



1997–98

8221.5

MANUFACTURING INDUSTRY

WESTERN
AUSTRALIA

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

NOTES

ANNUAL MANUFACTURING INDUSTRY COLLECTION

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



ABOUT THIS ISSUE

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

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

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



DATA TO BE RELEASED IN OTHER PUBLICATIONS

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

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

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

Colin Nagle
Regional Director

MAIN FEATURES

OVERVIEW

Turnover for the year 1997–98 by manufacturing establishments operating in Western Australia was \$17,529m, which resulted in an industry value added (IVA) for the year of \$5,240m. For turnover, this represents a 4.5% increase in current price terms from the \$16,780m recorded for 1996–97. These manufacturing establishments employed 76,000 persons at the end of June 1998 and paid \$2,513m in wages and salaries in 1997–98.

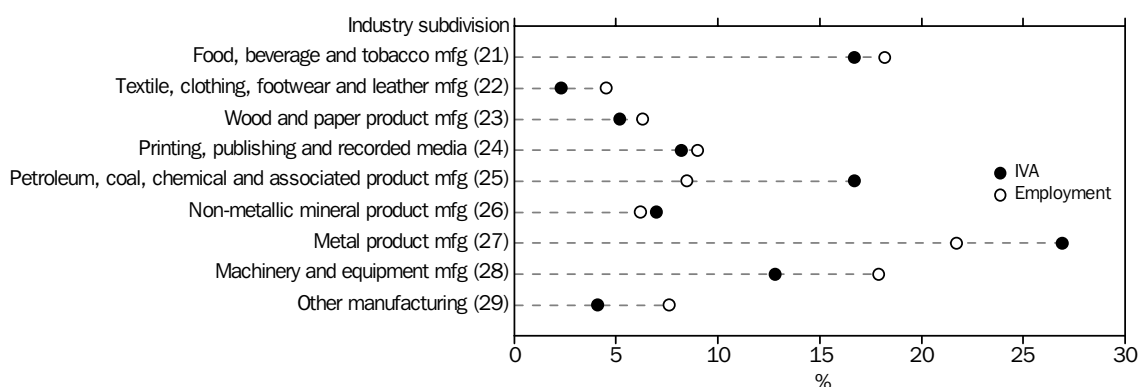
The percentage of Australian manufacturing employment in Western Australia at the end of June 1998 was 8.0%, an increase of 0.2 percentage points on that reported at the end of June 1997. The Western Australian industry subdivisions which made a significant contribution to national manufacturing employment at the end of June 1998 at the industry subdivision level were Non-metallic mineral product manufacturing (13.1%), Metal product manufacturing (11.0%) and Other manufacturing (10.0%).

The percentage contribution by Western Australia to total Australian manufacturing turnover and IVA in 1997–98 was 8.2% and 7.6% (respectively). For turnover, this represents an increase of 0.1 percentage points on the contribution reported in 1996–97. The Western Australian industry subdivisions which made a significant contribution to national manufacturing turnover and IVA in 1997–98 at the industry subdivision level were Metal product manufacturing (13.3% and 11.6% respectively), Non-metallic mineral product manufacturing (11.2% and 12.4% respectively), Petroleum, coal, chemical and associated product manufacturing (10.0% and 8.8% respectively) and Other manufacturing (9.8% and 9.6% respectively).

INDUSTRY VALUE ADDED

IVA (see the Glossary for its definition) for 1997–98 was \$5,240m.

DISTRIBUTION OF IVA AND EMPLOYMENT



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

- Metal product manufacturing (26.9%), where the industry class Alumina production (ANZSIC Class 2721 at 13.5%) was the most substantial. As well as contributing 13.5% of total Western Australian manufacturing IVA, this Western Australian industry accounted for 53.6% of the Australian industry. A significant contribution to the industry subdivision was also made by Structural steel fabricating (ANZSIC Class 2741 at 3.6%).

MAIN FEATURES *continued*

INDUSTRY VALUE ADDED *continued*

- Food, beverage and tobacco manufacturing (16.7%), where the industry class Meat processing (ANZSIC Class 2111 at 2.4%) was the most substantial.
- Petroleum, coal, chemical and associated product manufacturing (16.7%), where, of the industry classes available for publication, Inorganic industrial chemical manufacturing n.e.c. (ANZSIC Class 2535 at 2.8%) and Fertiliser manufacturing (ANZSIC Class 2531 at 2.1%) were the most substantial.
- Machinery and equipment manufacturing (12.8%), where the industry class Mining and construction machinery manufacturing (ANZSIC Class 2862 at 2.4%) was the most substantial.

Industry classes making a notable contribution to industry value added and not included in the subdivisions listed above included Newspaper printing or publishing (ANZSIC Class 2421 at 4.9%) and Printing (ANZSIC Class 2412 at 2.5%).

EMPLOYMENT AND WAGES

The Western Australian manufacturing industry employed 76,000 persons at the end of June 1998 and paid \$2,513m in wages and salaries in 1997–98. This represents an average of \$33,100 paid in annual wages and salaries per person employed at the end of June 1998, an increase of 0.3% on the \$33,000 recorded twelve months earlier.

EMPLOYMENT



Western Australian manufacturing employment increased from June 1993 (68,800 persons) to June 1995 (73,800 persons), after which it declined to 72,300 persons at the end of June 1996. Manufacturing employment in Western Australia recovered by June 1997 (73,500 persons) and then increased by 3.4% or 2,500 persons between June 1997 and June 1998 (76,000 persons). Over the five years from June 1993 to June 1998, employment rose by 10.5% or 7,200 persons.

Between June 1997 and June 1998, employment increased in six of the nine manufacturing industry subdivisions, remained stable in two and decreased in the other. The industry subdivisions with the largest percentage increases were Wood and paper product manufacturing (up 9.3%), Food, beverage and tobacco manufacturing (up 6.2%), Printing, publishing and recorded media (up 5.5%) and Machinery and equipment manufacturing (up 5.1%). The decrease was recorded by Non-metallic mineral product manufacturing (down 5.2%).

MAIN FEATURES *continued*

EMPLOYMENT AND WAGES *continued*

Although overall average wages and salaries paid per person employed at the end of June increased marginally between 1996–97 and 1997–98, five of the nine manufacturing industry subdivisions recorded a fall in average wages and salaries per person employed at the end of June and four recorded an increase.

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

- Non-metallic mineral product manufacturing (up 7.9%—\$36,400 to \$39,300), where nine (out of 11) industry classes recorded an increase.
- Food, beverage and tobacco manufacturing (up 4.6%—\$30,200 to \$31,700), where 12 (out of 22) industry classes recorded an increase, with the largest (where publishable) being:
 - ◆ Soft drink, cordial and syrup manufacturing (ANZSIC Class 2181) (up 24.6%—\$37,000 to \$46,100);
 - ◆ Bread manufacturing (ANZSIC Class 2161) (up 16.8%—\$26,100 to \$30,400); and
 - ◆ Beer and malt manufacturing (ANZSIC Class 2182) (up 15.3%—\$47,700 to \$55,000).

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

- Textile, clothing, footwear and leather manufacturing (down 10.2%—\$26,900 to \$24,200), where nine (out of 19) industry classes recorded a decrease. The main influence on the subdivision result was Made-up textile product manufacturing (ANZSIC Class 2221) (down 21.5%—\$35,000 to \$27,500). For this industry class, both employment and wages and salaries decreased (16.4% and 34.5% respectively) between 1996–97 and 1997–98. At the end of June 1997, employment was 27.7% and annual wages and salaries was 36.1% of the subdivision total. Twelve months later, these percentages were 22.4% and 25.5% respectively.
- Wood and paper product manufacturing (down 8.6%—\$29,100 to \$26,600), where eight (out of 12) industry classes recorded a decrease. The main influence on the subdivision result was Wooden structural component manufacturing (ANZSIC Class 2323) (down 11.8%—\$22,700 to \$20,000). For this class (which accounted for 27.9% of employment at the end of June 1998 and 21.0% of annual wages and salaries for the subdivision), employment had increased by 27.0% while wages and salaries had increased by less than half of that, or 12.1%.

Industry classes belonging to other industry subdivisions and which had the largest percentage increases between 1996–97 and 1997–98 in wages and salaries paid per person employed at the end of June (where publishable) were Prefabricated metal building manufacturing (ANZSIC Class 2911) (up 23.8%—\$25,100 to \$31,100) and Iron and steel casting and forging (ANZSIC Class 2712) (up 23.7%—\$33,400 to \$41,400). Similarly, industry classes which had the largest percentage decreases were Plastic extruded product manufacturing (ANZSIC Class 2562) (down 18.9%—\$41,500 to \$33,600) and Soap and other detergent manufacturing (ANZSIC Class 2545) (down 18.5%—\$27,500 to \$22,400).

TURNOVER

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

Turnover rose, in current pricing terms, by \$750m to \$17,529m for 1997–98. This represents a 4.5% increase on the \$16,780m recorded for 1996–97.

Six of the nine manufacturing industry subdivisions recorded an increase in turnover between 1996–97 and 1997–98. Metal product manufacturing remained the largest contributor to total manufacturing turnover in 1997–98 and also contributed 40% (\$301m) of the total increase for the year; however, this was only the third largest increase in percentage terms (up 6.3%). Petroleum, coal, chemical and associated product manufacturing recorded the second largest increase in both dollar (up \$254m) and percentage terms (up 8.2%). The industry subdivision to record the largest percentage increase in turnover between 1996–97 and 1997–98 was Wood and paper product manufacturing (up 9.0%). Textile, clothing, footwear and leather manufacturing (down 6.3%) and Non-metallic mineral product manufacturing (down 2.2%) were the industry subdivisions to record the largest absolute and percentage decreases in turnover.

The industry groups (where publishable) with the largest percentage increases between 1996–97 and 1997–98 were:

- Photographic and scientific equipment manufacturing (ANZSIC Group 283) (up 31.4% or \$15m), which included the industry class Professional and scientific equipment manufacturing n.e.c. (ANZSIC Class 2839) (up 82.8% or \$13m); and
- Non-ferrous basic metal product manufacturing (ANZSIC Group 273) (up 22.7% or \$9m).

The industry classes (where publishable) with the largest dollar increases between 1996–97 and 1997–98 were:

- Plastic product, rigid fibre reinforced, manufacturing (ANZSIC Class 2564) (up \$44m or 110.0%);
- Shipbuilding (ANZSIC Class 2821) (up \$42m or 14.9%); and
- Architectural aluminium product manufacturing (ANZSIC Class 2742) (up \$37m or 22.5%).

The industry classes (where publishable) with the largest percentage decreases between 1996–97 and 1997–98 were:

- Computer and business machine manufacturing (ANZSIC Class 2841) (down 73.5% or \$54m);
- Cereal food and baking mix manufacturing (ANZSIC Class 2152) (down 43.3% or \$25m); and
- Spring and wire product manufacturing (ANZSIC Class 2762) (down 35.4% or \$15m).

MAIN FEATURES *continued*

TURNOVER *continued*

The industry class with the largest dollar decrease between 1996–97 and 1997–98 was:

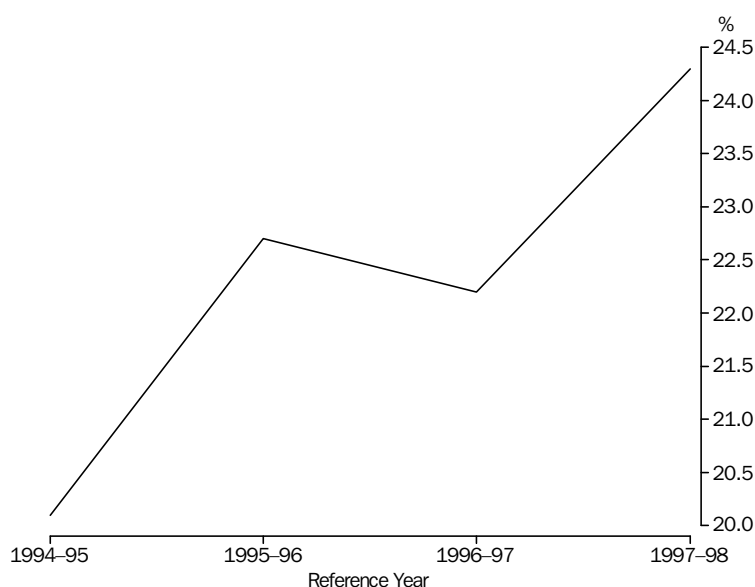
- Computer and business machine manufacturing (ANZSIC Class 2841)
(down \$54m or 73.5%).

EXPORTS

For 1997–98, Western Australian manufacturers directly exported \$3,923m of the goods that they produced. This represents a 14.4% increase on the \$3,430m recorded for 1996–97. The percentage of the total sales and transfers out of goods for sale produced that were exported has also increased (from 22.2% for 1996–97 to 24.3% for 1997–98).

Manufacturers' direct exports increased in eight out of the nine industry subdivisions between 1996–97 and 1997–98. Metal product manufacturing's increase of \$326m (up 19.0%—from \$1,713m to \$2,039m) was the most significant contributor to the overall increase, contributing two thirds of the total increase; however, this was only the second largest increase in percentage terms. The second largest contributor to the total increase was Petroleum, coal, chemical and associated product manufacturing (up \$79m or 14.6%—from \$543m to \$622m). The industry subdivision to record the largest percentage increase in direct exports between 1996–97 and 1997–98 was Printing, publishing and recorded media (up 81.5%—from \$4.5m to \$8.1m); however, this subdivision contributed the least (0.2%) to manufacturers' direct exports in 1997–98. The subdivision to record a decrease was Other manufacturing (down 20.1%—from \$15m to \$12m).

EXPORTS AS A PROPORTION OF GOODS PRODUCED



Commencing with the 1994–95 manufacturing collection, data on exports have been consistently collected as part of the annual manufacturing collection. Exports as a proportion of sales and transfers out of goods for sale produced has increased from 20.1% for 1994–95 to 24.3% for 1997–98. There was a decrease (0.5 percentage points) in this proportion between 1995–96 (22.7%) and 1996–97 (22.2%).

			Employment at end of June(c)	Wages and salaries(d)(e)	Turnover(e)	Industry gross product(e)	Industry value added(e)	Ratio of wages and salaries to turnover(e)	Turnover per person employed (e)(f)
INDUSTRY SUBDIVISION									
ANZSIC code	Description		'000	\$m	\$m	\$m	\$m	ratio	\$'000
21	Food, beverage and tobacco mfg	1997-98	13.8	438.1	(g)3 267.2	(h)855.2	(h)877.5	0.13	236.1
		1996-97r	13.0	394.3	3 126.1	779.2	..	0.13	239.8
		1995-96	13.3	(i)372.7	3 058.3	809.9	..	0.12	229.6
		1994-95	12.6	345.8	2 845.4	..	..	0.12	226.4
		1993-94	11.5	321.9	2 746.2	..	..	0.12	239.2
		1992-93	12.0	335.2	2 678.4	673.9	..	0.13	223.8
22	Textile, clothing, footwear and leather mfg	1997-98	3.4	81.7	(g)339.4	(h)117.0	(h)120.6	0.24	100.4
		1996-97r	3.3	88.0	362.3	147.3	..	0.24	110.7
		1995-96	3.5	(i)78.0	338.0	113.3	..	0.23	95.7
		1994-95	4.3	93.1	361.1	..	..	0.26	84.8
		1993-94	3.7	83.0	312.6	..	..	0.27	83.6
		1992-93	3.6	77.1	297.7	111.3	..	0.26	82.3
23	Wood and paper product mfg	1997-98	4.8	127.8	(g)726.8	(h)260.6	(h)270.4	0.18	151.2
		1996-97r	4.4	127.9	666.6	229.9	..	0.19	151.6
		1995-96	4.4	(i)124.2	708.5	240.5	..	0.18	160.4
		1994-95	4.8	131.2	727.0	..	..	0.18	150.4
		1993-94	4.8	131.9	716.7	..	..	0.18	149.0
		1992-93	4.8	122.5	661.7	221.6	..	0.19	136.6
24	Printing, publishing and recorded media	1997-98	6.8	210.4	(g)871.2	(h)420.6	(h)429.8	0.24	127.8
		1996-97	6.5	200.9	r847.6	404.8	..	0.24	131.1
		1995-96	6.3	(i)188.2	822.6	412.5	..	0.23	129.6
		1994-95	6.5	186.1	763.7	..	..	0.24	117.8
		1993-94	6.4	175.1	666.3	..	..	0.26	104.0
		1992-93	5.9	159.1	629.4	303.3	..	0.25	106.9
25	Petroleum, coal, chemical and associated product mfg	1997-98	6.5	279.0	(g)3 335.3	(h)857.5	(h)877.2	0.08	515.1
		1996-97r	6.5	271.5	3 081.5	747.4	..	0.09	472.9
		1995-96	6.6	(i)245.4	2 843.6	684.5	..	0.09	429.4
		1994-95	6.2	225.6	2 813.5	..	..	0.08	457.4
		1993-94	5.6	201.1	2 779.7	..	..	0.07	498.6
		1992-93	5.5	191.1	2 786.8	616.6	..	0.07	511.2
26	Non-metallic mineral product mfg	1997-98	4.7	185.5	(g)1 001.8	(h)347.5	(h)366.7	0.19	212.3
		1996-97	5.0	181.4	r1 024.1	r348.2	..	0.18	205.7
		1995-96	4.7	(i)154.9	967.8	372.2	..	0.16	206.5
		1994-95	5.2	170.6	1 085.0	..	..	0.16	r209.0
		1993-94	4.9	156.0	997.2	..	..	0.16	202.3
		1992-93	4.8	136.4	893.3	325.1	..	0.15	185.3

(a) See paragraph 5 of the Explanatory Notes.

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

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

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

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

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

INDUSTRY SUBDIVISION			Employment at end of June(c)	Wages and salaries(d)(e)	Turnover(e)	Industry gross product(e)	Industry value added(e)	Ratio of wages and salaries to turnover(e)	Turnover per person employed (e)(f)
ANZSIC code	Description		'000	\$m	\$m	\$m	\$m	ratio	\$'000
<div></div>									
27	Metal product mfg	1997-98	16.5	608.8	(g)5 095.3	(h)1 367.6	(h)1 410.1	0.12	308.7
		1996-97r	16.1	617.4	4 794.4	1 245.5	..	0.13	297.7
		1995-96	16.1	(i)576.9	4 551.8	799.7	..	0.13	282.9
		1994-95	15.2	535.2	4 288.1	..	..	0.12	282.8
		1993-94	14.8	511.1	3 768.3	..	..	0.14	253.8
		1992-93	15.2	515.2	4 031.8	878.1	..	0.13	265.3
28	Machinery and equipment mfg	1997-98	13.6	447.1	(g)2 234.8	(h)644.6	(h)671.6	0.20	164.0
		1996-97r	13.0	408.6	2 243.4	667.7	..	0.18	173.1
		1995-96	11.6	(i)339.3	1 830.0	598.4	..	0.19	158.1
		1994-95	12.9	360.3	1 707.2	..	..	0.21	132.8
		1993-94	11.7	313.8	1 623.9	..	..	0.19	138.3
		1992-93	11.1	294.5	1 432.1	495.0	..	0.21	129.1
29	Other manufacturing	1997-98	5.8	134.9	(g)657.5	(h)209.3	(h)216.0	0.21	113.5
		1996-97r	5.8	134.9	633.8	225.2	..	0.21	110.0
		1995-96	5.7	(i)133.9	629.1	225.3	..	0.21	109.7
		1994-95	6.3	136.8	655.1	..	..	0.21	103.3
		1993-94	6.4	128.1	582.1	..	..	0.22	91.2
		1992-93	5.9	118.1	507.8	158.0	..	0.23	86.3
21-29 Total manufacturing		1997-98	76.0	2 513.2	(g)17 529.2	(h)5 079.8	(h)5 240.1	0.14	230.8
		1996-97r	73.5	2 424.9	16 779.7	4 795.3	..	0.14	228.3
		1995-96	72.3	(i)2 213.4	15 749.8	4 256.3	..	0.14	217.8
		1994-95	73.8	2 184.6	15 246.2	..	..	0.14	206.5
		1993-94	69.9	2 021.9	14 192.9	..	..	0.14	203.0
		1992-93	68.8	1 949.2	13 919.0	3 782.7	..	0.14	202.4

(a) See paragraph 5 of the Explanatory Notes.

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

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

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

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

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

INDUSTRY SUBDIVISION		Effect on estimates of turnover	Difference between IVA estimates and IGP estimates
ANZSIC code	Description	%	%
21	Food, beverage and tobacco mfg	—	2.6
22	Textile, clothing, footwear and leather mfg	—	3.1
23	Wood and paper product mfg	—	3.8
24	Printing, publishing and recorded media	0.1	2.2
25	Petroleum, coal, chemical and associated product mfg	0.1	2.3
26	Non-metallic mineral product mfg	0.1	5.5
27	Metal product mfg	—	3.1
28	Machinery and equipment mfg	0.1	4.2
29	Other manufacturing	—	3.2
21–29 Total manufacturing		—	3.2

- (a) This table presents percentage differences between estimates for turnover calculated on the basis of the most recent international standards and corresponding estimates calculated on the basis of the standards which applied previously, and percentage differences between IVA and IGP (the previous measure of an industry's contribution to GDP). Paragraphs 11–14 of the Explanatory Notes provide details of the changes to the international standards.
- (b) Industry group and industry class estimates have been affected similarly, with one exception. IVA for Book and other publishing (ANZSIC Class 2423) is 50.3% lower than IGP for 1997–98.

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover(d)	Industry value added(e)	Turnover per person employed(f)	Industry value added per person employed(g)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
FOOD, BEVERAGE AND TOBACCO MFG							
Meat and meat product mfg							
2111	Meat processing	2 962	92.8	512.3	126.2	173.0	42.6
2112	Poultry processing	1 103	30.3	217.3	61.5	197.1	55.8
2113	Bacon, ham and smallgood mfg	754	22.9	136.2	32.5	180.6	43.1
211	<i>Total</i>	4 819	145.9	865.8	220.2	179.7	45.7
Dairy product mfg							
2121	Milk and cream processing	555	n.p.	n.p.	n.p.	n.p.	n.p.
2122	Ice cream mfg	498	n.p.	n.p.	n.p.	n.p.	n.p.
2129	Dairy product mfg n.e.c.	217	6.6	34.9	7.6	160.4	35.0
212	<i>Total</i>	1 271	n.p.	n.p.	n.p.	n.p.	n.p.
213	Fruit and vegetable processing	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
214	Oil and fat mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Flour mill and cereal food mfg							
2151	Flour mill product mfg	208	7.8	95.5	24.3	459.1	116.7
2152	Cereal food and baking mix mfg	181	5.0	32.3	10.2	178.3	56.5
215	<i>Total</i>	389	12.9	127.8	34.5	328.4	88.7
Bakery product mfg							
2161	Bread mfg	955	29.1	125.6	40.9	131.5	42.8
2162	Cake and pastry mfg	1 201	28.7	110.8	40.7	92.3	33.8
2163	Biscuit mfg	*22	*0.2	*0.5	*0.3	*22.6	*13.6
216	<i>Total</i>	2 179	58.0	236.9	81.8	108.7	37.6
Other food mfg							
2171	Sugar mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2172	Confectionery mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2173	Seafood processing	922	23.2	341.2	52.0	370.1	56.4
2174	Prepared animal and bird feed mfg	434	13.7	205.3	31.6	472.6	72.7
2179	Food mfg n.e.c.	1 244	40.7	203.0	77.3	163.2	62.1
217	<i>Total</i>	2 709	83.0	809.8	170.8	298.9	63.1
Beverage and malt mfg							
2181	Soft drink, cordial and syrup mfg	680	31.4	235.8	39.1	346.6	57.5
2182	Beer and malt mfg	261	14.3	247.6	90.1	949.3	345.2
2183	Wine mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2184	Spirit mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
218	<i>Total</i>	1 743	64.2	609.6	176.6	349.7	101.3
219	Tobacco product mfg	—	—	—	—	—	—
21	Total food, beverage and tobacco mfg	13 839	438.1	3 267.2	877.5	236.1	63.4

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

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

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

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

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover(d)	Industry value added(e)	Turnover per person employed(f)	Industry value added per person employed(g)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG							
Textile fibre, yarn and woven fabric mfg							
2211	Wool scouring	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2212	Synthetic fibre textile mfg	—	—	—	—	—	—
2213	Cotton textile mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2214	Wool textile mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2215	Textile finishing	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
221	<i>Total</i>	675	n.p.	n.p.	n.p.	n.p.	n.p.
Textile product mfg							
2221	Made-up textile product mfg	757	20.8	86.1	23.6	113.8	31.2
2222	Textile floor covering mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2223	Rope, cordage and twine mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2229	Textile product mfg n.e.c.	248	5.2	17.7	7.7	71.5	31.2
222	<i>Total</i>	1 079	28.0	118.9	35.7	110.2	33.1
Knitting mills							
2231	Hosiery mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2232	Cardigan and pullover mfg	123	2.6	10.8	4.0	87.4	32.8
2239	Knitting mill product mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
223	<i>Total</i>	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Clothing mfg							
2241	Men's and boys' wear mfg	225	4.7	14.9	6.7	66.3	29.8
2242	Women's and girls' wear mfg	352	4.6	18.6	8.5	52.7	24.1
2243	Sleepwear, underwear and infant clothing mfg	33	0.5	4.6	1.5	140.7	45.2
2249	Clothing mfg n.e.c.	375	6.7	28.8	11.6	76.9	30.9
224	<i>Total</i>	985	16.5	66.9	28.3	67.9	28.7
225	Footwear mfg	205	5.7	23.0	9.3	112.1	45.2
Leather and leather product mfg							
2261	Leather tanning and fur dressing	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2262	Leather and leather substitute product mfg	74	n.p.	n.p.	n.p.	n.p.	n.p.
226	<i>Total</i>	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
22	Total textile, clothing, footwear and leather mfg	3 382	81.7	339.4	120.6	100.4	35.7
WOOD AND PAPER PRODUCT MFG							
Log sawmilling and timber dressing							
2311	Log sawmilling	922	20.7	85.0	39.7	92.2	43.1
2312	Wood chipping	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2313	Timber resawing and dressing	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
231	<i>Total</i>	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Other wood product mfg							
2321	Plywood and veneer mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2322	Fabricated wood mfg	457	n.p.	n.p.	n.p.	n.p.	n.p.
2323	Wooden structural component mfg	1 339	26.8	120.2	40.8	89.8	30.4
2329	Wood product mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
232	<i>Total</i>	2 380	56.2	308.7	83.4	129.7	35.0

(a) See paragraph 5 of the Explanatory Notes.

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INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover(d)	Industry value added(e)	Turnover per person employed(f)	Industry value added per person employed(g)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Paper and paper product mfg							
2331	Pulp, paper and paperboard mfg	108	n.p.	n.p.	n.p.	n.p.	n.p.
2332	Solid paperboard container mfg	23	n.p.	n.p.	n.p.	n.p.	n.p.
2333	Corrugated paperboard container mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2334	Paper bag and sack mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2339	Paper product mfg n.e.c.	*112	*1.9	**8.9	**3.3	79.9	29.6
233	Total	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
23	Total wood and paper product mfg	4 807	127.8	726.8	270.4	151.2	56.3
PRINTING, PUBLISHING AND RECORDED MEDIA							
Printing and services to printing							
2411	Paper stationery mfg	431	n.p.	n.p.	n.p.	n.p.	n.p.
2412	Printing	2 568	66.9	297.5	129.1	115.8	50.3
2413	Services to printing	*442	11.7	38.7	17.2	**87.6	***39.0
241	Total	3 441	n.p.	n.p.	n.p.	n.p.	n.p.
Publishing							
2421	Newspaper printing or publishing	2 824	107.2	447.2	255.4	158.4	90.5
2422	Other periodical publishing	*319	*7.5	*26.9	*8.1	**84.2	**25.5
2423	Book and other publishing	113	2.3	15.1	3.0	132.9	26.2
242	Total	3 257	117.0	489.2	266.5	150.2	81.8
243	Recorded media manufacturing and publishing	120	n.p.	n.p.	n.p.	n.p.	n.p.
24	Total printing, publishing and recorded media	6 817	210.4	871.2	429.8	127.8	63.1
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG							
251	Petroleum refining	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
252	Petroleum and coal product mfg n.e.c.	72	4.2	100.6	17.3	1 401.8	241.6
Basic chemical mfg							
2531	Fertiliser mfg	558	29.3	330.1	111.2	592.0	199.4
2532	Industrial gas mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2533	Synthetic resin mfg	95	n.p.	n.p.	n.p.	n.p.	n.p.
2534	Organic industrial chemical mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2535	Inorganic industrial chemical mfg n.e.c.	1 072	59.6	547.9	145.1	511.3	135.4
253	Total	2 002	104.2	963.2	291.4	481.1	145.5
Other chemical product mfg							
2541	Explosive mfg	189	n.p.	n.p.	n.p.	n.p.	n.p.
2542	Paint mfg	363	9.6	89.5	41.8	246.9	115.3
2543	Medicinal and pharmaceutical product mfg	311	14.8	79.8	34.9	257.0	112.3
2544	Pesticide mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2545	Soap and other detergent mfg	190	4.3	22.3	7.5	117.2	39.2
2546	Cosmetic and toiletry preparation mfg	42	n.p.	n.p.	n.p.	n.p.	n.p.
2547	Ink mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2549	Chemical product mfg n.e.c.	222	6.0	50.9	12.2	228.9	55.0
254	Total	1 480	57.2	521.4	177.9	352.4	120.2

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(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

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INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover(d)	Industry value added(e)	Turnover per person employed(f)	Industry value added per person employed(g)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Rubber product mfg							
2551	Rubber tyre mfg	103	2.9	22.4	7.0	216.3	67.6
2559	Rubber product mfg n.e.c.	290	11.3	72.6	33.4	250.6	115.2
255	<i>Total</i>	393	14.2	94.9	40.4	241.6	102.7
Plastic product mfg							
2561	Plastic blow moulded product mfg	340	9.9	53.3	22.1	156.7	64.8
2562	Plastic extruded product mfg	180	6.1	47.4	13.5	262.9	74.8
2563	Plastic bag and film mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2564	Plastic product, rigid fibre reinforced, mfg	497	11.7	*84.9	*32.7	**170.6	*65.8
2565	Plastic foam product mfg	111	3.5	21.2	7.7	190.7	69.6
2566	Plastic injection moulded product mfg	584	17.9	83.4	31.0	142.8	53.1
256	<i>Total</i>	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
25	Total petroleum, coal, chemical and associated product mfg	6 475	279.0	3 335.3	877.2	515.1	135.5
NON-METALLIC MINERAL PRODUCT MFG							
261	Glass and glass product mfg	340	14.5	46.6	14.8	137.0	43.5
Ceramic mfg							
2621	Clay brick mfg	1 062	n.p.	n.p.	n.p.	n.p.	n.p.
2622	Ceramic product mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2623	Ceramic tile and pipe mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2629	Ceramic product mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
262	<i>Total</i>	1 462	55.5	212.7	110.8	145.4	75.8
Cement, lime, plaster and concrete product mfg							
2631	Cement and lime mfg	495	24.5	218.4	68.3	441.0	138.0
2632	Plaster product mfg	249	n.p.	n.p.	n.p.	n.p.	n.p.
2633	Concrete slurry mfg	542	22.1	183.1	46.6	337.6	85.9
2634	Concrete pipe and box culvert mfg	169	n.p.	n.p.	n.p.	n.p.	n.p.
2635	Concrete product mfg n.e.c.	1 026	32.4	142.4	42.0	138.8	40.9
263	<i>Total</i>	2 481	96.7	635.6	199.0	256.2	80.2
264	Non-metallic mineral product mfg n.e.c.	434	18.8	106.8	42.0	246.2	96.9
26	Total non-metallic mineral product mfg	4 718	185.5	1 001.8	366.7	212.3	77.7
METAL PRODUCT MFG							
Iron and steel mfg							
2711	Basic iron and steel mfg	559	n.p.	n.p.	n.p.	n.p.	n.p.
2712	Iron and steel casting and forging	561	23.2	94.7	32.9	168.6	58.6
2713	Steel pipe and tube mfg	156	n.p.	n.p.	n.p.	n.p.	n.p.
271	<i>Total</i>	1 276	52.1	292.9	73.5	229.5	57.6
Basic non-ferrous metal mfg							
2721	Alumina production	3 846	181.6	1 999.3	705.4	519.8	183.4
2722	Aluminium smelting	—	—	—	—	—	—
2723	Copper, silver, lead and zinc smelting, refining	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2729	Basic non-ferrous metal mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
272	<i>Total</i>	4 686	232.1	3 306.9	817.2	705.7	174.4

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INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover(d)	Industry value added(e)	Turnover per person employed(f)	Industry value added per person employed(g)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Non-ferrous basic metal product mfg							
2731	Aluminium rolling, drawing, extruding	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2732	Non-ferrous metal rolling, drawing, extruding n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2733	Non-ferrous metal casting	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
273	<i>Total</i>	160	6.0	50.9	16.4	317.3	102.3
Structural metal product mfg							
2741	Structural steel fabricating	3 216	117.0	569.3	190.9	177.0	59.4
2742	Architectural aluminium product mfg	1 536	41.1	203.2	60.8	132.3	39.6
2749	Structural metal product mfg n.e.c.	683	15.2	77.0	27.4	112.8	40.1
274	<i>Total</i>	5 436	173.3	849.5	279.1	156.3	51.3
Sheet metal product mfg							
2751	Metal container mfg	284	11.3	71.9	20.2	253.3	71.3
2759	Sheet metal product mfg n.e.c.	1 517	44.6	184.5	65.4	121.6	43.1
275	<i>Total</i>	1 801	55.9	256.4	85.7	142.4	47.6
Fabricated metal product mfg							
2761	Hand tool and general hardware mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2762	Spring and wire product mfg	268	6.2	27.7	10.1	103.5	37.6
2763	Nut, bolt, screw and rivet mfg	75	2.1	7.2	2.6	96.9	35.1
2764	Metal coating and finishing	824	25.4	77.4	38.8	94.0	47.1
2765	Non-ferrous pipe fitting mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2769	Fabricated metal product mfg n.e.c.	1 832	50.7	208.4	79.8	113.8	43.6
276	<i>Total</i>	3 146	89.4	338.7	138.2	107.6	43.9
27	Total metal product mfg	16 505	608.8	5 095.3	1 410.1	308.7	85.4
MACHINERY AND EQUIPMENT MFG							
Motor vehicle and part mfg							
2811	Motor vehicle mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2812	Motor vehicle body mfg	975	26.7	106.2	39.1	108.9	40.1
2813	Automotive electrical and instrument mfg	**22	**0.8	**3.4	**1.5	***160.1	***68.3
2819	Automotive component mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
281	<i>Total</i>	1 845	57.9	167.4	60.3	90.7	32.7
Other transport equipment mfg							
2821	Shipbuilding	979	28.0	321.3	60.9	328.4	62.2
2822	Boatbuilding	498	10.4	81.3	16.8	163.1	33.7
2823	Railway equipment mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2824	Aircraft mfg	409	17.0	57.0	25.3	139.5	62.0
2829	Transport equipment mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
282	<i>Total</i>	2 201	70.1	569.4	122.6	258.7	55.7
Photographic and scientific equipment mfg							
2831	Photographic and optical good mfg	69	2.2	5.8	2.4	83.7	34.8
2832	Medical and surgical equipment mfg	369	8.0	27.1	9.1	73.4	24.8
2839	Professional and scientific equipment mfg n.e.c.	191	7.0	28.6	14.4	150.0	75.2
283	<i>Total</i>	629	17.2	61.5	25.9	97.8	41.2

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ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Electronic equipment mfg							
2841	Computer and business machine mfg	166	4.4	19.4	4.4	116.9	26.6
2842	Telecommunication, broadcasting and transceiving equipment mfg	394	15.8	124.3	28.1	315.1	71.2
2849	Electronic equipment mfg n.e.c.	747	27.2	116.1	44.2	155.5	59.2
284	<i>Total</i>	1 307	47.5	259.8	76.7	198.8	58.7
Electrical equipment and appliance mfg							
2851	Household appliance mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2852	Electric cable and wire mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2853	Battery mfg	—	—	—	—	—	—
2854	Electric light and sign mfg	243	6.5	21.9	7.7	90.1	31.8
2859	Electrical equipment mfg n.e.c.	777	26.5	107.5	36.8	138.4	47.4
285	<i>Total</i>	1 560	50.1	234.7	69.3	150.4	44.4
Industrial machinery and equipment mfg							
2861	Agricultural machinery mfg	654	21.1	112.9	32.8	172.6	50.1
2862	Mining and construction machinery mfg	2 362	85.9	389.4	127.3	164.9	53.9
2863	Food processing machinery mfg	68	1.9	6.4	2.5	93.5	36.4
2864	Machine tool and part mfg	275	7.7	24.5	12.6	89.2	45.7
2865	Lifting and material handling equipment mfg	783	30.0	122.9	42.6	156.9	54.4
2866	Pump and compressor mfg	158	4.4	23.2	9.0	146.6	57.0
2867	Commercial space heating and cooling equipment mfg	623	17.1	102.7	31.8	164.8	51.0
2869	Industrial machinery and equipment mfg n.e.c.	1 158	36.3	160.1	58.3	138.3	50.3
286	<i>Total</i>	6 082	204.4	942.1	316.8	154.9	52.1
28	Total machinery and equipment mfg	13 624	447.1	2 234.8	671.6	164.0	49.3
OTHER MANUFACTURING							
Prefabricated building mfg							
2911	Prefabricated metal building mfg	303	9.4	113.0	23.2	373.0	76.7
2919	Prefabricated building mfg n.e.c.	*72	*1.8	7.5	*2.6	**104.2	*36.0
291	<i>Total</i>	375	11.3	120.5	25.8	321.1	68.8
Furniture mfg							
2921	Wooden furniture and upholstered seat mfg	3 049	64.5	271.5	92.5	89.1	30.4
2922	Sheet metal furniture mfg	334	*8.9	41.9	*13.1	125.3	39.2
2923	Mattress mfg (except rubber)	284	7.1	44.4	13.4	156.5	47.4
2929	Furniture mfg n.e.c.	762	20.6	99.8	44.8	131.0	58.8
292	<i>Total</i>	4 429	101.0	457.7	163.9	103.3	37.0
Miscellaneous manufacturing							
2941	Jewellery and silverware mfg	232	6.4	21.2	4.9	91.3	21.1
2942	Toy and sporting good mfg	172	3.1	15.1	5.2	88.2	30.1
2949	Manufacturing n.e.c.	583	13.1	43.0	16.1	73.7	27.7
294	<i>Total</i>	987	22.6	79.3	26.2	80.4	26.5
29	Total other manufacturing	5 792	134.9	657.5	216.0	113.5	37.3
21–29	TOTAL MANUFACTURING	75 957	2 513.2	17 529.2	5 240.1	230.8	69.0

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

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

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

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

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

Employment size group	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e)(f).....		Industry value added(e)(g).....	
	no.	%	\$m	%	\$m	%	\$m	%
FOOD, BEVERAGE AND TOBACCO MANUFACTURING								
0–4 persons	234	1.7	3.2	0.7	17.7	0.5	6.4	0.7
5–9 persons	531	3.8	8.9	2.1	61.3	1.9	20.2	2.3
10–19 persons	963	7.0	21.5	5.0	172.6	5.3	40.0	4.6
20–49 persons	2 223	16.1	56.4	13.0	441.4	13.6	122.8	14.0
50–99 persons	2 407	17.4	72.2	16.6	571.9	17.7	170.5	19.4
Total less than 100 persons	6 357	45.9	162.3	37.3	1 264.9	39.1	360.0	40.9
100–199 persons	2 031	14.7	72.2	16.6	823.0	25.4	210.6	23.9
200–499 persons	5 451	39.4	200.1	46.0	1 151.2	35.5	308.8	35.1
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	7 481	54.1	272.3	62.7	1 974.1	60.9	519.4	59.1
Total	13 839	100.0	434.6	100.0	3 239.1	100.0	879.4	100.0
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING								
0–4 persons	563	16.6	6.5	8.0	35.7	10.5	14.9	12.3
5–9 persons	466	13.8	6.8	8.3	29.6	8.7	12.2	10.2
10–19 persons	437	12.9	9.9	12.1	36.6	10.8	14.9	12.4
20–49 persons	435	12.9	12.3	15.1	49.6	14.6	16.3	13.5
50–99 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total less than 100 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total	3 382	100.0	81.7	100.0	339.4	100.0	120.6	100.0
WOOD AND PAPER PRODUCT MANUFACTURING								
0–4 persons	837	17.4	9.2	7.2	51.6	7.1	16.7	6.2
5–9 persons	606	12.6	10.4	8.2	41.5	5.7	15.5	5.7
10–19 persons	672	14.0	15.6	12.2	55.0	7.6	18.9	7.0
20–49 persons	534	11.1	15.5	12.2	136.0	18.7	45.9	17.0
50–99 persons	386	8.0	11.5	9.0	70.0	9.6	34.9	12.9
Total less than 100 persons	3 036	63.2	62.3	48.8	354.0	48.8	131.8	48.8
100–199 persons	540	11.2	21.6	16.9	110.7	15.2	48.3	17.9
200–499 persons	1 231	25.6	43.7	34.3	261.4	36.0	90.0	33.3
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	1 771	36.8	65.3	51.2	372.1	51.2	138.3	51.2
Total	4 807	100.0	127.6	100.0	726.1	100.0	270.1	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated joint ventures) of why caution should be used in interpreting these data, see paragraph 20 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

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

Employment size group	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e)(f).....		Industry value added(e)(g).....	
	no.	%	\$m	%	\$m	%	\$m	%
PRINTING, PUBLISHING AND RECORDED MEDIA								
0–4 persons	876	12.9	15.9	7.6	79.4	9.1	29.7	6.9
5–9 persons	682	10.0	17.2	8.2	76.0	8.7	30.1	7.0
10–19 persons	1 322	19.4	36.7	17.5	131.3	15.1	58.4	13.6
20–49 persons	962	14.1	30.2	14.4	108.7	12.5	47.0	10.9
50–99 persons	296	4.3	8.3	4.0	28.9	3.3	12.5	2.9
Total less than 100 persons	4 138	60.7	108.3	51.6	424.4	48.8	177.6	41.3
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1 000 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total 100 or more persons	2 679	39.3	101.7	48.4	446.1	51.2	252.0	58.7
Total	6 817	100.0	210.1	100.0	870.4	100.0	429.5	100.0
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING								
0–4 persons	390	6.0	6.7	2.4	214.0	6.4	115.9	13.2
5–9 persons	530	8.2	14.5	5.2	102.4	3.1	42.5	4.9
10–19 persons	536	8.3	17.3	6.2	118.9	3.6	41.0	4.7
20–49 persons	1 079	16.7	36.0	12.9	389.7	11.7	115.6	13.2
50–99 persons	894	13.8	33.2	11.9	306.8	9.2	99.3	11.3
Total less than 100 persons	3 430	53.0	107.8	38.7	1 131.8	34.0	414.4	47.3
100–199 persons	970	15.0	47.4	17.0	363.7	10.9	142.9	16.3
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	3 045	47.0	171.0	61.3	2 201.6	66.0	462.2	52.7
Total	6 475	100.0	278.8	100.0	3 333.5	100.0	876.6	100.0
NON-METALLIC MINERAL PRODUCT MANUFACTURING								
0–4 persons	187	4.0	3.3	1.8	14.6	1.5	4.4	1.2
5–9 persons	324	6.9	6.2	3.4	30.7	3.1	11.7	3.2
10–19 persons	410	8.7	10.7	5.8	51.3	5.2	17.8	4.9
20–49 persons	705	14.9	25.1	13.6	150.6	15.1	34.5	9.5
50–99 persons	866	18.4	41.1	22.3	335.5	33.7	125.3	34.3
Total less than 100 persons	2 491	52.8	86.4	46.8	582.6	58.6	193.7	53.1
100–199 persons	742	15.7	32.3	17.5	153.5	15.4	49.9	13.7
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	2 227	47.2	98.1	53.2	411.8	41.4	171.2	46.9
Total	4 718	100.0	184.5	100.0	994.5	100.0	364.9	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated joint ventures) of why caution should be used in interpreting these data, see paragraph 20 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

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

Employment size group	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e)(f).....		Industry value added(e)(g).....	
	no.	%	\$m	%	\$m	%	\$m	%
METAL PRODUCT MANUFACTURING								
0–4 persons	1 100	6.7	22.3	3.7	560.5	11.0	448.5	..
5–9 persons	1 429	8.7	33.8	5.6	131.2	2.6	52.7	..
10–19 persons	2 005	12.1	61.1	10.1	274.1	5.4	104.2	..
20–49 persons	2 731	16.5	89.7	14.9	665.4	13.1	232.2	..
50–99 persons	2 373	14.4	84.8	14.1	428.0	8.4	128.1	..
<i>Total less than 100 persons</i>	<i>9 639</i>	<i>58.4</i>	<i>291.7</i>	<i>48.4</i>	<i>2 059.1</i>	<i>40.6</i>	<i>965.6</i>	<i>..</i>
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
1 000 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
<i>Total 100 or more persons</i>	<i>6 866</i>	<i>41.6</i>	<i>311.3</i>	<i>51.6</i>	<i>3 017.8</i>	<i>59.4</i>	<i>440.3</i>	<i>..</i>
Total	16 505	100.0	603.0	100.0	5 077.0	100.0	1 405.9	100.0
MACHINERY AND EQUIPMENT MANUFACTURING								
0–4 persons	1 584	11.6	34.6	7.7	166.2	7.4	56.4	8.4
5–9 persons	1 456	10.7	37.6	8.4	150.7	6.8	54.3	8.1
10–19 persons	2 031	14.9	58.7	13.2	261.5	11.7	88.7	13.2
20–49 persons	2 903	21.3	105.9	23.7	458.8	20.6	158.3	23.6
50–99 persons	1 718	12.6	66.9	15.0	298.8	13.4	113.7	17.0
<i>Total less than 100 persons</i>	<i>9 692</i>	<i>71.1</i>	<i>303.7</i>	<i>68.1</i>	<i>1 336.0</i>	<i>59.9</i>	<i>471.4</i>	<i>70.3</i>
100–199 persons	2 053	15.1	70.7	15.8	367.6	16.5	94.0	14.0
200–499 persons	1 879	13.8	71.7	16.1	527.8	23.7	104.8	15.6
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>3 932</i>	<i>28.9</i>	<i>142.4</i>	<i>31.9</i>	<i>895.3</i>	<i>40.1</i>	<i>198.8</i>	<i>29.7</i>
Total	13 624	100.0	446.1	100.0	2 231.4	100.0	670.2	100.0
OTHER MANUFACTURING								
0–4 persons	1 222	21.1	19.3	14.3	88.4	13.5	31.5	14.6
5–9 persons	1 190	20.5	25.1	18.6	113.0	17.2	37.3	17.3
10–19 persons	1 295	22.4	31.3	23.3	161.7	24.6	54.1	25.1
20–49 persons	1 174	20.3	32.9	24.4	154.8	23.6	50.4	23.4
50–99 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
<i>Total less than 100 persons</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
200–499 persons	—	—	—	—	—	—	—	—
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Total	5 792	100.0	134.6	100.0	656.3	100.0	215.7	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated joint ventures) of why caution should be used in interpreting these data, see paragraph 20 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

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

Employment size group	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e)(f).....		Industry value added(e)(g).....	
	no.	%	\$m	%	\$m	%	\$m	%
TOTAL MANUFACTURING								
0–4 persons	6 993	9.2	121.0	4.8	1 228.2	7.0	724.3	13.8
5–9 persons	7 213	9.5	160.6	6.4	736.3	4.2	276.6	5.3
10–19 persons	9 672	12.7	262.9	10.5	1 262.9	7.2	438.0	8.4
20–49 persons	12 746	16.8	403.9	16.2	2 554.9	14.6	823.0	15.7
50–99 persons	10 090	13.3	353.1	14.1	2 208.2	12.6	739.1	14.1
Total less than 100 persons	46 714	61.5	1 301.6	52.0	7 990.5	45.7	3 001.0	57.3
100–199 persons	9 236	12.2	336.5	13.5	2 348.9	13.4	707.1	13.5
200–499 persons	13 380	17.6	556.5	22.3	4 840.5	27.7	873.4	16.7
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1 000 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Total 100 or more persons	29 243	38.5	1 199.2	48.0	9 477.1	54.3	2 231.9	42.7
Total	75 957	100.0	2 500.8	100.0	17 467.6	100.0	5 232.9	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated joint ventures) of why caution should be used in interpreting these data, see paragraph 20 of the Explanatory Notes.

(c) Includes working proprietors.

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

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

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

INDUSTRY SUBDIVISION		Sales and transfers out of goods for sale produced by this establishment	Amount exported by this business unit or by its agent	Exports as a proportion of sales and transfers out of goods for sale produced by this establishment
ANZSIC code	Description	\$m	\$m	%
0-49 PERSONS				
21	Food, beverage and tobacco mfg	637.5	107.5	16.9
22	Textile, clothing, footwear and leather mfg	136.4	7.0	5.2
23	Wood and paper product mfg	267.9	62.0	23.1
24	Printing, publishing and recorded media	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	780.1	249.4	32.0
26	Non-metallic mineral product mfg	231.0	17.3	7.5
27	Metal product mfg	n.p.	n.p.	n.p.
28	Machinery and equipment mfg	854.8	102.7	12.0
29	Other manufacturing	n.p.	n.p.	n.p.
21-29	Total manufacturing	5 323.5	1 139.1	21.4
50-99 PERSONS				
21	Food, beverage and tobacco mfg	546.3	105.1	19.2
22	Textile, clothing, footwear and leather mfg	n.p.	n.p.	n.p.
23	Wood and paper product mfg	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	19.3	—	—
25	Petroleum, coal, chemical and associated product mfg	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.
27	Metal product mfg	n.p.	n.p.	n.p.
28	Machinery and equipment mfg	n.p.	n.p.	n.p.
29	Other manufacturing	n.p.	n.p.	n.p.
21-29	Total manufacturing	1 990.8	160.0	8.0
100 OR MORE PERSONS				
21	Food, beverage and tobacco mfg	1 897.2	342.2	18.0
22	Textile, clothing, footwear and leather mfg	n.p.	n.p.	n.p.
23	Wood and paper product mfg	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.
27	Metal product mfg	2 899.0	1 449.8	50.0
28	Machinery and equipment mfg	n.p.	n.p.	n.p.
29	Other manufacturing	n.p.	n.p.	n.p.
21-29	Total manufacturing	8 856.3	2 624.2	29.6
TOTAL				
21	Food, beverage and tobacco mfg	3 081.1	554.8	18.0
22	Textile, clothing, footwear and leather mfg	309.7	44.1	14.2
23	Wood and paper product mfg	703.1	132.9	18.9
24	Printing, publishing and recorded media	513.7	8.1	1.6
25	Petroleum, coal, chemical and associated product mfg	3 251.3	622.1	19.1
26	Non-metallic mineral product mfg	954.5	44.9	4.7
27	Metal product mfg	4 826.8	2 038.7	42.2
28	Machinery and equipment mfg	1 904.2	465.7	24.5
29	Other manufacturing	626.3	12.0	1.9
21-29	Total manufacturing	16 170.7	3 923.3	24.3

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraphs 21-23 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. For a further example (relating to unincorporated joint ventures) of why caution should be used in interpreting these data, see paragraph 20 of the Explanatory Notes. Also, this table excludes those manufacturing establishments which operated during 1997-98 but were not operating at 30 June 1998. See paragraph 19 of the Explanatory Notes.

INDUSTRY SUBDIVISION		Employment at end of June(c)	Wages and salaries(d)	Turnover(e)	Industry value added(f)
ANZSIC code	Description	%	%	%	%
ESTABLISHMENTS THAT DO NOT EXPORT					
21	Food, beverage and tobacco mfg	53.1	49.0	46.4	46.4
22	Textile, clothing, footwear and leather mfg	43.0	30.1	30.0	34.4
23	Wood and paper product mfg	60.8	49.1	40.5	39.8
24	Printing, publishing and recorded media	92.9	92.1	91.0	93.7
25	Petroleum, coal, chemical and associated product mfg	49.0	42.2	29.8	38.2
26	Non-metallic mineral product mfg	62.8	60.0	67.5	60.6
27	Metal product mfg	58.7	50.2	35.7	33.9
28	Machinery and equipment mfg	59.2	58.7	45.4	53.2
29	Other manufacturing	87.3	87.4	87.0	87.2
21–29 Total manufacturing		61.9	56.1	44.4	48.5
ESTABLISHMENTS WITH EXPORTS UP TO AND INCLUDING 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	29.2	31.6	36.0	38.3
22	Textile, clothing, footwear and leather mfg	45.9	58.0	54.6	53.3
23	Wood and paper product mfg	n.p.	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	6.7	7.2	8.6	6.2
25	Petroleum, coal, chemical and associated product mfg	34.7	37.5	55.2	46.4
26	Non-metallic mineral product mfg	35.6	37.8	30.4	37.8
27	Metal product mfg	15.7	16.8	21.8	12.1
28	Machinery and equipment mfg	31.7	32.8	34.2	34.5
29	Other manufacturing	n.p.	n.p.	n.p.	n.p.
21–29 Total manufacturing		25.6	28.0	33.7	29.5
ESTABLISHMENTS WITH EXPORTS OF MORE THAN 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	17.7	19.4	17.6	15.3
22	Textile, clothing, footwear and leather mfg	11.1	12.0	15.4	12.3
23	Wood and paper product mfg	n.p.	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	0.5	0.6	0.5	0.2
25	Petroleum, coal, chemical and associated product mfg	16.2	20.3	15.0	15.4
26	Non-metallic mineral product mfg	1.7	2.3	2.1	1.6
27	Metal product mfg	25.6	33.0	42.6	54.0
28	Machinery and equipment mfg	9.1	8.6	20.3	12.3
29	Other manufacturing	n.p.	n.p.	n.p.	n.p.
21–29 Total manufacturing		12.5	15.9	21.9	22.1

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraphs 21–23 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents final statistics for Western Australia compiled from a survey of manufacturing establishments for 1997–98, with some comparative statistics relating to preceding years. The emphasis of this publication is on the release of statistics for the main data items included in the survey.

2 Manufacturing, as specified in Division C of the Australian and New Zealand Standard Industrial Classification (ANZSIC), broadly relates to the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand.

3 The manufacturing collection is conducted on an annual basis. For the 1997–98 collection, a sample of approximately 19,000 establishments nationally were asked to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. Data on industry value added (IVA) are also available from this collection. In addition, a variety of samples was selected to produce data on a range of other variables. The next manufacturing census will be conducted in respect of 2001–02, with sample surveys conducted for the next three years.

4 Estimates of IVA were compiled using data from the 19,000 sample population and a sub-sample of approximately 7,000 establishments which were asked to provide detailed structural and performance data. These 7,000 establishments were also asked to supply value of sales for commodities produced. (These commodity data will be published in the publication *Manufacturing Production, Commodities Produced, Australia, 1997–98* (Cat. no. 8365.0).) A sample of approximately 5,200 manufacturing management units was asked the detailed information required to derive operating profit before tax. Selected data from the annual manufacturing collection and data from other collections are included in the compendium publication *Manufacturing, Australia, 1999* (Cat. no. 8225.0).

SCOPE AND COVERAGE

5 The business unit for which statistics are presented in this publication is the establishment. A manufacturing establishment is one predominantly engaged in manufacturing activities, but the data collected for it cover all activities of the establishment (including non-manufacturing activities). Conversely, there are some establishments predominantly engaged in non-manufacturing activities which also undertake limited manufacturing activities; these are excluded from the collection.

6 A small number of manufacturing establishments engage, in a significant way, in a variety of activities which are normally carried out by different industries. For example, a predominantly manufacturing establishment may also undertake significant amounts of wholesaling. Similarly, a manufacturing establishment may produce significant volumes of a variety of goods which are normally produced in different manufacturing industries. In such cases, the original establishment is 'split' into a separate establishment for each significant activity which belongs to a separate industry. For the 1997–98 manufacturing collection, 'significant' was defined as turnover of \$7.3 million or more.

EXPLANATORY NOTES *continued*

SCOPE AND COVERAGE *continued*

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

STANDARD UNITS

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

RELIABILITY OF ESTIMATES

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

DATA ADJUSTED

10 Data in this issue have been adjusted to allow for lags in processing new businesses to the ABS business register, i.e. adjustments have been made to allow for new businesses which had commenced operations but for which details had not been processed to the ABS business register in time for inclusion in the annual manufacturing industry collection. Adjustments of this type will continue to be applied in future periods. The majority of businesses affected by these lags are small in size. The effect of these adjustments on 1997–98 turnover for Western Australia is an increase of 0.2% while the effect on employment is an increase of 1.4%. All industry subdivisions were affected to a similar degree.

COMPARABILITY WITH PREVIOUS STATISTICS

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

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

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

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

EXPLANATORY NOTES *continued*

COMPARABILITY WITH PREVIOUS STATISTICS *continued*

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

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

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

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

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

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

EMPLOYMENT SIZE DATA

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

20 The treatment of unincorporated joint ventures according to the ABS's standard units definitions has an effect on the data when the data are classified by employment size. This is because joint venture participants report details of turnover, but often have few or no employees or operating expenses. The labour for such operations is usually employed and paid for by the joint venture operator. Similarly, the operating expenses are usually reported by the joint venture operator. On the other hand, the operator does not report any details of turnover (unless it also happens to be a participant). If each of these joint venture operations were to be treated as a single business unit in the statistics, it is highly probable that the Metal product manufacturing industry and to a lesser extent the Petroleum, coal, chemical and associated product manufacturing industry would reflect a similar dominance pattern to the other manufacturing industries. In other words, in the statistics in tables 4 and 5, the participants in unincorporated joint ventures are recorded in the 0–4 persons employment size category, whereas the operators of the unincorporated joint ventures are recorded in larger employment size categories. This treatment affects the relative contribution of the various employment size categories for these two industries.

EXPORTS BY MANUFACTURERS

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

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

EXPLANATORY NOTES *continued*

EXPORTS BY MANUFACTURERS *continued*

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

REGIONAL DATA

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

ACKNOWLEDGMENT

25 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

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

RELATED PUBLICATIONS

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

EXPLANATORY NOTES *continued*

RELATED PUBLICATIONS *continued*

28 Users may also wish to refer to the following publications:

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

BACK DATA AND UNPUBLISHED STATISTICS

29 A range of manufacturing industry statistics publications is available for previous years. As well, a considerable amount of data from the annual manufacturing collection exists in unpublished form. More detailed information to satisfy individual user requirements may be available on request. In general, unpublished data consist of finer industry dissections of the published data. Other more detailed data may also be available. A charge is made for providing unpublished information. The information paper (Cat. no. 8205.0) referred to in paragraphs 26 and 28 also provides more details.

ROUNDING

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

31 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.

EXPLANATORY NOTES *continued*

SYMBOLS AND OTHER USAGES

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

TECHNICAL NOTE DATA RELIABILITY

SAMPLE ERROR

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

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

3 The standard error can also be expressed as a percentage of the estimate, and this is known as the relative standard error. The relative standard errors for the 1997–98 employment, wages and salaries, turnover and IVA data presented in this publication are nearly all 3% or less for industry subdivisions (see page 31) and most are 4% or less for industry classes.

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

NON-SAMPLE ERROR

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

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

STANDARD ERRORS SELECTED DATA ITEMS

INDUSTRY SUBDIVISION		Employment at end of June(a)	Wages and salaries(b)	Turnover(c)	Industry value added(d)	Amount exported by this business unit or by its agent
ANZSIC code	Description	%	%	%	%	%
21	Food, beverage and tobacco mfg	2.0	1.5	1.1	1.1	2.0
22	Textile, clothing, footwear and leather mfg	2.3	2.1	1.8	1.9	3.1
23	Wood and paper product mfg	3.9	2.0	1.4	1.5	0.2
24	Printing, publishing and recorded media	3.1	2.1	2.5	2.2	18.5
25	Petroleum, coal, chemical and associated product mfg	1.9	1.2	1.0	2.0	1.3
26	Non-metallic mineral product mfg	2.0	0.7	0.7	0.6	10.2
27	Metal product mfg	2.4	1.6	1.0	1.3	0.1
28	Machinery and equipment mfg	2.0	1.9	1.7	2.1	1.6
29	Other manufacturing	3.6	3.4	2.8	3.3	9.6
21-29 Total manufacturing		0.8	0.6	0.5	0.6	0.4

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

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

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

G L O S S A R Y

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

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

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

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

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

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

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

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

The derivation of IVA is as follows:

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

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

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

Operating expenses
continued

Remaining expenses are categorised as follows:

Intermediate input expenses

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

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

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

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

Selected labour costs

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

Other operating expenses

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

Own account capital work

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

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

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



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

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

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

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

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

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

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

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

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