinery mfg	43	0.8	3.1	0.27	70.2
2862	Mining and construction machinery mfg	25	0.6	2.9	0.22	113.8
2864	Machine tool and part mfg	47	0.9	3.5	0.26	74.0
2865	Lifting and material handling equipment mfg	219	5.7	18.5	0.31	84.3
286	Total(e)	606	13.1	40.1	0.33	66.1
<b>28</b>	<b>Total machinery and equipment mfg</b>	<b>2 612</b>	<b>74.8</b>	<b>254.8</b>	<b>0.29</b>	<b>97.5</b>
<b>OTHER MANUFACTURING</b>						
<b>Prefabricated building mfg</b>						
2911	Prefabricated metal building mfg	39	n.p.	n.p.	n.p.	n.p.
291	Total(e)	39	n.p.	n.p.	n.p.	n.p.
<b>Furniture mfg</b>						
2921	Wooden furniture and upholstered seat mfg	544	10.4	37.4	0.28	68.7
2929	Furniture mfg n.e.c.	49	0.9	3.9	0.24	79.3
292	Total(e)	645	12.4	49.4	0.25	76.6
<b>Miscellaneous manufacturing</b>						
2942	Toy and sporting good mfg	25	0.4	1.3	0.31	51.1
294	Total(e)	93	n.p.	n.p.	n.p.	n.p.
<b>29</b>	<b>Total other manufacturing</b>	<b>777</b>	<b>14.8</b>	<b>59.7</b>	<b>0.25</b>	<b>76.9</b>
<b>21-29</b>	<b>TOTAL MANUFACTURING</b>	<b>22 051</b>	<b>667.6</b>	<b>4 353.7</b>	<b>0.15</b>	<b>197.4</b>

(a) See paragraph 8 of the Explanatory notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

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

(e) 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.

1989-90 TO 1994-95

INDUSTRY SUBDIVISION							1989-90 TO 1994-95	
ANZSIC code	Description	1989-90 to 1990-91	1990-91 to 1991-92	1991-92 to 1992-93	1992-93 to 1993-94	1993-94 to 1994-95	Percentage movement	Change in gross product per person employed(d)(e)
21	Food, beverage and tobacco mfg	1.4	-1.9	-1.4	16.0	-7.0	-3.3	9.8
22	Textile, clothing, footwear and leather mfg	-2.5	-2.3	0.3	14.5	0.4	0.1	2.1
23	Wood and paper product mfg	-6.9	-12.0	0.5	-12.4	20.4	-13.1	36.3
24	Printing, publishing and recorded media	-2.2	-4.0	-6.0	11.0	6.2	4.1	3.3
25	Petroleum, coal, chemical and associated product mfg	-5.2	-11.1	4.8	-7.0	-0.3	-18.1	20.0
26	Non-metallic mineral product mfg	-8.4	3.0	16.0	26.7	3.8	43.8	32.4
27	Metal product mfg	-2.6	1.0	-7.5	1.4	-8.2	-15.3	19.7
28	Machinery and equipment mfg	1.4	9.8	-19.5	19.4	15.1	23.2	7.3
29	Other manufacturing	-24.9	-13.2	-4.1	-11.1	12.4	-37.5	-0.3
<b>21-29</b>	<b>Total manufacturing</b>	<b>-3.0</b>	<b>-3.1</b>	<b>-2.9</b>	<b>12.7</b>	<b>1.1</b>	<b>-5.2</b>	<b>15.9</b>

(a) See paragraph 8 of the Explanatory notes.

(b) For information on gross product at factor cost, see paragraphs 22 to 24 of the Explanatory notes.

(c) For factors affecting comparability of data over the time periods shown, see paragraphs 15 to 18 of the Explanatory notes.

(d) Based on employment at the end of June of the reference year. Includes working proprietors.

(e) The basis for the calculation of this data item in this (and the 1993-94) issue of the publication differs from that used in the 1992-93 issue of the publication. See paragraph 19 of the Explanatory notes.

## 4

## MFG ESTABLISHMENTS(a), Summary of Operations by Employment Size

Employment size group	EMPLOYMENT AT END OF JUNE(b).....		WAGES AND SALARIES(c) (d)...		TURNOVER(d).....		Ratio of wages and salaries to turnover(d)	Turnover per person employed(d)(e)
	Number	Proportion	Amount	Proportion	Amount	Proportion		
	No.	%	\$m	%	\$m	%		
<b>FOOD, BEVERAGE AND TOBACCO MFG</b>								
0-3 persons	76	1.3	1.3	0.8	12.8	1.0	0.10	167.7
4-9 persons	219	3.8	3.9	2.4	40.0	3.1	0.10	182.8
10-19 persons	319	5.5	6.9	4.2	95.5	7.4	0.07	299.0
20-49 persons	664	11.5	14.5	8.9	129.4	10.0	0.11	194.8
50-99 persons	1 271	21.9	32.1	19.6	256.6	19.9	0.13	201.9
Total less than 100 persons	2 549	44.0	58.8	35.9	534.2	41.4	0.11	209.5
100-199 persons	891	15.4	26.9	16.4	203.0	15.7	0.13	227.8
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	3 246	56.0	104.8	64.1	756.5	58.6	0.14	233.1
<b>Total</b>	<b>5 795</b>	<b>100.0</b>	<b>163.6</b>	<b>100.0</b>	<b>1 290.7</b>	<b>100.0</b>	<b>0.13</b>	<b>222.7</b>
<b>TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG</b>								
0-3 persons	34	1.8	0.3	0.7	1.6	0.7	0.19	45.9
4-9 persons	114	6.1	2.1	4.6	9.4	4.5	0.22	82.4
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	473	25.1	10.6	22.8	44.5	21.0	0.24	94.1
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	1 410	74.9	35.8	77.2	166.8	79.0	0.21	118.4
<b>Total</b>	<b>1 882</b>	<b>100.0</b>	<b>46.4</b>	<b>100.0</b>	<b>211.3</b>	<b>100.0</b>	<b>0.22</b>	<b>112.3</b>
<b>WOOD AND PAPER PRODUCT MFG</b>								
0-3 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
4-9 persons	357	9.1	9.4	6.7	44.0	4.0	0.21	123.1
10-19 persons	369	9.4	8.7	6.3	46.6	4.3	0.19	126.4
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	1 584	40.3	43.8	31.4	419.0	38.2	0.10	264.5
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	2 349	59.7	95.8	68.6	677.5	61.8	0.14	288.5
<b>Total</b>	<b>3 933</b>	<b>100.0</b>	<b>139.6</b>	<b>100.0</b>	<b>1 096.5</b>	<b>100.0</b>	<b>0.13</b>	<b>278.8</b>

For footnotes see end of table.

Employment size group	EMPLOYMENT AT END OF JUNE(b).....		WAGES AND SALARIES(c)(d)...		TURNOVER(d)....		Ratio of wages and salaries to turnover(d)	Turnover per person employed(d)(e)
	Number	Proportion	Amount	Proportion	Amount	Proportion		
	No.	%	\$m	%	\$m	%	Ratio	\$'000
PRINTING, PUBLISHING AND RECORDED MEDIA								
0-3 persons	67	3.7	0.9	1.8	5.3	3.4	0.17	78.7
4-9 persons	155	8.5	2.9	5.8	12.0	7.6	0.24	77.3
10-19 persons	176	9.7	3.7	7.3	12.3	7.9	0.30	69.9
20-49 persons	173	9.5	4.6	9.1	12.0	7.7	0.38	69.4
50-99 persons	217	12.0	5.9	11.8	19.5	12.5	0.30	90.1
<i>Total less than 100 persons</i>	<i>788</i>	<i>43.4</i>	<i>18.0</i>	<i>35.8</i>	<i>61.1</i>	<i>39.0</i>	<i>0.29</i>	<i>77.6</i>
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	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>1 026</i>	<i>56.6</i>	<i>32.2</i>	<i>64.2</i>	<i>95.6</i>	<i>61.0</i>	<i>0.34</i>	<i>93.2</i>
<b>Total</b>	<b>1 814</b>	<b>100.0</b>	<b>50.3</b>	<b>100.0</b>	<b>156.7</b>	<b>100.0</b>	<b>0.32</b>	<b>86.4</b>
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG								
0-3 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
4-9 persons	96	11.1	2.7	8.2	26.7	12.5	0.10	276.8
10-19 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
20-49 persons	242	27.9	6.4	19.5	62.4	29.3	0.10	258.3
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	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
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>868</b>	<b>100.0</b>	<b>32.9</b>	<b>100.0</b>	<b>213.0</b>	<b>100.0</b>	<b>0.15</b>	<b>245.3</b>
NON-METALLIC MINERAL PRODUCT MFG								
0-3 persons	71	7.4	1.1	3.8	11.1	4.4	0.10	157.2
4-9 persons	76	7.9	1.4	4.7	7.9	3.2	0.18	104.4
10-19 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
20-49 persons	253	26.4	6.4	21.3	43.9	17.6	0.15	173.4
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	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
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>960</b>	<b>100.0</b>	<b>30.1</b>	<b>100.0</b>	<b>249.7</b>	<b>100.0</b>	<b>0.12</b>	<b>260.2</b>

For footnotes see end of table.



Employment size group	EMPLOYMENT AT END OF JUNE(b).....		WAGES AND SALARIES(c)(d)...		TURNOVER(d)....		Ratio of wages and salaries to turnover(d)	Turnover per person employed(d)(e)
	Number	Proportion	Amount	Proportion	Amount	Proportion		
	No.	%	\$m	%	\$m	%		
<b>METAL PRODUCT MFG</b>								
0-3 persons	77	2.3	1.1	0.9	6.6	0.8	0.16	86.0
4-9 persons	332	9.7	7.3	6.4	30.8	3.8	0.24	92.6
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	345	10.1	11.3	9.9	44.6	5.5	0.25	129.3
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	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	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
<b>Total</b>	<b>3 410</b>	<b>100.0</b>	<b>114.5</b>	<b>100.0</b>	<b>818.5</b>	<b>100.0</b>	<b>0.14</b>	<b>240.1</b>
<b>MACHINERY AND EQUIPMENT MFG</b>								
0-3 persons	130	5.0	2.1	2.8	8.8	3.5	0.24	68.0
4-9 persons	248	9.5	5.0	6.7	17.9	7.0	0.28	72.0
10-19 persons	311	11.9	7.7	10.3	26.2	10.3	0.29	84.3
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	1 025	39.2	22.9	30.6	81.1	31.8	0.28	79.1
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	1 587	60.8	51.9	69.4	173.7	68.2	0.30	109.4
<b>Total</b>	<b>2 612</b>	<b>100.0</b>	<b>74.8</b>	<b>100.0</b>	<b>254.8</b>	<b>100.0</b>	<b>0.29</b>	<b>97.5</b>
<b>OTHER MANUFACTURING</b>								
0-3 persons	153	19.7	2.2	15.1	9.6	16.1	0.23	62.6
4-9 persons	164	21.1	3.1	20.8	11.5	19.3	0.27	70.2
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	777	100.0	14.8	100.0	59.7	100.0	0.25	76.9
100-199 persons	—	—	—	—	—	—	—	—
200-499 persons	—	—	—	—	—	—	—	—
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	—	—	—	—	—	—	—	—
<b>Total</b>	<b>777</b>	<b>100.0</b>	<b>14.8</b>	<b>100.0</b>	<b>59.7</b>	<b>100.0</b>	<b>0.25</b>	<b>76.9</b>

For footnotes see end of table.

Employment size group	EMPLOYMENT AT END OF JUNE(b).....		WAGES AND SALARIES(c)(d)..		TURNOVER(d).....		Ratio of wages and salaries to turnover(d)	Turnover per person employed(d)(e)
	Number	Proportion	Amount	Proportion	Amount	Proportion		
	No.	%	\$m	%	\$m	%		
<b>TOTAL MANUFACTURING</b>								
0-3 persons	720	3.3	11.2	1.7	69.1	1.6	0.16	96.0
4-9 persons	1 762	8.0	37.8	5.7	200.1	4.6	0.19	113.6
10-19 persons	1 986	9.0	46.2	6.9	276.0	6.3	0.17	139.0
20-49 persons	2 689	12.2	64.5	9.7	400.5	9.2	0.16	148.9
50-99 persons	2 762	12.5	80.0	12.0	643.0	14.8	0.12	232.8
<i>Total less than 100 persons</i>	<i>9 919</i>	<i>45.0</i>	<i>239.7</i>	<i>35.9</i>	<i>1 588.7</i>	<i>36.5</i>	<i>0.15</i>	<i>160.2</i>
100-199 persons	2 517	11.4	81.4	12.2	504.4	11.6	0.16	200.4
200-499 persons	5 600	25.4	198.6	29.8	1 295.8	29.8	0.15	231.4
500-999 persons	4 016	18.2	147.3	22.1	961.9	22.1	0.15	239.5
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>12 132</i>	<i>55.0</i>	<i>427.2</i>	<i>64.1</i>	<i>2 762.0</i>	<i>63.5</i>	<i>0.15</i>	<i>227.7</i>
<b>TOTAL</b>	<b>22 051</b>	<b>100.0</b>	<b>667.0</b>	<b>100.0</b>	<b>4 350.8</b>	<b>100.0</b>	<b>0.15</b>	<b>197.3</b>

(a) See paragraph 8 of the Explanatory notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

(d) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1994-95 but were not operating at 30 June 1995. See paragraph 25 of the Explanatory notes.

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

# 5

## MFG ESTABLISHMENTS(a), Exports of Goods Produced(b) by Broad Employment Size(c)

INDUSTRY SUBDIVISION		0-49 PERSONS.....		50-99 PERSONS.....	
		Amount exported by this business or its agent	Exports as a proportion of sales of goods produced	Amount exported by this business or its agent	Exports as a proportion of sales of goods produced
ANZSIC code	Description	\$m	%	\$m	%
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	4.4	3.9	—	—
26	Non-metallic mineral product mfg	0.4	0.7	—	—
27	Metal product mfg	0.6	0.5	—	—
28	Machinery and equipment mfg	n.p.	n.p.	—	—
29	Other manufacturing	n.p.	n.p.	—	—
<b>21-29</b>	<b>Total manufacturing</b>	<b>60.5</b>	<b>6.9</b>	<b>n.p.</b>	<b>n.p.</b>

INDUSTRY SUBDIVISION		100 OR MORE PERSONS.....		TOTAL.....	
		Amount exported by this business or its agent	Exports as a proportion of sales of goods produced	Amount exported by this business or its agent	Exports as a proportion of sales of goods produced
ANZSIC code	Description	\$m	%	\$m	%
21	Food, beverage and tobacco mfg	119.9	16.1	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.	275.2	25.5
24	Printing, publishing and recorded media	—	—	0.5	0.6
25	Petroleum, coal, chemical and associated product mfg	n.p.	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.	n.p.
27	Metal product mfg	n.p.	n.p.	n.p.	n.p.
28	Machinery and equipment mfg	n.p.	n.p.	123.7	57.1
29	Other manufacturing	—	—	n.p.	n.p.
<b>21-29</b>	<b>Total manufacturing</b>	<b>n.p.</b>	<b>n.p.</b>	<b>1 025.8</b>	<b>24.8</b>

(a) See paragraph 8 of the Explanatory notes.

(b) See paragraphs 26 to 29 of the Explanatory notes.

(c) This table excludes those manufacturing establishments which operated during 1994-95 but were not operating at 30 June 1995. See paragraph 25 of the Explanatory notes.

# 6

## MFG ESTABLISHMENTS(a), Summary of Operations by Non-exporters and Exporters(b)

INDUSTRY SUBDIVISION		ESTABLISHMENTS THAT DO NOT EXPORT.....			ESTABLISHMENTS THAT DO EXPORT.....		
		<i>Employment at end of June(c)</i>	<i>Wages and salaries(d)</i>	<i>Turnover</i>	<i>Employment at end of June(c)</i>	<i>Wages and salaries(d)</i>	<i>Turnover</i>
<i>code</i>	<i>Description</i>	%	%	%	%	%	%
21	Food, beverage and tobacco mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
22	Textile, clothing, footwear and leather mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
23	Wood and paper product mfg	58.9	50.8	43.3	41.1	49.2	56.7
24	Printing, publishing and recorded media	96.4	97.9	96.1	3.5	2.1	3.9
25	Petroleum, coal, chemical and associated product mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
27	Metal product mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
28	Machinery and equipment mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
29	Other manufacturing	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
<b>21-29</b>	<b>Total manufacturing</b>	<b>58.9</b>	<b>50.5</b>	<b>46.6</b>	<b>43.2</b>	<b>49.4</b>	<b>53.4</b>

(a) See paragraph 8 of the Explanatory notes.

(c) Includes working proprietors.

(b) See paragraphs 26 to 29 of the Explanatory notes.

(d) Excludes the drawings of working proprietors.

# EXPLANATORY NOTES

.....

## INTRODUCTION

- 1** This publication presents final statistics for Tasmania compiled from a survey of manufacturing establishments for 1994-95, with some comparative statistics relating to preceding years.
- 2** The manufacturing collection is conducted on an annual basis. For the 1994-95 collection, a variety of samples was selected to produce data on a range of variables.
- 3** A sample of approximately 20,000 manufacturing establishments, nationally, was requested to provide data on employment, wages and salaries, turnover and whether their products were exported. Approximately 7,500 of these establishments were asked to supply value of sales for commodities produced. (These commodity data will be released in the publication *Manufacturing Production, Australia: Principal Commodities Produced, 1994-95* (8365.0).)
- 4** 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.

## SCOPE AND COVERAGE

- 5** The main unit for which statistics are reported in the 1994-95 manufacturing collection is the establishment. Prior to the 1988-89 census, this unit covered, in general, all the operations carried on under the ownership of one enterprise (business) at a single physical location.
- 6** The standard units definitions were revised for the 1988-89 census, with the establishment now being generally delineated on the basis of availability of accounting data rather than in terms of a location.
- 7** These new definitions were progressively implemented on the ABS central business register as reporting arrangements with individual businesses were finalised. The new management unit and establishment definitions were fully implemented on the ABS central business register in time for the 1990-91 census for those units classified to the manufacturing industry.
- 8** 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 and which are excluded.
- 9** 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 1994-95 manufacturing collection, 'significant' was defined as \$7.0 million or more.

## EXPLANATORY NOTES *continued*

.....

**10** 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 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

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

### RELIABILITY OF ESTIMATES

**12** For information on this subject, see the sections Technical notes and Standard errors.

### DATA ADJUSTED

**13** As was done for the 1993-94 issue of this publication, data have been adjusted to allow for lags in processing new businesses to the ABS business register, and the omission of some businesses from the business register. First, adjustments have been made to allow for new businesses which had commenced operations but for which details had not been processed on to the ABS business register in time for inclusion in the annual manufacturing industry survey. Adjustments of this type will continue to be applied in future periods. Second, adjustments have been made for businesses which had been in existence for several years, but, for various reasons, were not previously added to the ABS business register. The ABS is remedying these omissions.

**14** The majority of businesses affected by these lags and omissions and to which both types of adjustments apply are small in size. The effect of these adjustments on 1994-95 turnover for Tasmania is an increase of 1% while the effect on employment is an increase of 2%. Most industries were affected to a similar degree.

### COMPARABILITY WITH PREVIOUS STATISTICS

**15** As explained above, the standard units definitions were revised for the 1988-89 census and the new definitions were fully implemented on the ABS central business register in time for the 1990-91 census for units classified to the manufacturing industry.

**16** Commencing with the 1993-94 manufacturing collection, included are data relating to those 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. 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.

**17** Commencing with the 1994-95 manufacturing collection, multi-establishment management units have been 'collapsed' 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. (Across Australia, approximately 1,500 manufacturing establishments were no longer separately identified and counted as a result of this process.)

**18** As explained above, about 7,500 establishments included in the 1994-95 collection were asked to supply value of sales for commodities produced. Also, as explained in the previous issue of this publication, this procedure was similarly followed in respect of the 18,000 establishments included in the commodity sample as part of 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 each of the 1990-91 to 1992-93 (inclusive) manufacturing collections. The industry code for the units not responding or not included in either of these commodity samples has continued to be a subjectively determined code.

**19** The basis for the calculation of the data used in table 3 of this publication for the data item 'Percentage change in gross product per person employed' is different to that used in the 1992-93 issue of this publication. The employment data now used are 'Employment at the end of June', whereas in the 1992-93 issue the conceptually more precise data item 'Average employment over the year' was used. For some industries, the values obtained by using these different methods may differ significantly and, therefore, care should be exercised when making inter-year comparisons. (The reason for making this change is that the detailed data necessary to calculate 'Average employment over the year' are no longer obtained.)

### COUNTS OF THE NUMBER OF ESTABLISHMENTS

**20** The data item 'Number of establishments' has not been included in this publication and will be omitted from all 1994-95 and later years' publications relating to the annual manufacturing industry collection. In recent years, year to year movements in numbers of establishments have borne little relationship to the changes in economic performance of the industries involved. For this reason, the ABS does not encourage the use of the number of establishments as an analytical tool. However, the data can be made available on request, with notes on their limitations.

**21** As explained in more detail in those notes, the decision to cease publication of this data item was primarily made because the 'establishment' is only a statistical data collection unit and does not necessarily represent a separate physical location. These reporting arrangements may also change over time with no actual change in activity. There are also the effects of 'splitting' by the ABS (see paragraph 9), of the adjustments for lags to and omission from the ABS business register (see paragraphs 13 and 14) and for which the effect on the count of number of establishments is significant, and of the 'collapsing' of multi-establishment management units to form a single reporting unit (see paragraph 17).

### GROSS PRODUCT AT FACTOR COST

**22** Table 3 presents data by industry subdivision for the period 1989-90 to 1994-95 (inclusive) related to constant price estimates of gross product at factor cost. The meaning and measurement of production at constant prices and the limitations and qualifications of the estimates are discussed in detail in *Australian National Accounts: Concepts, Sources and Methods* (5216.0).

**23** In association with the change of the base year for the data in table 3 to 1989-90 (introduced with the 1991-92 issue of this publication), the methodology used to derive these estimates also changed. This came about because only turnover data are now available from the manufacturing collection on an annual basis. The basic approach in compiling these data involves extrapolating a base year estimate of gross product (described below) by a measure of output at constant prices. Constant price turnover is now used as the output indicator with which to extrapolate the base year gross product. To obtain constant price estimates of turnover, current price estimates at the ANZSIC class level are deflated by components of the price indices contained in *Price Indexes of Articles Produced by Manufacturing Industry, Australia* (6412.0).

**24** The base year gross product is estimated for each ANZSIC class using 1989-90 manufacturing census data for value added and adjusted value added. Value added is calculated using turnover, plus the increase (or less the decrease) in the value of stocks, less purchases, transfers in and selected expenses. Adjusted value added is defined as value added less land tax, rates and payroll tax, insurance premiums (other than for workers' compensation) and other business expenses. To conform to the national accounting concept of gross product at factor cost, further adjustments would be necessary using information from other than manufacturing census sources e.g. by the addition of workers' compensation paid less premiums received. However, due to data limitations, these further adjustments can only be made at the ANZSIC subdivision level and are not taken into account in this publication. (This is because the ANZSIC subdivision data contained in this publication are derived from the data calculated at the ANZSIC class level.) The base year gross product values used in this publication are derived by taking establishment based estimates of adjusted value added and applying a stock valuation adjustment. (See Section 8 of *Australian National Accounts: Concepts, Sources and Methods* (5216.0) for an explanation of how this adjustment is undertaken.)



## EXPLANATORY NOTES *continued*

### EMPLOYMENT SIZE DATA

**25** Summary of operations data at the industry subdivision level classified by employment size are presented in table 4. Similarly, exports of goods produced data at the industry subdivision level classified by broad employment size are presented in table 5. The statistics in these two tables relate only to those manufacturing establishments operating at 30 June 1995. As such, the figures presented may differ slightly 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 1994-95.

### EXPORTS BY MANUFACTURERS

**26** Data relating to the amount of sales and transfers out of goods produced which were subsequently exported by the manufacturer or its agent are presented in tables 5 and 6. This is the second time that these data have been obtained by the annual manufacturing collection, the first occasion being the 1992-93 collection.

**27** All establishments selected in the manufacturing survey 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 1994-95 but were not operating at 30 June 1995.

**28** 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.

**29** 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*

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### USE OF ANZSIC

**30** The 1992-93 manufacturing survey introduced the Australian and New Zealand Standard Industrial Classification (ANZSIC) into the annual manufacturing collection. This classification replaced the Australian Standard Industrial Classification (ASIC) previously used. All time series statistics contained in this publication are ANZSIC-based. Corresponding ANZSIC-based data for years prior to 1989-90 are not available, except for constant prices data (see paragraph 36). Similarly, ASIC-based data are not available from 1992-93.

### INFORMATION PAPER

**31** The *Information Paper: Availability of Statistics Related to Manufacturing, 1996* (8205.0) outlines the vast amount of data available about the manufacturing industry in both published and unpublished form available from the annual manufacturing collection and other ABS collections.

### RELATED PUBLICATIONS

**32** A series of publications (8221.1 to 8221.6) will be produced for each State. The publication for New South Wales (8221.1) also contains selected data for the Australian Capital Territory. These publications are being progressively released.

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

- *Environment Protection Expenditure, Australia, 1992-93 and 1993-94* (4603.0), released on 20 March 1997.
- *Labour Force, Australia* (6203.0).
- *Indexes of Industrial Production, Australia* (8125.0).
- *Business Operations and Industry Performance, Australia, 1994-95* (8140.0), released on 4 October 1996.
- *Manufacturing Industry, Australia, Preliminary, 1995-96* (8201.0), to be released in April 1997.
- *Information Paper: Availability of Statistics Related to Manufacturing, 1996* (8205.0), released on 21 March 1996.
- *Manufacturing Industry, Australia, 1994-95* (8221.0), released on 31 January 1997.
- *Manufacturing Production, Australia: Principal Commodities Produced, 1993-94* (8365.0), to be released in April 1997.
- *Manufacturing Production, Australia: Principal Commodities Produced, 1994-95* (8365.0), expected to be released later in 1997.

### MONTHLY OR QUARTERLY COMMODITY DATA

**34** The monthly publication *Manufacturing Production, Australia* (8301.0) includes data for 61 major commodities.

### BACK DATA AND UNPUBLISHED STATISTICS

**35** 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. A charge is made for providing such information. The Information Paper referred to above provides more details.

## EXPLANATORY NOTES *continued*

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**36** In particular, constant prices data on an ANZSIC basis are available back to 1984-85. However, constant price estimates on a true ANZSIC basis are only available from 1989-90. Nevertheless, an exercise has been undertaken to convert estimates for earlier years onto an ANZSIC basis using the relationships that applied between ASIC and ANZSIC in the years 1990-91 and 1991-92. These estimates are available at both the Australian and State and Territory levels back to 1984-85. It should be noted that the relationships that applied in 1990-91 and 1991-92 are less likely to apply the earlier the reference year. Also, annual constant price estimates of gross product at factor cost for the period 1989-90 to 1994-95 (inclusive) by ANZSIC class are available as unpublished data. All of these data can be purchased from the ABS in Canberra by contacting Paul Curran on (06) 252 6801.

### ROUNDING

**37** 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 and the omission of some businesses from the business register (see paragraph 13), this 'rounding rule' also applies to employment counts.

**38** 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.

## TECHNICAL NOTES DATA RELIABILITY

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### SAMPLE ERROR

The 1994-95 manufacturing survey was primarily designed to deliver industry class estimates for Australia and States for the data items employment, wages and salaries and turnover. For the two Territories, the sample was designed to deliver industry subdivision data only.

All 1994-95 (and 1992-93) data contained in this publication have, therefore, 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. One measure of the likely difference 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.

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 1994-95 employment, wages and salaries and turnover data presented in this publication are nearly all less than 3% for industry subdivisions and most are 5% or less for industry classes.

Relative standard errors at the industry subdivision level for Tasmania for selected data items representing the 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

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 count or a sample.

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. In addition, over the past five years, the ABS has undertaken a program of upgrading the business register. This on-going upgrade has resulted in improvements in the quality of the statistical series whose population frames are drawn from the register.

# STANDARD ERRORS SELECTED DATA ITEMS

INDUSTRY SUBDIVISION		Employment at end of June(a)	Wages and salaries(b)	Turnover
ANZSIC code	Description	%	%	%
21	Food, beverage and tobacco mfg	0.8	0.4	0.7
22	Textile, clothing, footwear and leather mfg	0.4	0.3	0.4
23	Wood and paper product mfg	2.0	1.2	1.3
24	Printing, publishing and recorded media	1.3	1.4	1.1
25	Petroleum, coal, chemical and associated product mfg	0.3	0.4	0.1
26	Non-metallic mineral product mfg	2.0	1.4	0.6
27	Metal product mfg	0.6	0.4	0.2
28	Machinery and equipment mfg	0.8	0.7	0.6
29	Other manufacturing	3.9	2.6	2.6
<b>21-29</b>	<b>Total manufacturing</b>	<b>0.5</b>	<b>0.3</b>	<b>0.4</b>

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

## G L O S S A R Y

<b>ABS</b>	Australian Bureau of Statistics
<b>Adjusted value added</b>	Value added less land tax, rates and payroll tax, insurance premiums (other than for workers' compensation) and other business expenses (e.g. cleaning, legal, office supplies and accounting). Referred to as 'Industry gross product' in some related publications.
<b>Amount of goods produced by this establishment (or for it on commission) that are exported by this business or 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, that are exported (outside Australia) by the business or its agent.
<b>ANZSIC</b>	Australian and New Zealand Standard Industrial Classification
<b>ASIC</b>	Australian Standard Industrial Classification
<b>Capital work done for own use</b>	The value of work done by the employees or proprietors of an establishment for the business' own use, or for rental or lease. This item includes the capitalised value of the cost of the materials and the wages and salaries involved.
<b>Change in stocks</b>	The value of total closing stocks minus total opening stocks.
<b>Closing stocks</b>	The value of all stocks of finished goods, work-in-progress, raw materials, fuels, containers and packaging as at the end of the financial year.
<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 Corporations Legislation Amendment Act 1991). 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 enabling value added to be calculated. In general, an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same State or Territory. The majority of establishments operate at one location only.
<b>Establishments that do export</b>	Establishments that reported exports (either by their business or for them by an agent) of goods that they produced.
<b>Establishments that do not export</b>	Establishments that reported no exports (either by their business or for them by an agent) of goods that they produced.

## GLOSSARY *continued*

Exports as a proportion of sales of goods produced (Table 5)	For an individual establishment, this represents the percentage of the total sales and transfers out of goods produced by the establishment (or for it on commission) which are exported (outside Australia) by the business or 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 produced by all establishments, not just the aggregated value for those units which exported.
Gross Domestic Product (GDP)	Gross domestic product (also referred to as gross domestic product at market prices) is the total market value of goods and services produced in Australia within a given period after deduction of the cost of goods and services used up in the process of production, but before deducting allowances for the consumption of fixed capital. Thus, gross domestic product, as here defined, is 'at market prices'. It is equivalent to gross national expenditure plus exports of goods and services less imports of goods and services.
Gross product at factor cost	Gross product at factor cost is that part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour, land, capital and enterprise). It represents the value added by these factors in the process of production and is equivalent to gross domestic product less indirect taxes plus subsidies.
Gross product per person employed	Gross product at factor cost of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.
Industry class	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.
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



- Location** 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.
- Management unit** 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.
- Manufacturing establishment** 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.
- Opening stocks** The value of all stocks of finished goods, work-in-progress, raw materials, fuels, containers and packaging as at the beginning of the financial year.
- Own account capital work** The value of work done by the employees or proprietors of an establishment for the business' own use, or for rental or lease. This item includes the capitalised value of the cost of the materials and the wages and salaries involved.
- Purchases, transfers in and selected expenses** Purchases of materials, components, containers, packaging, fuels, electricity 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 resale, plus commission expenses (including sales commission expenses), repair and maintenance expenses, outward freight and cartage expenses, motor vehicle running expenses, and rent, leasing and hiring expenses. 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.
- Rent, leasing and hiring income** Includes royalties from mineral leases and income from operating leases, but excludes income from finance leases and payments received under hire purchase arrangements.



## GLOSSARY *continued*

- .....
- Sales and transfers out of goods produced by the establishment** Includes sales of goods produced by the establishment (or for it on commission), sales or transfers to related businesses, progress payments billed for long-term contracts, and delivery and/or installation charges not separately invoiced to customers. Also included are transfers out to other establishments of the same business. Transfers out 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. Excluded are export freight charges, sales of fixed tangible assets, and sales tax, excise and duties received (on behalf of the Government).
- Sales of goods and transfers out** Includes sales of goods produced by the establishment (or for it on commission) and of goods not produced by the establishment, sales or transfers to related businesses, progress payments billed for long-term contracts, and delivery and/or installation charges not separately invoiced to customers. Also included are transfers out to other establishments of the same business. Transfers out 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. Excluded are export freight charges, sales of fixed tangible assets, and sales tax, excise and duties received (on behalf of the Government).
- Total government subsidies** Includes revenue received from government bodies in the form of bounties, subsidies and export grants. It also includes payments for Jobstart and subsidies for apprenticeship schemes. Excludes capital grants payments.
- Turnover** (See Note below.) Sales (exclusive of excise and sales tax) of goods whether produced by the establishment or not, plus transfers out of goods to other establishments of the same business, plus bounties and subsidies on production, plus all other operating income from outside the establishment (such as commission income, repair and service income, and rent, leasing and hiring income), plus capital work done by an establishment's own employees for the business' own use, or for rental or lease. Receipts from interest, royalties, dividends and the sale of fixed tangible assets are excluded.

Note: 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, that is, 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.

## GLOSSARY *continued*

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<b>Turnover per person employed</b>	Turnover of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.
<b>Value added</b>	Turnover, plus the increase (or less the decrease) in the value of stocks, less purchases, transfers in and selected expenses.
<b>Wages and salaries</b>	The gross 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. The drawings of working proprietors are also excluded.
<b>Wages and salaries to turnover ratio</b>	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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