

7 *Manufacturing, Mining, and Energy*

MANUFACTURING

Overview

Manufacturing industry in Victoria makes a major contribution towards Australian manufacturing production. In 1985-86, Victoria's contribution to the Australian manufacturing component of Gross Domestic Product (GDP) at factor cost was 33.4 per cent. For each of the years 1980-81 to 1984-85, Victoria's contribution exceeded 33 per cent.

However, over the same period, the manufacturing sector's percentage contribution to total GDP at factor cost declined both for Victoria and Australia. In Victoria, the contribution fell from 24.5 per cent in 1980-81 to 21.4 per cent in 1985-86. For Australia, the figures were 20.2 per cent and 17.7 per cent respectively.

Victoria compared with Australia

In 1984-85, Victorian manufacturing industry contributed over 50 per cent of the Australian manufacturing industry's turnover in the clothing and footwear (58 per cent), transport equipment (53 per cent), and textiles (51 per cent) ASIC subdivisions. It also contributed more than 50 per cent of value added in the textiles (56 per cent) and clothing and footwear (59 per cent) subdivisions.

Victorian based establishments accounted for 57 per cent of employment within the Australian clothing and footwear manufacturing industry, and 53 per cent of employment within the Australian textile manufacturing industry during 1984-85.

The Victorian textile industry also invested 61 per cent of that industry's net fixed capital expenditure within Australia during 1984-85. Other Victorian industries to invest a large percentage of the Australian total during the year were the transport equipment industry (60 per cent) and the clothing and footwear industry (55 per cent).

Number of establishments

Over the period 1979-80 to 1984-85, the number of Victorian manufacturing establishments with four or more persons employed decreased by 4.5 per cent (from 8,902 to 8,499).

The downward trend in the number of establishments was more prominent amongst those employing 100 or more persons, where the number of establishments decreased by 7.9 per cent. The largest fall in the number of manufacturing establishments occurred between 1981-82, when 8916 establishments were operating, and 1982-83 (8392 operating).

Employment

In 1984-85 manufacturing employment comprised 20 per cent of the Victorian labour force compared with 23 per cent in 1979-80.

Manufacturing employment declined from 397,313 persons in 1979-80 to 356,687 persons in 1984-85, a fall of 10.2 per cent.

The greatest decline occurred between 1981-82 and 1982-83 when manufacturing employment fell from 392,737 persons to 363,018 persons.

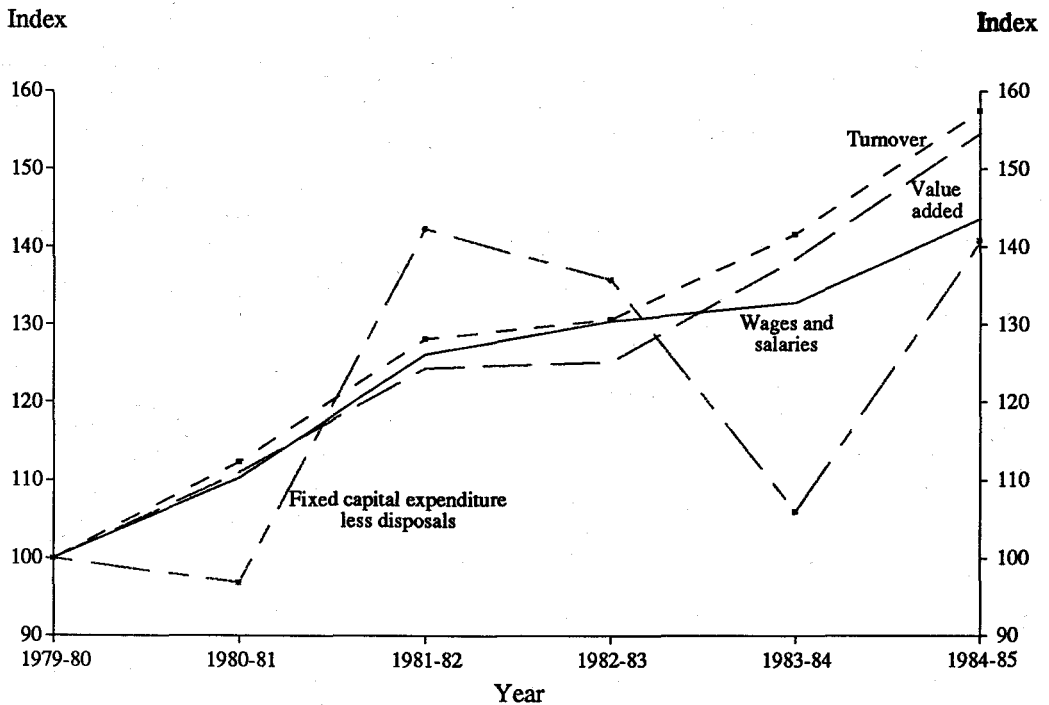
The greatest loss in employment between 1979-80 and 1984-85 occurred in the other machinery and equipment ASIC subdivision, where employment decreased by 11,522 persons or 21.2 per cent. Other significant falls occurred in the fabricated metal products (down 6,513 persons or 18 per cent), transport equipment (down 6,445 persons or 10.6 per cent), food, beverages and tobacco (down 4,826 persons or 8.9 per cent) and the miscellaneous manufacturing (down 4,762 persons or 17.1 per cent) subdivisions.

**Melbourne
Statistical Division
(MSD)**

The number of manufacturing establishments in the MSD declined from 7,182 in 1979-80 to 6,711 in 1983-84, and manufacturing employment from 329,679 persons to 290,624 persons during the same period. These declines represented 6.6 per cent and 11.8 per cent respectively. The number of establishments had risen again to 6,820 and employment to 292,772 persons by 1984-85.

In 1984-85, 82.1 per cent of persons employed by the Victorian manufacturing industry worked for establishments located within the Melbourne Statistical Division.

**MANUFACTURING ESTABLISHMENTS: INDEXES OF SELECTED
FINANCIAL VARIABLES, VICTORIA, 1979-80 TO 1984-85**
(Base year 1979-80 = 100)



Turnover and value added

Turnover of Victorian manufacturing establishments at current prices increased by 57.5 per cent and value added increased by 54.7 per cent between 1979-80 and 1984-85.

Within individual industry subdivisions, the greatest percentage increases in both turnover and value added occurred in the paper, paper products, printing and publishing subdivision where turnover and value added increased by 84.1 per cent and 81 per cent respectively.

Turnover in the basic metals subdivision rose by 81.9 per cent over the six year period but value added showed only a 31 per cent increase.

Wages and salaries

Growth in total wages and salaries increased in line with turnover and value added until 1982-83, despite decreases in manufacturing employment. Since 1982-83 however, wages and salaries have grown at a significantly lower rate than turnover and value added. The increase in wages and salaries from 1979-80 to 1984-85 was 43.6 per cent.

A further comparison can be made between the growth in wages and salaries and the growth in Victoria's gross operating surplus during the same period. Between 1979-80 and 1984-85 gross operating surplus grew by 61.6 per cent.

Capital expenditure

The 1984-85 figure for net fixed capital expenditure was 40.9 per cent higher than for 1979-80. However, investment in capital equipment has been extremely variable. The figure for 1981-82 was 42.3 per cent higher than the 1979-80 figure whereas the 1983-84 figure was only 6 per cent higher.

A major factor in these variations was the large fluctuations in capital expenditure by the basic metal products industry. This industry invested \$199.4m at its peak in 1982-83; however investment declined to a minimum for the period of \$30.2m in 1983-84.

Major manufacturing industries

In 1984-85, the food, beverages and tobacco and the transport equipment industries made the greatest contribution to Victorian manufacturing industry in terms of employment, turnover, and value added. The food, beverages and tobacco industries provided 14 per cent of manufacturing employment, 20 per cent of turnover and 16.7 per cent of value added. The transport equipment industry provided 15.3 per cent, 15.4 per cent, and 13.8 per cent respectively.

These two industries also attracted the greatest net fixed capital expenditure during 1984-85, with \$207m invested in transport equipment and \$180m in the food, beverages and tobacco industries.

The other machinery and equipment and wood, wood products and furniture subdivisions contained the greatest number of manufacturing establishments with 1173 and 1124 respectively.

TABLE 7.1 MANUFACTURING ESTABLISHMENTS (a) BY SUB-DIVISION OF INDUSTRY, VICTORIA, 1984-85

ASIC code	Industry sub-division	Establishments operating at 30 June	Employment (b)	Wages and salaries paid (c)	Turnover	Purchases, transfers in, and selected expenses	Value added (d)	Fixed capital expenditure less disposals
		number	'000	\$m	\$m	\$m	\$m	\$m
21	Food, beverages, and tobacco	1,003	49.8	898	6,673	4,494	2,203	180
23	Textiles	304	17.9	314	1,370	863	538	64
24	Clothing and footwear	955	42.8	598	2,057	1,115	973	32
25	Wood, wood products, and furniture	1,124	19.2	293	1,292	744	572	38
26	Paper, paper products, printing, and publishing	899	34.2	668	2,833	1,531	1,354	86
27	Chemical, petroleum, and coal products	278	19.7	451	2,876	1,711	1,184	135
28	Non-metallic mineral products	388	10.2	227	1,188	629	563	42
29	Basic metal products	175	12.8	299	2,397	1,885	549	50
31	Fabricated metal products	1,074	29.8	527	2,186	1,234	973	49
32	Transport equipment	383	54.5	1,070	5,159	3,468	1,811	207
33	Other machinery and equipment	1,173	42.8	787	3,326	1,856	1,575	91
34	Miscellaneous manufacturing	743	23.0	419	2,079	1,252	859	61
Total		8,499	356.7	6,551	33,436	20,782	13,154	1,035

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed. Separately located administrative offices and ancillary units are not included.

(b) Average over whole year, including working proprietors. Includes persons working at separately located administrative offices and ancillary units.

(c) Excludes drawings of working proprietors.

(d) Value added is calculated by adding to turnover the increase (or deducting the decrease) in value of stock and deducting the value of purchases and selected items of expenditure.

TABLE 7.2 MANUFACTURING ESTABLISHMENTS (a) BY SUB-DIVISION OF INDUSTRY, PERCENTAGE OF AUSTRALIAN TOTALS, VICTORIA, 1984-85
(per cent)

ASIC code	Industry sub-division	Establishments operating at 30 June	Employment	Wages and salaries paid	Turnover	Purchases, transfers in, and selected expenses	Value added	Fixed capital expenditure less disposals
21	Food, beverages, and tobacco	30	30	30	32	31	32	33
23	Textiles	46	53	54	51	50	56	61
24	Clothing and footwear	47	57	59	58	57	59	55
25	Wood, wood products, and furniture	28	26	27	26	26	26	33

TABLE 7.2 MANUFACTURING ESTABLISHMENTS (a) BY SUB-DIVISION OF INDUSTRY, PERCENTAGE OF AUSTRALIAN TOTALS, VICTORIA, 1984-85 - continued
(per cent)

ASIC code	Industry sub-division	Establishments operating at 30 June	Employment	Wages and salaries paid	Turnover	Purchases, transfers in, and selected expenses	Value added	Fixed capital expenditure less disposals
26	Paper, paper products, printing, and publishing	30	33	34	35	36	33	28
27	Chemical, petroleum, and coal products	31	36	36	29	27	33	46
28	Non-metallic mineral products	23	26	28	26	23	29	25
29	Basic metal products	33	17	17	19	22	14	7
31	Fabricated metal products	26	26	33	31	30	33	33
32	Transport equipment	29	46	46	53	56	48	60
33	Other machinery and equipment	31	34	34	36	36	36	42
34	Miscellaneous manufacturing	34	39	41	42	42	42	41
	Total manufacturing	31	35	35	34	34	34	33

(a) See footnote to Table 7.1.

MANUFACTURING ESTABLISHMENTS: SELECTED VARIABLES BY INDUSTRY SUB-DIVISION, PERCENTAGE OF AUSTRALIAN TOTALS, VICTORIA, 1984-85



TABLE 7.3 NUMBER OF MANUFACTURING ESTABLISHMENTS (a) AND PERSONS EMPLOYED IN EACH STATISTICAL DIVISION, CLASSIFIED ACCORDING TO INDUSTRY SUB-DIVISION, VICTORIA, 1984-85

ASIC code	Industry sub-division	Statistical division												Total
		Melbourne	Barwon	South Western	Central Highlands	Northern Wimmera	Loddon-Mallee	Campaspe	Goulburn	North Eastern	East Gippsland	Central Gippsland	East Central	
NUMBER OF MANUFACTURING ESTABLISHMENTS														
21	Food, beverages, and tobacco	574	45	33	40	19	37	62	64	45	20	48	16	1,003
23	Textiles	249	20	3	6	2	1	5	8	3	-	5	2	304
24	Clothing and footwear	868	23	5	10	2	-	16	9	7	2	11	1	955
25	Wood, wood products, and furniture	823	49	18	40	9	6	29	33	23	39	34	21	1,124
26	Paper, paper products, printing, and publishing	768	16	12	11	7	12	18	18	10	11	13	3	899
27	Chemical, petroleum, and coal products	254	11	2	2	-	1	3	1	1	-	3	-	278
28	Non-metallic mineral products	202	26	16	23	8	13	27	23	13	9	24	4	388
29	Basic metal products	145	13	-	6	1	-	5	-	1	-	4	-	175
31	Fabricated metal products	903	39	11	19	9	8	19	17	15	10	21	3	1,074
32	Transport equipment	316	10	5	11	-	3	12	14	3	2	7	-	383
33	Other machinery and equipment	1,034	30	12	21	6	9	18	14	9	5	11	4	1,173
34	Miscellaneous manufacturing	683	14	1	6	2	2	8	8	8	4	5	2	743
Total		6,820	296	118	195	65	92	222	209	138	102	186	56	8,499
NUMBER OF PERSONS EMPLOYED														
21	Food, beverages, and tobacco	32,532	1,428	2,035	1,758	334	686	2,742	3,875	1,952	370	1,373	566	49,651
23	Textiles	13,245	1,642	370	179	np	np	454	330	1,052	-	253	np	17,878
24	Clothing and footwear	35,322	2,060	795	774	np	-	1,695	430	786	np	662	np	42,816
25	Wood, wood products, and furniture	13,968	721	464	875	75	48	271	488	742	848	486	248	19,234
26	Paper, paper products, printing, and publishing	29,757	537	183	439	88	176	365	398	391	155	1,625	112	34,226
27	Chemical, petroleum, and coal products	17,719	1,571	np	np	-	np	20	np	np	-	85	-	19,697
28	Non-metallic mineral products	7,411	1,137	65	481	92	70	349	173	151	44	233	32	10,238
29	Basic metal products	9,218	2,483	-	644	-	-	186	-	np	-	127	-	12,788
31	Fabricated metal products	26,048	775	102	357	81	57	926	357	297	135	465	156	29,756
32	Transport equipment	46,559	5,013	39	1,139	-	75	1,095	443	21	np	55	np	54,549
33	Other machinery and equipment	39,380	655	212	726	117	88	774	205	302	105	224	46	42,834
34	Miscellaneous manufacturing	21,613	181	np	np	np	np	455	np	257	137	82	np	23,020
Total		292,772	18,203	4,485	7,535	1,197	1,241	9,326	6,787	6,125	1,869	5,670	1,477	356,687

(a) See footnote to Table 7.1.

TABLE 7.4 MANUFACTURING ACTIVITY, VICTORIA, 1901 TO 1967-68

Year	Manufacturing establishments	Employment (a)	Wages and salaries paid (b)	Turnover (c)	Materials and fuel used	Value added (d)	Fixed capital expenditure less disposals (e)
	number	number	\$m	\$m	\$m	\$m	\$m
1901	3,249	66,529	n.a.	n.a.	n.a.	n.a.	25
1911	5,126	111,948	18	84	51	32	28
1920-21	6,532	140,743	43	212	135	77	71
1932-33	8,612	144,428	42	204	122	82	136
1946-47	10,949	265,757	156	631	368	263	244
1953-54	15,533	331,277	472	1,971	1,154	817	679
1960-61	17,173	388,050	776	3,332	1,914	1,418	1,642
1965-66	17,980	439,149	1,077	4,625	2,597	2,028	2,386
1967-68	18,030	449,945	1,244	5,351	2,957	2,395	2,685

(a) Average over whole year, including working proprietors.

(b) Excludes drawings of working proprietors.

(c) Output, excluding other revenue.

(d) Value added in process of production (ie. value of output less value of materials and fuel, etc, used).

(e) Comprises land, buildings, plant, and machinery.

TABLE 7.5 MANUFACTURING ACTIVITY, VICTORIA, 1968-69 TO 1984-85

Year	Manufacturing establishments (a)	Employment (b)	Wages and salaries paid (c)	Turnover	Purchases, transfers in and selected expenses	Value added (d)	Fixed capital expenditure less disposals
	number	number	\$m	\$m	\$m	\$m	\$m
1968-69	11,563	431,651	1,342	6,336	3,861	2,542	278
1969-70	11,393	445,663	1,497	6,998	4,307	2,799	300
1979-80	8,902	397,313	4,563	21,233	13,353	8,505	735
1980-81	8,726	391,489	5,032	23,856	14,814	9,440	712
1981-82	8,916	392,737	5,757	27,208	17,031	10,578	1,046
1982-83	8,392	363,018	5,950	27,747	17,060	10,649	998
1983-84	8,404	353,248	6,059	30,081	18,405	11,779	779
1984-85	8,499	356,687	6,551	33,436	20,782	13,154	1,035

(a) All manufacturing establishments in operation at 30 June, owned by multi-establishment enterprises and single establishment enterprises with four or more persons employed. Separately located administrative offices and ancillary units are not included. Note that 1968-69 and 1969-70 figures include establishments with less than four employees.

(b) Average over whole year, including working proprietors. Includes persons working at separately located administrative offices and ancillary units.

(c) Excludes drawings of working proprietors.

(d) Value added is calculated by adding to turnover the increase (or deducting the decrease) in value of stock and deducting the value of purchases and selected items of expense.

TABLE 7.6 MANUFACTURING ESTABLISHMENTS (a), 1984-85

<i>State or Territory</i>	<i>Establishments operating at 30 June</i>	<i>Employment</i>	<i>Wages and salaries paid</i>	<i>Turnover</i>	<i>Purchases, transfers in, and selected expenses</i>	<i>Value added</i>	<i>Fixed capital expenditure less disposals</i>
	number	number	\$m	\$m	\$m	\$m	\$m
New South Wales	10,218	364,805	6,988	34,087	20,556	14,060	1,322
Victoria	8,499	356,687	6,551	33,436	20,782	13,154	1,035
Queensland	3,392	109,940	1,934	12,921	8,623	4,385	219
South Australia	2,196	92,205	1,604	7,847	4,893	3,095	231
Western Australia	2,451	64,242	1,138	6,789	4,343	2,513	258
Tasmania	575	24,494	443	2,423	1,549	938	52
Northern Territory	137	2,645	58	407	279	129	18
Australian Capital Territory	143	3,430	64	299	182	113	1
Total	27,611	1,018,448	18,780	98,209	61,207	38,387	3,134

(a) See footnote to Table 7.1.

MANUFACTURING ESTABLISHMENTS: SELECTED VARIABLES BY INDUSTRY SUB-DIVISION, PERCENTAGE OF VICTORIAN TOTALS, 1984-85



TABLE 7.7 NUMBER OF MANUFACTURING ESTABLISHMENTS (a) BY SUB-DIVISION OF INDUSTRY, VICTORIA

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
21	Food, beverages, and tobacco	982	975	1,000	966	991	1,003
23	Textiles	312	309	325	307	295	304
24	Clothing and footwear	1,038	1,004	1,011	943	932	955
25	Wood, wood products, and furniture	1,156	1,129	1,130	1,074	1,086	1,124
26	Paper, paper products, printing, and publishing	949	903	916	881	889	899
27	Chemical, petroleum, and coal products	295	283	293	289	288	278
28	Non-metallic mineral products	397	393	406	392	390	388
29	Basic metal products	175	174	181	191	177	175
31	Fabricated metal products	1,133	1,153	1,197	1,086	1,079	1,074
32	Transport equipment	456	437	413	374	381	383
33	Other machinery and equipment	1,245	1,230	1,259	1,159	1,162	1,173
34	Miscellaneous manufacturing	764	736	785	730	734	743
	Total	8,902	8,726	8,916	8,392	8,404	8,499

(a) See footnote to Table 7.1.

TABLE 7.8 MANUFACTURING ESTABLISHMENTS (a) CLASSIFIED ACCORDING TO NUMBER OF PERSONS EMPLOYED (INCLUDING WORKING PROPRIETORS), VICTORIA

Manufacturing establishments employing persons numbering -	At 30 June 1984		At 30 June 1985	
	Number of establishments	Number of persons employed (b)	Number of establishments	Number of persons employed (b)
Less than 10	3,778	22,472	3,839	22,742
10 to 19	1,830	24,946	1,859	25,560
20 to 49	1,409	42,930	1,417	43,570
50 to 99	673	47,560	646	45,494
100 to 199	401	57,299	411	57,564
200 to 499	236	71,479	251	74,929
500 to 999	55	37,336	52	36,305
1,000 and over	22	40,305	24	42,166
Total	8,404	344,327	8,499	348,330

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed. In addition, there were 3,725 single establishment enterprises employing 7,729 persons in the one to three persons employed group for 1984-85.

(b) Excludes persons employed in separately located administrative offices and ancillary units serving more than one establishment.

TABLE 7.9 PERSONS EMPLOYED (a) IN MANUFACTURING ESTABLISHMENTS, VICTORIA

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
21	Food, beverages, and tobacco	54,477	55,349	53,139	51,450	49,883	49,651
23	Textiles	20,210	19,711	19,147	17,358	17,575	17,878
24	Clothing and footwear	44,219	43,614	43,547	41,240	42,436	42,816
25	Wood, wood products, and furniture	19,136	19,628	20,058	17,992	18,285	19,234

TABLE 7.9 PERSONS EMPLOYED (a) IN MANUFACTURING ESTABLISHMENTS, VICTORIA - continued

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
26	Paper, paper products, printing, and publishing	33,268	33,629	32,839	33,759	34,359	34,226
27	Chemical, petroleum, and coal products	19,792	19,972	20,249	20,323	19,665	19,697
28	Non-metallic mineral products	12,974	12,448	12,483	11,181	10,371	10,238
29	Basic metal products	13,836	14,045	14,840	13,379	12,865	12,788
31	Fabricated metal products	36,269	36,027	36,632	32,232	30,210	29,756
32	Transport equipment	60,994	56,790	59,566	54,383	52,441	54,549
33	Other machinery and equipment	54,356	53,403	53,004	45,906	42,133	42,834
34	Miscellaneous manufacturing	27,782	26,873	27,234	23,815	23,025	23,020
	Total	397,313	391,489	392,737	363,018	353,248	356,687

(a) Average over whole year including working proprietors. Includes persons working at separately located administrative offices and ancillary units.

TABLE 7.10 MANUFACTURING ESTABLISHMENTS (a), TYPE OF EMPLOYMENT, VICTORIA

At 30 June	Working proprietors	Administrative, office, sales, and distribution employees	Production and all other employees	Total
1980	4,160	98,425	288,442	391,027
1981	3,744	97,885	290,172	391,801
1982	3,475	98,178	287,219	388,872
1983	2,869	89,517	257,293	349,679
1984	2,906	88,879	262,624	354,409
1985	2,630	88,809	266,550	357,989

(a) See footnote to Table 7.1.

TABLE 7.11 MANUFACTURING ESTABLISHMENTS (a), TYPE OF EMPLOYMENT BY INDUSTRY SUB-DIVISION, VICTORIA, AT 30 JUNE 1985

ASIC code	Industry sub-division	Working proprietors	Administrative, office, sales, and distribution employees	Production and all other employees	Total
21	Food, beverages, and tobacco	461	12,358	36,427	49,246
23	Textiles	59	4,195	13,755	18,009
24	Clothing and footwear	387	5,492	37,047	42,926
25	Wood, wood products, and furniture	541	4,301	14,624	19,466
26	Paper, paper products, printing, and publishing	255	11,395	22,551	34,201
27	Chemical, petroleum, and coal products	24	7,278	12,457	19,759
28	Non-metallic mineral products	94	2,650	7,536	10,280
29	Basic metal products	22	4,130	8,427	12,579
31	Fabricated metal products	280	7,876	21,633	29,789
32	Transport equipment	89	11,643	43,671	55,403
33	Other machinery and equipment	218	12,054	31,023	43,295
34	Miscellaneous manufacturing	200	5,437	17,399	23,036
	Total	2,630	88,809	266,550	357,989

(a) See footnote to Table 7.1.

TABLE 7.12 MANUFACTURING ESTABLISHMENTS (a), TURNOVER (b) BY INDUSTRY SUB-DIVISION, VICTORIA
(\$m)

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
21	Food, beverages, and tobacco	4,435	5,029	5,452	5,959	6,266	6,673
23	Textiles	930	1,020	1,107	1,087	1,219	1,370
24	Clothing and footwear	1,355	1,524	1,647	1,717	1,926	2,057
25	Wood, wood products, and furniture	750	871	1,016	1,014	1,115	1,292
26	Paper, paper products, printing, and publishing	1,539	1,788	2,066	2,262	2,499	2,833
27	Chemical, petroleum, and coal products	1,750	2,121	2,365	2,451	2,668	2,876
28	Non-metallic mineral products	703	787	902	884	1,001	1,188
29	Basic metal products	1,318	1,519	1,809	1,721	2,116	2,397
31	Fabricated metal products	1,599	1,797	2,043	1,953	2,037	2,186
32	Transport equipment	3,034	3,077	3,825	4,014	4,269	5,159
33	Other machinery and equipment	2,419	2,751	3,196	2,987	3,055	3,325
34	Miscellaneous manufacturing	1,402	1,573	1,780	1,701	1,911	2,080
Total		21,233	23,856	27,208	27,747	30,081	33,436

(a) See footnote to Table 7.1.

(b) Turnover includes sales of goods whether produced by an establishment or not, transfers out of goods to other establishments of the same enterprise, bounties and subsidies on production plus all other operating revenue from outside the enterprise.

TABLE 7.13 MANUFACTURING ESTABLISHMENTS (a), PURCHASES, TRANSFERS IN, AND SELECTED ITEMS OF EXPENSE (b) BY INDUSTRY SUB-DIVISION, VICTORIA
(\$m)

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
21	Food, beverages, and tobacco	3,173	3,549	3,801	4,145	4,198	4,495
23	Textiles	582	623	682	658	741	863
24	Clothing and footwear	730	805	878	894	1,030	1,115
25	Wood, wood products, and furniture	432	492	584	571	628	744
26	Paper, paper products, printing, and publishing	826	962	1,106	1,213	1,325	1,530
27	Chemical, petroleum, and coal products	1,128	1,338	1,468	1,518	1,619	1,711
28	Non-metallic mineral products	362	414	482	470	515	629
29	Basic metal products	943	1,109	1,319	1,258	1,592	1,885
31	Fabricated metal products	912	1,005	1,161	1,076	1,137	1,234
32	Transport equipment	2,037	1,989	2,614	2,601	2,760	3,468
33	Other machinery and equipment	1,363	1,574	1,824	1,618	1,703	1,856
34	Miscellaneous manufacturing	864	955	1,112	1,037	1,156	1,252
Total		13,353	14,814	17,031	17,060	18,405	20,782

(a) See footnote to Table 7.1.

(b) Includes purchases of materials, fuel, power, containers, etc., and goods for resale, plus transfers in of goods from other establishments of the enterprise, plus charges for commission and sub-contract work, repair and maintenance expenses, outward freight and cartage, motor vehicle running expenses, sales commission payments, rent, leasing and hiring expenses.

**TABLE 7.14 MANUFACTURING ESTABLISHMENTS (a), STOCKS (b) BY INDUSTRY
SUB-DIVISION, VICTORIA
(\$m)**

<i>ASIC code</i>	<i>Industry sub-division</i>	<i>1979-80</i>	<i>1980-81</i>	<i>1981-82</i>	<i>1982-83</i>	<i>1983-84</i>	<i>1984-85</i>
OPENING STOCKS							
21	Food, beverages, and tobacco	515	579	641	646	741	744
23	Textiles	162	183	186	204	192	212
24	Clothing and footwear	217	245	265	289	280	316
25	Wood, wood products, and furniture	94	112	127	140	136	151
26	Paper, paper products, printing, and publishing	187	225	263	291	285	291
27	Chemical, petroleum, and coal products	254	320	369	404	420	452
28	Non-metallic mineral products	83	101	104	121	132	120
29	Basic metal products	163	183	263	293	258	273
31	Fabricated metal products	254	306	330	364	306	316
32	Transport equipment	537	659	640	674	709	660
33	Other machinery and equipment	550	653	742	781	720	682
34	Miscellaneous manufacturing	200	241	270	274	266	269
	Total	3,216	3,809	4,200	4,480	4,444	4,486
CLOSING STOCKS							
21	Food, beverages, and tobacco	596	652	655	722	764	769
23	Textiles	181	187	206	195	211	242
24	Clothing and footwear	241	266	295	287	320	345
25	Wood, wood products, and furniture	107	121	143	140	155	174
26	Paper, paper products, printing, and publishing	222	269	312	291	286	343
27	Chemical, petroleum, and coal products	325	368	411	425	463	471
28	Non-metallic mineral products	93	106	121	132	119	125
29	Basic metal products	207	261	290	275	268	311
31	Fabricated metal products	307	333	371	320	324	336
32	Transport equipment	664	649	705	665	677	780
33	Other machinery and equipment	654	731	799	737	686	789
34	Miscellaneous manufacturing	243	265	291	253	273	301
	Total	3,840	4,207	4,601	4,442	4,546	4,986

(a) See footnote to Table 7.1.

(b) Figures include finished goods, work-in-progress and stocks of material, fuels, etc. Note that due to reporting differences on individual returns and variations in number of establishments from year to year the closing stocks in one year may differ from the opening stocks in the following year.

TABLE 7.15 MANUFACTURING ESTABLISHMENTS (a), VALUE ADDED (b) BY INDUSTRY SUB-DIVISION, VICTORIA
(\$m)

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
21	Food, beverages, and tobacco	1,342	1,553	1,666	890	2,092	2,203
23	Textiles	367	401	445	420	497	538
24	Clothing and footwear	650	740	800	821	937	973
25	Wood, wood products, and furniture	331	388	447	443	505	572
26	Paper, paper products, printing, and publishing	748	870	1,009	1,049	1,174	1,354
27	Chemical, petroleum, and coal products	693	830	940	953	1,093	1,184
28	Non-metallic mineral products	351	377	438	425	473	563
29	Basic metal products	419	487	516	445	534	549
31	Fabricated metal products	740	819	924	833	918	973
32	Transport equipment	1,124	1,078	1,276	1,403	1,476	1,881
33	Other machinery and equipment	1,160	1,255	1,429	1,324	1,319	1,575
34	Miscellaneous manufacturing	580	641	690	643	761	859
	Total	8,505	9,440	10,578	10,649	11,779	13,154

(a) See footnote to Table 7.1.

(b) Value added is calculated by adding to turnover the increase (or deducting the decrease) in value of stock and deducting the value of purchases and selected items of expenditure.

TABLE 7.16 MANUFACTURING ESTABLISHMENTS (a), FIXED CAPITAL EXPENDITURE LESS DISPOSALS AND RENT, LEASING, AND HIRING EXPENSES, VICTORIA, 1984-85
(\$m)

ASIC code	Industry sub-division	Fixed capital expenditure less disposals			Rent leasing, and hiring expenses
		Land, buildings, and other structures	Vehicles, plant machinery and equipment	Total	
21	Food, beverages, and tobacco	19.4	160.9	180.3	58.2
23	Textiles	14.9	49.4	64.3	26.3
24	Clothing and footwear	2.5	29.7	32.2	34.2
25	Wood, wood products, and furniture	7.2	30.6	37.8	31.7
26	Paper, paper products, printing, and publishing	4.8	80.7	85.5	61.1
27	Chemical, petroleum, and coal products	24.7	109.9	134.6	25.1
28	Non-metallic mineral products	10.0	31.9	41.9	7.9
29	Basic metal products	4.1	46.1	50.2	15.2
31	Fabricated metal products	3.7	45.7	49.4	32.8
32	Transport equipment	16.1	190.8	206.9	107.2
33	Other machinery and equipment	11.4	79.5	90.9	53.1
34	Miscellaneous manufacturing	0.7	60.2	69.9	42.4
	Total	119.5	915.4	1,034.9	494.3

(a) See footnote to Table 7.1.

TABLE 7.17 MANUFACTURING ESTABLISHMENTS (a), FIXED CAPITAL EXPENDITURE LESS DISPOSALS, VICTORIA (\$m)

ASIC code	Industry sub-division	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
21	Food, beverages, and tobacco	130.1	137.9	150.6	135.1	168.2	180.3
23	Textiles	19.3	10.9	31.4	27.5	25.4	64.3
24	Clothing and footwear	14.9	19.6	22.0	21.1	24.5	32.2
25	Wood, wood products, and furniture	13.1	16.3	21.6	14.6	17.7	37.8
26	Paper, paper products, printing, and publishing	56.2	59.2	120.8	81.5	49.0	85.5
27	Chemical, petroleum, and coal products	117.6	105.2	96.7	110.5	98.3	134.6
28	Non-metallic mineral products	46.8	59.3	32.3	23.2	42.8	42.0
29	Basic metal products	61.1	114.5	190.0	199.4	30.2	50.2
31	Fabricated metal products	35.2	33.7	47.5	40.9	41.3	49.5
32	Transport equipment	143.5	46.9	195.5	211.8	180.0	207.0
33	Other machinery and equipment	62.8	65.2	79.7	72.4	48.5	90.9
34	Miscellaneous manufacturing	33.7	42.7	56.9	53.5	53.5	60.8
	Total	734.7	712.0	1,045.6	998.2	779.4	1,035.1

(a) See footnote to Table 7.1.

TABLE 7.18 MANUFACTURING ESTABLISHMENTS (a) IN STATISTICAL DIVISIONS, VICTORIA, AT 30 JUNE 1985

Statistical division	Establishments operating at 30 June	Employment	Wages and salaries paid		Turnover	Purchases, transfers in, and selected expenses	Fixed capital expenditure	
	number		number	\$m			\$m	Value added	less disposals
Melbourne	6,820	292,772	5,410	26,927	16,612	10,770	796	
Barwon	296	18,203	374	2,102	1,391	736	104	
South Western	118	4,485	76	532	347	177	14	
Central Highlands	195	7,535	125	560	325	237	28	
Wimmera	65	1,197	16	78	52	28	2	
Northern Mallee	92	1,241	20	184	128	68	5	
Loddon-Campaspe	222	9,326	147	723	451	271	18	
Goulburn	209	6,787	117	769	514	259	20	
North Eastern	138	6,125	108	676	396	301	29	
East Gippsland	102	1,869	29	175	99	67	1	
Central Gippsland	186	5,670	104	571	375	193	12	
East Central	56	1,477	25	140	92	47	6	
Total	8,499	356,687	6,551	33,437	20,782	13,154	1,035	

(a) See footnote to Table 7.1.

TABLE 7.19 SELECTED ARTICLES MANUFACTURED, 1986-87

Article	Unit	Victoria	Australia	Victoria as a percentage of Australia
Meat (carcass weight) -				
Beef and veal	'000 tonnes	312	1,513	20.6
Mutton	'000 tonnes	75	289	25.8
Lamb	'000 tonnes	130	295	44.2
Pigmeat	'000 tonnes	47	275	17.0
Dairy products -				
Whole milk	ml. litres	3,692	6,172	59.8
Butter	tonnes	90,140	103,855	86.8
Cheese	tonnes	101,832	177,489	57.4
Ice cream	'000 litres	63,511	205,309	30.9
Flour, white	tonnes	248,414	1,163,576	21.3
Yarns -				
Cotton	tonnes	10,477	21,161	49.5
Wool	tonnes	16,548	23,090	71.7
Woven cloth -				
Cotton	'000 sq metres	19,445	38,654	50.3
Wool	'000 sq metres	3,987	11,217	35.5
Cars and station wagons	'000	188	302	62.2
Plastic and synthetic resins	'000 tonnes	427	649	65.9
Building materials -				
Clay bricks	million	447	1,838	24.3
Terracotta and concrete roofing tiles	'000 sq. metres	5,263	17,676	29.8
Ready mixed concrete	'000 cu. metres	3,151	13,689	23.0

MINING

Overview

The Victorian mining industry in 1985-86 contributed 27.3 per cent of the Australian mining component of Gross Domestic Product (GDP) at factor cost. The mining industry represented 5.1 per cent of Victoria's GDP at factor cost in 1985-86, a figure identical to the mining industry's percentage contribution to Australia's GDP at factor cost.

The term 'mining' as used in GDP at factor cost estimates includes the extraction of minerals occurring naturally as solids, such as coals and ores, liquids such as crude petroleum, or gases such as natural gas.

Oil and gas production

In 1984-85, the Gippsland Basin produced 88 per cent of Australia's crude oil and 41 per cent of its natural gas. Oil and gas extracted from Australian fields during 1984-85 was valued at \$4.034m.

Brown coal

Australia's measured and indicated resources of brown coal are estimated at 43,300 Mt., the majority of which is located in Victoria's Latrobe Valley

(39,700 Mt.). Brown coal is by far Victoria's most valuable solid mineral commodity, with production in 1984-85 valued at \$208m, which was 92 per cent of the total value of Victorian solid mineral production (excluding stone).

Gold

Victoria's production of gold bullion has increased rapidly in recent years. Only 41 kilograms were produced during 1979-80, before rising to 150 kilograms in 1983-84. Victorian gold production has increased dramatically from this low base, largely as a result of the Wonga open cut mine at Stawell coming on stream. By 1984-85 Victorian production was 902 kilograms and was valued at \$11.3m.

TABLE 7.20 MINING ACTIVITY, (a) VICTORIA

Description	Establishments at 30 June	Employment (b)	Wages and salaries (c)	Turnover	Stocks		Purchases, transfers in and selected expenses	Value added (d)
					Opening	Closing		
Total mining (e)	number	number	\$m	\$m	\$m	\$m	\$m	\$m
1983-84	230	5,663	152.5	2,533.9	61.6	59.7	281.3	2,250.7
1984-85	221	5,737	160.3	3,104.9	65.9	62.6	281.9	2,819.7
1985-86	207	5,567	171.7	3,384.0	61.1	70.3	323.5	3,069.7

(a) ASIC Subdivisions not available for separate publication.

(b)(c)(d) See footnotes to Table 7.1.

(e) Excluding services to mining.

TABLE 7.21 ROYALTIES FROM OIL AND GAS PRODUCTION, VICTORIA (\$m)

Year	Amount received	Amount paid to Commonwealth	Amount retained by Victoria
1980-81	171.8	54.6	117.2
1981-82	159.8	52.3	107.4
1982-83	188.3	62.7	125.6
1983-84	257.9	84.2	173.7
1984-85	293.9	96.5	197.5
1985-86	302.2	99.4	202.8

Source: Department of Industry, Technology and Resources, Victoria: *Annual Report*.

TABLE 7.22 CRUDE OIL PRODUCTION (a)

Year	Barrels ('000)		Megalitres	
	During year	Average barrels per day	During year	Average megalitres per day
1981	134,282	370	21,349	58.5
1982	127,070	348	20,203	55.3
1983	137,337	376	21,835	60.0
1984	159,395	436	25,342	69.4
1985	177,776	487	28,264	77.4
1986	145,350	398	23,109	63.3

(a) After processing.

Source: Esso Australia Ltd: *Annual Report*.

Department of Resources and Energy: *Major Energy Statistics*.

TABLE 7.23 ESTIMATED HYDROCARBON RESERVES, VICTORIA
(million cu. metres)

Item	1983	1984	1985
Crude oil	210	192	189
Natural gas	181	162	168
Condensate	23	21	21
LPG	51	47	45

Source: Department of Industry, Technology and Resources: *Annual Report*.**TABLE 7.24 MINERAL PRODUCTION, VICTORIA**

Mineral	Unit	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
Brown coal	kilotonne	32,895	32,103	37,565	34,708	33,199	38,380
Metallic minerals -							
Antimony ore	tonne	-	-	-	-	376	607
Bauxite	tonne	1,143	3,123	8,493	8,585	12,829	4,409
Gold bullion (a)	kilogram	41	65	87	115	150	902
Iron ore	tonne	1,791	170	-	-	1,102	-
Non-metallic minerals -							
Diatomite (b)	tonne	634	634	1,499	682	538	776
Gypsum	kilotonne	277	370	416	88	207	247
Kaolin (b)	kilotonne	33	36	58	47	84	89

(a) Gold bullion is not yet refined and may contain small amounts of other metals such as silver.

(b) Refined and unrefined

Source: Department of Industry, Technology and Resources, Victoria: *Annual Report*.**TABLE 7.25 MINERAL PRODUCTION AND VALUE, VICTORIA,**
1984-85

Mineral	Unit	Production	Value ('000)
Antimony ore	tonne	607	11
Bauxite	tonne	4409	42
Brown coal	kilotonne	38,380	208,366
Diatomite	tonne	776	124
Gold	kilogram	902	11,292
Gypsum	kilotonne	247	1,353
Kaolin	kilotonne	89	5,091
Total			226,278

Source: Department of Industry, Technology and Resources, Victoria: *Annual Report*.**TABLE 7.26 STONE PRODUCTION, VICTORIA, 1984-85**

Item	Establishments operating	Total Victorian production	Value
	Number	Production '000 tonnes	\$'000
Clays -			
Brick clay and shale	30	1,291	2,900
Fireclay	3	8	49
White and other clays	5	55	370
Total clays	38	1,354	3,319

TABLE 7.26 STONE PRODUCTION, VICTORIA, 1984-85 - *continued*

Item	Establishments operating	Total Victorian production	
	Number	Production '000 tonnes	Value \$'000
Crushed and broken stone -			
Basalt	49	11,989	92,981
Dacite, rhyolite, and rhyodacite	5	2,112	21,966
Granite	10	1,077	7,235
Hornfels	8	1,059	9,573
Limestone	7	1,006	3,014
Sandstone, quartzite	23	3,041	7,482
Shale and schist, other	3	267	991
Total crushed and broken stone	105	20,551	143,242
Dimension stone -			
Granite, marble, slate, limestone, and sandstone	8	28	1,343
Earth and soil	23	522	1,992
Gravel	77	5,206	13,295
Limestone -			
For agriculture	14	150	2,445
For cement	3	2,275	9,497
For other purposes	2	34	306
Total limestone	19	2,459	12,247
Salamander	7	173	491
Sand	137	7,437	30,805
Scoria	24	1,433	6,681
Tuff	10	177	429
Other construction materials -			
Filling	15	727	1,609
Other	2	77	444
Grand total	465	40,144	215,897

Source: Department of Industry, Technology and Resources, Victoria: *Annual Report*.

ENERGY

Overview

In 1985-86, Victoria contributed 28 per cent of the Electricity, Gas and Water component of Australia's Gross Domestic Product (GDP) at factor cost. The Electricity, Gas and Water industries represented 4 per cent of Victoria's GDP at factor cost in 1985-86.

The Electricity, Gas and Water component of GDP includes the transmission and distribution of gas through reticulation systems. It does not include the extraction of crude petroleum or natural gas.

Electricity generated

Victorian production of electricity in 1985-86 was 28,151 GWh, a rise of 3 per cent over the 1984-85 figure.

Victoria's electricity system is based upon the State's extensive brown coal resource in the LaTrobe Valley, 140 to 180 kilometres east of Melbourne in Central Gippsland, which is one of the largest single brown coal deposits in the world.

The major brown coal fired generating plants in the system are all located in the LaTrobe Valley and generate three-quarters of the State's electricity requirement.

Other thermal stations include a gas turbine station in the LaTrobe Valley and a gas fired station in Melbourne. There are hydro-electric power stations in north-eastern Victoria and Victoria is also entitled to about 30 per cent of the output of the Snowy Mountains hydro-electric scheme and half of the output of the Hume hydro-electric station near Albury.

Petroleum marketed

Motor spirit (super, standard and unleaded) marketed in Victoria during 1985 amounted to 4426.8 megalitres. This represented a 2 per cent rise over the 1984 figure.

TABLE 7.27 POWER STATIONS: LOCATIONS, RATING, AND PRODUCTION, VICTORIA

Station	Maximum output achieved (MW)		Electricity generated (GWh)	
	1984-85	1985-86	1984-85	1985-86
Brown coal thermal stations -				
Hazelwood	1,200	1,160	7,565	6,984
Yallourn	360	227	1,501	803
Yallourn W	1,452	1,400	8,375	7,551
Morwell	152	141	868	805
Loy Yang A	1,000	1,025	4,057	6,106
Total	..	..	22,366	22,249
Other thermal stations -				
Newport D	500	501	2,097	2,774
Jeeralang	507	434	833	598
Total	..	..	2,930	3,372
Hydro stations -				
Kiewa	199	210	282	267
Eildon-Rubicon (incl. Cairn-Curran)	116	100	232	199
Dartmouth	133	148	11	231
Total	..	..	525	697
Stations operated by other bodies	1,391	1,333	1,518	1,833
Total input to system	..	..	27,339	28,151
Electricity generated for export and pumped storage operation	..	..	1,347	1,118
Victorian system requirement	..	..	25,992	27,033

Source: State Electricity Commission of Victoria: *Annual Report*.

TABLE 7.28 REFINING CAPACITY, VICTORIA, AT 1 JULY 1987

<i>Refinery</i>	<i>Location in Victoria and year refinery came on stream</i>	<i>Primary processing capacity (a)</i>
Shell Refining (Australia) Pty Ltd	Corio near Geelong 1954	110,000 to 132,000 BSD 5,000,000 tonnes/year
Shell Lubricating oil plant	Corio near Geelong 1954	3,000 BSD 145,000 tonnes/year
Petroleum Refineries (Australia) Pty Ltd	Altona near Melbourne 1949	108,000 BSD 5,040,000 tonnes/year

(a) BSD: barrels per stream day.

Source: Australian Institute of Petroleum Ltd: *Oil and Australia*.TABLE 7.29 PRINCIPAL PETROLEUM PRODUCTS MARKETED, VICTORIA
(megalitres)

<i>Item</i>	<i>1984</i>	<i>1985</i>	<i>1986</i>
Aviation gasoline	14.59	16.37	16.77
Motor spirit -			
Super	4,134.21	4,301.59	4,230.04
Standard	205.11	54.35	0.29
Unleaded	-	70.96	243.88
Total	4,339.34	4,426.80	4,474.21
Power kerosene	4.20	3.05	.53
Aviation turbine fuel	432.11	475.01	473.98
Lighting kerosene	25.45	21.44	20.15
Heating oil	75.75	56.15	50.76
Automotive distillate -			
Inland	1,342.43	1,369.10	1,399.67
Bunkers	6.94	5.91	19.27
Total	1,349.37	1,375.10	1,418.93
Industrial diesel fuel -			
Inland	92.64	79.13	74.10
Bunkers	55.77	54.51	40.03
Total	148.42	133.63	114.13
Fuel oil -			
Inland (a)	86.26	77.37	60.53
Bunkers	344.01	286.67	280.39
Total	430.27	364.04	340.92
Grand total (b)	6,819.46	6,871.59	6,910.38

(a) Excluding refinery fuel.

(b) Other petroleum fuels including refinery oil are no longer included as principal petroleum products marketed.

Source: Department of Resources and Energy, Victoria: *Major Energy Statistics*.

REFERENCES

Data Sources

The latest year for which ABS estimates are available for State gross product at factor cost is 1983-84. In order to bring the series up to 1985-86, use has been made of estimates for gross operating surplus prepared by the Victorian Department of Management and Budget.

Major sources of manufacturing data are the Censuses of Manufacturing Establishments which have been conducted in Victoria since 1901, and the monthly surveys of selected manufacturing production. No Manufacturing Census was conducted for the year 1985-86.

Manufacturing statistics collected since 1968-69 are classified by industry according to Division C of the Australian Standard Industrial Classification (ASIC). Division C 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.

ABS publications

Census of Manufacturing Establishments: Summary of Operations by Industry Subdivision, Australia, Preliminary (8201.0)

Manufacturing Establishments: Summary of Operations by Industry Class, Australia (8202.0)

Manufacturing Establishments: Selected Items of Data by Industry and Employment Size, Victoria (8202.2)

Manufacturing Establishments: Details of Operations by Industry Class, Australia (8203.0)

Manufacturing Establishments: Small Area Statistics, Victoria (8203.2)

Manufacturing Establishments: Details of Operations, Victoria (8291.2)

Production Bulletins Nos. 1 to 8 (8357.0-8364.0)

Non-ABS publications

Department of Management and Budget, Victoria, estimates of State Accounts compiled by the Policy Planning Division.