



# **MANUFACTURING INDUSTRY** *TASMANIA*

EMBARGO: 11.30AM (CANBERRA TIME) FRI 14 DEC 2001

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- For further information about these and related statistics, contact John Ridley on Sydney 02 9268 4541 or the National Information and Referral Service on 1300 135 070.

## ANNUAL MANUFACTURING INDUSTRY COLLECTION

The 1999–2000 collection was conducted as a sample survey of approximately 17,000 manufacturing establishments nationally, 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

The 1999–2000 series of these publications, *Manufacturing Industry, Australia* (Cat. no. 8221.0) and *Manufacturing Industry, [State]*, (Cat. nos 8221.1–8221.6) will be the last that present data for manufacturing establishments. Future manufacturing collections will no longer collect data from manufacturing establishments. Starting with the 2000–01 manufacturing collection, data will be sought from a sample of approximately 9,000 manufacturing businesses nationally. For more details, see the Appendix.

The ABS continues to use Australian Taxation Office (ATO) information on group employer (GE) registrations to delete from the ABS business register those businesses which have ceased trading or are no longer employing staff. The ABS has for some time used GE information to add new businesses to the business register; however, GE information to delete businesses from the business register was first used for the 1998–99 collection. For more details, see paragraphs 12–14 of the Explanatory Notes.

## REGIONAL DATA

For information about the availability of sub-State estimates from the 1999–2000 collection, see paragraph 26 of the Explanatory Notes.

## 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], 1999–2000* (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.

Management unit data and a wide range of manufacturing related ABS data, as well as data from other sources, will be presented in the compendium publication *Manufacturing, Australia, 2001* (Cat. no. 8225.0), to be released in February 2002. Management unit data at the total manufacturing level are also included in *Business Operations and Industry Performance, Australia, 1999–2000* (Cat. no. 8140.0).

Stevan R. Matheson  
Regional Director, Tasmania

## MAIN FEATURES

### OVERVIEW

Turnover for the year 1999–2000 by manufacturing establishments operating in Tasmania was \$5,490m, which resulted in an industry value added (IVA) for the year of \$1,769m. For turnover, this represents a 4.3% increase in current price terms from the \$5,264m recorded for 1998–99. These manufacturing establishments employed 20,200 persons at the end of June 2000 and paid \$745m in wages and salaries in 1999–2000.

The percentage of Australian manufacturing employment in Tasmania at the end of June 2000 was 2.2%, which is the same percentage recorded at the end of June 1999. The Tasmanian industry subdivisions which made a significant contribution to national manufacturing employment at the end of June 2000 at the industry subdivision level were WOOD AND PAPER PRODUCT MANUFACTURING (5.7%) and FOOD, BEVERAGE AND TOBACCO MANUFACTURING (3.3%).

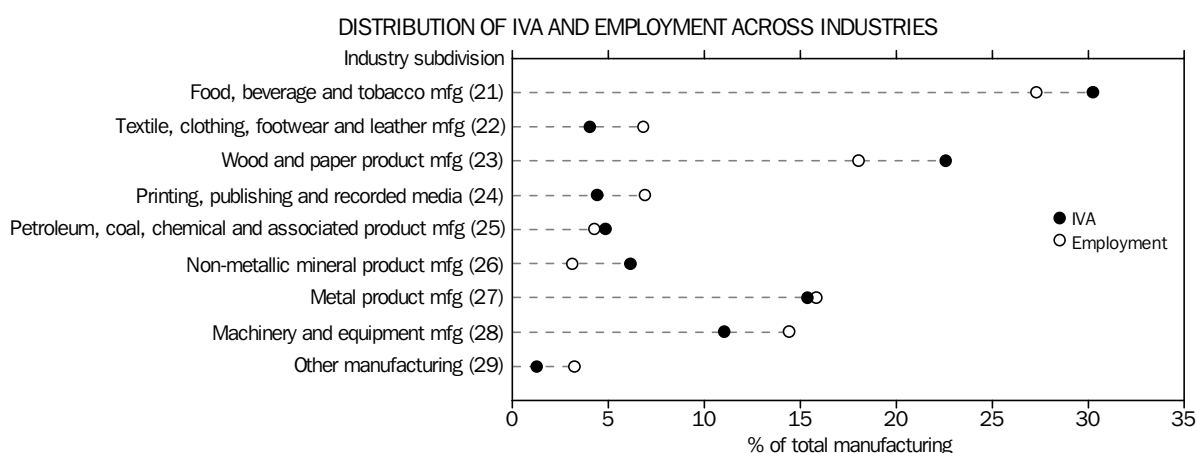
The percentage contribution by Tasmania to total Australian manufacturing turnover and IVA in 1999–2000 was 2.4% and 2.6% respectively. This represents the same percentage contribution as in 1998–99 for turnover and an increase of 0.1 percentage points for IVA. The Tasmanian industry subdivision which made a significant contribution to national manufacturing turnover and IVA in 1999–2000 at the industry subdivision level was once again WOOD AND PAPER PRODUCT MANUFACTURING (9.3% and 8.6% respectively). This industry subdivision also contributed 22.6% to total manufacturing IVA in Tasmania, which is the highest percentage contribution by this subdivision to any State's/Territory's total manufacturing IVA. The next highest percentage contribution by this industry subdivision to total manufacturing IVA for a State/Territory was for Queensland (at 7.7%).

### INDUSTRY VALUE ADDED

IVA for 1999–2000 was \$1,769m. The industry subdivisions with the largest contribution to total manufacturing IVA and the most notable industry classes or groups (where publishable) within those subdivisions (as a percentage of Tasmania's total manufacturing IVA) were:

- FOOD, BEVERAGE AND TOBACCO MANUFACTURING (30.2%), where the industry groups OTHER FOOD MANUFACTURING (ANZSIC Group 217 at 14.8%) and DAIRY PRODUCT MANUFACTURING (ANZSIC Group 212 at 4.3%) made substantial contributions.
- WOOD AND PAPER PRODUCT MANUFACTURING (22.6%), where the only industry group available for publication, LOG SAWMILLING AND TIMBER DRESSING (ANZSIC Group 231 at 11.2%) was the most substantial.
- METAL PRODUCT MANUFACTURING (15.4%), where the industry class COPPER, SILVER, LEAD AND ZINC SMELTING, REFINING (ANZSIC Class 2723 at 7.3%) was the most substantial. This industry class increased its proportion of Tasmanian IVA from 4.0% for 1998–99.
- MACHINERY AND EQUIPMENT MANUFACTURING (11.0%), where the industry group INDUSTRIAL MACHINERY AND EQUIPMENT MANUFACTURING (ANZSIC Group 286 at 3.0%) made a substantial contribution.

## MAIN FEATURES *continued*



### INDUSTRY VALUE ADDED *continued*

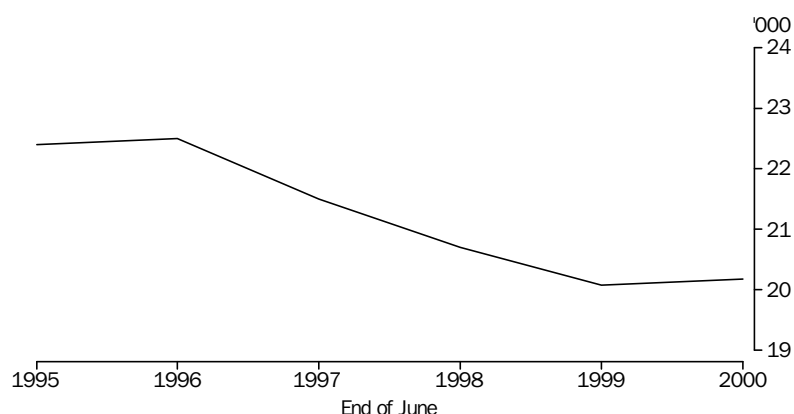
Industry groups making a notable contribution to industry value added and not included in the subdivisions listed above included CEMENT, LIME, PLASTER AND CONCRETE PRODUCT MANUFACTURING (ANZSIC Group 263 at 5.9%), OTHER CHEMICAL PRODUCT MANUFACTURING (ANZSIC Group 254 at 3.4%) and PUBLISHING (ANZSIC Group 242 at 3.2%).

The Tasmanian manufacturing industry subdivision in 1999–2000 with the highest IVA per person employed was NON-METALLIC MINERAL PRODUCT MANUFACTURING at \$172,600 per person employed, followed by WOOD AND PAPER PRODUCT MANUFACTURING at \$109,600 per person employed, the same order as in 1998–99 and 1997–98.

### EMPLOYMENT AND WAGES

The Tasmanian manufacturing industry employed 20,200 persons at the end of June 2000 and paid \$745m in wages and salaries in 1999–2000. This represents an average of \$36,900 paid in annual wages and salaries per person employed at the end of June 2000, an increase of 1.2% on the \$36,500 recorded twelve months earlier. (Readers should note that the employment figure in this average measures the number of persons employed at the end of June and includes working proprietors. The wages and salaries figure excludes the drawings of working proprietors.)

#### EMPLOYMENT



Tasmanian manufacturing employment increased marginally from June 1995 (22,400 persons) to June 1996 (22,500 persons). Since June 1996, employment in the Tasmanian manufacturing industry decreased each year to June 1999 (20,100 persons)

## MAIN FEATURES *continued*

### EMPLOYMENT AND WAGES *continued*

then increased slightly to June 2000 (20,200 persons). Over the five years from June 1995 to June 2000, employment fell by 10.0% or 2,300 persons.

Between June 1999 and June 2000, employment increased in four of the nine manufacturing industry subdivisions, remained steady in three and decreased in the other two. The industry subdivisions with the largest absolute increases were WOOD AND PAPER PRODUCT MANUFACTURING (up 400 persons or 11.0%) and MACHINERY AND EQUIPMENT MANUFACTURING (up 200 persons or 6.9%). The largest decrease in both percentage and absolute terms was recorded by FOOD, BEVERAGE AND TOBACCO MANUFACTURING (down 500 persons or 8.8%).

Average wages and salaries paid per person employed at the end of June rose in five industry subdivisions and fell in the other four between 1998–99 and 1999–2000.

The industry subdivision to record the largest percentage and dollar increases, by far, in wages and salaries per person employed at the end of June was FOOD, BEVERAGE AND TOBACCO MANUFACTURING (up 14.2% or \$4,300 — from \$30,400 to \$34,700), where 7 (out of 8) industry groups recorded an increase. This increase was the result of wages and salaries increasing by 4.2% or \$8m and employment decreasing by 8.8% or 500 persons from June 1999 to June 2000.

Other industry subdivisions to record an increase in wages and salaries paid per person employed at the end of June were:

- TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING (up 3.0% — from \$29,900 to \$30,800), where 4 (out of 6) industry groups recorded an increase.
- OTHER MANUFACTURING (up 3.0% — from \$20,900 to \$21,500), where 2 (out of 3) industry groups recorded an increase.
- PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (up 2.5% — from \$40,300 to \$41,300) where 3 (out of 4) industry groups recorded an increase.
- METAL PRODUCT MANUFACTURING (up 1.7% — from \$42,900 to \$43,600), where 4 (out of 6) industry groups recorded an increase.

The industry subdivisions to record the largest percentage and dollar decreases between 1998–99 and 1999–2000 in wages and salaries per person employed at the end of June were WOOD AND PAPER PRODUCT MANUFACTURING (down 12.5% or \$5,700 — from \$45,300 to \$39,600), where 2 (out of 3) industry groups recorded a decrease, and NON-METALLIC MINERAL PRODUCT MANUFACTURING (down 9.3% or \$3,800 — from \$41,200 to \$37,300), where all four industry groups recorded a decrease.

### TURNOVER

Turnover rose, in current price terms, by \$227m to \$5,490m for 1999–2000. This represents a 4.3% increase on the \$5,264m recorded for 1998–99.

Seven of the nine manufacturing industry subdivisions recorded an increase in turnover between 1998–99 and 1999–2000, while the other two recorded a decrease. FOOD, BEVERAGE AND TOBACCO MANUFACTURING remained the largest contributor to total manufacturing turnover in 1999–2000, again followed by WOOD AND PAPER PRODUCT MANUFACTURING and METAL PRODUCT MANUFACTURING. OTHER MANUFACTURING and PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING recorded the largest increases in percentage terms (up 18.7% and 10.6% respectively). WOOD AND PAPER PRODUCT MANUFACTURING recorded the largest increase in dollar terms (up \$107m or 9.2%). The two industry subdivisions to

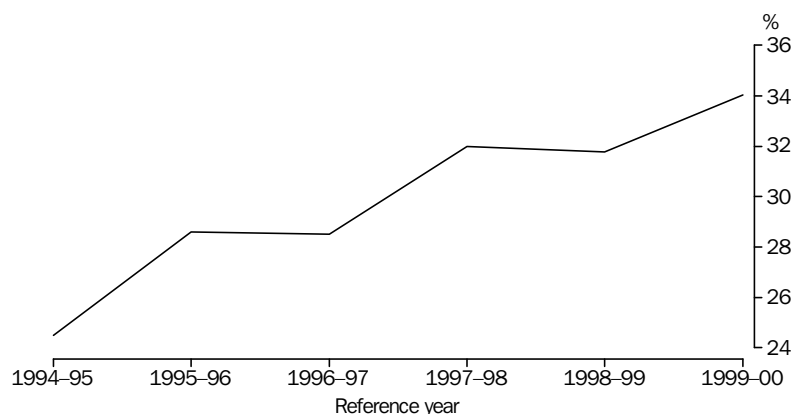
## MAIN FEATURES *continued*

### TURNOVER *continued*

record a decrease in turnover were MACHINERY AND EQUIPMENT MANUFACTURING (down 6.5% or \$33m) and NON-METALLIC MINERAL PRODUCT MANUFACTURING (down 3.0% or \$8m).

### EXPORTS

#### EXPORTS AS A PROPORTION OF GOODS PRODUCED



For 1999–2000, Tasmanian manufacturers directly exported \$1,779m of the goods that they produced. This represents a 13.4% increase on the \$1,569m recorded for 1998–99. Exports as a proportion of the total sales and transfers out of goods produced rose from 24.5% for 1994–95 to 34.0% for 1999–2000. The proportion of exports decreased by 0.1 percentage points between 1995–96 (28.6%) and 1996–97 (28.5%), increased in 1997–98 (32.0%) and fell slightly in 1998–99 (31.8%), before increasing to a series high of 34.0% for 1999–2000.

In 1999–2000, Tasmanian manufacturers again directly exported a higher percentage of goods than those in any other State. This has been the case every year since the series began in 1994–95.

Manufacturers' direct exports increased in seven out of the nine industry subdivisions and decreased in the other two between 1998–99 and 1999–2000. The industry subdivision to record the largest dollar increase in direct exports was METAL PRODUCT MANUFACTURING (up \$128m or 21.1% — from \$605m to \$732m). The largest percentage and dollar decrease in direct exports was recorded by MACHINERY AND EQUIPMENT MANUFACTURING (down \$45m or 14.4% — from \$313m to \$268m) (this subdivision, however, recorded the largest dollar increase in direct exports in 1998–99).

Direct exports by establishments employing 100 or more persons increased by \$261m (or 23.5%) between 1998–99 and 1999–2000. However, manufacturers' direct exports increased overall by only \$211m (or 13.4%), because direct exports decreased for both establishments employing 0 to 49 persons (down \$45m or 21.4%) and those employing 50 to 99 persons (down \$5m or 2.2%).

## MANUFACTURING ESTABLISHMENTS(a)(b), Summary of Operations(c)

Reference year	Employment at end of June(d)	Wages and salaries(e)(f)	Turnover(f)	Industry gross product(f)	Industry value added(f)	Wages and salaries to turnover(f)	Turnover per person employed(f)(g)	Industry value added per person employed(f)(h)
	'000	\$m	\$m	\$m	\$m	ratio	\$'000	\$'000
FOOD, BEVERAGE AND TOBACCO MANUFACTURING								
1999–2000	5.5	191.2	1 675.7	..	534.9	0.11	304.4	97.2
1998–99	6.0	r183.6	r1 619.7	..	r527.7	0.11	r268.4	87.4
1997–98	5.6	184.2	(i)1 608.2	(j)520.9	(j)536.4	0.11	286.8	95.7
1996–97	5.6	175.9	1 355.6	382.7	..	0.13	240.6	..
1995–96	5.7	(k)159.8	1 360.1	426.5	..	0.12	238.2	..
1994–95	5.7	162.1	1 303.6	..	..	0.12	227.7	..
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING								
1999–2000	1.4	42.5	187.0	..	71.5	0.23	135.6	51.9
1998–99	1.4	43.0	184.8	..	r68.8	0.23	128.6	47.8
1997–98	1.4	39.3	(i)190.9	(j)65.3	(j)68.6	0.21	139.4	50.1
1996–97	1.5	43.9	198.2	67.6	..	0.22	129.4	..
1995–96	1.8	(k)48.0	222.8	70.6	..	0.22	126.3	..
1994–95	1.9	46.1	209.7	..	..	0.22	112.1	..
WOOD AND PAPER PRODUCT MANUFACTURING								
1999–2000	3.6	144.1	1 271.3	..	399.0	0.11	349.3	109.6
1998–99	r3.3	r148.4	r1 164.1	..	r403.3	0.13	r355.0	r123.0
1997–98	3.7	138.3	(i)1 175.9	(j)401.1	(j)413.4	0.12	316.5	111.3
1996–97	3.8	152.0	1 136.1	477.6	..	0.13	297.1	..
1995–96	4.0	(k)146.0	1 125.0	542.0	..	0.13	284.2	..
1994–95	4.1	143.4	1 114.0	..	..	0.13	271.9	..
PRINTING, PUBLISHING AND RECORDED MEDIA								
1999–2000	1.4	48.7	164.7	..	78.6	0.30	117.9	56.3
1998–99	1.3	47.9	151.8	..	r71.4	0.32	115.8	r54.5
1997–98	1.5	51.9	(i)181.3	(j)70.4	(j)73.6	0.29	119.3	48.4
1996–97	1.6	54.6	179.9	83.5	..	0.30	112.5	..
1995–96	1.8	(k)56.8	166.9	87.2	..	0.34	91.2	..
1994–95	1.8	51.0	159.2	..	..	0.32	86.9	..
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING								
1999–2000	0.9	35.7	246.6	..	86.2	0.14	285.2	99.7
1998–99	0.9	35.0	223.0	..	r79.5	0.16	r257.2	r91.7
1997–98	0.9	31.2	(i)198.0	(j)66.4	(j)68.6	0.16	223.4	77.4
1996–97	0.8	26.7	168.9	49.8	..	0.16	216.2	..
1995–96	0.7	(k)31.1	214.6	56.6	..	0.14	297.5	..
1994–95	0.9	33.7	220.9	..	..	0.15	253.2	..

.. not applicable

r revised

(a) See paragraph 6 of the Explanatory Notes.

(b) Commencing from 1998–99, group employer information held by the Australian Taxation Office is being used to delete those businesses which have ceased trading or are no longer employing staff. See paragraphs 12–14 of the Explanatory Notes.

(c) For factors affecting comparability of data over the time period shown, see paragraphs 15–21 of the Explanatory Notes.

(d) Includes working proprietors.

(e) Excludes the drawings of working proprietors.

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

(g) Turnover divided by the number of persons employed at the end of June.

(h) Industry value added divided by the number of persons employed at the end of June.

(i) From the 1997–98 manufacturing collection and onwards, new international standards apply to the calculation of turnover. For more details, see paragraphs 15 and 16 of the Explanatory Notes.

(j) From the 1997–98 manufacturing collection and onwards, industry value added (IVA) replaces industry gross product (IGP) as the measure of an industry's contribution to gross domestic product. IGP has also been shown for 1997–98. For more details, see paragraphs 17 and 18 of the Explanatory Notes.

(k) For 1995–96, excludes provision expenses for employee entitlements. See paragraph 20 of the Explanatory Notes.

MANUFACTURING ESTABLISHMENTS(a)(b), Summary of Operations(c) *continued*

Reference year	Employment at end of June(d)	Wages and salaries(e)(f)	Turnover(f)	Industry gross product(f)	Industry value added(f)	Wages and salaries to turnover (f)	Turnover per person employed (f)(g)	Industry value added per person employed (f)(h)
	'000	\$m	\$m	\$m	\$m	ratio	\$'000	\$'000
NON-METALLIC MINERAL PRODUCT MANUFACTURING								
1999-2000	0.6	23.6	242.9	..	108.9	0.10	385.0	172.6
1998-99	0.6	23.1	r250.5	..	r120.3	0.09	r446.8	r214.6
1997-98	0.6	22.5	(i)225.6	(j)100.2	(j)102.2	0.10	380.6	172.4
1996-97	0.8	31.3	245.8	90.5	..	0.13	294.2	..
1995-96	0.9	(k)29.9	257.5	121.6	..	0.12	279.8	..
1994-95	1.0	30.3	250.1	..	..	0.12	257.1	..
METAL PRODUCT MANUFACTURING								
1999-2000	3.2	139.6	1 164.2	..	271.7	0.12	363.7	84.9
1998-99	3.3	139.6	1 108.8	..	r198.6	0.13	340.7	r61.0
1997-98	3.4	139.6	(i)1 083.2	(j)224.0	(j)236.2	0.13	315.4	68.8
1996-97	3.3	143.3	1 008.5	183.7	..	0.14	301.5	..
1995-96	3.4	(k)112.4	1 022.9	339.7	..	0.11	299.9	..
1994-95	3.4	114.4	817.1	..	..	0.14	237.1	..
MACHINERY AND EQUIPMENT MANUFACTURING								
1999-2000	2.9	105.6	475.1	..	195.3	0.22	163.4	67.2
1998-99	2.7	99.1	508.1	..	r209.7	0.20	186.8	r77.1
1997-98	2.7	103.2	(i)452.7	(j)211.3	(j)218.5	0.23	165.6	79.9
1996-97	3.1	98.8	377.0	136.4	..	0.26	121.9	..
1995-96	3.2	(k)94.7	384.1	141.3	..	0.25	121.8	..
1994-95	2.8	79.5	269.0	..	..	0.30	96.9	..
OTHER MANUFACTURING								
1999-2000	0.7	14.1	62.8	..	22.8	0.23	95.6	34.6
1998-99	0.6	12.9	52.9	..	r19.2	0.24	85.6	r31.1
1997-98	0.9	15.7	(i)58.5	(j)21.6	(j)22.2	0.27	67.1	25.5
1996-97	0.8	15.8	61.9	21.0	..	0.25	74.4	..
1995-96	1.0	(k)17.3	60.7	24.4	..	0.28	60.3	..
1994-95	0.8	15.2	61.6	..	..	0.25	73.5	..
TOTAL MANUFACTURING								
1999-2000	20.2	745.1	5 490.3	..	1 769.0	0.14	272.0	87.7
1998-99	r20.1	r732.5	r5 263.7	..	r1 698.5	0.14	r262.1	r84.6
1997-98	20.7	725.9	(i)5 174.3	(j)1 681.1	(j)1 739.8	0.14	249.6	83.9
1996-97	21.5	742.3	4 731.9	1 492.9	..	0.16	220.3	..
1995-96	22.5	(k)696.0	4 814.5	1 809.8	..	0.14	214.2	..
1994-95	22.4	675.6	4 405.3	..	..	0.15	196.4	..

.. not applicable

r revised

(a) See paragraph 6 of the Explanatory Notes.

(b) Commencing from 1998-99, group employer information held by the Australian Taxation Office is being used to delete those businesses which have ceased trading or are no longer employing staff. See paragraphs 12-14 of the Explanatory Notes.

(c) For factors affecting comparability of data over the time period shown, see paragraphs 15-21 of the Explanatory Notes.

(d) Includes working proprietors.

(e) Excludes the drawings of working proprietors.

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

(g) Turnover divided by the number of persons employed at the end of June.

(h) Industry value added divided by the number of persons employed at the end of June.

(i) From the 1997-98 manufacturing collection and onwards, new international standards apply to the calculation of turnover. For more details, see paragraphs 15 and 16 of the Explanatory Notes.

(j) From the 1997-98 manufacturing collection and onwards, industry value added (IVA) replaces industry gross product (IGP) as the measure of an industry's contribution to gross domestic product. IGP has also been shown for 1997-98. For more details, see paragraphs 17 and 18 of the Explanatory Notes.

(k) For 1995-96, excludes provision expenses for employee entitlements. See paragraph 20 of the Explanatory Notes.



## MANUFACTURING ESTABLISHMENTS(a), Industry Class

INDUSTRY CLASS . . . . .		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
<b>FOOD, BEVERAGE AND TOBACCO MFG</b>							
<b>211</b>	<b>Meat and meat product mfg</b>						
2111	Meat processing	950	27.7	181.4	44.8	191.0	47.1
2113	Bacon, ham and smallgood mfg	163	5.4	35.2	6.7	216.1	41.2
	Total(f)	np	np	np	np	np	np
<b>212</b>	<b>Dairy product mfg</b>						
2121	Milk and cream processing	201	8.0	94.2	14.5	469.1	72.0
2122	Ice cream mfg	2	—	0.1	—	57.1	17.5
2129	Dairy product mfg n.e.c.	503	22.7	222.6	61.3	442.4	121.8
	Total	706	30.7	316.9	75.8	448.9	107.4
<b>213</b>	<b>Fruit and vegetable processing</b>	934	np	np	np	np	np
<b>214</b>	<b>Oil and fat mfg</b>	5	0.1	1.0	—	199.7	-3.2
<b>215</b>	<b>Flour mill and cereal food mfg</b>	np	np	np	np	np	np
<b>216</b>	<b>Bakery product mfg</b>	426	13.0	48.9	21.2	114.8	49.7
<b>217</b>	<b>Other food mfg</b>						
2172	Confectionery mfg	699	np	np	np	np	np
2173	Seafood processing	1 100	np	np	np	np	np
2174	Prepared animal and bird feed mfg	61	3.0	60.4	6.1	990.4	100.6
2179	Food mfg n.e.c.	*32	*0.5	*3.2	*1.2	**99.6	**37.4
	Total(f)	1 892	53.2	593.3	262.2	313.6	138.6
<b>218</b>	<b>Beverage and malt mfg</b>						
2181	Soft drink, cordial and syrup mfg	48	1.3	12.9	3.4	267.5	71.1
2182	Beer and malt mfg	169	6.8	68.6	23.4	405.7	138.1
2183	Wine mfg	52	0.7	4.1	1.5	78.5	28.5
2184	Spirit mfg	11	np	np	np	np	np
	Total	280	np	np	np	np	np
<b>219</b>	<b>Tobacco product mfg</b>	—	—	—	—	—	—
<b>21</b>	<b>Total food, beverage and tobacco mfg</b>	<b>5 505</b>	<b>191.2</b>	<b>1 675.7</b>	<b>534.9</b>	<b>304.4</b>	<b>97.2</b>
<b>TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG</b>							
<b>221</b>	<b>Textile fibre, yarn and woven fabric mfg</b>						
2215	Textile finishing	np	—	0.1	0.1	np	np
	Total(f)	414	np	np	np	np	np
<b>222</b>	<b>Textile product mfg</b>						
2221	Made-up textile product mfg	198	6.8	42.3	10.4	213.9	52.7
2222	Textile floor covering mfg	232	7.0	20.6	13.1	88.8	56.4
	Total(f)	460	14.6	65.0	24.3	141.3	52.9
<b>223</b>	<b>Knitting mills</b>	np	np	np	np	np	np

np not available for publication but included in totals where applicable, unless otherwise indicated

— nil or rounded to zero (including null cells)

\* estimate has a relative standard error of between 25% and 50% and should be used with caution

\*\* estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) See paragraph 6 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.

(e) Industry value added divided by the number of persons employed at the end of June.

(f) 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.

MANUFACTURING ESTABLISHMENTS(a), Industry Class *continued*

INDUSTRY CLASS . . . . .		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
<b>TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG <i>cont.</i></b>							
<b>224</b>	<b>Clothing mfg</b>						
2249	Clothing mfg n.e.c.	**23	*0.5	**1.9	*0.6	*82.6	25.0
	Total(f)	51	1.1	*3.9	1.5	**76.2	29.9
<b>225</b>	<b>Footwear mfg</b>	389	np	np	np	np	np
<b>226</b>	<b>Leather and leather product mfg</b>	np	np	np	np	np	np
<b>22</b>	<b>Total textile, clothing, footwear and leather mfg</b>	1 379	42.5	187.0	71.5	135.6	51.9
<b>WOOD AND PAPER PRODUCT MFG</b>							
<b>231</b>	<b>Log sawmilling and timber dressing</b>						
2311	Log sawmilling	441	np	np	np	np	np
2312	Wood chipping	362	np	np	np	np	np
2313	Timber resawing and dressing	953	28.4	165.6	63.4	173.8	66.6
	Total	1 755	56.2	540.4	197.6	307.9	112.6
<b>232</b>	<b>Other wood product mfg</b>						
2322	Fabricated wood mfg	206	np	np	np	np	np
2323	Wooden structural component mfg	353	7.6	31.6	11.3	89.7	32.2
2329	Wood product mfg n.e.c.	70	*1.0	*4.8	*1.6	*67.9	*22.9
	Total(f)	np	np	np	np	np	np
<b>233</b>	<b>Paper and paper product mfg</b>						
2331	Pulp, paper and paperboard mfg	953	np	np	np	np	np
	Total(f)	np	np	np	np	np	np
<b>23</b>	<b>Total wood and paper product mfg</b>	3 639	144.1	1 271.3	399.0	349.3	109.6
<b>PRINTING, PUBLISHING AND RECORDED MEDIA</b>							
<b>241</b>	<b>Printing and services to printing</b>						
2412	Printing	521	14.6	47.8	18.8	91.9	36.2
2413	Services to printing	58	1.7	4.5	1.9	78.6	33.1
	Total(f)	np	np	np	np	np	np
<b>242</b>	<b>Publishing</b>						
2423	Book and other publishing	9	0.2	1.1	0.1	126.2	8.8
	Total(f)	797	32.1	111.4	57.5	139.8	72.1
<b>243</b>	<b>Recorded media manufacturing and publishing</b>	np	np	np	np	np	np
<b>24</b>	<b>Total printing, publishing and recorded media</b>	1 397	48.7	164.7	78.6	117.9	56.3
<b>PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG</b>							
<b>251</b>	<b>Petroleum refining</b>	—	—	—	—	—	—
<b>252</b>	<b>Petroleum and coal product mfg n.e.c.</b>	—	—	—	—	—	—

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(a) See paragraph 6 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.

(e) Industry value added divided by the number of persons employed at the end of June.

(f) 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.

MANUFACTURING ESTABLISHMENTS(a), Industry Class *continued*

INDUSTRY CLASS . . . . .		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
<b>PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG <i>cont.</i></b>							
<b>253</b>	<b>Basic chemical mfg</b>	159	7.8	59.3	9.7	372.6	61.2
<b>254</b>	<b>Other chemical product mfg</b>						
2545	Soap and other detergent mfg	12	0.2	1.1	0.5	89.5	37.9
2549	Chemical product mfg n.e.c.	14	np	np	np	np	np
	<i>Total(f)</i>	351	17.4	133.4	59.6	379.9	169.8
<b>255</b>	<b>Rubber product mfg</b>	89	2.2	10.6	4.1	119.2	46.1
<b>256</b>	<b>Plastic product mfg</b>						
2562	Plastic extruded product mfg	44	2.1	16.1	4.5	366.1	102.3
2564	Plastic product rigid fibre reinforced mfg	139	np	np	np	np	np
2565	Plastic foam product mfg	18	np	np	np	np	np
	<i>Total(f)</i>	266	8.4	43.3	12.8	163.1	48.2
<b>25</b>	<b>Total petroleum, coal, chemical and associated product mfg</b>	<b>865</b>	<b>35.7</b>	<b>246.6</b>	<b>86.2</b>	<b>285.2</b>	<b>99.7</b>
<b>NON-METALLIC MINERAL PRODUCT MFG</b>							
<b>261</b>	<b>Glass and glass product mfg</b>	np	np	np	np	np	np
<b>262</b>	<b>Ceramic mfg</b>						
2629	Ceramic product mfg n.e.c.	6	0.1	0.2	0.1	38.8	16.6
	<i>Total(f)</i>	np	np	np	np	np	np
<b>263</b>	<b>Cement, lime, plaster and concrete product mfg</b>						
2633	Concrete slurry mfg	150	6.3	55.0	13.4	366.0	89.3
	<i>Total(f)</i>	494	20.6	229.8	103.8	464.9	210.0
<b>264</b>	<b>Non-metallic mineral product mfg n.e.c.</b>	44	0.6	3.5	1.6	79.3	36.5
<b>26</b>	<b>Total non-metallic mineral product mfg</b>	<b>631</b>	<b>23.6</b>	<b>242.9</b>	<b>108.9</b>	<b>385.0</b>	<b>172.6</b>
<b>METAL PRODUCT MFG</b>							
<b>271</b>	<b>Iron and steel mfg</b>	397	np	np	np	np	np
<b>272</b>	<b>Basic non-ferrous metal mfg</b>						
2723	Copper, silver, lead and zinc smelting, refining	610	41.4	486.9	128.9	798.2	211.3
	<i>Total(f)</i>	np	np	np	np	np	np
<b>273</b>	<b>Non-ferrous basic metal product mfg</b>	np	np	np	np	np	np
<b>274</b>	<b>Structural metal product mfg</b>						
2741	Structural steel fabricating	460	np	np	np	np	np
2742	Architectural aluminium product mfg	296	8.5	43.3	11.2	146.3	37.7
2749	Structural metal product mfg n.e.c.	24	np	np	np	np	np
	<i>Total</i>	780	22.0	91.9	31.6	117.8	40.5
<b>275</b>	<b>Sheet metal product mfg</b>	<b>**255</b>	<b>**5.2</b>	<b>**18.4</b>	<b>**3.9</b>	<b>*72.1</b>	<b>**15.4</b>

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MANUFACTURING ESTABLISHMENTS(a), Industry Class *continued*

INDUSTRY CLASS . . . . .		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
<b>METAL PRODUCT MFG <i>cont.</i></b>							
<b>276</b>	<b>Fabricated metal product mfg</b>						
2762	Spring and wire product mfg	24	0.4	3.6	0.9	150.0	38.4
2769	Fabricated metal product mfg n.e.c.	409	10.7	40.2	11.6	98.3	28.2
	<i>Total(f)</i>	488	12.7	49.2	14.9	100.7	30.5
<b>27</b>	<b>Total metal product mfg</b>	<b>3 201</b>	<b>139.6</b>	<b>1 164.2</b>	<b>271.7</b>	<b>363.7</b>	<b>84.9</b>
<b>MACHINERY AND EQUIPMENT MFG</b>							
<b>281</b>	<b>Motor vehicle and part mfg</b>	650	25.3	71.9	36.6	110.6	56.3
<b>282</b>	<b>Other transport equipment mfg</b>						
2821	Shipbuilding	1 010	np	np	np	np	np
2822	Boatbuilding	130	3.2	10.8	4.7	83.2	36.2
2824	Aircraft mfg	2	0.1	0.3	0.2	157.7	73.8
	<i>Total(f)</i>	np	np	np	np	np	np
<b>283</b>	<b>Photographic and scientific equipment mfg</b>	72	1.7	3.8	2.1	52.6	28.5
<b>284</b>	<b>Electronic equipment mfg</b>						
2841	Computer and business machine mfg	12	0.2	1.2	0.4	100.7	36.0
2849	Electronic equipment mfg n.e.c.	22	0.4	1.5	0.7	66.9	31.2
	<i>Total(f)</i>	34	0.6	2.7	1.1	79.0	32.9
<b>285</b>	<b>Electrical equipment and appliance mfg</b>						
2854	Electric light and sign mfg	33	1.2	3.2	1.3	98.1	39.2
2859	Electrical equipment mfg n.e.c.	149	6.1	21.9	9.8	146.9	65.4
	<i>Total(f)</i>	np	np	np	np	np	np
<b>286</b>	<b>Industrial machinery and equipment mfg</b>						
2862	Mining and construction machinery mfg	372	np	np	np	np	np
2865	Lifting and material handling equipment mfg	181	5.9	23.2	13.0	128.3	71.9
2869	Industrial machinery and equipment mfg n.e.c.	137	np	np	np	np	np
	<i>Total(f)</i>	776	26.6	130.9	53.3	168.8	68.8
<b>28</b>	<b>Total machinery and equipment mfg</b>	<b>2 908</b>	<b>105.6</b>	<b>475.1</b>	<b>195.3</b>	<b>163.4</b>	<b>67.2</b>
<b>OTHER MANUFACTURING</b>							
<b>291</b>	<b>Prefabricated building mfg</b>	46	1.1	8.3	1.9	181.7	41.1
<b>292</b>	<b>Furniture mfg</b>						
2921	Wooden furniture and upholstered seat mfg	507	10.6	42.7	16.8	84.2	33.2
	<i>Total(f)</i>	548	11.6	49.5	19.1	90.5	34.8
<b>294</b>	<b>Miscellaneous mfg</b>	64	1.4	5.0	1.8	78.0	28.3
<b>29</b>	<b>Total other manufacturing</b>	<b>657</b>	<b>14.1</b>	<b>62.8</b>	<b>22.8</b>	<b>95.6</b>	<b>34.6</b>
<b>21-29</b>	<b>TOTAL MANUFACTURING</b>	<b>20 181</b>	<b>745.1</b>	<b>5 490.3</b>	<b>1 769.0</b>	<b>272.0</b>	<b>87.7</b>

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## MANUFACTURING ESTABLISHMENTS(a), Employment Size(b)

<i>Employment size group</i>	<i>Employment at end of June(c) . .</i>		<i>Wages and salaries (d)(e) . . . . .</i>		<i>Turnover(e) . . .</i>		<i>Industry value added(e)</i>	
	no.	%	\$m	%	\$m	%	\$m	%
<b>FOOD, BEVERAGE AND TOBACCO MANUFACTURING</b>								
0–4 persons	102	1.9	2.6	1.4	10.6	0.6	3.5	0.7
5–9 persons	333	6.0	5.3	2.8	41.1	2.5	10.6	2.0
10–19 persons	192	3.5	5.6	2.9	47.8	2.9	12.3	2.3
20–49 persons	np	np	np	np	np	np	np	np
50–99 persons	np	np	np	np	np	np	np	np
<i>Total less than 100 persons</i>	<i>1 922</i>	<i>34.9</i>	<i>49.9</i>	<i>26.1</i>	<i>434.6</i>	<i>26.0</i>	<i>91.7</i>	<i>17.2</i>
100–199 persons	1 050	19.1	43.8	22.9	359.4	21.5	106.6	19.9
200–499 persons	np	np	np	np	np	np	np	np
500–999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>3 583</i>	<i>65.1</i>	<i>141.2</i>	<i>73.9</i>	<i>1 238.1</i>	<i>74.0</i>	<i>442.9</i>	<i>82.8</i>
<i>Total</i>	<i>5 505</i>	<i>100.0</i>	<i>191.1</i>	<i>100.0</i>	<i>1 672.8</i>	<i>100.0</i>	<i>534.6</i>	<i>100.0</i>
<b>TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING</b>								
0–4 persons	55	4.0	1.0	2.4	3.8	2.1	1.5	2.1
5–9 persons	49	3.6	1.1	2.6	5.6	3.0	2.1	2.9
10–19 persons	51	3.7	1.2	2.8	3.7	2.0	1.7	2.4
20–49 persons	np	np	np	np	np	np	np	np
50–99 persons	np	np	np	np	np	np	np	np
<i>Total less than 100 persons</i>	<i>429</i>	<i>31.1</i>	<i>10.0</i>	<i>23.6</i>	<i>42.9</i>	<i>23.0</i>	<i>16.3</i>	<i>22.8</i>
100–199 persons	np	np	np	np	np	np	np	np
200–499 persons	np	np	np	np	np	np	np	np
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>950</i>	<i>68.9</i>	<i>32.4</i>	<i>76.4</i>	<i>144.0</i>	<i>77.0</i>	<i>55.2</i>	<i>77.2</i>
<i>Total</i>	<i>1 379</i>	<i>100.0</i>	<i>42.4</i>	<i>100.0</i>	<i>186.9</i>	<i>100.0</i>	<i>71.5</i>	<i>100.0</i>
<b>WOOD AND PAPER PRODUCT MANUFACTURING</b>								
0–4 persons	177	4.9	4.1	2.8	90.2	7.1	27.6	6.9
5–9 persons	181	5.0	4.2	2.9	22.7	1.8	9.1	2.3
10–19 persons	246	6.8	5.5	3.8	37.1	2.9	15.2	3.8
20–49 persons	411	11.3	11.0	7.6	48.4	3.8	18.6	4.7
50–99 persons	585	16.1	24.1	16.8	281.2	22.1	97.5	24.5
<i>Total less than 100 persons</i>	<i>1 600</i>	<i>44.0</i>	<i>48.7</i>	<i>34.0</i>	<i>479.5</i>	<i>37.8</i>	<i>167.9</i>	<i>42.2</i>
100–199 persons	np	np	np	np	np	np	np	np
200–499 persons	np	np	np	np	np	np	np	np
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>2 039</i>	<i>56.0</i>	<i>94.8</i>	<i>66.0</i>	<i>790.3</i>	<i>62.2</i>	<i>230.5</i>	<i>57.8</i>
<i>Total</i>	<i>3 639</i>	<i>100.0</i>	<i>143.5</i>	<i>100.0</i>	<i>1 269.8</i>	<i>100.0</i>	<i>398.4</i>	<i>100.0</i>

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— nil or rounded to zero (including null cells)

(a) See paragraph 6 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 1999–2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

MANUFACTURING ESTABLISHMENTS(a), Employment Size(b) *continued*

Employment size group	Employment at end of June(c)		Wages and salaries (d)(e)		Turnover(e)		Industry value added(e)	
	no.	%	\$m	%	\$m	%	\$m	%
PRINTING, PUBLISHING AND RECORDED MEDIA								
0-4 persons	71	5.1	1.6	3.3	5.9	3.6	1.5	1.9
5-9 persons	191	13.7	4.4	8.9	13.2	8.0	5.3	6.7
10-19 persons	150	10.7	3.4	6.9	10.0	6.1	3.6	4.6
20-49 persons	119	8.5	3.4	7.0	8.9	5.4	3.5	4.4
50-99 persons	246	17.6	9.0	18.4	32.6	19.8	12.2	15.5
Total less than 100 persons	777	55.6	21.7	44.6	70.6	42.9	26.0	33.0
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	620	44.4	27.0	55.4	94.0	57.1	52.7	67.0
Total	1 397	100.0	48.7	100.0	164.7	100.0	78.6	100.0
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING								
0-4 persons	39	4.5	1.5	4.2	13.5	5.5	3.7	4.3
5-9 persons	50	5.8	1.2	3.3	6.6	2.7	0.4	0.5
10-19 persons	112	12.9	4.6	13.1	28.6	11.6	10.0	11.6
20-49 persons	336	38.8	11.8	33.2	63.7	25.9	22.2	25.8
50-99 persons	np	np	np	np	np	np	np	np
Total less than 100 persons	np	np	np	np	np	np	np	np
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	—	—	—	—	—	—	—	—
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	np	np	np	np	np	np	np	np
Total	865	100.0	35.4	100.0	246.0	100.0	86.0	100.0
NON-METALLIC MINERAL PRODUCT MANUFACTURING								
0-4 persons	48	7.6	0.8	3.4	4.6	1.9	1.4	1.3
5-9 persons	29	4.6	0.6	2.6	9.8	4.1	2.2	2.0
10-19 persons	80	12.7	1.6	6.8	8.5	3.5	2.7	2.5
20-49 persons	np	np	np	np	np	np	np	np
50-99 persons	np	np	np	np	np	np	np	np
Total less than 100 persons	np	np	np	np	np	np	np	np
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	—	—	—	—	—	—	—	—
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	np	np	np	np	np	np	np	np
Total	631	100.0	23.5	100.0	242.3	100.0	108.7	100.0

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(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1999-2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

MANUFACTURING ESTABLISHMENTS(a), Employment Size(b) *continued*

<i>Employment size group</i>	<i>Employment at end of June(c)</i>		<i>Wages and salaries (d)(e)</i>		<i>Turnover(e)</i>		<i>Industry value added(e)</i>	
	no.	%	\$m	%	\$m	%	\$m	%
<b>METAL PRODUCT MANUFACTURING</b>								
0–4 persons	207	6.5	3.7	2.6	16.1	1.4	3.5	1.3
5–9 persons	238	7.4	6.2	4.5	24.9	2.1	7.9	2.9
10–19 persons	505	15.8	12.9	9.2	57.0	4.9	15.4	5.7
20–49 persons	325	10.2	10.9	7.8	64.2	5.5	14.7	5.4
50–99 persons	np	np	np	np	np	np	np	np
<i>Total less than 100 persons</i>	np	np	np	np	np	np	np	np
100–199 persons	np	np	np	np	np	np	np	np
200–499 persons	np	np	np	np	np	np	np	np
500–999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	np	np	np	np	np	np	np	np
<i>Total</i>	3 201	100.0	139.6	100.0	1 164.2	100.0	271.7	100.0
<b>MACHINERY AND EQUIPMENT MANUFACTURING</b>								
0–4 persons	173	5.9	3.5	3.3	11.7	2.5	4.8	2.4
5–9 persons	127	4.4	2.9	2.8	10.9	2.3	4.6	2.3
10–19 persons	270	9.3	8.8	8.3	25.5	5.4	13.3	6.8
20–49 persons	251	8.6	7.4	7.0	29.2	6.2	10.8	5.5
50–99 persons	np	np	np	np	np	np	np	np
<i>Total less than 100 persons</i>	np	np	np	np	np	np	np	np
100–199 persons	np	np	np	np	np	np	np	np
200–499 persons	np	np	np	np	np	np	np	np
500–999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	np	np	np	np	np	np	np	np
<i>Total</i>	2 908	100.0	105.6	100.0	475.1	100.0	195.3	100.0
<b>OTHER MANUFACTURING</b>								
0–4 persons	184	28.0	3.3	23.3	15.8	25.2	4.9	21.5
5–9 persons	195	29.7	3.9	27.6	15.9	25.3	5.3	23.3
10–19 persons	111	16.9	2.9	20.6	17.0	27.0	6.5	28.5
20–49 persons	166	25.3	4.0	28.6	14.1	22.5	6.1	26.7
50–99 persons	—	—	—	—	—	—	—	—
<i>Total less than 100 persons</i>	657	100.0	14.1	100.0	62.8	100.0	22.8	100.0
100–199 persons	—	—	—	—	—	—	—	—
200–499 persons	—	—	—	—	—	—	—	—
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	—	—	—	—	—	—	—	—
<i>Total</i>	657	100.0	14.1	100.0	62.8	100.0	22.8	100.0

np not available for publication but included in totals where applicable, unless otherwise indicated

— nil or rounded to zero (including null cells)

(a) See paragraph 6 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 1999–2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

MANUFACTURING ESTABLISHMENTS(a), Employment Size(b) *continued*

<i>Employment size group</i>	<i>Employment at end of June(c)</i>		<i>Wages and salaries (d)(e)</i>		<i>Turnover(e)</i>		<i>Industry value added(e)</i>	
	no.	%	\$m	%	\$m	%	\$m	%
<b>TOTAL MANUFACTURING</b>								
0–4 persons	1 057	5.2	22.0	3.0	172.4	3.1	52.3	3.0
5–9 persons	1 393	6.9	29.7	4.0	150.6	2.7	47.4	2.7
10–19 persons	1 716	8.5	46.4	6.2	235.1	4.3	80.6	4.6
20–49 persons	2 585	12.8	73.3	9.9	427.2	7.8	118.0	6.7
50–99 persons	2 342	11.6	82.2	11.1	678.7	12.4	207.1	11.7
<i>Total less than 100 persons</i>	<i>9 093</i>	<i>45.1</i>	<i>253.7</i>	<i>34.1</i>	<i>1 664.0</i>	<i>30.3</i>	<i>505.4</i>	<i>28.6</i>
100–199 persons	2 909	14.4	118.0	15.9	834.9	15.2	308.8	17.5
200–499 persons	np	np	np	np	np	np	np	np
500–999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>11 088</i>	<i>54.9</i>	<i>490.1</i>	<i>65.9</i>	<i>3 820.6</i>	<i>69.7</i>	<i>1 262.3</i>	<i>71.4</i>
<b>Total</b>	<b>20 181</b>	<b>100.0</b>	<b>743.8</b>	<b>100.0</b>	<b>5 484.6</b>	<b>100.0</b>	<b>1 767.7</b>	<b>100.0</b>

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unless otherwise indicated

— nil or rounded to zero (including null cells)

(a) See paragraph 6 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  
1999–2000 but were not operating at 30 June 2000. See paragraph  
22 of the Explanatory Notes.



## MANUFACTURING ESTABLISHMENTS(a), Exported Production(b)—Employment Size(c)

INDUSTRY SUBDIVISION . . . . .		Sales and transfers out of goods produced	Amount exported by this business or its agent	Exports as a proportion of sales and transfers out of goods produced
ANZSIC code	Description	\$m	\$m	%
0–49 PERSONS				
21	Food, beverage and tobacco mfg	np	48.7	np
22	Textile, clothing, footwear and leather mfg	np	np	np
23	Wood and paper product mfg	191.2	np	np
24	Printing, publishing and recorded media	36.6	np	np
25	Petroleum, coal, chemical and associated product mfg	109.9	np	np
26	Non-metallic mineral product mfg	np	1.1	np
27	Metal product mfg	146.9	20.4	13.9
28	Machinery and equipment mfg	59.5	8.9	15.0
29	Other manufacturing	56.8	np	np
21–29	Total manufacturing	915.7	166.2	18.2
50–99 PERSONS				
21	Food, beverage and tobacco mfg	np	20.6	np
22	Textile, clothing, footwear and leather mfg	np	np	np
23	Wood and paper product mfg	275.3	198.6	72.1
24	Printing, publishing and recorded media	32.5	np	np
25	Petroleum, coal, chemical and associated product mfg	np	np	np
26	Non-metallic mineral product mfg	np	—	—
27	Metal product mfg	np	—	—
28	Machinery and equipment mfg	np	np	np
29	Other manufacturing	—	—	—
21–29	Total manufacturing	662.9	241.2	36.4
100 OR MORE PERSONS				
21	Food, beverage and tobacco mfg	1 228.1	np	np
22	Textile, clothing, footwear and leather mfg	138.7	12.7	9.1
23	Wood and paper product mfg	762.6	62.8	8.2
24	Printing, publishing and recorded media	34.7	—	—
25	Petroleum, coal, chemical and associated product mfg	np	np	np
26	Non-metallic mineral product mfg	np	—	—
27	Metal product mfg	np	712.0	np
28	Machinery and equipment mfg	np	np	np
29	Other manufacturing	—	—	—
21–29	Total manufacturing	3 651.6	1 372.0	37.6
TOTAL				
21	Food, beverage and tobacco mfg	1 642.5	np	np
22	Textile, clothing, footwear and leather mfg	181.0	np	np
23	Wood and paper product mfg	1 229.1	np	np
24	Printing, publishing and recorded media	103.8	0.8	0.8
25	Petroleum, coal, chemical and associated product mfg	242.8	93.9	38.7
26	Non-metallic mineral product mfg	237.5	1.1	0.5
27	Metal product mfg	1 117.8	732.4	65.5
28	Machinery and equipment mfg	418.9	267.9	64.0
29	Other manufacturing	56.8	np	np
21–29	Total manufacturing	5 230.2	1 779.4	34.0

np not available for publication but included in totals where applicable,  
unless otherwise indicated

— nil or rounded to zero (including null cells)

(a) See paragraph 6 of the Explanatory Notes.

(b) See paragraphs 23–25 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 1999–2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

## MANUFACTURING ESTABLISHMENTS(a), Summary Data—Proportion of Exports(b)

INDUSTRY SUBDIVISION . . . . .		Employment at end of June(c)	Wages and salaries(d)	Turnover	Industry value added
ANZSIC code	Description	%	%	%	%
DO NOT EXPORT					
21	Food, beverage and tobacco mfg	49.9	51.2	43.8	35.6
22	Textile, clothing, footwear and leather mfg	np	np	np	np
23	Wood and paper product mfg	np	np	np	np
24	Printing, publishing and recorded media	89.8	90.2	88.0	89.6
25	Petroleum, coal, chemical and associated product mfg	57.6	57.4	56.2	40.3
26	Non-metallic mineral product mfg	80.0	85.8	94.3	95.0
27	Metal product mfg	51.5	31.8	15.7	21.0
28	Machinery and equipment mfg	23.6	17.3	12.9	14.4
29	Other manufacturing	np	np	np	np
21–29	<b>Total manufacturing</b>	<b>51.0</b>	<b>45.3</b>	<b>38.2</b>	<b>40.8</b>
EXPORTS UP TO AND INCLUDING 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	np	np	np	np
22	Textile, clothing, footwear and leather mfg	np	np	np	np
23	Wood and paper product mfg	31.8	34.3	33.7	25.1
24	Printing, publishing and recorded media	np	np	np	np
25	Petroleum, coal, chemical and associated product mfg	np	np	np	np
26	Non-metallic mineral product mfg	20.0	14.2	5.7	5.0
27	Metal product mfg	np	np	np	np
28	Machinery and equipment mfg	np	np	np	np
29	Other manufacturing	np	np	np	np
21–29	<b>Total manufacturing</b>	<b>25.8</b>	<b>25.5</b>	<b>25.0</b>	<b>28.3</b>
EXPORTS OF MORE THAN 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	np	np	np	np
22	Textile, clothing, footwear and leather mfg	—	—	—	—
23	Wood and paper product mfg	np	np	np	np
24	Printing, publishing and recorded media	np	np	np	np
25	Petroleum, coal, chemical and associated product mfg	np	np	np	np
26	Non-metallic mineral product mfg	—	—	—	—
27	Metal product mfg	np	np	np	np
28	Machinery and equipment mfg	np	np	np	np
29	Other manufacturing	—	—	—	—
21–29	<b>Total manufacturing</b>	<b>23.2</b>	<b>29.2</b>	<b>36.7</b>	<b>30.9</b>

np not available for publication but included in totals where applicable, unless otherwise indicated

— nil or rounded to zero (including null cells)

(a) See paragraph 6 of the Explanatory Notes.

(b) See paragraphs 23–25 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

## EXPLANATORY NOTES

### INTRODUCTION (1999–2000 COLLECTION)

**1** The current series of these publications, *Manufacturing Industry, Australia, 1999–2000* (Cat. no. 8221.0) and *Manufacturing Industry, [State], 1999–2000* (Cat. nos 8221.1–8221.6), will be the last that present data for manufacturing establishments. Future manufacturing collections will no longer collect data from manufacturing establishments. Starting with the 2000–01 manufacturing collection, data will be sought from a sample of approximately 9,000 manufacturing businesses nationally. For further information, see the Appendix.

**2** This publication presents final statistics for Tasmania compiled from a survey of manufacturing establishments for 1999–2000, 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.

**3** 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.

**4** The manufacturing collection is conducted on an annual basis. For the 1999–2000 collection, a sample of approximately 17,000 manufacturing 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 sub-samples was selected to produce data on a range of other variables. The next manufacturing census will be conducted in respect of 2001–02. However, fundamental changes will be made to the annual manufacturing collection, starting with the 2000–01 survey. For further information, see the Appendix.

**5** Estimates of IVA were compiled using data from the 17,000 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. The availability of this fine level commodity/activity data for these units has enabled better identification of in-scope establishments as well as providing a basis for an objective industry code to be allocated to responding units. A sample of approximately 5,500 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, 2001* (Cat. no. 8225.0).

### SCOPE AND COVERAGE

**6** 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.

**7** 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

## EXPLANATORY NOTES *continued*

### SCOPE AND COVERAGE

*continued*

original establishment is 'split' into a separate establishment for each significant activity which belongs to a separate industry. For the 1999–2000 manufacturing collection, 'significant' was defined as turnover of \$7.3m or more.

**8** 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 (GE) with the Australian Taxation Office (ATO). 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

**9** For the definition of management units and establishments, the standard business units now in use, see the Glossary. However, fundamental changes will be made to the annual manufacturing collection, starting with the 2000–01 survey. For further information, see the Appendix.

### RELIABILITY OF ESTIMATES

**10** For information on this subject, see Technical Note 1.

### DATA ADJUSTED

**11** The annual manufacturing industry collection, like most ABS economic collections, takes its frame from the ABS business register which is primarily based on registrations to the Australian Taxation Office's (ATO) Group Employer (GE) Scheme. Data in this issue continue to be 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 1999–2000 Tasmanian employment is an increase of 0.9% while the effect on turnover is an increase of 0.2%. All industry subdivisions were affected to a similar degree.

**12** For some time now, the ABS has been using ATO information on GE registrations to add new businesses to the ABS business register. GE information is now also used to delete from the business register those businesses which had ceased trading or were no longer employing staff.

**13** The process of using GE information to delete businesses from the ABS business register was introduced for the 1998–99 manufacturing survey. The result was that a large number of businesses were removed from the business register and, therefore, from the population for the 1998–99 manufacturing survey. Estimates for the previous three manufacturing surveys (covering 1995–96 to 1997–98 inclusive) were slightly adjusted in such a way as to phase in the impact over this time. For periods before 1995–96, the impact is estimated to have been negligible.

**14** The same process for removing businesses from the ABS business register has occurred for the 1999–2000 collection and will continue to occur for future manufacturing collections. The impact of the ongoing process is expected to be negligible.

## EXPLANATORY NOTES *continued*

### COMPARABILITY WITH PREVIOUS STATISTICS

**15** 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 current standards is as follows:

	Turnover (as previously defined)
<i>plus</i>	Income from intellectual property royalties
<i>equals</i>	Turnover (new standards)

**16** Conceptually, some further differences exist between turnover on the old and current 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.

**17** Commencing with estimates for 1997–98, under current international standards, contribution to gross domestic product (GDP) by manufacturing industries is being 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.

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

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

**19** 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.

**20** 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.

**21** Periodic collections of the Retail and Wholesale Divisions of ANZSIC, conducted for the 1998–99 reference year, identified a number of businesses which were predominately manufacturers. A small number of these cases were

## EXPLANATORY NOTES *continued*

### COMPARABILITY WITH PREVIOUS STATISTICS *continued*

determined to be significant in some manufacturing industries and were therefore added into the manufacturing collection for 1998–99. The effect of these additional units in published aggregates for 1998–99 have been calculated as adding 0.3% to employment and 0.1% to turnover for Tasmania for 1998–99. These businesses were included in the 1999–2000 manufacturing collection if they remained classified as manufacturers on the ABS business register.

### EMPLOYMENT SIZE DATA

**22** 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 3. 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 4. The statistics in these two tables relate only to those manufacturing establishments operating at 30 June 2000. 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 1999–2000.

### EXPORTS BY MANUFACTURERS

**23** 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 4 are derived by applying the percentage of exports reported for each exporting unit and then aggregating that figure. The data in table 4 exclude those manufacturing establishments which operated during 1999–2000 but were not operating at 30 June 2000.

**24** The statistics presented in table 4 for the value of exports by manufacturers or their agents are not intended to be directly comparable with 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 4 and 5 only include exports directly undertaken by the manufacturer or by its agent.

**25** The data in table 4 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 4 and 5. 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 4 and 5 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.

### REGIONAL DATA

**26** Investigations carried out by the ABS have shown that it is possible to produce some regional or sub-State estimates in survey collection years. Limited

## EXPLANATORY NOTES *continued*

### REGIONAL DATA *continued*

Statistical Division data are currently available from the 1997–98 and 1998–99 manufacturing surveys, on request, for a charge. Similar sub-State data from the 1999–2000 manufacturing survey, are also now available. Regional or sub-State estimates will not be available from the 2000–01 manufacturing survey, for further information see the Appendix. For further details about the availability of sub-State data, please contact John Ridley on Sydney 02 9268 4541.

### ACKNOWLEDGEMENT

**27** 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

**28** The *Information Paper: Availability of Statistics Related to Manufacturing* (Cat. no. 8205.0) outlines the vast amount of data that are published or available on request from the annual manufacturing industry collection, as well as data from other ABS collections.

### RELATED PUBLICATIONS

**29** A series of publications *Manufacturing Industry, [State], 1999–2000* (Cat. nos 8221.1–8221.6) have been 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.

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

- *Australian National Accounts: State Accounts, 1999–2000* (Cat. no. 5220.0), released on 23 November 2000 — Annual publication
- *Business Operations and Industry Performance, Australia, 1999–2000* (Cat. no. 8140.0), released on 25 October 2001 — Annual publication
- *Business Operations and Industry Performance, Australia, Preliminary, 1999–2000* (Cat. no. 8142.0), released on 10 May 2001 — 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, 2001* (Cat. no. 8225.0), to be released in February 2002 — Annual publication
- *Manufacturing Industry, Australia, Preliminary, 2000–01* (Cat. no. 8201.0), to be released in March 2002 — Annual publication

### BACK SERIES AND ADDITIONAL DATA

**31** A considerable volume of data is available from the annual manufacturing collection. Firstly, a range of manufacturing industry statistics publications is available for previous years. In addition, more detailed information to satisfy individual user requirements may be available on request and for a charge. In general, this consists of finer industry dissections of data than that presented in the manufacturing series of publications. The information paper (Cat. no. 8205.0) referred to in paragraphs 28 and 30 provides more details.

### ROUNDING

**32** 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

# EXPLANATORY NOTES *continued*

## ROUNDING *continued*

processing new businesses to the ABS business register (see paragraph 11), this 'rounding rule' also applies to employment counts.

**33** 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.

## ABBREVIATIONS

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
ATO	Australian Taxation Office
f.o.b.	free on board
GDP	gross domestic product
GE	group employer
IGP	industry gross product
IVA	industry value added
mfg	manufacturing
n.e.c.	not elsewhere classified
PAYE	pay as you earn



## APPENDIX 2000–01 SURVEY CHANGES

### FUNDAMENTAL CHANGES TO FUTURE MANUFACTURING COLLECTIONS

#### MANUFACTURING MANAGEMENT UNIT COLLECTION

- 1** The current series of these publications, *Manufacturing Industry, Australia, 1999–2000* (Cat. no. 8221.0) and *Manufacturing Industry, [State], 1999–2000* (Cat. nos 8221.1–8221.6), will be the last that present data for manufacturing establishments. Future manufacturing collections will no longer collect data from manufacturing establishments. Starting with the 2000–01 manufacturing collection, data will be sought from a sample of approximately 9,000 manufacturing businesses nationally.
- 2** This represents a fundamental shift in the statistical unit from which data are primarily being sought and published. It is intended to publish for Australia most, if not all, current tables on a management unit basis. However, this will represent a break in series from data previously published for manufacturing establishments.
- 3** Although the annual manufacturing collection has primarily collected data from manufacturing establishments, it has also collected data from a relatively small sample of manufacturing management units. This annual sample of approximately 5,000 manufacturing businesses nationally have provided data on employment, wages and salaries, turnover, purchases, inventories, capital expenditure and detailed information required to derive operating profit before tax. Information from this sample of manufacturing management units has generally been available at the Australian level for industry groups and selected industry classes on request.
- 4** From the 2000–01 collection, the number of businesses nationally requested to provide this information will increase to approximately 9,000. This will provide a sample large enough to support manufacturing management unit based data at the industry class level for Australia.
- 5** The 2000–01 issue of *Manufacturing Industry, Australia* (Cat. no. 8221.0) will draw on summary of operations data collected previously from manufacturing management units to provide a time series, at the industry subdivision level, from 1995–96. This publication will also contain a table for 1999–2000 showing both manufacturing establishment data and manufacturing management unit data for employment, wages and salaries, turnover and IVA. This table will be designed to provide a bridge between the existing establishment based series and the new manufacturing management unit based series.

#### COLLECTION CYCLE

- 6** The ABS conducts one annual manufacturing collection in five as a manufacturing census, with the other four collections conducted as a survey. It is proposed to retain this cycle with the shift to manufacturing management unit based collections. The next manufacturing census will be conducted in respect of 2001–02.

#### STATE AND TERRITORY DATA

- 7** For the 2000–01 collection, large businesses that have operations in more than one State or Territory have been requested to provide additional details on employment, wages and salaries and sales of goods and services for each State and/or Territory in which they operate. This information will be used to synthesise on a pro-rata basis all other data reported for the whole business to each State and/or Territory in which they operate. This will enable the production of State/Territory data for employment, wages and salaries, turnover

## APPENDIX 2000–01 SURVEY CHANGES *continued*

### STATE AND TERRITORY DATA *continued*

and IVA at the industry subdivision level. However, it will not be possible to produce data by employment size or data relating to exported production.

**8** State publications, *Manufacturing Industry, [State]*, (Cat. nos 8221.1–8221.6), will not be produced for 2000–01. However, it is intended that they next be produced for 2001–02, that is, for the next census year. The publication *Manufacturing Industry, Australia, 2000–01* (Cat. no. 8221.0) will continue to publish in all years State and Territory data for employment, wages and salaries, turnover and IVA at the industry subdivision level.

### REGIONAL DATA

**9** Regional or sub-State data will not be available from the 2000–01 manufacturing survey. This is a direct result of moving to a manufacturing management unit based collection for 2000–01, see paragraphs 1 and 2. However, it is proposed to make available sub-State data from information collected from the 2001–02 manufacturing census. Further investigations will be undertaken to decide if it is possible to produce some sub-State estimates in survey collection years from 2002–03.

## TECHNICAL NOTE 1 DATA RELIABILITY

### SAMPLE ERROR

**1** The 1999–2000 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 1999–2000 (and 1994–95, 1995–96, 1997–98 and 1998–99) 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 2 chances in 3 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 1999–2000 employment, wages and salaries, turnover and IVA data for Tasmania presented in this publication are mainly 3% or less for industry subdivisions, except for OTHER MANUFACTURING (see Technical Note 2), and 5% or less for 80% 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 Technical Note 2. 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.

## TECHNICAL NOTE 2 RELATIVE STANDARD ERRORS

### SELECTED DATA ITEMS

INDUSTRY SUBDIVISION		Employment at end of June(a)	Wages and salaries(b)	Turnover	Industry value added	Amount exported by this business or its agent
ANZSIC code	Description	%	%	%	%	%
21	Food, beverage and tobacco mfg	1.7	0.9	0.3	0.4	1.6
22	Textile, clothing, footwear and leather mfg	1.7	1.0	1.0	1.1	—
23	Wood and paper product mfg	3.4	2.5	1.5	1.1	1.1
24	Printing, publishing and recorded media	4.5	2.2	1.8	1.7	13.6
25	Petroleum, coal, chemical and associated product mfg	1.7	1.7	0.7	1.0	0.1
26	Non-metallic mineral product mfg	—	—	—	—	—
27	Metal product mfg	5.1	2.3	1.0	1.1	—
28	Machinery and equipment mfg	1.1	0.7	0.6	0.6	0.1
29	Other manufacturing	9.2	7.7	8.4	8.6	38.3
21-29	<b>Total manufacturing</b>	<b>1.2</b>	<b>0.7</b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>

— nil or rounded to zero (including null cells)

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

## GLOSSARY

<b>ABS</b>	Australian Bureau of Statistics
<b>Amount 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 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 by own employees for own use or for rental or lease</b>	<p>Work done by the employees or proprietors of an establishment for use by the business or for rental or lease to other businesses that is capitalised. The main types of work included are the manufacturing, constructing, installing or repairing of assets and the in-house development of computer software. This work is valued at the capitalised costs of the materials and the wages and salaries involved.</p> <p>Conceptually, under the current international standards, 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>Closing inventories</b>	The value of all inventories of finished goods, work-in-progress, raw materials, fuels, containers and packaging at the end of the reporting period.
<b>Commission manufacturing</b>	<p>Significant amounts of manufacturing are undertaken on a commission basis by one manufacturer on behalf of another or on behalf of a non-manufacturer for a fee. Typically, commission manufacturing involves a client commissioning the production of goods utilising materials provided by the client. Ownership of these materials remains with the client. Similarly, the goods made using these 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 and the 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 inventories 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 as they are excluded from the manufacturing collection.</p>
<b>Employment at end of June</b>	The number of working proprietors and working partners, plus all employees for whom pay as you earn (PAYE) tax is deducted (including permanent, part-time, temporary and casual employees, and managerial and executive employees) during the last pay period ending in June each year. Non-salaried directors, self-employed persons such as consultants and contractors for whom PAYE tax is not deducted and volunteers 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. 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,

## GLOSSARY *continued*

<b>Establishment</b> <i>continued</i>	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 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 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 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 produced (table 4)</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 or by its agent. In table 4, 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. (The data in table 4 exclude those manufacturing establishments which operated during 1999–2000 but were not operating at 30 June 2000.)
<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, and apprenticeship and traineeship 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 division</b>	Within ANZSIC, there is a structure comprising four levels ranging from industry division (broadest level) to the industry class (finest level). The main purpose of the industry division level is to provide a limited number of categories which give a broad overall picture of the economy. There are 17 divisions within ANZSIC each identified by an alphabetical letter, that is 'A' for Agriculture, forestry and fishing, 'B' for Mining, 'C' for Manufacturing, etc.
<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 the 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.

The relationship between IVA estimates and IGP estimates is:

	IVA
<i>plus</i>	Intellectual property royalty expenses
<i>less</i>	Intellectual property royalty income
<i>less</i>	Computer software expenses not capitalised by the business
<i>less</i>	Selected indirect taxes (for manufacturing industries, the main types are fringe benefits tax, payroll tax, land rates and land taxes)
<i>equals</i>	IGP

## GLOSSARY *continued*

**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)
<i>plus</i>	Closing inventories
<i>less</i>	Opening inventories
<i>less</i>	Intermediate input expenses (see the entry for operating expenses for further detail)
<i>equals</i>	IVA

However, it should be noted that IVA is not a measure of operating profit 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).

**Industry value added (IVA) per person employed** IVA of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.

**Intermediate inputs** 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:

	Intermediate input expenses (see the entry for operating expenses for further detail)
<i>plus</i>	Opening inventories
<i>less</i>	Closing inventories

**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,

## GLOSSARY *continued*

<b>Management unit</b> <i>continued</i>	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).
<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 non-manufacturing activities).
<b>Opening inventories</b>	The value of all inventories of finished goods, work-in-progress, raw materials, fuels, containers and packaging at the beginning of the reporting 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 extraordinary 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.

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 (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 provisions for employee entitlements

Employer contributions into superannuation including salary sacrifice

Workers' compensation premiums/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,



## GLOSSARY *continued*

<b>Operating expenses <i>continued</i></b>	land rates and taxes, mineral/petroleum exploration expenses not capitalised by businesses, and natural resource royalties expenses.
<b>Other intermediate input expenses</b>	Intermediate input expenses less purchases and transfers in.
<b>Own account capital work</b>	Capitalised work done by the employees or proprietors of an establishment for use by the business or for rental or lease to other businesses. The main types of work included are the manufacturing, constructing, installing or repairing of assets and the in-house development of computer software. This work is valued at the capitalised costs of the materials and the wages and salaries involved.  Conceptually, under the current international standards, 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 run by businesses 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 run by businesses 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 1999–2000 collection, a business may have reported data for the year ended 31 December 1999.
<b>Sales and transfers out of goods</b>	Includes sales of goods whether or not produced by the establishment and sales of goods produced for the establishment on a commission basis (see the entry for commission manufacturing). Also includes transfers of goods to other establishments of the same business and installation and delivery charges not separately invoiced to customers. Progress payments relating to long term contracts are included if they are billed in the period. 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. (i.e. 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 produced (table 4)</b>	Sales of goods produced plus transfers out of goods produced by this establishment. 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>	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

## GLOSSARY *continued*

<b>Service income <i>continued</i></b>	<p>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>	<p>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 Australian Standard Geographical Classification.</p>
<b>Turnover</b>	<p>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.</p> <p>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.</p> <p>There are some conceptual differences between turnover as calculated in this publication and turnover as defined by the current international standards. These differences are explained as part of the definition of the component item own account capital work. Full compliance with these standards would make very little difference to estimates of turnover.</p> <p>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.</p> <p>Note (b): Transfers to other establishments of the same business referred to in the definition of turnover are valued, for statistical purposes, at commercial value (i.e. the value which would have applied had the establishments concerned been under separate ownership).</p> <p>Note (c): 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.</p>
<b>Turnover per person employed</b>	<p>Turnover of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.</p>
<b>Wages and salaries</b>	<p>The gross wages and salaries (including capitalised wages and salaries) of all employees of the establishment. The item includes severance, termination, and redundancy payments, salaries and fees of directors and executives, retainers and commissions of persons who received a retainer, bonuses, and, recreation and other types of leave. 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 also included. Payments for salary sacrifice and payments to self employed persons such as consultants, contractors and persons paid solely by commission without a retainer, are excluded. The drawings of working proprietors and partners are also excluded.</p>

**GLOSSARY** *continued*

**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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