



1996–97

8221.5

MANUFACTURING INDUSTRY

WESTERN
AUSTRALIA

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

NOTES

ANNUAL MANUFACTURING INDUSTRY COLLECTION

The 1996–97 collection was a census of manufacturing businesses. It is the first census of the manufacturing sector since 1993–94. All manufacturing businesses were requested to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. Samples of businesses provided additional information related to detailed structural and performance data, environmental protection expenditure and the value of sales for commodities produced.

ABOUT THIS ISSUE

Data in this publication have been adjusted for all known deficiencies in the number of businesses recorded on the Australian Bureau of Statistics (ABS) business register. The nature of these various adjustments and the reasons for making them are described in paragraphs 10–12 of the Explanatory Notes. Because of these adjustments, comparison of data in this publication with data previously published should be undertaken with caution. Other adjusted data for earlier periods are available on request.

This publication presents data relating to the operations of both manufacturing establishments and manufacturing locations. Details on employment, wages and salaries, turnover, Industry Gross Product and direct exports are presented as appropriate. This publication also contains a table showing industry subdivision data by statistical division and a map displaying the boundaries of each Western Australian statistical division.

DATA TO BE RELEASED IN OTHER PUBLICATIONS

More detailed manufacturing industry statistics for each State are being released progressively in a series of publications *Manufacturing Industry, [State], 1996–97* (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. For 1996–97, all of these publications contain a table showing industry subdivision data by statistical division.

Commodity data will be released in *Manufacturing Production, Commodities Produced, Australia, 1996–97* (Cat. no. 8365.0), to be released in December 1998.

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, 1998* (Cat. no. 8225.0), to be released in December 1998.

SYMBOLS AND OTHER USAGES

ABS	Australian Bureau of Statistics
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASIC	Australian Standard Industrial Classification
IGP	Industry Gross Product
mfg	manufacturing
n.e.c.	not elsewhere classified
n.p.	not available for publication but included in totals where applicable
..	not applicable
—	nil or rounded to zero

Colin Nagle
Regional Director

MAIN FEATURES

OVERVIEW

Turnover for the year 1996–97 by manufacturing establishments operating in Western Australia was \$16,815m, which resulted in an Industry Gross Product (IGP) for the year of \$4,744m. These establishments employed 73,400 persons at the end of June 1997 and paid \$2,421m in wages and salaries in 1996–97.

The percentage of Australian manufacturing employment in Western Australia at the end of June 1997 was 7.8%, an increase of 0.1 percentage points on the proportion reported at the end of June 1996. The Western Australian industry subdivisions which made a significant contribution to national manufacturing employment at the end of June 1997 at the industry subdivision level were Non-metallic mineral product manufacturing (13.4%), Metal product manufacturing (10.7%) and Other manufacturing (10.0%).

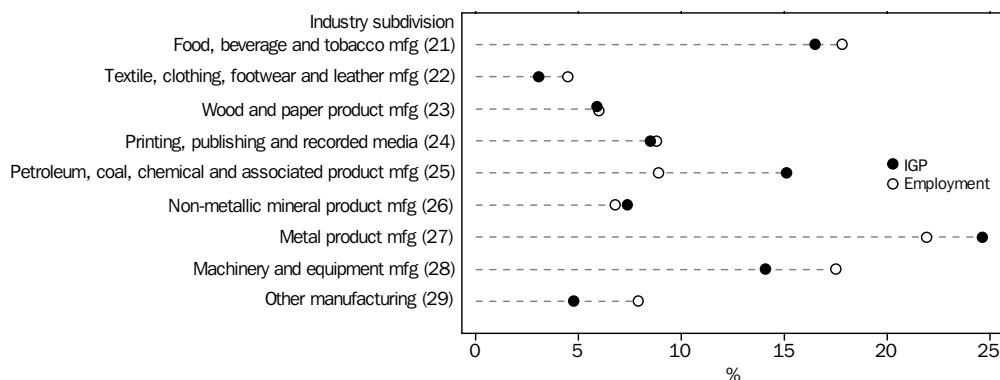
The percentage contribution by Western Australia to total Australian manufacturing turnover and IGP in 1996–97 was 8.1% and 7.4% (respectively). This represents an increase of 0.3 percentage points for turnover and 0.7 percentage points for IGP on the contribution reported in 1995–96. The Western Australian industry subdivisions which made a significant contribution to national manufacturing turnover and IGP in 1996–97 at the industry subdivision level were Metal product manufacturing (12.7% and 10.5% respectively), Non-metallic mineral product manufacturing (11.9% and 13.2% respectively) and Other manufacturing (9.8% and 10.0% respectively).

INDUSTRY GROSS PRODUCT

IGP (see the Glossary for its definition) is very similar to the national accounting measure gross product at factor cost, which is the official statistical measure of production. IGP for 1996–97 was \$4,744m. This represents a 11.5% increase, in current price terms, on the \$4,256m recorded for 1995–96 and a 25.4% increase, in current price terms, on the \$3,783m recorded for 1992–93.

IGP per person employed at the end of June followed this trend, with a 9.8% increase (to \$64,600) for 1996–97 over the \$58,900 recorded for 1995–96 and a 17.5% increase over the \$55,000 recorded for 1992–93.

DISTRIBUTION OF IGP AND EMPLOYMENT



MAIN FEATURES *continued*

INDUSTRY GROSS PRODUCT *continued*

Total manufacturing IGP increased by 11.5%, in current price terms, between 1995–96 and 1996–97. Six industry subdivisions recorded an increase while three recorded a decrease. The industry subdivision to record the largest percentage increase in IGP between 1995–96 and 1996–97 also recorded the largest dollar increase. This was Metal product manufacturing (up 46.2%—\$800m to \$1,169m). The other industry subdivision to record a large percentage increase was Textile, clothing, footwear and leather manufacturing (up 30.9%—\$113m to \$148m). The industry subdivisions which recorded the largest percentage decreases between 1995–96 and 1996–97 were Non-metallic mineral product manufacturing (down 6.1%—\$372m to \$349m) and Food, beverage and tobacco manufacturing (down 3.6%—\$810m to \$781m).

Between 1992–93 and 1996–97, all industry subdivisions recorded an increase, in current price terms, in IGP. The industry subdivisions which recorded the largest percentage increases were Other manufacturing (up 42.6%—\$158m to \$225m) and Machinery and equipment manufacturing (up 35.6%—\$495m to \$671m). The largest increase in dollar terms was recorded by Metal product manufacturing (up \$291m—\$878m to \$1,169m). The smallest increase in both percentage and dollar terms was recorded by Non-metallic mineral product manufacturing (up 7.5%—\$325m to \$349m).

EMPLOYMENT AND WAGES

The Western Australian manufacturing industry employed 73,400 persons at the end of June 1997 and paid \$2,421m in wages and salaries in 1996–97. This represents an average of \$33,000 paid in annual wages and salaries per person employed at the end of June 1997.

EMPLOYMENT



Employment in the Western Australian manufacturing industry increased by 1.5% between June 1996 (72,300 persons) and June 1997 (73,400 persons) and rose by 8.8% over the five years from June 1992 (67,400 persons) to June 1997. Between June 1996 and June 1997, employment increased in four of the nine manufacturing industry subdivisions, remained steady in two subdivisions and decreased in the other three subdivisions.

EMPLOYMENT AND WAGES *continued*

The industry subdivisions with the largest percentage increases were Machinery and equipment manufacturing (up 11.1%) and Non-metallic mineral product manufacturing (up 6.3%). The industry subdivisions with the largest percentage decreases were Textile, clothing, footwear and leather manufacturing (down 7.4%) and Food, beverage and tobacco manufacturing (down 2.1%).

Average wages and salaries paid per person employed at the end of June rose in all nine manufacturing industry subdivisions between 1995–96 and 1996–97. Textile, clothing, footwear and leather manufacturing recorded the largest percentage increase in average wages and salaries paid (up 21.7%) and the largest percentage decrease in employment (down 7.4%) but only the third largest percentage increase in total wages and salaries paid (up 12.8%). Non-metallic mineral product manufacturing recorded the second largest percentage increase for both employment (up 6.3%) and total wages and salaries paid (up 17.1%), with average wages and salaries paid (up 10.2%) being the third largest percentage increase.

The industry subdivisions to record the largest percentage increases between 1995–96 and 1996–97 in wages and salaries paid per person employed were:

- Textile, clothing, footwear and leather manufacturing (up 21.7%—\$22,100 to \$26,900), where four (out of six) industry groups recorded an increase. The main influence on the subdivision result was Textile product manufacturing (ANZSIC Group 222) (which contributed 35% of the employment in this subdivision) (up 41.0%—\$22,800 to \$32,200).
- Petroleum, coal, chemical and associated product manufacturing (up 12.6%—\$37,000 to \$41,700), where five (out of six) industry groups recorded an increase, with the largest increases (where publishable) for industry classes being:
 - ◆ Plastic bag and film manufacturing (ANZSIC Class 2563) (up 29.5%—\$30,200 to \$39,100);
 - ◆ Chemical product manufacturing n.e.c. (ANZSIC Class 2549) (up 28.3%—\$25,300 to \$32,400); and
 - ◆ Rubber product manufacturing n.e.c. (ANZSIC Class 2559) (up 28.3%—\$25,300 to \$32,400).

The industry subdivisions to record the smallest percentage increases between 1995–96 and 1996–97 in wages and salaries paid per person employed at the end of June were:

- Other manufacturing (up 0.2%—\$23,300 to \$23,400), where only one (out of three) industry groups recorded an increase. However, the main influence on the subdivision result was Wooden furniture and upholstered seat manufacturing (ANZSIC Class 2921) (which contributed 52% of the employment in this subdivision) which remained steady between 1995–96 and 1996–97 (at \$21,200).
- Wood and paper product manufacturing (up 3.4%—\$28,100 to \$29,100), where two (out of three) industry groups recorded an increase, with the largest increase for industry classes being Wooden structural component manufacturing (ANZSIC Class 2323) (up 16.8%—\$19,400 to \$22,700).

EMPLOYMENT AND WAGES *continued*

Industry groups belonging to other industry subdivisions and which had the largest percentage increases in wages and salaries paid per person employed between 1995–96 and 1996–97 were Other food manufacturing (ANZSIC Group 217) (up 26.2%—\$23,700 to \$29,900) and Industrial machinery and equipment manufacturing (ANZSIC Group 286) (up 15.8%—\$28,300 to \$32,800).

TURNOVER

Turnover rose, in current price terms, by \$1,065m to \$16,815m for 1996–97. This represents a 6.8% increase on the \$15,750m recorded for 1995–96.

All nine manufacturing industry subdivisions recorded an increase in turnover between 1995–96 and 1996–97. Metal product manufacturing and Food, beverage and tobacco manufacturing remain the largest contributors to total Western Australian manufacturing turnover. Machinery and equipment manufacturing (up 20.6%—\$1,830m to \$2,206m) recorded the largest increase in both percentage and dollar terms between 1995–96 and 1996–97. Other large percentage increases were recorded by Petroleum, coal, chemical and associated product manufacturing (up 8.4%) and Textile, clothing, footwear and leather manufacturing (up 7.4%). The smallest percentage increases were recorded by Wood and paper product manufacturing and Other manufacturing (both up 0.8%).

The industry classes (where publishable) with the largest percentage increases between 1995–96 and 1996–97 were:

- Rubber product manufacturing n.e.c. (ANZSIC Class 2559) (up 145.8% or \$42m);
- Book and other publishing (ANZSIC Class 2423) (up 134.2% or \$11m); and
- Mattress manufacturing (except rubber) (ANZSIC Class 2923) (up 132.9% or \$34m).

The industry classes with the largest dollar increases between 1995–96 and 1996–97 were:

- Mining and construction machinery manufacturing (ANZSIC Class 2862) (up \$149m or 69.0%); and
- Basic non-ferrous metal manufacturing n.e.c. (ANZSIC Class 2729) (up \$115m or 9.5%).

The industry class (where publishable) with the largest percentage decrease between 1995–96 and 1996–97 was:

- Food processing machinery manufacturing (ANZSIC Class 2863) (down 32.5% or \$2m).

The industry classes (where publishable) with the largest dollar decreases between 1995–96 and 1996–97 were:

- Shipbuilding (ANZSIC Class 2821) (down \$35m or 12.4%); and
- Motor vehicle body manufacturing (ANZSIC Class 2812) (down \$24m or 19.0%).

Over the four year period from 1992–93 to 1996–97, industry classes (of those available for publication) which made a significant movement (when ranked by turnover) were

MAIN FEATURES *continued*

TURNOVER *continued*

Food manufacturing n.e.c. (ANZSIC Class 2179) which rose from the 60th rank position to the 26th rank position (out of 150 ANZSIC classes with data classified to them) and Mining and construction machinery manufacturing (ANZSIC Class 2862), which rose from the 40th rank position to the 8th rank position.

EXPORTS

For 1996–97, Western Australian manufacturers directly exported \$3,430m of the goods that they produced. This represents a 4.8% increase on the \$3,271m recorded for 1995–96. However, the percentage of the total sales and transfers out of goods produced that were exported has marginally decreased (from 22.7% for 1995–96 to 22.2% for 1996–97).

Between 1995–96 and 1996–97, manufacturers' direct exports increased in seven industry subdivisions and decreased in the other two. The greatest percentage increase was recorded by Textile, clothing, footwear and leather manufacturing (up 210.4% or \$28m—\$13m to \$41m). The largest dollar increases were recorded by Machinery and equipment manufacturing (up \$81m or 25.7%—\$314m to \$394m) and Metal product manufacturing (up \$73m or 4.4%—\$1,649m to \$1,722m). The industry subdivisions to record the decreases in direct exports between 1995–96 and 1996–97 were Other manufacturing (down \$34m or 69.5%—\$49m to \$15m) and Wood and paper product manufacturing (down \$24m or 16.0%—\$150m to \$126m).

REGIONAL ACTIVITY

As in previous census years, Perth Statistical Division dominated manufacturing activity in Western Australia in 1996–97. It contributed 79.5% of all locations at 30 June 1997, 78.1% of employment at the end of June 1997 and 72.6% of turnover for 1996–97. The only other statistical division to contribute significantly was South West (8.3% of locations, 14.0% of employment and 17.6% of turnover).

Perth Statistical Division was also the leading contributor, by far, in all nine industry subdivisions. Textile, clothing, footwear and leather manufacturing was the subdivision most concentrated in Perth Statistical Division for turnover (at 94.4%) and employment (at 91.3%), followed by Machinery and equipment manufacturing (93.4% and 91.0% respectively). Notable contributions to Western Australian turnover and employment were made by South West Statistical Division in Wood and paper product manufacturing (46.5% and 37.7% respectively) and Metal product manufacturing (38.8% and 29.1% respectively).

For Perth Statistical Division, no one industry subdivision dominated manufacturing activity. Metal product manufacturing was the dominant industry, by far, in South West Statistical Division, contributing 63.6% of turnover and 45.7% of employment in the division. Food, beverage and tobacco manufacturing was the dominant industry subdivision in four out of the five remaining statistical divisions for which meaningful comparisons can be made. These statistical divisions were Central (69.6% of turnover for the region), Upper Great Southern (56.9%), Kimberley (51.1%) and Lower Great Southern (46.0%).

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

INDUSTRY SUBDIVISION			Employment at end of June(c)	Wages and salaries(d)(e)	Turnover(e)	Industry gross product(e)	Ratio of wages and salaries to turnover(e)	Turnover per person employed(e)(f)
ANZSIC code	Description		'000	\$m	\$m	\$m	ratio	\$'000
21	Food, beverage and tobacco mfg	1996-97	13.0	394.4	3 131.6	780.5	0.13	240.2
		1995-96	13.3	(g)372.7	3 058.3	809.9	0.12	229.6
		1994-95	12.6	345.8	2 845.4	..	0.12	226.4
		1993-94	11.5	321.9	2 746.2	..	0.12	239.2
		1992-93	12.0	335.2	2 678.4	673.9	0.13	223.8
		1991-92	12.0	325.8	2 682.4	..	0.12	223.2
22	Textile, clothing, footwear and leather mfg	1996-97	3.3	88.0	362.9	148.3	0.24	110.9
		1995-96	3.5	(g)78.0	338.0	113.3	0.23	95.7
		1994-95	4.3	93.1	361.1	..	0.26	84.8
		1993-94	3.7	83.0	312.6	..	0.27	83.6
		1992-93	3.6	77.1	297.7	111.3	0.26	82.3
		1991-92	3.5	75.2	278.5	..	0.27	80.5
23	Wood and paper product mfg	1996-97	4.4	127.9	713.8	280.5	0.18	162.4
		1995-96	4.4	(g)124.2	708.5	240.5	0.18	160.4
		1994-95	4.8	131.2	727.0	..	0.18	150.4
		1993-94	4.8	131.9	716.7	..	0.18	149.0
		1992-93	4.8	122.5	661.7	221.6	0.19	136.6
		1991-92	4.4	110.1	611.7	..	0.18	137.9
24	Printing, publishing and recorded media	1996-97	6.5	200.9	847.5	404.8	0.24	131.1
		1995-96	6.3	(g)188.2	822.6	412.5	0.23	129.6
		1994-95	6.5	186.1	763.7	..	0.24	117.8
		1993-94	6.4	175.1	666.3	..	0.26	104.0
		1992-93	5.9	159.1	629.4	303.3	0.25	106.9
		1991-92	6.2	154.3	614.4	..	0.25	99.8
25	Petroleum, coal, chemical and associated product mfg	1996-97	6.5	271.9	3 081.9	715.0	0.09	473.0
		1995-96	6.6	(g)245.4	2 843.6	684.5	0.09	429.4
		1994-95	6.2	225.6	2 813.5	..	0.08	457.4
		1993-94	5.6	201.1	2 779.7	..	0.07	498.6
		1992-93	5.5	191.1	2 786.8	616.6	0.07	511.2
		1991-92	5.8	191.9	2 859.9	..	0.07	495.5
26	Non-metallic mineral product mfg	1996-97	5.0	181.4	1 024.2	349.3	0.18	205.7
		1995-96	4.7	(g)154.9	967.8	372.2	0.16	206.5
		1994-95	5.2	170.6	1 085.0	..	0.16	209.1
		1993-94	4.9	156.0	997.2	..	0.16	202.3
		1992-93	4.8	136.4	893.3	325.1	0.15	185.3
		1991-92	4.8	139.1	784.2	..	0.18	164.6

(a) See paragraph 5 of the Explanatory Notes.

(b) For factors affecting comparability of data over the time periods shown, see paragraphs 13-17 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

(g) For 1995-96, excludes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

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

INDUSTRY SUBDIVISION		Employment at end of June(c)	Wages and salaries(d)(e)	Turnover(e)	Industry gross product(e)	Ratio of wages and salaries to turnover(e)	Turnover per person employed(e)(f)	
ANZSIC code	Description	'000	\$m	\$m	\$m	ratio	\$'000	
27	Metal product mfg	1996-97	16.1	617.2	4 812.3	1 169.4	0.13	298.9
		1995-96	16.1	(g)576.9	4 551.8	799.7	0.13	282.9
		1994-95	15.2	535.2	4 288.1	..	0.12	282.8
		1993-94	14.8	511.1	3 768.3	..	0.14	253.8
		1992-93	15.2	515.2	4 031.8	878.1	0.13	265.3
		1991-92	14.4	484.8	3 863.3	..	0.13	267.9
28	Machinery and equipment mfg	1996-97	12.9	404.6	2 206.5	671.2	0.18	171.6
		1995-96	11.6	(g)339.3	1 830.0	598.4	0.19	158.1
		1994-95	12.9	360.3	1 707.2	..	0.21	132.8
		1993-94	11.7	313.8	1 623.9	..	0.19	138.3
		1992-93	11.1	294.5	1 432.1	495.0	0.21	129.1
		1991-92	10.7	294.8	1 269.8	..	0.23	118.6
29	Other manufacturing	1996-97	5.8	135.0	634.3	225.4	0.21	109.9
		1995-96	5.7	(g)133.9	629.1	225.3	0.21	109.7
		1994-95	6.3	136.8	655.1	..	0.21	103.3
		1993-94	6.4	128.1	582.1	..	0.22	91.2
		1992-93	5.9	118.1	507.8	158.0	0.23	86.3
		1991-92	5.7	114.9	480.2	..	0.24	84.2
21-29 Total manufacturing		1996-97	73.4	2 421.2	16 815.0	4 744.4	0.14	229.1
		1995-96	72.3	(g)2 213.4	15 749.8	4 256.3	0.14	217.8
		1994-95	73.8	2 184.6	15 246.2	..	0.14	206.5
		1993-94	69.9	2 021.9	14 192.9	..	0.14	203.0
		1992-93	68.8	1 949.2	13 919.0	3 782.7	0.14	202.4
		1991-92	67.4	1 890.9	13 444.4	..	0.14	199.4

(a) See paragraph 5 of the Explanatory Notes.

(b) For factors affecting comparability of data over the time periods shown, see paragraphs 13-17 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors.

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

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

(g) For 1995-96, excludes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry gross product	Turnover per person employed(d)	Industry gross product per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
FOOD, BEVERAGE AND TOBACCO MFG							
Meat and meat product mfg							
2111	Meat processing	2 665	86.5	556.5	118.1	208.8	44.3
2112	Poultry processing	894	n.p.	n.p.	n.p.	n.p.	n.p.
2113	Bacon, ham and smallgood mfg	864	n.p.	n.p.	n.p.	n.p.	n.p.
211	<i>Total</i>	4 423	134.6	878.0	187.9	198.5	42.5
Dairy product mfg							
2121	Milk and cream processing	615	n.p.	n.p.	n.p.	n.p.	n.p.
2122	Ice cream mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2129	Dairy product mfg n.e.c.	204	5.8	34.5	8.5	169.5	41.7
212	<i>Total</i>	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
213	Fruit and vegetable processing	586	15.4	122.7	33.9	209.3	57.7
214	Oil and fat mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Flour mill and cereal food mfg							
2151	Flour mill product mfg	166	6.4	79.9	22.1	481.9	133.2
2152	Cereal food and baking mix mfg	302	7.7	65.7	20.1	217.9	66.8
215	<i>Total</i>	467	14.1	145.6	42.2	311.6	90.4
Bakery product mfg							
2161	Bread mfg	1 032	26.9	139.1	53.3	134.9	51.6
2162	Cake and pastry mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2163	Biscuit mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
216	<i>Total</i>	2 076	51.0	233.7	87.8	112.6	42.3
Other food mfg							
2171	Sugar mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2172	Confectionery mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2173	Seafood processing	884	22.9	364.8	36.5	412.8	41.3
2174	Prepared animal and bird feed mfg	378	11.9	190.7	29.0	504.9	76.8
2179	Food mfg n.e.c.	1 043	33.6	167.5	72.3	160.6	69.3
217	<i>Total</i>	2 464	73.7	771.8	145.2	313.2	58.9
Beverage and malt mfg							
2181	Soft drink, cordial and syrup mfg	756	28.0	237.4	41.3	314.0	54.7
2182	Beer and malt mfg	309	14.7	255.7	99.6	828.6	322.9
2183	Wine mfg	742	15.8	119.0	41.0	160.4	55.2
2184	Spirit mfg	—	—	—	—	—	—
218	<i>Total</i>	1 807	58.5	612.0	181.9	338.7	100.7
219	Tobacco product mfg	—	—	—	—	—	—
21	Total food, beverage and tobacco mfg	13 036	394.4	3 131.6	780.5	240.2	59.9

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

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

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

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry gross product	Turnover per person employed(d)	Industry gross product per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MFG							
Textile fibre, yarn and woven fabric mfg							
2211	Wool scouring	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2212	Synthetic fibre textile mfg	161	n.p.	n.p.	n.p.	n.p.	n.p.
2213	Cotton textile mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2214	Wool textile mfg	—	—	—	—	—	—
2215	Textile finishing	15	0.3	1.2	0.5	77.7	34.0
221	<i>Total</i>	592	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Textile product mfg							
2221	Made-up textile product mfg	906	31.8	112.7	54.6	124.4	60.2
2222	Textile floor covering mfg	56	n.p.	n.p.	n.p.	n.p.	n.p.
2223	Rope, cordage and twine mfg	19	n.p.	n.p.	n.p.	n.p.	n.p.
2229	Textile product mfg n.e.c.	157	3.6	13.4	5.6	85.8	35.8
222	<i>Total</i>	1 138	36.7	140.3	62.4	123.3	54.8
Knitting mills							
2231	Hosiery mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2232	Cardigan and pullover mfg	117	n.p.	n.p.	n.p.	n.p.	n.p.
2239	Knitting mill product mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
223	<i>Total</i>	177	3.7	14.9	7.0	84.3	39.4
Clothing mfg							
2241	Men's and boys' wear mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2242	Women's and girls' wear mfg	220	3.7	14.4	4.8	65.7	22.0
2243	Sleepwear, underwear and infant clothing mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2249	Clothing mfg n.e.c.	395	7.4	34.4	12.0	86.9	30.4
224	<i>Total</i>	857	17.1	67.6	24.7	78.9	28.8
225	Footwear mfg	204	5.4	23.9	8.1	117.5	39.9
Leather and leather product mfg							
2261	Leather tanning and fur dressing	210	n.p.	n.p.	n.p.	n.p.	n.p.
2262	Leather and leather substitute product mfg	95	n.p.	n.p.	n.p.	n.p.	n.p.
226	<i>Total</i>	304	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
22	Total textile, clothing, footwear and leather mfg	3 272	88.0	362.9	148.3	110.9	45.3
WOOD AND PAPER PRODUCT MFG							
Log sawmilling and timber dressing							
2311	Log sawmilling	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2312	Wood chipping	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2313	Timber resawing and dressing	794	23.4	127.8	70.4	160.9	88.7
231	<i>Total</i>	1 689	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Other wood product mfg							
2321	Plywood and veneer mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2322	Fabricated wood mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2323	Wooden structural component mfg	1 054	23.9	106.7	33.4	101.3	31.7
2329	Wood product mfg n.e.c.	587	n.p.	n.p.	n.p.	n.p.	n.p.
232	<i>Total</i>	2 201	58.3	290.4	88.1	131.9	40.0

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

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

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

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry gross product	Turnover per person employed(d)	Industry gross product per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Paper and paper product mfg							
2331	Pulp, paper and paperboard mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2332	Solid paperboard container mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2333	Corrugated paperboard container mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2334	Paper bag and sack mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2339	Paper product mfg n.e.c.	39	0.7	3.9	1.0	100.4	24.8
233	<i>Total</i>	506	n.p.	n.p.	n.p.	n.p.	n.p.
23	Total wood and paper product mfg	4 396	127.9	713.8	280.5	162.4	63.8
PRINTING, PUBLISHING AND RECORDED MEDIA							
Printing and services to printing							
2411	Paper stationery mfg	368	8.0	27.4	11.5	74.6	31.3
2412	Printing	2 351	68.3	270.0	106.8	114.8	45.4
2413	Services to printing	508	15.2	46.8	24.7	92.1	48.6
241	<i>Total</i>	3 227	91.5	344.3	143.1	106.7	44.3
Publishing							
2421	Newspaper printing or publishing	2 818	98.4	445.1	240.0	157.9	85.2
2422	Other periodical publishing	221	5.4	26.1	7.6	118.2	34.5
2423	Book and other publishing	109	2.6	18.8	8.6	172.7	79.5
242	<i>Total</i>	3 148	106.4	490.0	256.2	155.7	81.4
243	Recorded media manufacturing and publishing	88	3.0	13.2	5.5	150.0	62.4
24	Total printing, publishing and recorded media	6 463	200.9	847.5	404.8	131.1	62.6
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MFG							
251	Petroleum refining	501	n.p.	n.p.	n.p.	n.p.	n.p.
252	Petroleum and coal product mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
Basic chemical mfg							
2531	Fertiliser mfg	536	25.6	326.6	106.1	608.8	197.8
2532	Industrial gas mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2533	Synthetic resin mfg	81	n.p.	n.p.	n.p.	n.p.	n.p.
2534	Organic industrial chemical mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2535	Inorganic industrial chemical mfg n.e.c.	1 072	61.8	512.2	100.8	478.0	94.1
253	<i>Total</i>	1 957	101.7	916.0	239.3	468.1	122.3
Other chemical product mfg							
2541	Explosive mfg	213	n.p.	n.p.	n.p.	n.p.	n.p.
2542	Paint mfg	258	6.7	79.4	28.7	307.4	111.0
2543	Medicinal and pharmaceutical product mfg	410	n.p.	n.p.	n.p.	n.p.	n.p.
2544	Pesticide mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2545	Soap and other detergent mfg	165	4.5	27.8	8.1	168.8	49.5
2546	Cosmetic and toiletry preparation mfg	100	2.2	15.5	5.5	155.2	55.5
2547	Ink mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2549	Chemical product mfg n.e.c.	143	4.6	41.6	12.0	290.4	84.0
254	<i>Total</i>	1 461	51.3	488.0	136.1	334.0	93.2

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

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

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

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MANUFACTURING ESTABLISHMENTS(a), Summary of Operations—Industry class *continued*

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry gross product	Turnover per person employed(d)	Industry gross product per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Rubber product mfg							
2551	Rubber tyre mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2559	Rubber product mfg n.e.c.	327	10.6	71.6	32.5	218.8	99.4
255	<i>Total</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Plastic product mfg							
2561	Plastic blow moulded product mfg	336	11.4	71.9	25.4	213.8	75.4
2562	Plastic extruded product mfg	152	6.3	44.9	15.6	294.7	102.0
2563	Plastic bag and film mfg	323	12.6	65.2	18.5	201.5	57.1
2564	Plastic product, rigid fibre reinforced, mfg	374	8.4	40.4	9.9	108.1	26.4
2565	Plastic foam product mfg	119	4.0	29.1	9.2	243.4	76.7
2566	Plastic injection moulded product mfg	721	19.7	84.4	32.5	117.1	45.1
256	<i>Total</i>	<i>2 026</i>	<i>62.5</i>	<i>335.9</i>	<i>110.9</i>	<i>165.8</i>	<i>54.7</i>
25	Total petroleum, coal, chemical and associated product mfg	6 516	271.9	3 081.9	715.0	473.0	109.7
NON-METALLIC MINERAL PRODUCT MFG							
261	Glass and glass product mfg	376	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
Ceramic mfg							
2621	Clay brick mfg	1 114	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
2622	Ceramic product mfg	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
2623	Ceramic tile and pipe mfg	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
2629	Ceramic product mfg n.e.c.	225	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
262	<i>Total</i>	<i>1 481</i>	<i>54.1</i>	<i>217.1</i>	<i>107.6</i>	<i>146.5</i>	<i>72.7</i>
Cement, lime, plaster and concrete product mfg							
2631	Cement and lime mfg	506	23.2	221.7	70.8	437.7	139.8
2632	Plaster product mfg	231	8.4	49.8	25.8	215.3	111.5
2633	Concrete slurry mfg	599	23.5	189.4	40.5	316.2	67.6
2634	Concrete pipe and box culvert mfg	306	10.2	50.9	20.2	166.2	65.9
2635	Concrete product mfg n.e.c.	1 103	37.4	188.2	48.8	170.6	44.3
263	<i>Total</i>	<i>2 745</i>	<i>102.7</i>	<i>699.9</i>	<i>206.1</i>	<i>254.9</i>	<i>75.1</i>
264	Non-metallic mineral product mfg n.e.c.	377	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
26	Total non-metallic mineral product mfg	4 979	181.4	1 024.2	349.3	205.7	70.2
METAL PRODUCT MFG							
Iron and steel mfg							
2711	Basic iron and steel mfg	371	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
2712	Iron and steel casting and forging	645	21.6	91.7	38.0	142.1	58.9
2713	Steel pipe and tube mfg	155	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
271	<i>Total</i>	<i>1 170</i>	<i>44.0</i>	<i>263.4</i>	<i>84.5</i>	<i>225.1</i>	<i>72.2</i>
Basic non-ferrous metal mfg							
2721	Alumina production	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
2722	Aluminium smelting	—	—	—	—	—	—
2723	Copper, silver, lead and zinc smelting, refining	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>	<i>n.p.</i>
2729	Basic non-ferrous metal mfg n.e.c.	903	45.3	1 320.6	97.8	1 462.4	108.3
272	<i>Total</i>	<i>4 942</i>	<i>265.7</i>	<i>3 089.7</i>	<i>588.1</i>	<i>625.2</i>	<i>119.0</i>

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

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

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

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry gross product	Turnover per person employed(d)	Industry gross product per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Non-ferrous basic metal product mfg							
2731	Aluminium rolling, drawing, extruding	60	n.p.	n.p.	n.p.	n.p.	n.p.
2732	Non-ferrous metal rolling, drawing, extruding n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2733	Non-ferrous metal casting	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
273	<i>Total</i>	169	5.5	41.5	13.4	245.8	79.7
Structural metal product mfg							
2741	Structural steel fabricating	3 143	116.1	579.0	188.7	184.2	60.0
2742	Architectural aluminium product mfg	1 402	38.1	166.3	48.0	118.6	34.2
2749	Structural metal product mfg n.e.c.	606	15.0	71.9	21.5	118.7	35.5
274	<i>Total</i>	5 151	169.1	817.2	258.1	158.7	50.1
Sheet metal product mfg							
2751	Metal container mfg	328	11.4	79.9	21.7	243.8	66.1
2759	Sheet metal product mfg n.e.c.	1 318	41.1	184.9	64.9	140.3	49.2
275	<i>Total</i>	1 646	52.5	264.9	86.6	160.9	52.6
Fabricated metal product mfg							
2761	Hand tool and general hardware mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2762	Spring and wire product mfg	364	9.0	42.9	15.9	118.0	43.6
2763	Nut, bolt, screw and rivet mfg	64	1.6	6.7	3.1	104.5	48.1
2764	Metal coating and finishing	675	17.9	65.4	28.9	96.9	42.9
2765	Non-ferrous pipe fitting mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2769	Fabricated metal product mfg n.e.c.	1 770	47.1	203.3	83.5	114.8	47.2
276	<i>Total</i>	3 022	80.2	335.7	138.7	111.1	45.9
27	Total metal product mfg	16 100	617.2	4 812.3	1 169.4	298.9	72.6
MACHINERY AND EQUIPMENT MFG							
Motor vehicle and part mfg							
2811	Motor vehicle mfg	364	14.5	20.6	-0.2	56.5	-0.5
2812	Motor vehicle body mfg	645	17.9	103.8	35.4	160.8	54.9
2813	Automotive electrical and instrument mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2819	Automotive component mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
281	<i>Total</i>	1 828	54.5	199.6	67.7	109.2	37.1
Other transport equipment mfg							
2821	Shipbuilding	693	18.5	250.2	41.6	360.8	59.9
2822	Boatbuilding	551	13.5	91.2	24.2	165.7	43.9
2823	Railway equipment mfg	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
2824	Aircraft mfg	434	n.p.	n.p.	n.p.	n.p.	n.p.
2829	Transport equipment mfg n.e.c.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
282	<i>Total</i>	2 103	66.5	539.9	126.4	256.8	60.1
Photographic and scientific equipment mfg							
2831	Photographic and optical good mfg	76	2.1	6.7	2.2	88.0	29.0
2832	Medical and surgical equipment mfg	332	7.4	24.5	10.2	73.6	30.8
2839	Professional and scientific equipment mfg n.e.c.	141	5.1	15.7	6.9	111.3	49.1
283	<i>Total</i>	549	14.6	46.8	19.4	85.3	35.2

(a) See paragraph 5 of the Explanatory Notes.

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

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

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MANUFACTURING ESTABLISHMENTS(a), Summary of Operations—Industry class *continued*

INDUSTRY CLASS		Employment at end of June(b)	Wages and salaries(c)	Turnover	Industry gross product	Turnover per person employed(d)	Industry gross product per person employed(e)
ANZSIC code	Description	no.	\$m	\$m	\$m	\$'000	\$'000
Electronic equipment mfg							
2841	Computer and business machine mfg	318	9.7	73.9	17.6	232.3	55.2
2842	Telecommunication, broadcasting and transceiving equipment mfg	276	10.2	101.3	15.5	366.8	56.1
2849	Electronic equipment mfg n.e.c.	670	20.8	91.8	32.6	137.0	48.7
284	<i>Total</i>	1 265	40.7	267.1	65.7	211.2	51.9
Electrical equipment and appliance mfg							
2851	Household appliance mfg	537	16.3	85.1	19.2	158.6	35.7
2852	Electric cable and wire mfg	53	n.p.	n.p.	n.p.	n.p.	n.p.
2853	Battery mfg	—	—	—	—	—	—
2854	Electric light and sign mfg	235	6.6	25.4	9.0	108.2	38.5
2859	Electrical equipment mfg n.e.c.	776	n.p.	n.p.	n.p.	n.p.	n.p.
285	<i>Total</i>	1 600	47.3	220.7	62.1	138.0	38.8
Industrial machinery and equipment mfg							
2861	Agricultural machinery mfg	602	18.6	91.0	30.4	151.1	50.5
2862	Mining and construction machinery mfg	1 830	68.3	365.7	131.3	199.9	71.8
2863	Food processing machinery mfg	40	1.1	3.4	1.4	86.2	34.0
2864	Machine tool and part mfg	309	7.5	25.0	13.0	80.9	42.0
2865	Lifting and material handling equipment mfg	748	27.7	152.7	50.0	204.1	66.8
2866	Pump and compressor mfg	158	4.9	23.7	7.7	150.5	48.9
2867	Commercial space heating and cooling equipment mfg	483	15.6	97.0	23.7	200.9	49.2
2869	Industrial machinery and equipment mfg n.e.c.	1 346	37.3	173.8	72.4	129.1	53.8
286	<i>Total</i>	5 515	181.1	932.3	329.8	169.1	59.8
28	Total machinery and equipment mfg	12 859	404.6	2 206.5	671.2	171.6	52.2
OTHER MANUFACTURING							
Prefabricated building mfg							
2911	Prefabricated metal building mfg	370	9.3	98.2	36.0	265.6	97.3
2919	Prefabricated building mfg n.e.c.	27	0.6	4.0	1.3	146.7	48.1
291	<i>Total</i>	397	9.9	102.2	37.3	257.5	93.9
Furniture mfg							
2921	Wooden furniture and upholstered seat mfg	2 989	63.4	256.2	87.9	85.7	29.4
2922	Sheet metal furniture mfg	362	10.7	47.4	15.4	130.8	42.5
2923	Mattress mfg (except rubber)	376	10.0	59.5	17.0	158.1	45.3
2929	Furniture mfg n.e.c.	783	20.7	95.4	42.1	121.8	53.8
292	<i>Total</i>	4 510	104.9	458.4	162.4	101.7	36.0
Miscellaneous manufacturing							
2941	Jewellery and silverware mfg	231	6.1	16.7	5.3	72.1	22.7
2942	Toy and sporting good mfg	163	2.9	15.7	4.4	96.1	26.8
2949	Manufacturing n.e.c.	469	11.2	41.3	16.1	88.1	34.3
294	<i>Total</i>	863	20.2	73.7	25.7	85.4	29.8
29	Total other manufacturing	5 770	135.0	634.3	225.4	109.9	39.1
21–29	TOTAL MANUFACTURING	73 390	2 421.2	16 815.0	4 744.4	229.1	64.6

(a) See paragraph 5 of the Explanatory Notes.

(b) Includes working proprietors.

(c) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

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

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

3

MANUFACTURING ESTABLISHMENTS(a), Percentage Change(b) in Industry Gross Product

INDUSTRY SUBDIVISION		1992-93 TO 1996-97.....			
ANZSIC Code	Description	1992-93 to 1995-96	1995-96 to 1996-97	Percentage movement	Change in IGP per person employed(c)
21	Food, beverage and tobacco mfg	20.2	-3.6	15.8	6.3
22	Textile, clothing, footwear and leather mfg	1.8	30.9	33.3	47.4
23	Wood and paper product mfg	8.5	16.7	26.6	39.5
24	Printing, publishing and recorded media	36.0	-1.9	33.5	21.6
25	Petroleum, coal, chemical and associated product mfg	11.0	4.4	16.0	-3.0
26	Non-metallic mineral product mfg	14.5	-6.1	7.5	4.1
27	Metal product mfg	-8.9	46.2	33.2	25.7
28	Machinery and equipment mfg	20.9	12.2	35.6	17.0
29	Other manufacturing	42.6	0.1	42.6	45.5
21-29	Total manufacturing	12.5	11.5	25.4	17.5

(a) See paragraph 5 of the Explanatory Notes.

(b) Percentage changes are calculated using current price data and, therefore, do not discount the impact of price changes. For factors affecting comparability of data over the time periods shown, see paragraphs 13-17 of the Explanatory Notes.

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

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MANUFACTURING ESTABLISHMENTS(a), Summary of Operations—Employment size(b)

Employment size group(f)	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e).....		Industry gross product(e).....	
	no.	%	\$m	%	\$m	%	\$m	%
FOOD, BEVERAGE AND TOBACCO MANUFACTURING								
0–4 persons	303	2.3	4.6	1.2	30.0	1.0	9.2	1.2
5–9 persons	530	4.1	8.8	2.2	61.5	2.0	16.3	2.1
10–19 persons	1 016	7.8	24.0	6.1	260.9	8.3	50.2	6.4
20–49 persons	2 197	16.9	62.1	15.8	442.8	14.2	116.9	15.0
50–99 persons	2 433	18.7	67.9	17.2	672.9	21.5	149.8	19.2
<i>Total less than 100 persons</i>	<i>6 480</i>	<i>49.7</i>	<i>167.3</i>	<i>42.5</i>	<i>1 468.1</i>	<i>46.9</i>	<i>342.3</i>	<i>43.9</i>
100–199 persons	1 409	10.8	50.2	12.7	549.4	17.6	179.5	23.0
200–499 persons	5 147	39.5	176.1	44.7	1 109.7	35.5	257.5	33.0
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>6 556</i>	<i>50.3</i>	<i>226.2</i>	<i>57.5</i>	<i>1 659.1</i>	<i>53.1</i>	<i>437.0</i>	<i>56.1</i>
Total	13 036	100.0	393.6	100.0	3 127.3	100.0	779.3	100.0
TEXTILE, CLOTHING, FOOTWEAR AND LEATHER MANUFACTURING								
0–4 persons	527	16.1	7.0	8.1	36.3	10.2	13.0	8.9
5–9 persons	456	13.9	8.1	9.4	32.1	9.0	12.0	8.3
10–19 persons	388	11.9	8.7	10.1	35.4	9.9	11.4	7.8
20–49 persons	380	11.6	8.5	9.9	43.2	12.1	12.7	8.7
50–99 persons	411	12.6	12.4	14.4	44.8	12.5	18.2	12.5
<i>Total less than 100 persons</i>	<i>2 162</i>	<i>66.1</i>	<i>44.8</i>	<i>51.9</i>	<i>191.8</i>	<i>53.7</i>	<i>67.4</i>	<i>46.3</i>
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>1 110</i>	<i>33.9</i>	<i>41.5</i>	<i>48.1</i>	<i>165.2</i>	<i>46.3</i>	<i>78.2</i>	<i>53.7</i>
Total	3 272	100.0	86.2	100.0	356.9	100.0	145.6	100.0
WOOD AND PAPER PRODUCT MANUFACTURING								
0–4 persons	650	14.8	10.2	8.0	56.3	7.9	18.1	6.5
5–9 persons	543	12.4	12.3	9.6	46.2	6.5	16.1	5.8
10–19 persons	663	15.1	15.6	12.2	68.9	9.7	27.0	9.6
20–49 persons	459	10.4	12.1	9.5	56.7	8.0	17.1	6.1
50–99 persons	434	9.9	16.3	12.8	131.2	18.4	37.0	13.2
<i>Total less than 100 persons</i>	<i>2 748</i>	<i>62.5</i>	<i>66.4</i>	<i>52.1</i>	<i>359.2</i>	<i>50.4</i>	<i>115.3</i>	<i>41.2</i>
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>1 648</i>	<i>37.5</i>	<i>61.1</i>	<i>47.9</i>	<i>353.2</i>	<i>49.6</i>	<i>164.8</i>	<i>58.8</i>
Total	4 396	100.0	127.5	100.0	712.5	100.0	280.1	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraph 20 of the Explanatory Notes for an explanation of the impact of unincorporated joint ventures on these estimates.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1996–97 but were not operating at 30 June 1997. See paragraph 19 of the Explanatory Notes.

(f) See paragraph 18 of the Explanatory Notes.

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MANUFACTURING ESTABLISHMENTS(a), Summary of Operations—Employment size(b) *continued*

Employment size group(f)	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e).....		Industry gross product(e).....	
	no.	%	\$m	%	\$m	%	\$m	%
PRINTING, PUBLISHING AND RECORDED MEDIA								
0-4 persons	674	10.4	14.1	7.1	64.5	7.7	27.4	6.8
5-9 persons	892	13.8	23.0	11.7	90.1	10.8	41.1	10.2
10-19 persons	1 084	16.8	29.1	14.8	122.6	14.6	42.6	10.6
20-49 persons	897	13.9	26.8	13.6	91.1	10.9	42.2	10.5
50-99 persons	307	4.8	10.8	5.5	44.2	5.3	18.3	4.5
<i>Total less than 100 persons</i>	<i>3 854</i>	<i>59.6</i>	<i>103.9</i>	<i>52.8</i>	<i>412.6</i>	<i>49.3</i>	<i>171.6</i>	<i>42.7</i>
100-199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
200-499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500-999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1 000 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
<i>Total 100 or more persons</i>	<i>2 609</i>	<i>40.4</i>	<i>92.9</i>	<i>47.2</i>	<i>425.1</i>	<i>50.7</i>	<i>230.7</i>	<i>57.3</i>
Total	6 463	100.0	196.8	100.0	837.7	100.0	402.4	100.0
PETROLEUM, COAL, CHEMICAL AND ASSOCIATED PRODUCT MANUFACTURING								
0-4 persons	367	5.6	7.6	2.8	178.5	5.8	71.5	10.0
5-9 persons	481	7.4	12.0	4.4	64.8	2.1	18.5	2.6
10-19 persons	682	10.5	22.1	8.2	170.0	5.5	47.3	6.6
20-49 persons	1 096	16.8	35.9	13.2	373.6	12.1	116.6	16.3
50-99 persons	1 004	15.4	40.0	14.7	338.9	11.0	106.0	14.8
<i>Total less than 100 persons</i>	<i>3 630</i>	<i>55.7</i>	<i>117.7</i>	<i>43.3</i>	<i>1 125.8</i>	<i>36.5</i>	<i>359.9</i>	<i>50.3</i>
100-199 persons	717	11.0	32.3	11.9	300.0	9.7	106.5	14.9
200-499 persons	2 169	33.3	121.7	44.8	1 655.1	53.7	248.4	34.7
500-999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>2 886</i>	<i>44.3</i>	<i>154.0</i>	<i>56.7</i>	<i>1 955.1</i>	<i>63.5</i>	<i>354.9</i>	<i>49.7</i>
Total	6 516	100.0	271.7	100.0	3 080.9	100.0	714.8	100.0
NON-METALLIC MINERAL PRODUCT MANUFACTURING								
0-4 persons	301	6.0	5.4	3.0	29.6	2.9	8.5	2.4
5-9 persons	372	7.5	8.0	4.4	44.8	4.4	13.7	3.9
10-19 persons	426	8.6	12.0	6.6	52.4	5.1	18.2	5.2
20-49 persons	740	14.9	25.0	13.8	165.0	16.1	38.3	11.0
50-99 persons	685	13.8	29.8	16.4	284.9	27.9	106.3	30.5
<i>Total less than 100 persons</i>	<i>2 523</i>	<i>50.7</i>	<i>80.2</i>	<i>44.3</i>	<i>576.7</i>	<i>56.4</i>	<i>184.9</i>	<i>53.0</i>
100-199 persons	726	14.6	30.3	16.8	148.4	14.5	39.5	11.3
200-499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
500-999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>2 456</i>	<i>49.3</i>	<i>100.8</i>	<i>55.7</i>	<i>446.1</i>	<i>43.6</i>	<i>164.0</i>	<i>47.0</i>
Total	4 979	100.0	181.0	100.0	1 022.8	100.0	348.9	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraph 20 of the Explanatory Notes for an explanation of the impact of unincorporated joint ventures on these estimates.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1996-97 but were not operating at 30 June 1997. See paragraph 19 of the Explanatory Notes.

(f) See paragraph 18 of the Explanatory Notes.

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MANUFACTURING ESTABLISHMENTS(a), Summary of Operations—Employment size(b) *continued*

Employment size group(f)	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e).....		Industry gross product(e).....	
	no.	%	\$m	%	\$m	%	\$m	%
METAL PRODUCT MANUFACTURING								
0–4 persons	1 087	6.8	21.3	3.5	487.1	10.1	319.3	..
5–9 persons	1 439	8.9	38.0	6.2	171.8	3.6	63.4	..
10–19 persons	1 780	11.1	53.5	8.7	226.4	4.7	83.2	..
20–49 persons	2 711	16.8	87.6	14.2	670.5	14.0	162.7	..
50–99 persons	2 211	13.7	79.2	12.9	444.1	9.3	118.3	..
<i>Total less than 100 persons</i>	<i>9 229</i>	<i>57.3</i>	<i>279.7</i>	<i>45.5</i>	<i>1 999.9</i>	<i>41.7</i>	<i>747.0</i>	<i>..</i>
100–199 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
200–499 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
1 000 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
<i>Total 100 or more persons</i>	<i>6 871</i>	<i>42.7</i>	<i>335.5</i>	<i>54.5</i>	<i>2 800.2</i>	<i>58.3</i>	<i>418.7</i>	<i>..</i>
Total	16 100	100.0	615.2	100.0	4 800.1	100.0	1 165.7	100.0
MACHINERY AND EQUIPMENT MANUFACTURING								
0–4 persons	1 491	11.6	30.2	7.6	148.4	6.8	57.5	8.7
5–9 persons	1 361	10.6	34.4	8.6	160.3	7.4	57.3	8.6
10–19 persons	1 821	14.2	49.4	12.4	235.1	10.8	82.7	12.5
20–49 persons	3 184	24.8	102.2	25.6	526.9	24.2	174.2	26.2
50–99 persons	2 032	15.8	75.3	18.9	420.4	19.3	118.4	17.8
<i>Total less than 100 persons</i>	<i>9 890</i>	<i>76.9</i>	<i>291.5</i>	<i>73.1</i>	<i>1 491.1</i>	<i>68.6</i>	<i>490.1</i>	<i>73.9</i>
100–199 persons	1 562	12.1	51.6	12.9	401.6	18.5	96.3	14.5
200–499 persons	1 407	10.9	55.9	14.0	280.5	12.9	77.2	11.6
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>2 969</i>	<i>23.1</i>	<i>107.4</i>	<i>26.9</i>	<i>682.0</i>	<i>31.4</i>	<i>173.5</i>	<i>26.1</i>
Total	12 859	100.0	398.9	100.0	2 173.1	100.0	663.6	100.0
OTHER MANUFACTURING								
0–4 persons	1 204	20.9	19.7	14.8	89.8	14.3	32.5	14.6
5–9 persons	1 219	21.1	27.0	20.3	119.9	19.2	41.3	18.5
10–19 persons	1 304	22.6	30.6	23.0	144.1	23.0	51.5	23.1
20–49 persons	1 279	22.2	35.9	27.0	169.4	27.1	58.1	26.1
50–99 persons	763	13.2	19.9	15.0	102.6	16.4	39.6	17.8
<i>Total less than 100 persons</i>	<i>5 770</i>	<i>100.0</i>	<i>133.1</i>	<i>100.0</i>	<i>625.9</i>	<i>100.0</i>	<i>222.9</i>	<i>100.0</i>
100–199 persons	—	—	—	—	—	—	—	—
200–499 persons	—	—	—	—	—	—	—	—
500–999 persons	—	—	—	—	—	—	—	—
1 000 or more persons	—	—	—	—	—	—	—	—
<i>Total 100 or more persons</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>
Total	5 770	100.0	133.1	100.0	625.9	100.0	222.9	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraph 20 of the Explanatory Notes for an explanation of the impact of unincorporated joint ventures on these estimates. As a result of these effects, no meaningful ratios can be calculated for the industry gross product data item for Metal product manufacturing.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1996–97 but were not operating at 30 June 1997. See paragraph 19 of the Explanatory Notes.

(f) See paragraph 18 of the Explanatory Notes.

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MANUFACTURING ESTABLISHMENTS(a), Summary of Operations—Employment size(b) *continued*

Employment size group(f)	Employment at end of June(c).....		Wages and salaries(d)(e).....		Turnover(e).....		Industry gross product(e).....	
	no.	%	\$m	%	\$m	%	\$m	%
TOTAL MANUFACTURING								
0–4 persons	6 604	9.0	120.0	5.0	1 120.4	6.7	557.0	..
5–9 persons	7 294	9.9	171.6	7.1	791.5	4.7	279.6	..
10–19 persons	9 165	12.5	245.1	10.2	1 315.8	7.9	414.1	..
20–49 persons	12 943	17.6	396.2	16.5	2 539.2	15.2	738.8	..
50–99 persons	10 280	14.0	351.6	14.6	2 484.0	14.8	711.9	..
<i>Total less than 100 persons</i>	<i>46 286</i>	<i>63.1</i>	<i>1 284.5</i>	<i>53.4</i>	<i>8 251.0</i>	<i>49.3</i>	<i>2 701.4</i>	<i>..</i>
100–199 persons	7 564	10.3	274.4	11.4	1 972.9	11.8	632.9	..
200–499 persons	13 317	18.1	538.6	22.4	4 757.1	28.4	947.6	..
500–999 persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
1 000 or more persons	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	..
<i>Total 100 or more persons</i>	<i>27 104</i>	<i>36.9</i>	<i>1 119.5</i>	<i>46.6</i>	<i>8 486.1</i>	<i>50.7</i>	<i>2 021.9</i>	<i>..</i>
Total	73 390	100.0	2 404.0	100.0	16 737.1	100.0	4 723.2	100.0

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraph 20 of the Explanatory Notes for an explanation of the impact of unincorporated joint ventures on these estimates. As a result of these effects, no meaningful ratios can be calculated for the industry gross product data item for total Western Australian manufacturing.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

(e) Figures may differ slightly from those presented in other tables, because they exclude those manufacturing establishments which operated during 1996–97 but were not operating at 30 June 1997. See paragraph 19 of the Explanatory Notes.

(f) See paragraph 18 of the Explanatory Notes.

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MANUFACTURING ESTABLISHMENTS(a), Exported Goods Produced(b)—Broad employment size(c)

INDUSTRY SUBDIVISION		<i>Sales and transfers out of goods produced by this establishment</i>	<i>Amount exported by this business or its agent</i>	<i>Exports as a proportion of sales of goods produced</i>
ANZSIC code	Description	\$m	\$m	%
0–49 PERSONS				
21	Food, beverage and tobacco mfg	748.9	156.1	20.8
22	Textile, clothing, footwear and leather mfg	137.4	4.8	3.5
23	Wood and paper product mfg	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	747.4	201.2	26.9
26	Non-metallic mineral product mfg	270.1	13.6	5.0
27	Metal product mfg	1 427.1	463.0	32.4
28	Machinery and equipment mfg	918.1	102.4	11.1
29	Other manufacturing	491.7	7.3	1.5
21–29	<i>Total manufacturing</i>	5 289.9	957.9	18.1
50–99 PERSONS				
21	Food, beverage and tobacco mfg	635.7	126.3	19.9
22	Textile, clothing, footwear and leather mfg	n.p.	n.p.	n.p.
23	Wood and paper product mfg	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.
27	Metal product mfg	404.0	5.7	1.4
28	Machinery and equipment mfg	363.1	115.4	31.8
29	Other manufacturing	86.2	7.7	8.9
21–29	<i>Total manufacturing</i>	2 282.1	351.5	15.4
100 OR MORE PERSONS				
21	Food, beverage and tobacco mfg	1 601.9	265.0	16.5
22	Textile, clothing, footwear and leather mfg	n.p.	n.p.	n.p.
23	Wood and paper product mfg	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.
27	Metal product mfg	2 718.4	1 253.1	46.1
28	Machinery and equipment mfg	605.7	176.3	29.1
29	Other manufacturing	—	—	—
21–29	<i>Total manufacturing</i>	7 905.9	2 120.5	26.8
TOTAL				
21	Food, beverage and tobacco mfg	2 986.5	547.4	18.3
22	Textile, clothing, footwear and leather mfg	332.7	40.6	12.2
23	Wood and paper product mfg	684.8	125.7	18.3
24	Printing, publishing and recorded media	491.9	4.5	0.9
25	Petroleum, coal, chemical and associated product mfg	3 008.6	542.7	18.0
26	Non-metallic mineral product mfg	959.3	38.1	4.0
27	Metal product mfg	4 549.5	1 721.8	37.8
28	Machinery and equipment mfg	1 886.9	394.1	20.9
29	Other manufacturing	577.9	15.1	2.6
21–29	Total manufacturing	15 478.0	3 429.8	22.2

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraphs 22–24 of the Explanatory Notes.

(c) This table excludes those manufacturing establishments which operated during 1996–97 but were not operating at 30 June 1997. See paragraph 19 of the Explanatory Notes. Also, see paragraph 20 of the Explanatory Notes for an explanation of the impact of unincorporated joint ventures on these estimates.

INDUSTRY SUBDIVISION		Employment at end of June(c)	Wages and salaries(d)	Turnover	Industry gross product
ANZSIC code	Description	%	%	%	%
ESTABLISHMENTS THAT DO NOT EXPORT					
21	Food, beverage and tobacco mfg	56.5	53.9	52.4	51.9
22	Textile, clothing, footwear and leather mfg	47.7	35.2	35.3	30.9
23	Wood and paper product mfg	61.4	52.6	44.1	41.8
24	Printing, publishing and recorded media	91.7	91.6	90.3	92.0
25	Petroleum, coal, chemical and associated product mfg	49.3	43.0	33.1	46.2
26	Non-metallic mineral product mfg	61.5	58.8	67.4	61.1
27	Metal product mfg	58.3	48.3	38.9	46.1
28	Machinery and equipment mfg	59.6	56.2	50.3	56.1
29	Other manufacturing	85.9	83.5	83.8	84.3
21–29	Total manufacturing	62.4	56.0	48.1	54.6
ESTABLISHMENTS WITH EXPORTS UP TO AND INCLUDING 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	30.3	30.7	31.0	38.1
22	Textile, clothing, footwear and leather mfg	41.9	53.0	47.3	52.8
23	Wood and paper product mfg	36.7	45.0	46.4	52.7
24	Printing, publishing and recorded media	7.7	7.5	9.0	7.3
25	Petroleum, coal, chemical and associated product mfg	38.9	40.1	54.1	44.0
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.	n.p.
27	Metal product mfg	15.4	14.6	22.6	9.3
28	Machinery and equipment mfg	33.9	38.7	36.7	37.0
29	Other manufacturing	n.p.	n.p.	n.p.	n.p.
21–29	Total manufacturing	26.5	28.4	32.9	29.3
ESTABLISHMENTS WITH EXPORTS OF MORE THAN 50% OF SALES OF GOODS THAT THEY PRODUCED					
21	Food, beverage and tobacco mfg	13.2	15.4	16.6	10.0
22	Textile, clothing, footwear and leather mfg	10.4	11.8	17.4	16.4
23	Wood and paper product mfg	1.8	2.4	9.4	5.5
24	Printing, publishing and recorded media	0.6	0.9	0.7	0.6
25	Petroleum, coal, chemical and associated product mfg	11.8	16.9	12.8	9.8
26	Non-metallic mineral product mfg	n.p.	n.p.	n.p.	n.p.
27	Metal product mfg	26.3	37.2	38.5	44.7
28	Machinery and equipment mfg	6.6	5.1	13.0	7.0
29	Other manufacturing	n.p.	n.p.	n.p.	n.p.
21–29	Total manufacturing	11.1	15.5	19.1	16.1

(a) See paragraph 5 of the Explanatory Notes.

(b) See paragraphs 22–24 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Now again includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

7

MANUFACTURING LOCATIONS(a), Summary of Operations—Statistical divisions(b)

INDUSTRY SUBDIVISION		Locations at 30 June	Employment at end of June(c)	Wages and salaries(d)	Turnover
ANZSIC code	Description	no.	no.	\$m	\$m
PERTH STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	287	9 253	293.5	2 382.1
22	Textile, clothing, footwear and leather mfg	304	2 822	73.1	345.4
23	Wood and paper product mfg	312	2 466	71.9	370.4
24	Printing, publishing and recorded media	498	5 720	183.4	811.5
25	Petroleum, coal, chemical and associated product mfg	306	5 166	213.0	2 489.7
26	Non-metallic mineral product mfg	213	4 239	159.7	910.4
27	Metal product mfg	778	9 863	321.1	2 238.4
28	Machinery and equipment mfg	991	11 679	378.3	2 053.0
29	Other manufacturing	746	5 195	127.0	597.2
21–29	Total manufacturing	4 435	56 403	1 821.1	12 198.0
SOUTH WEST STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	63	1 920	51.9	297.3
22	Textile, clothing, footwear and leather mfg	15	39	0.6	2.9
23	Wood and paper product mfg	86	1 608	49.3	334.4
24	Printing, publishing and recorded media	25	327	9.9	28.9
25	Petroleum, coal, chemical and associated product mfg	31	735	33.6	310.7
26	Non-metallic mineral product mfg	41	197	5.5	32.1
27	Metal product mfg	83	4 640	240.2	1 877.1
28	Machinery and equipment mfg	56	352	9.9	39.2
29	Other manufacturing	65	329	6.4	27.0
21–29	Total manufacturing	465	10 147	407.4	2 949.6
LOWER GREAT SOUTHERN STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	25	486	16.4	84.4
22	Textile, clothing, footwear and leather mfg	11	161	3.4	14.4
23	Wood and paper product mfg	23	85	1.6	6.7
24	Printing, publishing and recorded media	9	121	3.9	9.3
25	Petroleum, coal, chemical and associated product mfg	7	65	n.p.	n.p.
26	Non-metallic mineral product mfg	10	67	1.7	10.8
27	Metal product mfg	23	125	n.p.	n.p.
28	Machinery and equipment mfg	22	120	3.1	11.8
29	Other manufacturing	16	59	0.9	4.5
21–29	Total manufacturing	146	1 289	35.4	183.5
UPPER GREAT SOUTHERN STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	6	57	1.6	23.9
22	Textile, clothing, footwear and leather mfg	1	n.p.	n.p.	n.p.
23	Wood and paper product mfg	8	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	1	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	1	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	6	22	0.3	1.6
27	Metal product mfg	6	53	1.7	6.8
28	Machinery and equipment mfg	13	54	1.0	5.3
29	Other manufacturing	2	n.p.	n.p.	n.p.
21–29	Total manufacturing	44	263	5.9	42.0

(a) See paragraph 8 of the Explanatory Notes.

(b) Figures in this table differ to those in the other tables. See paragraphs 25–28 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

INDUSTRY SUBDIVISION		Locations at 30 June	Employment at end of June(c)	Wages and salaries(d)	Turnover
ANZSIC code	Description	no.	no.	\$m	\$m
MIDLANDS STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	13	177	5.5	56.5
22	Textile, clothing, footwear and leather mfg	7	19	0.2	0.6
23	Wood and paper product mfg	4	7	0.2	1.0
24	Printing, publishing and recorded media	7	34	0.5	1.0
25	Petroleum, coal, chemical and associated product mfg	4	12	n.p.	n.p.
26	Non-metallic mineral product mfg	8	34	0.8	4.7
27	Metal product mfg	26	249	n.p.	n.p.
28	Machinery and equipment mfg	25	143	3.1	14.4
29	Other manufacturing	15	64	1.0	7.5
21–29	<i>Total manufacturing</i>	109	739	19.5	187.9
SOUTH EASTERN STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	15	164	n.p.	n.p.
22	Textile, clothing, footwear and leather mfg	4	19	0.4	1.2
23	Wood and paper product mfg	10	38	0.5	2.7
24	Printing, publishing and recorded media	11	122	3.9	10.8
25	Petroleum, coal, chemical and associated product mfg	13	154	8.5	97.8
26	Non-metallic mineral product mfg	12	100	n.p.	n.p.
27	Metal product mfg	43	691	n.p.	n.p.
28	Machinery and equipment mfg	33	180	6.3	25.3
29	Other manufacturing	5	26	0.5	2.4
21–29	<i>Total manufacturing</i>	146	1 494	58.0	821.5
CENTRAL STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	19	671	14.5	221.2
22	Textile, clothing, footwear and leather mfg	5	13	0.1	0.5
23	Wood and paper product mfg	9	24	0.6	2.3
24	Printing, publishing and recorded media	9	76	1.9	5.3
25	Petroleum, coal, chemical and associated product mfg	8	46	2.1	25.2
26	Non-metallic mineral product mfg	15	134	4.3	22.3
27	Metal product mfg	23	105	2.6	11.2
28	Machinery and equipment mfg	29	192	4.6	27.1
29	Other manufacturing	12	45	0.6	2.6
21–29	<i>Total manufacturing</i>	129	1 306	31.3	317.8
PILBARA STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	5	20	n.p.	n.p.
22	Textile, clothing, footwear and leather mfg	3	n.p.	n.p.	n.p.
23	Wood and paper product mfg	1	n.p.	n.p.	n.p.
24	Printing, publishing and recorded media	8	n.p.	n.p.	n.p.
25	Petroleum, coal, chemical and associated product mfg	2	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	6	25	0.7	6.5
27	Metal product mfg	22	181	6.7	18.6
28	Machinery and equipment mfg	15	95	2.6	19.0
29	Other manufacturing	4	19	0.5	1.5
21–29	<i>Total manufacturing</i>	66	374	11.8	54.1

(a) See paragraph 8 of the Explanatory Notes.

(b) Figures in this table differ to those in the other tables. See paragraphs 25–28 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

INDUSTRY SUBDIVISION		Locations at 30 June	Employment at end of June(c)	Wages and salaries(d)	Turnover
ANZSIC code	Description	no.	no.	\$m	\$m
KIMBERLEY STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	6	90	3.2	21.4
22	Textile, clothing, footwear and leather mfg	4	7	0.1	0.5
23	Wood and paper product mfg	—	—	—	—
24	Printing, publishing and recorded media	5	12	0.3	0.8
25	Petroleum, coal, chemical and associated product mfg	1	n.p.	n.p.	n.p.
26	Non-metallic mineral product mfg	5	61	n.p.	n.p.
27	Metal product mfg	8	34	0.7	4.2
28	Machinery and equipment mfg	5	23	0.4	2.6
29	Other manufacturing	3	n.p.	n.p.	n.p.
21–29	<i>Total manufacturing</i>	37	233	6.9	41.9
WESTERN AUSTRALIA EXCLUDING PERTH STATISTICAL DIVISION					
21	Food, beverage and tobacco mfg	152	3 585	97.2	726.8
22	Textile, clothing, footwear and leather mfg	50	270	4.9	20.6
23	Wood and paper product mfg	141	1 798	52.7	348.7
24	Printing, publishing and recorded media	75	724	21.3	58.9
25	Petroleum, coal, chemical and associated product mfg	67	1 029	47.3	539.2
26	Non-metallic mineral product mfg	103	640	19.3	117.9
27	Metal product mfg	234	6 078	292.6	2 595.3
28	Machinery and equipment mfg	198	1 159	30.9	144.6
29	Other manufacturing	122	562	10.0	46.3
21–29	Total manufacturing	1 142	15 845	576.2	4 598.4
WESTERN AUSTRALIA					
21	Food, beverage and tobacco mfg	439	12 838	390.7	3 108.8
22	Textile, clothing, footwear and leather mfg	354	3 092	78.0	366.0
23	Wood and paper product mfg	453	4 264	124.6	719.1
24	Printing, publishing and recorded media	573	6 444	204.7	870.4
25	Petroleum, coal, chemical and associated product mfg	373	6 195	260.3	3 028.8
26	Non-metallic mineral product mfg	316	4 879	179.0	1 028.3
27	Metal product mfg	1 012	15 941	613.8	4 833.7
28	Machinery and equipment mfg	1 189	12 838	409.2	2 197.6
29	Other manufacturing	868	5 757	137.0	643.5
21–29	TOTAL MANUFACTURING	5 577	72 248	2 397.3	16 796.4

(a) See paragraph 8 of the Explanatory Notes.

(b) Figures in this table differ to those in the other tables. See paragraphs 25–28 of the Explanatory Notes.

(c) Includes working proprietors.

(d) Excludes the drawings of working proprietors. Includes provision expenses for employee entitlements. See paragraph 16 of the Explanatory Notes.

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents final statistics for Western Australia compiled from a census of manufacturing establishments for 1996–97, 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 census.

2 The manufacturing collection is conducted on an annual basis. For the 1996–97 collection, all manufacturing businesses were requested to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. Data on IGP are also available from this collection. In addition, a variety of samples was selected to produce data on a range of other variables. The next manufacturing census will be conducted in respect of 2001–02, with sample surveys conducted for the next four years.

3 All data in this publication, with the exception of IGP estimates, have been compiled from the full census population. Estimates of IGP were compiled using data from this census population and a sample of approximately 7,000 establishments nationally which were asked to provide detailed structural and performance data. These 7,000 establishments were also asked to supply value of sales for commodities produced. (These commodity data will be released in the publication *Manufacturing Production, Commodities Produced, Australia, 1996–97* (Cat. no. 8365.0).) A sample of approximately 5,300 manufacturing management units nationally was asked the detailed information required to derive operating profit before tax. A separate sample of 5,000 manufacturing management units nationally was asked for information related to waste management and environmental protection. Information from this sample will be published in *Environment Protection Expenditure, Australia, 1995–96 and 1996–97* (Cat. no. 4603.0). Selected data from the census and sample populations as well as data from other collections will be included in the compendium publication *Manufacturing, Australia, 1998* (Cat. no. 8225.0).

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

SCOPE AND COVERAGE

5 The main 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 and which are excluded.

6 A small number of manufacturing establishments engage, in a significant way, in a variety of activities which are normally carried out by different industries. For example, a predominantly manufacturing establishment may also undertake significant amounts of wholesaling. Similarly, a manufacturing establishment may produce significant volumes of a variety of goods which are normally produced in different manufacturing industries. In such cases, the original establishment is 'split' into a separate establishment for each significant activity which belongs to a separate industry. For the 1996–97 manufacturing collection, 'significant' was defined as \$7.3 million or more.

EXPLANATORY NOTES *continued*

SCOPE AND COVERAGE *continued*

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

STANDARD UNITS

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

RELIABILITY OF ESTIMATES

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

DATA ADJUSTED

10 As was done for the 1993–94 to 1995–96 (inclusive) issues of this publication, data have been adjusted to allow for lags in processing new businesses to the ABS business register, and the omission of some businesses from the business register. First, adjustments have been made to allow for new businesses which had commenced operations but for which details had not been processed 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. Second, adjustments have been made for businesses which had been in existence for several years, but, for various reasons, were not previously added to the ABS business register. In this issue of this publication, a further set of adjustments have been made to allow for omissions not previously identified. In respect of this further set of adjustments, actual data have been collected for 1996–97 and adjustment factors have been applied for each year back to 1991–92. For more information on these various adjustments, please refer to the *Information Paper: Improvements to ABS Economic Statistics, 1997* (Cat. no. 1357.0).

11 The majority of businesses affected by these lags and omissions, and to which both types of adjustments apply, are small in size. The effect of these adjustments on 1996–97 turnover for Western Australia is an increase of 2.9% while the effect on employment is an increase of 5.7%. Most industries were affected to a similar degree. The exceptions are Other manufacturing (for which the adjustments are 7.1% and 8.8% respectively) and Wood and paper product manufacturing (for which the adjustment for employment is 9.5%).

12 At the same time as these adjustments have been applied to the time series statistics in this publication, some revisions have been made to the underlying data previously published, as a result of further processing and/or additional information becoming available.

COMPARABILITY WITH PREVIOUS STATISTICS

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

14 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.

15 As explained above, about 7,000 establishments included in the 1996–97 collection were asked to supply value of sales for commodities produced. A similar sampling procedure was followed for the 1993–94 to 1995–96 (inclusive) collections. The availability of this fine level commodity/activity data for these units has enabled ABS survey processing staff to better identify those establishments which were actually in the scope of the manufacturing collection and those which should not be included in the manufacturing collection, because (for example) they were actually wholesalers or retailers. These fine level commodity/activity data have also enabled an objective industry code to be determined for the responding units in the samples, compared to the more subjective industry coding which occurred for all units in each of the 1990–91 to 1992–93 (inclusive) manufacturing collections. The industry code for the units not responding or not included in any of these commodity samples has continued to be a subjectively determined code.

16 For the 1996–97 collection, provision expenses for employee entitlements are included in wages and salaries, as was the case prior to 1995–96. For the 1995–96 collection, these provision expenses were excluded from wages and salaries.

17 Data in this publication have been subjected to various adjustments (see paragraphs 10–12). As a result, they are not on a comparable basis to previously published data. Comparable data for earlier periods are available from the ABS. A charge is made for providing such information.

18 The two smallest employment size categories used in table 4 in this publication have been changed to accord with standard ABS size ranges. That is, the categories now used are 0–4 and 5–9 persons employed instead of the 0–3 and 4–9 persons employed previously used. However, as the 1996–97 collection is a census, it may be possible (depending on confidentiality constraints) to, on request, construct data on the previous basis. From the 1997–98 collection onwards, the sample design used will only deliver reliable data in accordance with the standard ABS size ranges.

EMPLOYMENT SIZE DATA

19 Summary of operations data at the industry subdivision level classified by employment size are presented in table 4. Similarly, exports of goods produced data at the industry subdivision level classified by broad employment size are presented in table 5. The statistics in these two tables relate only to those manufacturing establishments operating at 30 June 1997. As such, the figures presented may differ slightly from those presented in the other tables from the manufacturing collection. These other tables include data for those manufacturing establishments which operated at any time during 1996–97.

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

21 The two smallest employment size categories used in table 4 in this publication have been changed. See paragraph 18 for details.

EXPORTS BY MANUFACTURERS

22 All establishments included in the manufacturing census were asked whether they exported and, if so, what percentage of their sales of goods produced plus transfers out of goods produced by the establishment for sale were exported by their business or an agent on their behalf. The data presented in table 5 are derived by applying the percentage of exports reported for each exporting unit and then aggregating that figure. The data in table 5 exclude those manufacturing establishments which operated during 1996–97 but were not operating at 30 June 1997.

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

EXPORTS BY MANUFACTURERS *continued*

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

STATISTICAL DIVISION DATA

25 The location data presented in table 7 are based on additional data collected in the 1996–97 census. The extra data requested were the activity carried out at the location, the number of persons employed and the address of the location.

26 Employment data shown in this table are based on reported employment, but in the case of wages and salaries and turnover data they do not reflect reported data in all cases. This is because in those circumstances where an establishment operates at more than one location or where small multi-establishment management units have been 'collapsed' for reporting purposes into single establishment management units (see paragraph 14), the data have been synthesised to derive location-level wages and salaries and turnover data. (However, it should be noted that most establishments operate at only the one location.) The location-level synthesised data were derived by using the location data collected on activity and employment, and then pro-rating wages and salaries and turnover based on the reported employment.

27 As indicated in paragraph 5, a manufacturing establishment covers all activities of the establishment, including any non-manufacturing activities. In table 7, the non-manufacturing locations of manufacturing establishments have been excluded. For this reason, the State industry subdivision totals (for location data) in table 7 may be less than those shown in the other tables (for establishment data). However, it is also possible for State industry subdivision totals in table 7 to be greater than those shown in the other tables, as a result of individual locations of establishments being allocated a different industry classification to that of the 'parent' establishment. Differences between the data in table 7 and in the other tables may also occur because of the existence of multi-establishment management units which have been 'collapsed' (as explained in paragraph 14). In these circumstances, it is also possible that at least one of the locations of these units may be situated in a State or Territory other than the principal State or Territory of the 'parent' establishment.

28 A map displaying the boundaries of each statistical division in Western Australia can be found on page 39 of this publication. The statistical division structure is based on the *Australian Standard Geographical Classification (ASGC)* (Cat. no. 1216.0), 1996 edition.

EXPLANATORY NOTES *continued*

USE OF ANZSIC

29 The 1992–93 manufacturing survey introduced the ANZSIC into the annual manufacturing collection. This classification replaced the Australian Standard Industrial Classification (ASIC) previously used. All time series statistics contained in this publication are ANZSIC-based. Corresponding ANZSIC-based data for years prior to 1989–90 are not available, except for constant prices data (see paragraph 35). Similarly, ASIC-based data are not available from 1992–93.

ACKNOWLEDGMENT

30 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

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

RELATED PUBLICATIONS

32 A series of publications *Manufacturing Industry, [State], 1996–97* (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. For 1996–97, all of these publications contain a table showing industry subdivision data by statistical division. These publications are being released progressively.

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

- *Australian Standard Geographical Classification (ASGC)* (Cat. no. 1216.0), 1996 edition—Annual publication
- *Business Operations and Industry Performance, Australia, 1996–97* (Cat. no. 8140.0), to be released in January 1999—Annual publication
- *Business Operations and Industry Performance, Australia, Preliminary, 1996–97* (Cat. no. 8142.0), released on 29 May 1998—Annual publication
- *Environment Protection Expenditure, Australia, 1995–96 and 1996–97* (Cat. no. 4603.0), to be released in March 1999—Annual publication
- *Indexes of Industrial Production, Australia* (Cat. no. 8125.0)—Quarterly publication (Discontinued with release of December quarter 1997 issue)
- *Information Paper: Availability of Statistics Related to Manufacturing, 1996* (Cat. no. 8205.0), released on 21 March 1996—Irregular publication
- *Information Paper: Availability of Statistics Related to Manufacturing, 1997* (Cat. no. 8205.0), released on 16 January 1998—Irregular publication
- *Information Paper: Improvements to ABS Economic Statistics, 1997* (Cat. no. 1357.0), released on 22 August 1997—Irregular publication
- *Labour Force, Australia* (Cat. no. 6203.0)—Monthly publication
- *Manufacturing, Australia, 1998* (Cat. no. 8225.0), to be released in December 1998—Annual publication
- *Manufacturing Industry, Australia, Preliminary, 1997–98* (Cat. no. 8201.0), to be released in March 1999—Annual publication
- *Manufacturing Production, Commodities Produced, Australia, 1996–97* (Cat. no. 8365.0), to be released in December 1998—Annual publication

BACK DATA AND UNPUBLISHED STATISTICS

34 A range of manufacturing industry statistics publications is available for previous years. As well, a considerable amount of data from the annual manufacturing collection exists in unpublished form. More detailed information to satisfy individual user requirements may be available on request. In general, unpublished data consist of finer industry dissections of the published data. A charge is made for providing such information. The Information Paper (Cat. no. 8205.0) referred to in paragraphs 31 and 33 provides more details.

35 In particular, constant price estimates of gross product at factor cost on an ANZSIC basis are available back to 1984–85. However, constant price estimates on a true ANZSIC basis are only available from 1989–90. Nevertheless, an exercise has been undertaken to convert estimates for earlier years onto an ANZSIC basis using the relationships that applied between ASIC and ANZSIC in the years 1990–91 and 1991–92. These estimates are available at both the Australian and State and Territory levels back to 1984–85. It should be noted that the relationships that applied in 1990–91 and 1991–92 are less likely to apply the earlier the reference year. Also, annual constant price estimates of gross product at factor cost for the period 1989–90 to 1996–97 (inclusive) by ANZSIC class are available as unpublished data. All of these data can be purchased from the ABS in Canberra by contacting Paul Curran on 02 6252 6801.

ROUNDING

36 Where figures have been rounded, discrepancies may occur between totals and the sums of the component items. Due to data being adjusted for lags in processing new businesses to the ABS business register (see paragraph 10), this 'rounding rule' also applies to employment counts and to counts of locations (in table 7).

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

TECHNICAL NOTE DATA RELIABILITY

SAMPLE ERROR

The 1996–97 manufacturing collection comprised a census component and a sample component. All manufacturing establishments were requested to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. A sample of approximately 7,000 manufacturing establishments nationally were asked to provide additional structural and performance data.

As the data items listed above were collected from the full 1996–97 census population, they are not subject to sampling variability. Estimates of IGP on the other hand were compiled using data from both the census and sample components. As such, IGP data are subject to sampling variability; that is, they may differ from the figures that would have been produced if all the components of IGP had been obtained from all manufacturers in the census population.

However, as turnover and purchases (two of the major components in calculating IGP) are collected from the census population, the variability due to sampling, especially at the industry subdivision level, is minimal.

All data for 1991–92 and 1993–94 as contained in this publication were obtained from a census and, as such, are not subject to sampling variability.

All data for 1992–93, 1994–95 and 1995–96 as contained in this publication were obtained from samples of manufacturers and are, therefore, subject to sampling variability. For further information, see these issues of this publication.

NON-SAMPLE ERROR

The imprecision due to sampling variability 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.

While it is not possible to quantify non-sampling error, every effort is made to reduce it to a minimum. Collection forms are designed to be easy to complete and assist businesses to report accurately. Efficient and effective operating procedures and systems are used to compile the statistics. In addition, the ABS has undertaken a program of upgrading the business register. This upgrade has resulted in improvements in the quality of the statistical series whose population frames are drawn from the register.

G L O S S A R Y

ABS	Australian Bureau of Statistics
Amount of goods produced by this establishment (or for it on commission) that are 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 for sale, that are exported (or are intended for export) outside Australia by the business or its agent.
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASIC	Australian Standard Industrial Classification
Capital work done for own use	The value of work done by the employees or proprietors of an establishment for the business' own use, or for rental or lease. This item includes the capitalised value of the cost of the materials and the wages and salaries involved.
Change in stocks	The value of total closing stocks minus total opening stocks.
Closing stocks	The value of all stocks of finished goods, work-in-progress, raw materials, fuels, containers and packaging as at the end of the reference period.
Employment at end of June	The number of working proprietors, working partners, permanent, part-time, temporary and casual employees, and managerial and executive employees working for an establishment during the last pay period ending in June each year. Employees absent on paid or prepaid leave are included, as are employees on workers' compensation who continue to be paid through the payroll system. Non-salaried directors, self-employed persons such as consultants, contractors and persons paid solely by commission without a retainer, and volunteer workers are excluded.
Enterprise group	A unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the <i>Corporations Legislation Amendment Act 1991</i>). These may be legal entities such as trusts and partnerships as well as companies. Majority ownership is not required for control to be exercised.
Establishment	The establishment is the smallest accounting unit of a business, within a State or Territory, controlling its productive activities and maintaining a specified range of detailed data enabling value added to be calculated. In general, an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same State or Territory. The majority of establishments operate at one location only.
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 of goods produced (Table 5) For an individual establishment, this represents the percentage of the total sales and transfers out of goods for sale produced by the establishment (or for it on commission) which are exported (or are intended for export) outside Australia by the business or its agent. In table 5, the ratio is calculated by dividing the total value of goods exported by the total value of sales and transfers out of goods for sale produced by all establishments, not just the aggregated value for those units which exported.

Income from services Income received from service activities. This income includes: repair, maintenance and service income and fees; income from work done on a commission basis; delivery and/or installation charges separately invoiced to customers; advertising income; and management fees/charges from related and unrelated businesses. Excluded are rent, leasing and hiring income, interest income and royalties income.

Industry class Within ANZSIC, there is a structure comprising four levels ranging from industry division (broadest level) to the industry class (finest level). At the industry class level, the activities are narrowly defined and recognised by a four-digit code, e.g. industry class 2331 for Pulp, paper and paperboard manufacturing. Usually, an activity is primarily confined to one class. However, some activities may be primary to more than one class.

Industry gross product (IGP) IGP is very similar to the national accounting measure gross product at factor cost which is the official statistical measure of production. IGP for an industry is a measure of the value which is added by the industry's production processes to the raw materials and services which are input to those processes. Another way of describing IGP is the value of an industry's output minus the value of intermediate inputs.

The formula used to calculate IGP is as follows—definitions of the relevant component items also appear in this Glossary.

$$\begin{aligned}
 \text{Calculation of IGP} &= \text{Turnover} \\
 &+ \text{Change in stocks} \\
 &- \text{Purchases, transfers in and selected expenses} \\
 &= \text{Establishment value added} \\
 &- \text{Fringe benefits tax} \\
 &- \text{Payroll tax} \\
 &- \text{Other operating expenses} \\
 &= \text{Industry Gross Product}
 \end{aligned}$$

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

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



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

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

Location A location is a physical unit of the establishment. It consists usually of an unbroken physical area or site, occupied by an establishment, at which, or from which, the establishment engages in productive activity on a relatively permanent basis. An establishment can consist of one or more locations. In specified circumstances, non-contiguous sites occupied by the same establishment can be combined to form a location.

Locations at 30 June The number of locations in operation at 30 June in the year of a given reference period.

Management unit The management unit is the highest-level unit within a business, having regard to industry homogeneity, for which accounts are maintained; in nearly all cases, it coincides with the legal entity owning the business (that is, company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'division' or 'line of business'. A division or line of business is recognised where separate and comprehensive accounts are compiled for it.

Manufacturing establishment An establishment predominantly engaged in manufacturing activities. The data collected for such establishments cover all activities of the establishment (including non-manufacturing activities). Conversely, there are some establishments predominantly engaged in non-manufacturing activities which also undertake limited manufacturing activities and which are excluded.

Manufacturing location A location predominantly engaged in 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 in respect of non-manufacturing activities). Conversely, there are some management units predominantly engaged in non-manufacturing activities which have establishments engaged in manufacturing activities and which are excluded.

Opening stocks The value of all stocks of finished goods, work-in-progress, raw materials, fuels, containers and packaging as at the beginning of the reference period.

Other operating expenses Includes operating expenses such as management fees and charges paid to related and unrelated businesses, office supplies and printing costs, rates, telephone and postage charges, travelling and entertainment expenses, accounting and legal expenses, advertising costs and land tax. Excludes income and sales taxes, and extraordinary expenses.



Own account capital work	The value of work done by the employees or proprietors of an establishment for the business' own use, or for rental or lease. This item includes the capitalised value of the cost of the materials and the wages and salaries involved.
Purchases	Purchase of materials, components, containers, packaging, fuels, electricity and water, and of finished goods for resale. The purchase of parts and fuel for motor vehicles is excluded.
Purchases, transfers in and selected expenses	Purchase of materials, components, containers, packaging, fuels, electricity and water, and of finished 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, plus commission expenses (including sales commission expenses), repair and maintenance expenses, freight and cartage expenses, motor vehicle running expenses, and rent, leasing and hiring expenses. Transfers in are valued, for statistical purposes, at prices commensurate with the prices which would have been paid if the establishments concerned had been under separate ownership, i.e. at commercial selling price.
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 1996–97 collection, a business may have reported data for the year ended 31 December 1996.
Sales and transfers out of goods produced by the establishment	Includes sales of goods produced by the establishment (or for it on commission), sales or transfers to related businesses, progress payments billed for long-term contracts, and delivery and/or installation charges not separately invoiced to customers. Also included are goods transferred out to other establishments of the same business for sale. Transfers out are valued, for statistical purposes, at prices commensurate with the prices which would have been paid if the establishments concerned had been under separate ownership, i.e. at commercial selling price. Excluded are export freight charges, sales of fixed tangible assets, and sales tax, excise and duties received (on behalf of the Government).
Service income	Income received from service activities. This income includes: repair, maintenance and service income and fees; income from work done on a commission basis; delivery and/or installation charges separately invoiced to customers; advertising income; and management fees/charges from related and unrelated businesses. Excluded are rent, leasing and hiring income, interest income and royalties income.
Statistical division	A general purpose spatial unit and is the largest and most stable spatial unit within each State and Territory in the Main Structure of the Australian Standard Geographical Classification. The map on page 39 indicates the statistical division boundaries for Western Australia.



Turnover Sales (exclusive of excise and sales tax) of goods whether produced by the establishment or not, plus transfers out of goods to other establishments of the same business, plus bounties and subsidies on production, plus all other operating income from outside the establishment (such as commission income, repair and service income, and rent, leasing and hiring income), plus capital work done by an establishment's own employees for the business' own use, or for rental or lease. Receipts from interest, royalties, dividends and the sale of fixed tangible assets are excluded.

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

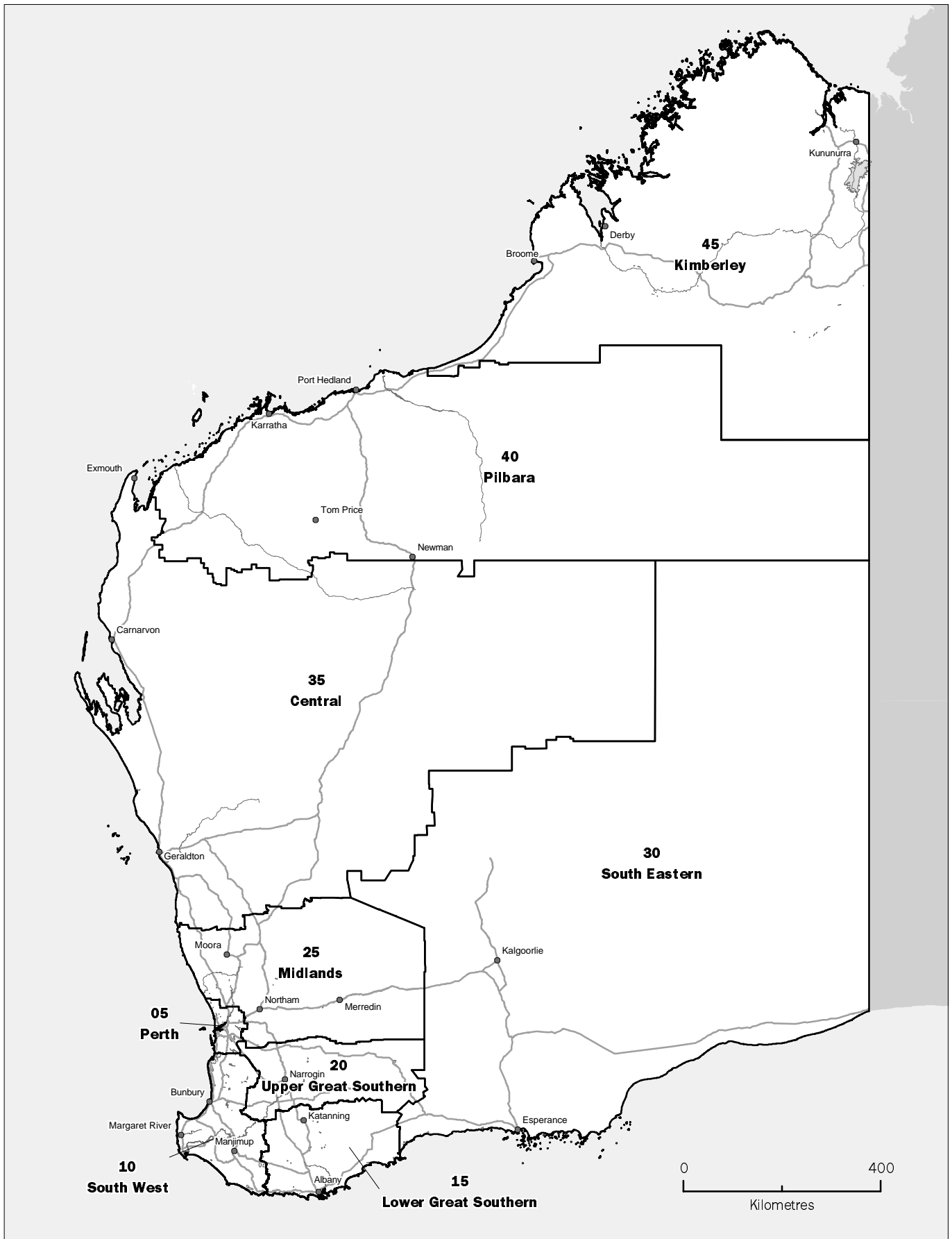
Turnover per person employed Turnover of manufacturing establishments which operated during the year ended 30 June divided by employment at the end of June in the same year.

Value added Turnover, plus the increase (or less the decrease) in the value of stocks, less purchases, transfers in and selected expenses.

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

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





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