



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 the National Information and Referral Service on 1300 135 070.

NOTES

ANNUAL MANUFACTURING INDUSTRY COLLECTION

The 1999–2000 collection was conducted as a sample survey of approximately 17,000 manufacturing establishments nationally, which were requested to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. A sub-sample of approximately 7,000 establishments was also asked to provide detailed structural and performance data, and value of sales for commodities produced.

ABOUT THIS ISSUE

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

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

REGIONAL DATA

For information about the availability of sub-State estimates from the 1999–2000 collection, see paragraph 27 of the Explanatory Notes.

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], 1999–2000* (Cat. nos 8221.1–8221.6). The publication for New South Wales (Cat. no. 8221.1) also contains selected data for the Australian Capital Territory.

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

Colin Nagle
Regional Director, Western Australia

MAIN FEATURES

OVERVIEW

Turnover for the year 1999–2000 by manufacturing establishments operating in Western Australia was \$18,652m, which resulted in an industry value added (IVA) for the year of \$5,058m. For turnover, this represents a 4.6% increase in current price terms from the \$17,823m recorded for 1998–99. These manufacturing establishments employed 73,200 persons at the end of June 2000 and paid \$2,655m in wages and salaries in 1999–2000.

The percentage of Australian manufacturing employment in Western Australia at the end of June 2000 was 8.0%, an increase of 0.2 percentage points on that reported at the end of June 1999. The Western Australian industry subdivisions which made a significant contribution to national manufacturing employment at the end of June 2000 at the industry subdivision level were NON-METALLIC MINERAL PRODUCT MANUFACTURING (13.2%), METAL PRODUCT MANUFACTURING (11.0%) and OTHER MANUFACTURING (10.1%).

The percentage contribution by Western Australia to total Australian manufacturing turnover and IVA in 1999–2000 was 8.1% and 7.4% respectively. For turnover, this represents no change from the percentage figure recorded twelve months earlier, but for IVA this represents an increase of 0.1 percentage points on the contribution reported in 1998–99. The Western Australian industry subdivisions which made a significant contribution to national manufacturing turnover and IVA in 1999–2000 at the industry subdivision level were METAL PRODUCT MANUFACTURING (12.2% and 8.3% respectively), NON-METALLIC MINERAL PRODUCT MANUFACTURING (11.9% and 12.4% respectively), PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (10.7% and 9.1% respectively) and OTHER MANUFACTURING (10.2% and 10.7% respectively).

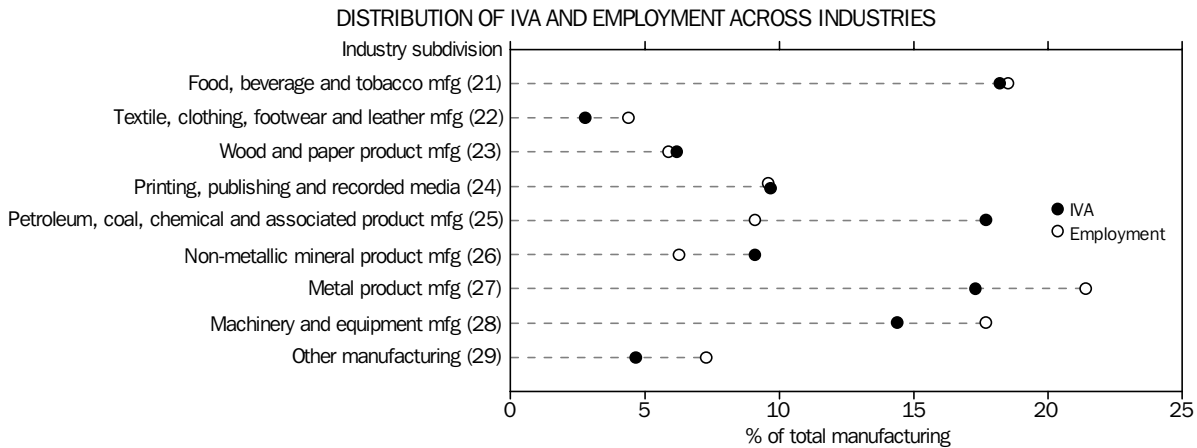
INDUSTRY VALUE ADDED

IVA for 1999–2000 was \$5,058m. The industry subdivision which contributed the most to Western Australian manufacturing IVA in 1999–2000 was FOOD, BEVERAGE AND TOBACCO MANUFACTURING, followed by PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING. METAL PRODUCT MANUFACTURING, the industry which had contributed the most in 1998–99, has fallen to be the third ranked industry in 1999–2000. All other industries were ranked in the same order as they were in 1998–99.

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:

- FOOD, BEVERAGE AND TOBACCO MANUFACTURING (18.2%), where the industry classes MEAT PROCESSING (ANZSIC Class 2111 at 2.6%) and SEAFOOD PROCESSING (ANZSIC Class 2173 at 2.5%) were the most substantial. Western Australian SEAFOOD PROCESSING accounted for 47.2% of Australian IVA for this industry.
- PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (17.7%), where the industry classes INORGANIC INDUSTRIAL CHEMICAL MANUFACTURING N.E.C. (ANZSIC Class 2535 at 3.8%), PETROLEUM REFINING (ANZSIC Class 2510 at 3.2%) and FERTILISER MANUFACTURING (ANZSIC Class 2531 at 2.3%) were the most substantial.
- METAL PRODUCT MANUFACTURING (17.3%), where the industry classes ALUMINA PRODUCTION (ANZSIC Class 2721 at 6.8%) and STRUCTURAL STEEL FABRICATING (ANZSIC Class 2741 at 3.8%) were the most substantial. Western Australian ALUMINA PRODUCTION accounted for 47.0% of Australian IVA for this industry.
- MACHINERY AND EQUIPMENT MANUFACTURING (14.4%), where the industry class SHIPBUILDING (ANZSIC Class 2821 at 2.7%) was the most substantial.

MAIN FEATURES *continued*



INDUSTRY VALUE ADDED *continued*

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 6.0%), **PRINTING** (ANZSIC Class 2412 at 2.6%) and **WOODEN FURNITURE AND UPHOLSTERED SEAT MANUFACTURING** (ANZSIC Class 2921 at 2.1%).

The Western Australian manufacturing industry subdivisions in 1999–2000 with the highest IVA per person employed were **PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING** at \$134,000 per person employed and **NON-METALLIC MINERAL PRODUCT MANUFACTURING** (at \$99,800).

EMPLOYMENT AND WAGES

The Western Australian manufacturing industry employed 73,200 persons at the end of June 2000 and paid \$2,655m in wages and salaries in 1999–2000. This represents an average of \$36,300 paid in annual wages and salaries per person employed at the end of June 2000, an increase of 1.2% on the \$35,800 recorded twelve months earlier. (Readers should note that the employment figure in this average measures the number of persons employed at the end of June and includes working proprietors. The wages and salaries figure excludes the drawings of working proprietors.)

EMPLOYMENT



Western Australian manufacturing employment decreased from June 1995 (73,800 persons) to June 1996 (72,000 persons), after which it recovered by June 1998 (74,600 persons). Manufacturing employment in Western Australian manufacturing industry then fell by June 1999 (72,700 persons), only to increase again between June

MAIN FEATURES *continued*

EMPLOYMENT AND WAGES *continued*

1999 and June 2000 (73,200 persons). Over the five years from June 1995 to June 2000, employment fell by 0.8% or 600 persons.

Between June 1999 and June 2000, employment increased in five of the nine manufacturing industry subdivisions, decreased in three and remained steady in one. FOOD, BEVERAGE AND TOBACCO MANUFACTURING recorded the largest increase in absolute terms (up 700 persons), followed by MACHINERY AND EQUIPMENT MANUFACTURING (up 600 persons), PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (up 500 persons) and WOOD AND PAPER PRODUCT MANUFACTURING (up 200 persons). The same industry subdivisions recorded the largest percentage increases, but in the following order: PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (up 7.3% from 6,200 persons to 6,700 persons), FOOD, BEVERAGE AND TOBACCO MANUFACTURING (up 5.5% from 12,800 persons to 13,600 persons), WOOD AND PAPER PRODUCT MANUFACTURING (up 4.7% from 4,100 persons to 4,300 persons) and MACHINERY AND EQUIPMENT MANUFACTURING (up 4.6% from 12,400 persons to 12,900 persons). The largest percentage and absolute decreases were recorded by PRINTING, PUBLISHING AND RECORDED MEDIA (down 9.4% or 700 persons), METAL PRODUCT MANUFACTURING (down 3.8% or 600 persons) and TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING (down 3.0% or 100 persons).

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

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

- TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING (up 5.5% — from \$25,600 to \$27,000), where 10 (out of 19) industry classes recorded an increase.
- MACHINERY AND EQUIPMENT MANUFACTURING (up 3.8% — from \$34,900 to \$36,200), where 15 (out of 27) industry classes recorded an increase, with the largest (where publishable) being:
 - LIFTING AND MATERIAL HANDLING EQUIPMENT MANUFACTURING (ANZSIC Class 2865) (up 40.9% — from \$38,800 to \$54,700);
 - COMPUTER AND BUSINESS MACHINE MANUFACTURING (ANZSIC Class 2841) (up 39.5% — from \$23,300 to \$32,600); and
 - SHIPBUILDING (ANZSIC Class 2821) (up 35.1% — from \$31,500 to \$42,500).
- OTHER MANUFACTURING (up 3.8% — from \$25,600 to \$26,600), where 5 (out of 9) industry classes recorded an increase, with the largest being JEWELLERY AND SILVERWARE MANUFACTURING (ANZSIC Class 2941) (up 22.0% — from \$24,900 to \$30,400) and WOODEN FURNITURE AND UPHOLSTERED SEAT MANUFACTURING (ANZSIC Class 2921) (up 11.9% — from \$23,700 to \$26,500), where the latter industry class accounted for approximately 53% of both employment and wages and salaries for the subdivision.

The industry subdivision to record the decrease between 1998–99 and 1999–2000 in wages and salaries paid per person employed at the end of June was PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (down 4.4% — from \$47,200 to \$45,100), where the main influence on the decrease was the industry group BASIC CHEMICAL MANUFACTURING (ANZSIC Group 253) (down 8.2% — from \$55,300 to \$50,800).

Industry classes (where publishable) belonging to other industry subdivisions and which had the largest percentage increases between 1998–99 and 1999–2000 in wages and salaries paid per person employed at the end of June were:

MAIN FEATURES *continued*

EMPLOYMENT AND WAGES *continued*

- PAPER STATIONERY MANUFACTURING (ANZSIC Class 2411)
(up 49.0% — from \$20,000 to \$29,700);
- GLASS AND GLASS PRODUCT MANUFACTURING (ANZSIC Class 2610)
(up 34.4% — from \$34,700 to \$46,600); and
- PREPARED ANIMAL AND BIRD FEED MANUFACTURING (ANZSIC Class 2174)
(up 32.9% — from \$29,600 to \$39,300).

TURNOVER

Turnover rose, in current price terms, by \$829m to \$18,652m for 1999–2000. This represents a 4.6% increase on the \$17,823m recorded for 1998–99.

METAL PRODUCT MANUFACTURING (at 26.6%) is again the largest contributor to total Western Australian manufacturing turnover, as it has been every year since ANZSIC industry data were introduced for 1989–90. PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (at 20.6%) remained the second largest contributor to Western Australian manufacturing turnover. All other industries were also ranked in the same order as they were in 1998–99.

Seven of the nine manufacturing industry subdivisions recorded an increase in turnover between 1998–99 and 1999–2000, while the other two recorded a decrease. The largest dollar increases between 1998–99 and 1999–2000 were recorded by PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (up \$375m or 10.8%), FOOD, BEVERAGE AND TOBACCO MANUFACTURING (up \$295m or 9.2%) and OTHER MANUFACTURING (up \$106m or 17.8%). The same three industry subdivisions recorded the largest percentage increases, but in the order: OTHER MANUFACTURING (up 17.8% — from \$597m to \$703m), PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (up 10.8% — from \$3,472m to \$3,847m) and FOOD, BEVERAGE AND TOBACCO MANUFACTURING (up 9.2% — from \$3,213m to \$3,508m).

The two industry subdivisions to record a fall in turnover were METAL PRODUCT MANUFACTURING (down \$70m or 1.4%) and PRINTING, PUBLISHING AND RECORDED MEDIA (down \$69m or 6.7%).

The industry classes with the largest dollar increases between 1998–99 and 1999–2000 were:

- SEAFOOD PROCESSING (ANZSIC Class 2173) (up \$181m or 52.3%);
- PETROLEUM REFINING (ANZSIC Class 2510) (up \$163m or 12.0%); and
- SHIPBUILDING (ANZSIC Class 2821) (up \$147m or 47.5%).

The industry groups (where publishable) with the largest dollar decreases between 1998–99 and 1999–2000 were:

- INDUSTRIAL MACHINERY AND EQUIPMENT MANUFACTURING (ANZSIC Group 286)
(down \$200m or 20.9%);
- FABRICATED METAL PRODUCT MANUFACTURING (ANZSIC Group 276) (down \$67m or 19.8%);
and
- PRINTING AND SERVICES TO PRINTING (ANZSIC Group 241) (down \$65m or 14.1%).

MAIN FEATURES *continued*

EXPORTS

EXPORTS AS A PROPORTION OF GOODS PRODUCED



For 1999–2000, Western Australian manufacturers directly exported \$4,728m of the goods that they produced. This represents a 11.9% increase on the \$4,223m recorded for 1998–99. The percentage of total sales and transfers out of goods produced that were exported also increased (from 26.2% for 1998–99 to 27.9% for 1999–2000). There has been an increase of 7.7 percentage points in this proportion since 1994–95 (when the proportion was 20.1%).

Manufacturers' direct exports increased in six industry subdivisions and decreased in the other three between 1998–99 and 1999–2000. The industry subdivisions to record the largest dollar increases in direct exports between 1998–99 and 1999–2000 were PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING (up \$178m or 21.6% — from \$824m to \$1,002m), MACHINERY AND EQUIPMENT MANUFACTURING (up \$166m or 47.3% — from \$350m to \$516m) and FOOD, BEVERAGE AND TOBACCO MANUFACTURING (up \$120m or 22.8% — from \$525m to \$645m). The industry subdivisions to record the largest percentage increases in direct exports between 1998–1999 and 1999–2000 were PRINTING, PUBLISHING AND RECORDED MEDIA (up 78.9% or \$4m — from \$5m to \$9m) and OTHER MANUFACTURING (up 76.0% or \$15m — from \$19m to \$34m). The industry subdivision to record the largest dollar decrease in direct exports was WOOD AND PAPER PRODUCT MANUFACTURING (down \$17m or 14.6% — from \$118m to \$100m), while the largest percentage decrease was recorded by NON-METALLIC MINERAL PRODUCT MANUFACTURING (down 16.8% or \$4m — from \$26m to \$22m).

Direct exports by establishments employing 100 or more persons increased by \$380m (or 13.8%) and for establishments employing 0–49 persons increased by \$176m (or 15.3%), but decreased for establishments employing 50–99 persons by \$51m (or 16.0%).

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

Reference year	Employment at end of June(d) '000	Wages and salaries(e)(f) \$m	Turnover(f) \$m	Industry gross product(f) \$m	Industry value added(f) \$m	Wages and salaries to turnover (f) ratio	Turnover per person employed (f)(g) \$'000	Industry value added per person employed (f)(h) \$'000
FOOD, BEVERAGE AND TOBACCO MANUFACTURING								
1999-2000	13.6	447.0	3 508.5	..	921.8	0.13	258.8	68.0
1998-99	r12.8	422.9	r3 213.4	..	r822.7	0.13	r250.1	r64.0
1997-98	13.7	437.1	(i)3 260.9	(j)854.7	(j)878.9	0.13	238.2	64.2
1996-97	13.0	393.5	3 120.2	777.7	..	0.13	240.0	..
1995-96	13.3	(k)372.3	r3 055.6	809.1	..	0.12	229.7	..
1994-95	12.6	345.8	2 845.4	..	..	0.12	226.4	..
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING								
1999-2000	3.2	86.2	386.6	..	139.8	0.22	121.0	43.7
1998-99	r3.3	r84.2	r354.7	..	r123.7	0.24	r107.6	r37.5
1997-98	3.3	80.6	(i)334.0	(j)114.8	(j)118.6	0.24	101.2	35.9
1996-97	3.2	87.1	358.1	145.8	..	0.24	111.4	..
1995-96	3.5	(k)77.6	336.1	112.5	..	0.23	96.0	..
1994-95	4.3	93.1	361.1	..	..	0.26	84.8	..
WOOD AND PAPER PRODUCT MANUFACTURING								
1999-2000	4.3	144.0	834.9	..	314.5	0.17	194.8	73.4
1998-99	4.1	136.5	790.1	..	r287.9	0.17	193.0	70.3
1997-98	4.7	125.9	(i)717.6	(j)257.0	(j)267.0	0.18	153.6	57.2
1996-97	4.3	126.5	659.8	227.7	..	0.19	152.6	..
1995-96	4.4	(k)123.3	703.0	238.7	..	0.18	160.8	..
1994-95	4.8	131.2	727.0	..	..	0.18	150.4	..
PRINTING, PUBLISHING AND RECORDED MEDIA								
1999-2000	7.0	232.0	958.0	..	488.6	0.24	136.9	69.8
1998-99	7.7	253.5	r1 026.6	..	r510.5	0.25	r132.9	r66.1
1997-98	6.7	208.0	(i)860.9	(j)416.7	(j)426.5	0.24	128.2	63.5
1996-97	6.4	199.3	840.7	402.0	..	0.24	131.4	..
1995-96	6.3	(k)187.4	819.2	411.0	..	0.23	129.8	..
1994-95	6.5	186.1	763.7	..	..	0.24	117.8	..
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING								
1999-2000	6.7	301.1	3 847.3	..	893.8	0.08	576.7	134.0
1998-99	r6.2	r293.5	r3 471.9	..	r689.8	0.08	r558.6	r111.0
1997-98	6.4	278.4	(i)3 331.7	(j)789.9	(j)811.2	0.08	516.9	125.9
1996-97	6.5	271.1	3 079.0	746.7	..	0.09	473.8	..
1995-96	6.6	(k)245.1	2 842.2	684.1	..	0.09	430.0	..
1994-95	6.2	225.6	2 813.5	..	..	0.08	457.4	..

.. not applicable

r revised

(a) See paragraph 6 of the Explanatory Notes.

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

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

(d) Includes working proprietors.

(e) Excludes the drawings of working proprietors.

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

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

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

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

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

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

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

Reference year	Employment at end of June(d) '000	Wages and salaries(e)(f) \$m	Turnover(f) \$m	Industry gross product(f) \$m	Industry value added(f) \$m	Wages and salaries to turnover (f) ratio	Turnover per person employed (f)(g) \$'000	Industry value added per person employed (f)(h) \$'000
NON-METALLIC MINERAL PRODUCT MANUFACTURING								
1999-2000	4.6	199.4	1 250.9	..	458.7	0.16	272.1	99.8
1998-99	4.6	r193.7	r1 183.3	..	r431.0	0.16	r259.4	r94.5
1997-98	4.7	186.9	(i)1 002.8	(j)350.4	(j)370.9	0.19	214.2	79.2
1996-97	4.9	180.7	1 020.1	347.1	..	0.18	206.2	..
1995-96	4.7	(k)154.6	966.5	371.7	..	0.16	206.9	..
1994-95	5.2	170.6	1 085.0	..	..	0.16	209.0	..
METAL PRODUCT MANUFACTURING								
1999-2000	15.7	634.8	4 960.3	..	876.6	0.13	316.8	56.0
1998-99	r16.3	r652.3	r5 030.5	..	r1 093.2	0.13	r309.0	r67.2
1997-98	16.3	603.5	(i)5 141.4	(j)1 340.0	(j)1 384.0	0.12	316.3	85.1
1996-97	16.0	615.0	4 783.4	1 241.3	..	0.13	298.9	..
1995-96	16.0	(k)575.8	4 542.0	795.2	..	0.13	283.3	..
1994-95	15.2	535.2	4 288.1	..	..	0.12	282.8	..
MACHINERY AND EQUIPMENT MANUFACTURING								
1999-2000	12.9	468.3	2 202.1	..	727.1	0.21	170.3	56.2
1998-99	r12.4	r431.5	r2 155.8	..	r680.1	0.20	r174.4	r55.0
1997-98	13.2	428.5	(i)2 206.9	(j)641.1	(j)670.8	0.19	167.5	50.9
1996-97	12.8	405.3	2 227.5	662.1	..	0.18	173.7	..
1995-96	11.5	(k)337.7	1 822.5	595.6	..	0.19	158.3	..
1994-95	12.9	360.3	1 707.2	..	..	0.21	132.8	..
OTHER MANUFACTURING								
1999-2000	5.4	142.6	703.0	..	237.3	0.20	131.3	44.3
1998-99	5.3	136.7	596.7	..	r233.4	0.23	111.9	r43.8
1997-98	5.6	131.7	(i)643.0	(j)204.4	(j)211.4	0.20	114.5	37.6
1996-97	5.7	132.7	624.0	221.6	..	0.21	110.4	..
1995-96	5.7	(k)132.7	624.2	223.4	..	0.21	110.1	..
1994-95	6.3	136.8	655.1	..	..	0.21	103.3	..
TOTAL MANUFACTURING								
1999-2000	73.2	2 655.3	18 651.6	..	5 058.3	0.14	254.6	69.1
1998-99	72.7	r2 604.7	r17 822.9	..	r4 872.4	0.15	r245.1	r67.0
1997-98	74.6	2 480.7	(i)17 499.3	(j)4 969.0	(j)5 139.3	0.14	234.7	68.9
1996-97	72.9	2 411.1	16 712.7	4 772.0	..	0.14	229.4	..
1995-96	72.0	(k)2 206.6	15 711.3	4 241.3	..	0.14	218.3	..
1994-95	73.8	2 184.6	15 246.2	..	..	0.14	206.5	..

.. not applicable

r revised

(a) See paragraph 6 of the Explanatory Notes.

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

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

(d) Includes working proprietors.

(e) Excludes the drawings of working proprietors.

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

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

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

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

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

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

MANUFACTURING ESTABLISHMENTS (a), Industry Class

INDUSTRY CLASS	Description	Employment at end of June (b)	Wages and salaries (c)	Turnover	Industry value added	Turnover per person employed (d)	Industry value added per person employed (e)
ANZSIC code		no.	\$m	\$m	\$m	\$'000	\$'000
FOOD, BEVERAGE AND TOBACCO MFG							
211	Meat and meat product mfg						
2111	Meat processing	2 742	89.0	520.7	131.2	189.9	47.8
2112	Poultry processing	878	32.4	215.8	67.1	245.8	76.4
2113	Bacon, ham and smallgood mfg	557	16.3	117.4	28.1	210.9	50.4
	<i>Total</i>	<i>4 177</i>	<i>137.7</i>	<i>853.9</i>	<i>226.3</i>	<i>204.4</i>	<i>54.2</i>
212	Dairy product mfg						
2121	Milk and cream processing	np	np	np	np	np	np
2122	Ice cream mfg	368	np	np	np	np	np
2129	Dairy product mfg n.e.c.	297	11.8	84.1	25.0	283.4	84.1
	<i>Total</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>
213	Fruit and vegetable processing	558	np	np	np	np	np
214	Oil and fat mfg	150	5.3	52.9	12.3	351.6	81.7
215	Flour mill and cereal food mfg						
2151	Flour mill product mfg	230	9.8	83.4	18.4	362.2	79.8
2152	Cereal food and baking mix mfg	np	np	np	np	np	np
	<i>Total</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>
216	Bakery product mfg						
2161	Bread mfg	np	np	np	np	np	np
2162	Cake and pastry mfg	1 035	26.9	108.1	44.9	104.5	43.4
2163	Biscuit mfg	np	np	np	np	np	np
	<i>Total</i>	<i>1 912</i>	<i>53.0</i>	<i>235.1</i>	<i>95.0</i>	<i>123.0</i>	<i>49.7</i>
217	Other food mfg						
2171	Sugar mfg	np	np	np	np	np	np
2172	Confectionery mfg	82	1.4	8.4	3.9	102.6	47.2
2173	Seafood processing	1 183	29.1	528.4	127.4	446.8	107.7
2174	Prepared animal and bird feed mfg	489	19.2	235.7	40.7	482.2	83.2
2179	Food mfg n.e.c.	np	np	np	np	np	np
	<i>Total</i>	<i>3 228</i>	<i>92.2</i>	<i>1 044.6</i>	<i>244.9</i>	<i>323.6</i>	<i>75.8</i>
218	Beverage and malt mfg						
2181	Soft drink, cordial and syrup mfg	515	np	np	np	np	np
2182	Beer and malt mfg	267	16.4	215.8	64.5	807.9	241.4
2183	Wine mfg	1 058	np	np	np	np	np
2184	Spirit mfg	—	—	—	—	—	—
	<i>Total</i>	<i>1 840</i>	<i>70.9</i>	<i>611.1</i>	<i>174.5</i>	<i>332.2</i>	<i>94.9</i>
219	Tobacco product mfg	—	—	—	—	—	—
21	Total food, beverage and tobacco mfg	13 558	447.0	3 508.5	921.8	258.8	68.0
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG							
221	Textile fibre, yarn and woven fabric mfg						
2211	Wool scouring	np	np	np	np	np	np
2212	Synthetic fibre textile mfg	np	np	np	np	np	np
2213	Cotton textile mfg	np	np	np	np	np	np
2214	Wool textile mfg	np	np	np	np	np	np
2215	Textile finishing	np	np	np	np	np	np
	<i>Total</i>	<i>632</i>	<i>24.6</i>	<i>86.5</i>	<i>36.8</i>	<i>136.8</i>	<i>58.3</i>

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MANUFACTURING ESTABLISHMENTS (a), Industry Class *continued*

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG cont.							
222	Textile product mfg						
2221	Made-up textile product mfg	836	20.1	87.8	27.6	105.0	33.0
2222	Textile floor covering mfg	np	np	np	np	np	np
2223	Rope, cordage and twine mfg	23	0.8	2.1	0.9	89.3	37.7
2229	Textile product mfg n.e.c.	np	np	np	np	np	np
	<i>Total</i>	1 158	28.4	126.4	39.3	109.2	34.0
223	Knitting mills						
2231	Hosiery mfg	np	np	np	np	np	np
2232	Cardigan and pullover mfg	np	2.5	10.0	4.7	np	np
2239	Knitting mill product mfg n.e.c.	**74	**0.3	*0.7	**0.3	**9.9	**4.6
	<i>Total</i>	*198	np	np	np	np	np
224	Clothing mfg						
2241	Men's and boys' wear mfg	np	np	np	np	np	np
2242	Women's and girls' wear mfg	348	6.5	20.1	5.8	57.9	16.8
2243	Sleepwear, underwear and infant clothing mfg	np	np	np	np	np	np
2249	Clothing mfg n.e.c.	312	8.1	34.8	13.6	111.5	43.7
	<i>Total</i>	817	17.6	74.4	27.0	91.0	33.1
225	Footwear mfg	94	2.7	16.1	7.9	171.9	84.5
226	Leather and leather product mfg						
2261	Leather tanning and fur dressing	221	np	np	np	np	np
2262	Leather and leather substitute product mfg	77	1.9	17.0	6.1	220.4	79.1
	<i>Total</i>	298	np	np	np	np	np
22	Total textile, clothing, footwear and leather mfg	3 196	86.2	386.6	139.8	121.0	43.7
WOOD AND PAPER PRODUCT MFG							
231	Log sawmilling and timber dressing						
2311	Log sawmilling	1 003	31.0	126.7	57.4	126.4	57.3
2312	Wood chipping	np	np	np	np	np	np
2313	Timber resawing and dressing	np	np	np	np	np	np
	<i>Total</i>	1 611	np	np	np	np	np
232	Other wood product mfg						
2321	Plywood and veneer mfg	np	np	np	np	np	np
2322	Fabricated wood mfg	np	np	np	np	np	np
2323	Wooden structural component mfg	981	29.7	121.6	42.8	124.0	43.7
2329	Wood product mfg n.e.c.	586	np	np	np	np	np
	<i>Total</i>	2 159	64.4	358.0	118.7	165.8	55.0
233	Paper and paper product mfg						
2331	Pulp, paper and paperboard mfg	120	np	np	np	np	np
2332	Solid paperboard container mfg	np	np	np	np	np	np
2333	Corrugated paperboard container mfg	np	np	np	np	np	np
2334	Paper bag and sack mfg	68	np	np	np	np	np
2339	Paper product mfg n.e.c.	34	0.7	4.5	1.6	132.3	47.6
	<i>Total</i>	516	np	np	np	np	np
23	Total wood and paper product mfg	4 286	144.0	834.9	314.5	194.8	73.4

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MANUFACTURING ESTABLISHMENTS (a), Industry Class *continued*

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
PRINTING, PUBLISHING AND RECORDED MEDIA							
241	Printing and services to printing						
2411	Paper stationery mfg	355	10.6	45.1	18.8	127.3	53.0
2412	Printing	2 823	72.8	307.4	131.2	108.9	46.5
2413	Services to printing	455	12.3	42.7	17.2	94.0	37.8
	<i>Total</i>	3 632	95.7	395.3	167.2	108.8	46.0
242	Publishing						
2421	Newspaper printing or publishing	2 692	119.1	498.5	302.8	185.2	112.5
2422	Other periodical publishing	432	9.6	35.9	9.2	83.0	21.2
2423	Book and other publishing	167	4.4	17.7	*4.7	106.0	*28.2
	<i>Total</i>	3 291	133.1	552.0	316.7	167.7	96.2
243	Recorded media manufacturing and publishing	75	3.2	10.7	4.7	143.1	63.3
24	Total printing, publishing and recorded media	6 998	232.0	958.0	488.6	136.9	69.8
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG							
251	Petroleum refining	504	36.7	1 516.6	160.8	3 011.2	319.2
252	Petroleum and coal product mfg n.e.c.	106	4.4	63.9	11.6	601.4	109.6
253	Basic chemical mfg						
2531	Fertiliser mfg	599	30.1	352.0	118.3	587.7	197.4
2532	Industrial gas mfg	259	np	np	np	np	np
2533	Synthetic resin mfg	96	np	np	np	np	np
2534	Organic industrial chemical mfg n.e.c.	—	—	—	—	—	—
2535	Inorganic industrial chemical mfg n.e.c.	1 211	65.0	718.4	192.2	593.4	158.7
	<i>Total</i>	2 165	109.9	1 161.9	348.2	536.6	160.8
254	Other chemical product mfg						
2541	Explosive mfg	165	np	np	np	np	np
2542	Paint mfg	305	12.0	94.7	30.3	310.9	99.6
2543	Medicinal and pharmaceutical product mfg	481	np	np	np	np	np
2544	Pesticide mfg	np	np	np	np	np	np
2545	Soap and other detergent mfg	190	7.3	35.9	13.9	189.0	73.4
2546	Cosmetic and toiletry preparation mfg	np	np	np	np	np	np
2547	Ink mfg	np	np	np	np	np	np
2549	Chemical product mfg n.e.c.	120	4.7	36.0	11.2	299.3	93.4
	<i>Total</i>	1 504	66.4	666.2	228.1	443.0	151.7
255	Rubber product mfg						
2551	Rubber tyre mfg	56	1.6	16.9	7.1	298.7	125.4
2559	Rubber product mfg n.e.c.	224	8.8	42.4	13.4	189.0	59.5
	<i>Total</i>	281	10.4	59.3	20.4	211.0	72.8

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MANUFACTURING ESTABLISHMENTS (a), Industry Class *continued*

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG cont.							
256	Plastic product mfg						
2561	Plastic blow moulded product mfg	np	np	np	np	np	np
2562	Plastic extruded product mfg	169	6.5	51.7	15.2	305.7	89.6
2563	Plastic bag and film mfg	np	np	np	np	np	np
2564	Plastic product rigid fibre reinforced mfg	403	12.1	70.6	18.9	175.0	46.8
2565	Plastic foam product mfg	170	np	np	np	np	np
2566	Plastic injection moulded product mfg	828	27.3	102.8	36.1	124.2	43.7
	<i>Total</i>	2 112	73.2	379.6	124.6	179.7	59.0
25	Total petroleum, coal, chemical and associated product mfg	6 672	301.1	3 847.3	893.8	576.7	134.0
NON-METALLIC MINERAL PRODUCT MFG							
261	Glass and glass product mfg	295	13.8	58.7	23.8	198.9	80.6
262	Ceramic mfg						
2621	Clay brick mfg	988	np	np	np	np	np
2622	Ceramic product mfg	83	np	np	np	np	np
2623	Ceramic tile and pipe mfg	np	np	np	np	np	np
2629	Ceramic product mfg n.e.c.	np	np	np	np	np	np
	<i>Total</i>	1 385	58.2	307.6	137.9	222.0	99.5
263	Cement, lime, plaster and concrete product mfg						
2631	Cement and lime mfg	451	np	np	np	np	np
2632	Plaster product mfg	232	np	np	np	np	np
2633	Concrete slurry mfg	481	24.3	247.2	49.6	513.9	103.2
2634	Concrete pipe and box culvert mfg	203	9.6	38.3	11.9	188.4	58.4
2635	Concrete product mfg n.e.c.	936	31.7	167.7	73.7	179.2	78.7
	<i>Total</i>	2 303	102.2	747.3	243.4	324.5	105.7
264	Non-metallic mineral product mfg n.e.c.	615	25.1	137.4	53.6	223.5	87.2
26	Total non-metallic mineral product mfg	4 598	199.4	1 250.9	458.7	272.1	99.8
METAL PRODUCT MFG							
271	Iron and steel mfg						
2711	Basic iron and steel mfg	727	np	np	np	np	np
2712	Iron and steel casting and forging	676	27.9	103.6	41.3	153.2	61.0
2713	Steel pipe and tube mfg	np	np	np	np	np	np
	<i>Total</i>	np	np	np	np	np	np
272	Basic non-ferrous metal mfg						
2721	Alumina production	3 847	184.8	1 914.0	343.9	497.6	89.4
2722	Aluminium smelting	—	—	—	—	—	—
2723	Copper, silver, lead and zinc smelting, refining	np	np	np	np	np	np
2729	Basic non-ferrous metal mfg n.e.c.	np	np	np	np	np	np
	<i>Total</i>	4 711	233.5	3 160.7	447.0	670.9	94.9
273	Non-ferrous basic metal product mfg						
2731	Aluminium rolling, drawing, extruding	np	np	np	np	np	np
2732	Non-ferrous metal rolling, drawing, extruding n.e.c.	np	np	np	np	np	np
2733	Non-ferrous metal casting	82	2.7	12.3	3.4	150.6	42.3
	<i>Total</i>	np	np	np	np	np	np

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MANUFACTURING ESTABLISHMENTS (a), Industry Class *continued*

INDUSTRY CLASS	Description	Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code		no.	\$m	\$m	\$m	\$'000	\$'000
METAL PRODUCT MFG <i>cont.</i>							
274	Structural metal product mfg						
2741	Structural steel fabricating	3 285	129.6	526.4	192.1	160.2	58.5
2742	Architectural aluminium product mfg	1 614	51.8	225.7	76.5	139.9	47.4
2749	Structural metal product mfg n.e.c.	343	9.6	42.7	9.7	124.6	28.2
	<i>Total</i>	5 242	190.9	794.8	278.3	151.6	53.1
275	Sheet metal product mfg						
2751	Metal container mfg	218	8.0	56.8	18.1	260.8	82.9
2759	Sheet metal product mfg n.e.c.	1 253	38.7	151.4	56.8	120.8	45.3
	<i>Total</i>	1 471	46.8	208.2	74.9	141.5	50.9
276	Fabricated metal product mfg						
2761	Hand tool and general hardware mfg	np	np	np	np	np	np
2762	Spring and wire product mfg	293	8.2	38.4	12.5	131.0	42.6
2763	Nut, bolt, screw and rivet mfg	*38	*1.3	*4.4	*1.2	**116.9	**32.9
2764	Metal coating and finishing	669	22.3	67.8	31.1	101.3	46.4
2765	Non-ferrous pipe fitting mfg	np	np	np	np	np	np
2769	Fabricated metal product mfg n.e.c.	1 272	41.8	140.8	57.8	110.7	45.4
	<i>Total</i>	2 416	78.0	270.5	108.9	112.0	45.1
27	Total metal product mfg	15 657	634.8	4 960.3	876.6	316.8	56.0
MACHINERY AND EQUIPMENT MFG							
281	Motor vehicle and part mfg						
2811	Motor vehicle mfg	np	0.8	2.0	0.3	np	np
2812	Motor vehicle body mfg	1 176	30.9	167.3	49.3	142.2	41.9
2813	Automotive electrical and instrument mfg	np	*3.5	*17.5	*4.7	np	np
2819	Automotive component mfg n.e.c.	721	18.8	70.3	24.8	97.5	34.4
	<i>Total</i>	2 015	53.9	257.1	79.0	127.5	39.2
282	Other transport equipment mfg						
2821	Shipbuilding	2 048	87.1	455.7	135.8	222.5	66.3
2822	Boatbuilding	417	12.0	71.3	24.7	170.9	59.2
2823	Railway equipment mfg	np	np	np	np	np	np
2824	Aircraft mfg	np	np	np	np	np	np
2829	Transport equipment mfg n.e.c.	60	np	np	np	np	np
	<i>Total</i>	3 132	126.8	650.9	194.8	207.8	62.2
283	Photographic and scientific equipment mfg						
2831	Photographic and optical good mfg	63	2.2	5.3	3.1	84.5	49.2
2832	Medical and surgical equipment mfg	376	np	np	np	np	np
2839	Professional and scientific equipment mfg n.e.c.	108	np	np	np	np	np
	<i>Total</i>	547	13.3	49.1	22.5	89.7	41.2
284	Electronic equipment mfg						
2841	Computer and business machine mfg	188	6.1	34.0	8.1	181.3	43.2
2842	Telecommunication, broadcasting and transceiving equipment mfg	412	14.0	99.0	24.9	240.4	60.5
2849	Electronic equipment mfg n.e.c.	768	28.7	120.5	42.1	157.0	54.9
	<i>Total</i>	1 367	48.8	253.6	75.1	185.5	55.0

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MANUFACTURING ESTABLISHMENTS (a), Industry Class *continued*

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry value added	Turnover per person employed(d)	Industry value added per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
MACHINERY AND EQUIPMENT MFG cont.							
285	Electrical equipment and appliance mfg						
2851	Household appliance mfg	462	16.3	104.8	27.6	226.7	59.8
2852	Electric cable and wire mfg	np	np	np	np	np	np
2853	Battery mfg	—	—	—	—	—	—
2854	Electric light and sign mfg	np	np	np	np	np	np
2859	Electrical equipment mfg n.e.c.	779	31.5	107.1	39.6	137.5	50.9
	<i>Total</i>	1 432	54.6	234.0	75.2	163.4	52.5
286	Industrial machinery and equipment mfg						
2861	Agricultural machinery mfg	460	15.7	78.5	26.0	170.6	56.5
2862	Mining and construction machinery mfg	1 647	65.5	276.1	93.2	167.7	56.6
2863	Food processing machinery mfg	**190	**6.1	**21.7	**9.2	*114.3	48.2
2864	Machine tool and part mfg	269	7.9	28.9	14.2	107.4	52.8
2865	Lifting and material handling equipment mfg	516	28.2	119.8	42.1	232.0	81.6
2866	Pump and compressor mfg	164	5.0	31.0	9.7	189.5	59.4
2867	Commercial space heating and cooling equipment mfg	313	14.4	61.8	21.3	197.6	68.2
2869	Industrial machinery and equipment mfg n.e.c.	878	28.0	139.5	*64.7	158.9	**73.6
	<i>Total</i>	4 437	170.8	757.3	280.3	170.7	63.2
28	Total machinery and equipment mfg	12 931	468.3	2 202.1	727.1	170.3	56.2
OTHER MANUFACTURING							
291	Prefabricated building mfg						
2911	Prefabricated metal building mfg	276	8.7	83.1	28.1	301.3	102.0
2919	Prefabricated building mfg n.e.c.	85	2.2	19.5	4.5	229.1	53.1
	<i>Total</i>	361	10.8	102.6	32.7	284.3	90.5
292	Furniture mfg						
2921	Wooden furniture and upholstered seat mfg	2 833	75.1	299.1	108.7	105.6	38.4
2922	Sheet metal furniture mfg	453	12.6	76.1	20.1	168.1	44.4
2923	Mattress mfg (except rubber)	243	6.5	41.3	13.9	169.9	57.4
2929	Furniture mfg n.e.c.	577	16.1	71.7	27.7	124.2	47.9
	<i>Total</i>	4 105	110.3	488.1	170.4	118.9	41.5
294	Miscellaneous mfg						
2941	Jewellery and silverware mfg	247	7.5	46.6	8.4	188.5	34.1
2942	Toy and sporting good mfg	244	5.8	24.0	8.9	98.1	36.4
2949	Manufacturing n.e.c.	396	8.1	41.6	*17.0	105.2	*42.9
	<i>Total</i>	887	21.4	112.2	34.3	126.5	38.7
29	Total other manufacturing	5 354	142.6	703.0	237.3	131.3	44.3
21-29	TOTAL MANUFACTURING	73 249	2 655.3	18 651.6	5 058.3	254.6	69.1

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

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

(a) See paragraph 6 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors.

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

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

MANUFACTURING ESTABLISHMENTS(a), Employment Size(b)

Employment size group	Employment at end of June(c) . .		Wages and salaries(d)(e)		Turnover(e)		Industry value added(e) .	
	no.	%	\$m	%	\$m	%	\$m	%
FOOD, BEVERAGE AND TOBACCO MANUFACTURING								
0-4 persons	316	2.3	5.5	1.3	29.0	0.8	7.8	0.9
5-9 persons	411	3.0	8.2	1.9	85.5	2.4	21.1	2.3
10-19 persons	1 204	8.9	32.6	7.4	275.8	7.9	65.2	7.1
20-49 persons	2 053	15.1	61.5	14.0	476.4	13.7	119.9	13.1
50-99 persons	2 759	20.3	82.1	18.7	724.8	20.8	190.7	20.8
Total less than 100 persons	6 743	49.7	189.9	43.2	1 591.4	45.6	404.7	44.2
100-199 persons	2 520	18.6	71.1	16.2	812.6	23.3	181.7	19.9
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	6 815	50.3	249.3	56.8	1 897.5	54.4	510.3	55.8
Total	13 558	100.0	439.3	100.0	3 489.0	100.0	915.0	100.0
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING								
0-4 persons	404	12.6	6.5	7.6	28.5	7.4	11.7	8.4
5-9 persons	348	10.9	6.8	8.0	25.9	6.7	7.6	5.4
10-19 persons	492	15.4	9.7	11.4	37.5	9.8	14.1	10.1
20-49 persons	np	np	np	np	np	np	np	np
50-99 persons	np	np	np	np	np	np	np	np
Total less than 100 persons	1 929	60.4	44.2	51.8	201.8	52.5	74.5	53.5
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	1 267	39.6	41.1	48.2	182.3	47.5	64.9	46.5
Total	3 196	100.0	85.3	100.0	384.2	100.0	139.4	100.0
WOOD AND PAPER PRODUCT MANUFACTURING								
0-4 persons	567	13.2	9.0	6.3	47.3	5.7	16.0	5.1
5-9 persons	750	17.5	21.6	15.0	62.1	7.4	23.6	7.5
10-19 persons	541	12.6	16.5	11.5	64.1	7.7	19.6	6.3
20-49 persons	np	np	np	np	np	np	np	np
50-99 persons	np	np	np	np	np	np	np	np
Total less than 100 persons	2 721	63.5	81.0	56.3	403.9	48.4	142.6	45.4
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	1 565	36.5	62.8	43.7	430.0	51.6	171.3	54.6
Total	4 286	100.0	143.8	100.0	833.9	100.0	313.9	100.0

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— nil or rounded to zero (including null cells)

(a) See paragraph 6 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated

joint ventures) of why caution should be used in interpreting these data, see paragraph 23 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 1999-2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

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

Employment size group	Employment at end of June(c) . .		Wages and salaries(d)(e) .		Turnover(e)		Industry value added(e) .	
	no.	%	\$m	%	\$m	%	\$m	%
PRINTING, PUBLISHING AND RECORDED MEDIA								
0-4 persons	895	12.8	13.1	5.6	51.7	5.4	22.8	4.7
5-9 persons	723	10.3	20.2	8.7	83.5	8.7	32.9	6.7
10-19 persons	1 426	20.4	36.1	15.6	147.1	15.4	67.6	13.8
20-49 persons	893	12.8	30.5	13.2	107.6	11.2	44.8	9.2
50-99 persons	np	np	np	np	np	np	np	np
Total less than 100 persons	np	np	np	np	np	np	np	np
100-199 persons	585	8.4	19.2	8.3	99.5	10.4	33.5	6.9
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	np	np	np	np	np	np	np	np
Total 100 or more persons	np	np	np	np	np	np	np	np
Total	6 998	100.0	232.0	100.0	958.0	100.0	488.6	100.0

PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING

0-4 persons	245	3.7	6.4	2.1	263.7	6.9	167.3	18.7
5-9 persons	455	6.8	14.7	4.9	131.3	3.4	25.5	2.9
10-19 persons	872	13.1	25.4	8.5	194.6	5.1	55.1	6.2
20-49 persons	1 074	16.1	42.0	14.0	347.7	9.0	112.7	12.6
50-99 persons	1 014	15.2	43.4	14.5	387.8	10.1	116.8	13.1
Total less than 100 persons	3 659	54.8	131.9	44.0	1 325.2	34.5	477.3	53.5
100-199 persons	1 067	16.0	56.2	18.7	398.0	10.4	129.6	14.5
200-499 persons	1 945	29.2	111.9	37.3	2 121.3	55.2	285.4	32.0
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	3 012	45.1	168.1	56.0	2 519.2	65.5	415.0	46.5
Total	6 672	100.0	300.0	100.0	3 844.4	100.0	892.3	100.0

NON-METALLIC MINERAL PRODUCT MANUFACTURING

0-4 persons	273	5.9	5.1	2.5	23.0	1.8	7.6	1.7
5-9 persons	377	8.2	10.7	5.4	40.9	3.3	12.5	2.7
10-19 persons	387	8.4	15.1	7.6	130.4	10.4	49.0	10.7
20-49 persons	np	np	np	np	np	np	np	np
50-99 persons	np	np	np	np	np	np	np	np
Total less than 100 persons	2 345	51.0	87.0	43.7	606.4	48.5	198.2	43.2
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	np	np	np	np	np	np	np	np
1 000 or more persons	—	—	—	—	—	—	—	—
Total 100 or more persons	2 253	49.0	112.3	56.3	644.6	51.5	260.5	56.8
Total	4 598	100.0	199.4	100.0	1 250.9	100.0	458.7	100.0

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— nil or rounded to zero (including null cells)

(a) See paragraph 6 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated

joint ventures) of why caution should be used in interpreting these data, see paragraph 23 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 1999-2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

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

Employment size group	Employment at end of June(c) . .		Wages and salaries(d)(e)		Turnover(e)		Industry value added(e) .	
	no.	%	\$m	%	\$m	%	\$m	%
METAL PRODUCT MANUFACTURING								
0-4 persons	990	6.3	23.0	3.6	595.2	12.0	479.8	..
5-9 persons	1 163	7.4	35.0	5.5	127.6	2.6	43.7	..
10-19 persons	1 490	9.5	40.5	6.4	176.6	3.6	65.5	..
20-49 persons	np	np	np	np	np	np	np	..
50-99 persons	np	np	np	np	np	np	np	..
<i>Total less than 100 persons</i>	<i>8 476</i>	<i>54.1</i>	<i>277.9</i>	<i>43.9</i>	<i>2 041.7</i>	<i>41.2</i>	<i>956.3</i>	<i>..</i>
100-199 persons	np	np	np	np	np	np	np	..
200-499 persons	1 574	10.1	87.4	13.8	1 172.7	23.7	-102.4	..
500-999 persons	np	np	np	np	np	np	np	..
1 000 or more persons	np	np	np	np	np	np	np	..
<i>Total 100 or more persons</i>	<i>7 181</i>	<i>45.9</i>	<i>355.7</i>	<i>56.1</i>	<i>2 913.5</i>	<i>58.8</i>	<i>-81.0</i>	<i>..</i>
<i>Total</i>	<i>15 657</i>	<i>100.0</i>	<i>633.6</i>	<i>100.0</i>	<i>4 955.1</i>	<i>100.0</i>	<i>875.3</i>	<i>100.0</i>
MACHINERY AND EQUIPMENT MANUFACTURING								
0-4 persons	1 374	10.6	38.4	8.3	223.3	10.2	88.8	12.3
5-9 persons	1 368	10.6	35.0	7.6	160.9	7.3	56.5	7.8
10-19 persons	1 824	14.1	59.2	12.8	225.7	10.3	82.6	11.5
20-49 persons	2 851	22.0	104.0	22.5	457.6	20.9	149.6	20.7
50-99 persons	2 333	18.0	94.5	20.4	398.3	18.2	130.2	18.1
<i>Total less than 100 persons</i>	<i>9 750</i>	<i>75.4</i>	<i>331.1</i>	<i>71.5</i>	<i>1 465.9</i>	<i>66.9</i>	<i>507.7</i>	<i>70.4</i>
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	np	np	np	np	np	np	np	np
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	np	np	np	np	np	np	np	np
<i>Total 100 or more persons</i>	<i>3 180</i>	<i>24.6</i>	<i>131.9</i>	<i>28.5</i>	<i>725.1</i>	<i>33.1</i>	<i>213.3</i>	<i>29.6</i>
<i>Total</i>	<i>12 931</i>	<i>100.0</i>	<i>463.0</i>	<i>100.0</i>	<i>2 191.0</i>	<i>100.0</i>	<i>721.0</i>	<i>100.0</i>
OTHER MANUFACTURING								
0-4 persons	560	10.5	11.0	7.8	53.4	7.7	19.5	8.3
5-9 persons	1 218	22.7	29.0	20.6	124.0	17.8	47.9	20.4
10-19 persons	1 300	24.3	33.0	23.5	157.7	22.6	51.7	22.0
20-49 persons	1 006	18.8	29.1	20.7	175.2	25.1	58.2	24.8
50-99 persons	np	np	np	np	np	np	np	np
<i>Total less than 100 persons</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>
100-199 persons	np	np	np	np	np	np	np	np
200-499 persons	—	—	—	—	—	—	—	—
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>	<i>np</i>
<i>Total</i>	<i>5 354</i>	<i>100.0</i>	<i>140.8</i>	<i>100.0</i>	<i>697.1</i>	<i>100.0</i>	<i>235.1</i>	<i>100.0</i>

.. not applicable

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

— nil or rounded to zero (including null cells)

(a) See paragraph 6 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated

joint ventures) of why caution should be used in interpreting these data, see paragraph 23 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 1999-2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

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

Employment size group	Employment at end of June(c) . .		Wages and salaries(d)(e) .		Turnover(e)		Industry value added(e) .	
	no.	%	\$m	%	\$m	%	\$m	%
TOTAL MANUFACTURING								
0–4 persons	5 622	7.7	118.1	4.5	1 315.2	7.1	821.2	..
5–9 persons	6 814	9.3	181.3	6.9	841.7	4.5	271.2	..
10–19 persons	9 535	13.0	268.1	10.2	1 409.5	7.6	470.7	..
20–49 persons	12 243	16.7	430.3	16.3	2 723.5	14.6	866.5	..
50–99 persons	10 878	14.9	391.2	14.8	2 447.6	13.2	749.0	..
<i>Total less than 100 persons</i>	<i>45 092</i>	<i>61.6</i>	<i>1 389.0</i>	<i>52.7</i>	<i>8 737.4</i>	<i>47.0</i>	<i>3 178.6</i>	<i>..</i>
100–199 persons	9 527	13.0	383.4	14.5	2 467.0	13.3	734.3	..
200–499 persons	10 968	15.0	507.2	19.2	5 134.7	27.6	823.2	..
500–999 persons	2 529	3.5	112.0	4.2	480.8	2.6	-86.1	..
1 000 or more persons	5 133	7.0	245.4	9.3	1 783.7	9.6	389.4	..
<i>Total 100 or more persons</i>	<i>28 156</i>	<i>38.4</i>	<i>1 248.1</i>	<i>47.3</i>	<i>9 866.1</i>	<i>53.0</i>	<i>1 860.8</i>	<i>..</i>
Total	73 249	100.0	2 637.1	100.0	18 603.5	100.0	5 039.4	100.0

.. not applicable

(a) See paragraph 6 of the Explanatory Notes.

(b) Data in this table reflect the size of individual manufacturing establishments. These data do not necessarily reflect the size of the business which owns and operates the establishment. For a further example (relating to unincorporated joint ventures) of why caution should be used in interpreting these data, see paragraph 23 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 1999–2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

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

INDUSTRY SUBDIVISION		Sales and transfers out of goods produced	Amount exported by this business or its agent	Exports as a proportion of sales and transfers out of goods produced
ANZSIC code	Description	\$m	\$m	%
0-49 PERSONS				
21	Food, beverage and tobacco mfg	832.9	232.1	27.9
22	Textile, clothing, footwear and leather mfg	np	np	np
23	Wood and paper product mfg	np	np	np
24	Printing, publishing and recorded media	300.0	*7.6	2.5
25	Petroleum, coal, chemical and associated product mfg	904.3	301.0	33.3
26	Non-metallic mineral product mfg	np	np	np
27	Metal product mfg	np	np	np
28	Machinery and equipment mfg	911.0	np	np
29	Other manufacturing	470.9	19.6	4.2
21-29	Total manufacturing	5 789.2	1 328.7	23.0
50-99 PERSONS				
21	Food, beverage and tobacco mfg	694.3	146.8	21.1
22	Textile, clothing, footwear and leather mfg	np	np	np
23	Wood and paper product mfg	np	np	np
24	Printing, publishing and recorded media	np	*1.2	np
25	Petroleum, coal, chemical and associated product mfg	340.0	16.5	4.9
26	Non-metallic mineral product mfg	np	np	np
27	Metal product mfg	np	np	np
28	Machinery and equipment mfg	326.7	np	np
29	Other manufacturing	np	14.5	np
21-29	Total manufacturing	2 232.5	267.7	12.0
100 OR MORE PERSONS				
21	Food, beverage and tobacco mfg	1 841.2	265.8	14.4
22	Textile, clothing, footwear and leather mfg	173.6	29.9	17.2
23	Wood and paper product mfg	409.5	np	np
24	Printing, publishing and recorded media	np	—	—
25	Petroleum, coal, chemical and associated product mfg	2 498.5	684.7	27.4
26	Non-metallic mineral product mfg	584.5	10.0	1.7
27	Metal product mfg	2 593.1	1 731.1	66.8
28	Machinery and equipment mfg	653.7	np	np
29	Other manufacturing	np	—	—
21-29	Total manufacturing	8 953.3	3 131.7	35.0
TOTAL				
21	Food, beverage and tobacco mfg	3 368.5	644.7	19.1
22	Textile, clothing, footwear and leather mfg	350.5	44.9	12.8
23	Wood and paper product mfg	800.4	100.4	12.5
24	Printing, publishing and recorded media	503.9	*8.8	1.7
25	Petroleum, coal, chemical and associated product mfg	3 742.8	1 002.2	26.8
26	Non-metallic mineral product mfg	1 127.5	21.9	1.9
27	Metal product mfg	4 541.9	2 355.0	51.9
28	Machinery and equipment mfg	1 891.5	516.1	27.3
29	Other manufacturing	648.2	34.1	5.3
21-29	Total manufacturing	16 975.1	4 728.1	27.9

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

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

— nil or rounded to zero (including null cells)

(a) See paragraph 6 of the Explanatory Notes.

(b) See paragraphs 24-26 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 23 of the Explanatory Notes. Also, this table excludes those manufacturing establishments which operated during 1999-2000 but were not operating at 30 June 2000. See paragraph 22 of the Explanatory Notes.

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

INDUSTRY SUBDIVISION		Employment at end of June(c)	Wages and salaries(d)	Turnover	Industry value added
ANZSIC code	Description	%	%	%	%
DO NOT EXPORT					
21	Food, beverage and tobacco mfg	55.2	50.4	51.0	51.1
22	Textile, clothing, footwear and leather mfg	46.9	37.2	37.5	37.0
23	Wood and paper product mfg	63.3	57.0	42.3	42.1
24	Printing, publishing and recorded media	85.6	88.9	88.9	90.2
25	Petroleum, coal, chemical and associated product mfg	43.8	35.1	19.3	25.8
26	Non-metallic mineral product mfg	59.0	59.5	65.0	59.6
27	Metal product mfg	57.6	49.4	27.5	52.9
28	Machinery and equipment mfg	52.5	45.7	41.5	42.8
29	Other manufacturing	79.6	78.4	74.2	73.5
21-29	Total manufacturing	59.2	53.1	40.2	50.4
EXPORTS UP TO AND INCLUDING 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	29.3	31.1	28.8	28.2
22	Textile, clothing, footwear and leather mfg	48.8	56.0	54.8	53.9
23	Wood and paper product mfg	np	np	np	np
24	Printing, publishing and recorded media	13.7	10.0	10.4	8.9
25	Petroleum, coal, chemical and associated product mfg	38.8	45.3	61.8	48.1
26	Non-metallic mineral product mfg	np	np	np	np
27	Metal product mfg	13.0	14.2	20.5	23.3
28	Machinery and equipment mfg	30.8	34.3	36.1	36.2
29	Other manufacturing	np	np	np	np
21-29	Total manufacturing	26.6	28.8	34.9	33.4
EXPORTS OF MORE THAN 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	15.5	18.5	20.2	20.7
22	Textile, clothing, footwear and leather mfg	4.2	6.8	7.7	9.1
23	Wood and paper product mfg	np	np	np	np
24	Printing, publishing and recorded media	0.6	1.1	0.7	0.9
25	Petroleum, coal, chemical and associated product mfg	17.4	19.6	18.9	26.1
26	Non-metallic mineral product mfg	np	np	np	np
27	Metal product mfg	29.4	36.4	52.1	23.8
28	Machinery and equipment mfg	16.7	20.0	22.4	21.0
29	Other manufacturing	np	np	np	np
21-29	Total manufacturing	14.2	18.2	24.9	16.2

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- (a) See paragraph 6 of the Explanatory Notes.
- (b) See paragraphs 24-26 of the Explanatory Notes.
- (c) Includes working proprietors.
- (d) Excludes the drawings of working proprietors.

EXPLANATORY NOTES

INTRODUCTION (1999–2000 COLLECTION)

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

2 This publication presents final statistics for Western Australia compiled from a survey of manufacturing establishments for 1999–2000, with some comparative statistics relating to preceding years. The emphasis of this publication is on the release of statistics for the main data items included in the survey.

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

4 The manufacturing collection is conducted on an annual basis. For the 1999–2000 collection, a sample of approximately 17,000 manufacturing establishments nationally were asked to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. Data on industry value added (IVA) are also available from this collection. In addition, a variety of sub-samples was selected to produce data on a range of other variables. The next manufacturing census will be conducted in respect of 2001–02. However, fundamental changes will be made to the annual manufacturing collection, starting with the 2000–01 survey. For further information, see the Appendix.

5 Estimates of IVA were compiled using data from the 17,000 sample population and a sub-sample of approximately 7,000 establishments which were asked to provide detailed structural and performance data. These 7,000 establishments were also asked to supply value of sales for commodities produced. The availability of this fine level commodity/activity data for these units has enabled better identification of inscope establishments as well as providing a basis for an objective industry code to be allocated to responding units. A sample of approximately 5,500 manufacturing management units was asked the detailed information required to derive operating profit before tax. Selected data from the annual manufacturing collection and data from other collections are included in the compendium publication *Manufacturing, Australia, 2001* (Cat. no. 8225.0).

SCOPE AND COVERAGE

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

7 A small number of manufacturing establishments engage, in a significant way, in a variety of activities which are normally carried out by different industries. For example, a predominantly manufacturing establishment may also undertake significant amounts of wholesaling. Similarly, a manufacturing establishment may produce significant volumes of a variety of goods which are

EXPLANATORY NOTES *continued*

SCOPE AND COVERAGE

continued

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 1999–2000 manufacturing collection, 'significant' was defined as turnover of \$7.3m or more.

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

STANDARD UNITS

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

RELIABILITY OF ESTIMATES

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

DATA ADJUSTED

11 The annual manufacturing industry collection, like most ABS economic collections, takes its frame from the ABS business register which is primarily based on registrations to the Australian Taxation Office's (ATO) Group Employer (GE) Scheme. Data in this issue continue to be adjusted to allow for lags in processing new businesses to the ABS business register, i.e. adjustments have been made to allow for new businesses which had commenced operations but for which details had not been processed to the ABS business register in time for inclusion in the annual manufacturing industry collection. Adjustments of this type will continue to be applied in future periods. The majority of businesses affected by these lags are small in size. The effect of these adjustments on 1999–2000 Western Australian employment is an increase of 1.2% while the effect on turnover is an increase of 0.1%. All industry subdivisions were affected to a similar degree.

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

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

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

EXPLANATORY NOTES *continued*

COMPARABILITY WITH PREVIOUS STATISTICS

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

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

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

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

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

Turnover (new standards)
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

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

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

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

EXPLANATORY NOTES *continued*

COMPARABILITY WITH PREVIOUS STATISTICS *continued*

determined to be significant in some manufacturing industries and were therefore added into the manufacturing collection for 1998–99. The effect of these additional units in published aggregates for 1998–99 have been calculated as adding 0.3% to employment and 0.2% to turnover for Western Australia for 1998–99. These businesses were included in the 1999–2000 manufacturing collection if they remained classified as manufacturers on the ABS business register.

EMPLOYMENT SIZE DATA

22 Summary of operations data at the industry subdivision level classified by the employment size of individual manufacturing establishments (see the Glossary for its definition) are presented in table 3. Similarly, exports of goods produced data at the industry subdivision level classified by the broad employment size of individual manufacturing establishments are presented in table 4. The statistics in these two tables relate only to those manufacturing establishments operating at 30 June 2000. As such, the figures presented represent a slightly different population from those presented in the other tables from the manufacturing collection. These other tables include data for those manufacturing establishments which operated at any time during 1999–2000.

23 The treatment of unincorporated joint ventures under the ABS's standard units definitions has an effect on the data when 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 3 and 4, 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

24 All establishments included in the manufacturing collection were asked whether they exported and, if so, what percentage of their sales of goods produced plus transfers out of goods produced by the establishment for sale were exported by their business or an agent on their behalf. The data presented in table 4 are derived by applying the percentage of exports reported for each exporting unit and then aggregating that figure. The data in table 4 exclude those manufacturing establishments which operated during 1999–2000 but were not operating at 30 June 2000.

25 The statistics presented in table 4 for the value of exports by manufacturers or their agents are not intended to be directly comparable with the value of exports classified by manufacturing industry of origin as published by the ABS in international trade statistics. These latter statistics are intended to measure total exports regardless of which business or organisation does the exporting (and to identify the probable industry from which the goods originated), whereas the statistics in tables 4 and 5 only include exports directly undertaken by the manufacturer or by its agent.

EXPLANATORY NOTES *continued*

EXPORTS BY MANUFACTURERS *continued*

26 The data in table 4 showing exports by manufacturers or their agents can be expected to show a much lower value than the exports data from the international trade series. The main reason is that for many exports of goods manufactured in Australia, the actual exporting activity is undertaken by a business other than the manufacturer. Also, the value of goods produced on a commission or fee basis for non-manufacturing businesses and which are then exported is not included in the data in tables 4 and 5. Examples of relevant commission work are the 'slaughtering fee' charged by an abattoir for processing livestock owned by a meat exporter and the 'tolling fee' charged by an aluminium smelter to process ores owned by other (e.g. mining) businesses. Also excluded from tables 4 and 5 are any exports by manufacturers of goods which were not produced by that manufacturer. These and other goods exported (e.g. re-exports) are included in the international trade data. Finally, differences in valuation of exports arise because the value of exports in the international trade series would include the value to the manufacturer plus profit margins for the exporter and for any intermediaries between the manufacturer and the exporter.

REGIONAL DATA

27 Investigations carried out by the ABS have shown that it is possible to produce some regional or sub-State estimates in survey collection years. Limited Statistical Division data are currently available from the 1997–98 and 1998–99 manufacturing surveys, on request, for a charge. Similar sub-State data from the 1999–2000 manufacturing survey, will be available later this year, after the release of the *Manufacturing Industry, [State], 1999–2000* publication series. Regional or sub-State estimates will not be available from the 2000–01 manufacturing survey, for further information see the Appendix. For further details about the availability of sub-State data, please contact John Ridley on Sydney 02 9268 4541.

ACKNOWLEDGEMENT

28 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

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

RELATED PUBLICATIONS

30 A series of publications *Manufacturing Industry, [State], 1999–2000* (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.

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

- *Australian National Accounts: State Accounts, 1999–2000* (Cat. no. 5220.0), released on 23 November 2000 — Annual publication
- *Business Operations and Industry Performance, Australia, 1999–2000* (Cat. no. 8140.0), released on 25 October 2001 — Annual publication
- *Business Operations and Industry Performance, Australia, Preliminary, 1999–2000* (Cat. no. 8142.0), released on 10 May 2001 — Annual publication
- *Environment Protection Expenditure, Australia, 1995–96 and 1996–97* (Cat. no. 4603.0), released on 2 July 1999 — Biennial publication
- *Information Paper: Availability of Statistics Related to Manufacturing, 1996* (Cat. no. 8205.0), released on 21 March 1996 — Irregular publication

EXPLANATORY NOTES *continued*

RELATED PUBLICATIONS

continued

- *Information Paper: Availability of Statistics Related to Manufacturing, 1997* (Cat. no. 8205.0), released on 16 January 1998 — Irregular publication
- *Information Paper: Improvements to ABS Economic Statistics, 1997* (Cat. no. 1357.0), released on 22 August 1997 — Irregular publication
- *Inventories and Sales, Selected Industries, Australia* (Cat. no. 5629.0) — Quarterly publication
- *Labour Force, Australia* (Cat. no. 6203.0) — Monthly publication
- *Manufacturing, Australia, 2001* (Cat. no. 8225.0), to be released in February 2002 — Annual publication
- *Manufacturing Industry, Australia, Preliminary, 2000–01* (Cat. no. 8201.0), to be released in March 2002 — Annual publication

BACK SERIES AND ADDITIONAL DATA

32 A considerable volume of data is available from the annual manufacturing collection. Firstly, a range of manufacturing industry statistics publications is available for previous years. In addition, more detailed information to satisfy individual user requirements may be available on request and for a charge. In general, this consists of finer industry dissections of data than that presented in the manufacturing series of publications. The information paper (Cat. no. 8205.0) referred to in paragraphs 29 and 31 provides more details.

ROUNDING

33 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 11), this 'rounding rule' also applies to employment counts.

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

ABBREVIATIONS

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

APPENDIX 2000–01 SURVEY CHANGES

FUNDAMENTAL CHANGES TO FUTURE MANUFACTURING COLLECTIONS

MANUFACTURING MANAGEMENT UNIT COLLECTION

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

2 This represents a fundamental shift in the statistical unit from which data are primarily being sought and published. It is intended to publish for Australia most, if not all, current tables on a management unit basis. However, this will represent a break in series from data previously published for manufacturing establishments.

3 Although the annual manufacturing collection has primarily collected data from manufacturing establishments, it has also collected data from a relatively small sample of manufacturing management units. This annual sample of approximately 5,000 manufacturing businesses nationally have provided data on employment, wages and salaries, turnover, purchases, inventories, capital expenditure and detailed information required to derive operating profit before tax. Information from this sample of manufacturing management units has generally been available at the Australian level for industry groups and selected industry classes on request.

4 From the 2000–01 collection, the number of businesses nationally requested to provide this information will increase to approximately 9,000. This will provide a sample large enough to support manufacturing management unit based data at the industry class level for Australia.

5 The 2000–01 issue of *Manufacturing Industry, Australia* (Cat. no. 8221.0) will draw on summary of operations data collected previously from manufacturing management units to provide a time series, at the industry subdivision level, from 1995–96. This publication will also contain a table for 1999–2000 showing both manufacturing establishment data and manufacturing management unit data for employment, wages and salaries, turnover and IVA. This table will be designed to provide a bridge between the existing establishment based series and the new manufacturing management unit based series.

COLLECTION CYCLE

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

STATE AND TERRITORY DATA

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

APPENDIX 2000–01 SURVEY CHANGES *continued*

STATE AND TERRITORY DATA *continued*

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

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

REGIONAL DATA

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

TECHNICAL NOTE 1 DATA RELIABILITY

SAMPLE ERROR

1 The 1999–2000 manufacturing survey was designed primarily to deliver industry class estimates for Australia and States for the data items employment, wages and salaries, turnover and IVA. For the two Territories, the sample was designed to deliver industry subdivision data only.

2 All 1999–2000 (and 1994–95, 1995–96, 1997–98 and 1998–99) data contained in this publication have been obtained from samples of manufacturers. As such, these data are subject to sampling variability; that is, they may differ from the figures that would have been produced if the data had been obtained from all manufacturers in the population. The measure of the likely difference as used by the ABS is given by the standard error, which indicates the extent to which an estimate might have varied by chance because the data were obtained from only a sample of units. There are about 2 chances in 3 that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the data had been obtained from all units, and about 19 chances in 20 that the difference will be less than two standard errors.

3 The standard error can also be expressed as a percentage of the estimate, and this is known as the relative standard error. The relative standard errors for the 1999–2000 employment, wages and salaries, turnover and IVA data for Western Australia presented in this publication are generally 3% or less for industry subdivisions (see Technical Note 2) and most are 3% 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 Technical Note 2. Detailed relative standard errors can be made available on request.

NON SAMPLE ERROR

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

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

TECHNICAL NOTE 2 RELATIVE STANDARD ERRORS

SELECTED DATA ITEMS

INDUSTRY SUBDIVISION		Employment at end of June(a)	Wages and salaries(b)	Turnover	Industry value added	Amount exported by this business or its agent
ANZSIC code	Description	%	%	%	%	%
21	Food, beverage and tobacco mfg	3.1	1.4	1.9	2.2	8.0
22	Textile, clothing, footwear and leather mfg	2.6	2.3	1.7	2.8	3.2
23	Wood and paper product mfg	5.0	5.1	1.2	1.7	0.1
24	Printing, publishing and recorded media	6.6	6.0	5.2	4.5	27.5
25	Petroleum, coal, chemical and associated product mfg	2.0	1.4	0.4	0.6	0.3
26	Non-metallic mineral product mfg	1.3	0.9	0.4	0.4	12.3
27	Metal product mfg	2.6	1.4	0.8	1.7	—
28	Machinery and equipment mfg	3.0	2.1	2.3	3.2	1.4
29	Other manufacturing	3.3	3.0	2.8	3.6	2.8
21-29	Total manufacturing	1.2	0.8	0.6	0.8	1.1

— nil or rounded to zero (including null cells)

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

GLOSSARY

ABS	Australian Bureau of Statistics
Amount exported by this business or 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 by own employees for own use or for rental or lease	<p>Work done by the employees or proprietors of an establishment for use by the business or for rental or lease to other businesses that is capitalised. The main types of work included are the manufacturing, constructing, installing or repairing of assets and the in-house development of computer software. This work is valued at the capitalised costs of the materials and the wages and salaries involved.</p> <p>Conceptually, under the current international standards, this item should also include own account mineral exploration and own account production of literary, entertainment or artistic originals. However, these activities are relatively unimportant for manufacturers and have not been measured for manufacturing industries.</p>
Closing inventories	The value of all inventories of finished goods, work-in-progress, raw materials, fuels, containers and packaging at the end of the reporting period.
Commission manufacturing	<p>Significant amounts of manufacturing are undertaken on a commission basis by one manufacturer on behalf of another or on behalf of a non-manufacturer for a fee. Typically, commission manufacturing involves a client commissioning the production of goods utilising materials provided by the client. Ownership of these materials remains with the client. Similarly, the goods made using these materials are owned by the client.</p> <p>For the purposes of the estimates in this publication, the producing establishment reports the commission fee as service income and the wages and salaries and any other expenses incurred.</p> <p>If the client is a manufacturing establishment, then in addition to data for their own manufacturing operations, the client reports the sales and inventories of the commissioned goods, the cost of the materials provided to the producing establishment, the commission fee paid and the value of any other intermediate inputs related to the commission transaction. If the client is not a manufacturing establishment, no data are reported by the client as they are excluded from the manufacturing collection.</p>
Employment at end of June	The number of working proprietors and working partners, plus all employees for whom pay as you earn (PAYE) tax is deducted (including permanent, part-time, temporary and casual employees, and managerial and executive employees) during the last pay period ending in June each year. Non-salaried directors, self-employed persons such as consultants, contractors for whom PAYE tax is not deducted and volunteers 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. 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,

GLOSSARY *continued*

Establishment <i>continued</i>	and repair and maintenance expenses. In general, an establishment covers all operations at a physical location, but may consist of groups of locations provided they are within the same State or Territory. The majority of establishments operate at one location only.
Establishments that do not export	Establishments that reported no exports (either by their business 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 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 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 produced (table 4)	For an individual establishment, this represents the percentage of the total sales and transfers out of goods for sale produced by the establishment (or for it on commission) which are exported (or are intended for export) outside Australia by the business or by its agent. In table 4, the ratio is calculated by dividing the total value of goods exported by the total value of sales and transfers out of goods produced by all establishments, not just the aggregated value for those units which exported. (The data in table 4 exclude those manufacturing establishments which operated during 1999–2000 but were not operating at 30 June 2000.)
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, and apprenticeship and traineeship 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 division	Within ANZSIC, there is a structure comprising four levels ranging from industry division (broadest level) to the industry class (finest level). The main purpose of the industry division level is to provide a limited number of categories which give a broad overall picture of the economy. There are 17 divisions within ANZSIC each identified by an alphabetical letter, that is 'A' for Agriculture, forestry and fishing, 'B' for Mining, 'C' for Manufacturing, etc.
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 the introduction of new international standards for measuring economic variables, IGP has been replaced by the variable industry value added (IVA) for the purpose of measuring industry contribution to GDP.

The relationship between IVA estimates and IGP estimates is:

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

GLOSSARY *continued*

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

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

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

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

The derivation of IVA is as follows:

	Turnover (new standards)
<i>plus</i>	Closing inventories
<i>less</i>	Opening inventories
<i>less</i>	Intermediate input expenses (See the entry for operating expenses for further detail)
<i>equals</i>	IVA

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

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

Intermediate inputs Intermediate inputs consist of materials and certain services which are used up in the production process. Definitions of relevant component items are also included in this Glossary. It is calculated as:

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

Management unit The management unit is the highest-level unit within a business, having regard to industry homogeneity, for which accounts are maintained; in nearly all cases, it coincides with the legal entity owning the business (that is, company,

GLOSSARY *continued*

Management unit *continued* 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).

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 non-manufacturing activities).

Opening inventories The value of all inventories of finished goods, work-in-progress, raw materials, fuels, containers and packaging at the beginning of the reporting 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 extraordinary expenses, capitalised expenses, income tax and other direct taxes, sales taxes and excise payable to Governments, capital repayments or losses on asset sales, dividends, donations or foreign exchange losses.

Remaining expenses are categorised as follows:

Intermediate input expenses

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

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

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

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

Selected labour costs

Wages and salaries including provisions for employee entitlements

Employer contributions into superannuation including salary sacrifice

Workers' compensation premiums/costs

Payroll tax and Fringe benefits tax

Other operating expenses

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

GLOSSARY *continued*

Operating expenses <i>continued</i>	land rates and taxes, mineral/petroleum exploration expenses not capitalised by businesses, and natural resource royalties expenses.
Other intermediate input expenses	Intermediate input expenses less purchases and transfers in.
Own account capital work	<p>Capitalised work done by the employees or proprietors of an establishment for use by the business or for rental or lease to other businesses. The main types of work included are the manufacturing, constructing, installing or repairing of assets and the in-house development of computer software. This work is valued at the capitalised costs of the materials and the wages and salaries involved.</p> <p>Conceptually, under the current international standards, this item should also include own account mineral exploration and own account production of literary, entertainment or artistic originals. However, these activities are relatively unimportant for manufacturers and have not been measured for manufacturing industries.</p>
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 run by businesses 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 run by businesses 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 1999–2000 collection, a business may have reported data for the year ended 31 December 1999.
Sales and transfers out of goods	Includes sales of goods whether or not produced by the establishment and sales of goods produced for the establishment on a commission basis (see the entry for commission manufacturing). Also includes transfers of goods to other establishments of the same business and installation and delivery charges not separately invoiced to customers. Progress payments relating to long term contracts are included if they are billed in the period. Sales are valued net of discounts given and exclusive of excise, sales tax and duties receivable on behalf of the Government. Exports are valued f.o.b. (i.e. export freight charges are excluded). Transfers to other establishments of the same business are valued, for statistical purposes, at commercial value (i.e. the value which would have applied had the establishments concerned been under separate ownership).
Sales and transfers out of goods produced (table 4)	Sales of goods produced plus transfers out of goods produced by this establishment. Transfers to other establishments of the same business are valued, for statistical purposes, at commercial value (i.e. the value which would have applied had the establishments concerned been under separate ownership).
Service income	Income received from service activities. Included are income from work done or sales made on a commission basis, income from repair, maintenance or servicing, installation and delivery charges separately invoiced to customers, advertising income and management fees/charges received from related or unrelated businesses. Service income is valued net of discounts given. For periods commencing with 1997–98, under new international standards, income from

GLOSSARY *continued*

Service income <i>continued</i>	<p>intellectual property royalties and rent, leasing and hiring income (except from finance leases) have also been classified as service income. Rent, leasing and hiring income is income derived from the ownership of land, buildings, vehicles, machinery or equipment, excluding any income from finance leases.</p> <p>For further explanation on the treatment of commission manufacturing activities, see the entry for commission manufacturing.</p>
Statistical division	<p>A general purpose spatial unit and is the largest and most stable spatial unit within each State and Territory in the Main Structure of the Australian Standard Geographical Classification.</p>
Turnover	<p>Turnover comprises sales (exclusive of excise and sales tax) of goods whether or not produced by the establishment and transfers of goods to other establishments of the same business, plus service income, funding by Federal, State or Local Governments for operational costs, and own account capital work. Definitions of the various component items appear in this Glossary.</p> <p>Excluded from turnover are interest income, income from natural resource royalties, funding by Federal, State or Local Governments for specific capital items, dividends, and receipts from the sale of fixed tangible assets.</p> <p>There are some conceptual differences between turnover as calculated in this publication and turnover as defined by the current international standards. These differences are explained as part of the definition of the component item own account capital work. Full compliance with these standards would make very little difference to estimates of turnover.</p> <p>Note (a): The above definition of turnover is used in calculating the variable industry value added. A slightly different definition of turnover was used prior to 1997–98 to calculate the now superseded variable industry gross product. This earlier definition excluded income from intellectual property royalties and the value of computer software developed in-house for use by the business or for rental or lease to other businesses.</p> <p>Note (b): Transfers to other establishments of the same business referred to in the definition of turnover are valued, for statistical purposes, at commercial value (i.e. the value which would have applied had the establishments concerned been under separate ownership).</p> <p>Note (c): A significant proportion of the commodities manufactured by some industries is manufactured on commission for non-manufacturing businesses from materials owned and supplied by those businesses. As a consequence, the turnover figures do not reflect the gross value of those commodities but only the commission earned relating to them.</p>
Turnover per person employed	<p>Turnover of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.</p>
Wages and salaries	<p>The gross wages and salaries (including capitalised wages and salaries) of all employees of the establishment. The item includes severance, termination and redundancy payments, salaries and fees of directors and executives, retainers and commissions of persons who received the retainer, bonuses, and, recreation and other types of leave. Provision expenses for employee entitlements (e.g. provisions for annual leave and leave bonus, long service leave, sick leave, and severance, termination and redundancy payments) are also included. Payments for salary sacrifice and payments to self employed persons such as consultants, contractors and persons paid solely by commission without a retainer, are excluded. The drawings of working proprietors and partners are also excluded.</p>

GLOSSARY *continued*

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

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