

7 Manufacturing, Mining, and Energy

MANUFACTURING

Overview

Manufacturing industry in Victoria makes a major contribution towards Australian manufacturing production. In 1986-87, Victoria's contribution to the Australian manufacturing component of Gross Domestic Product (GDP) at factor cost was 33.8 per cent. For each of the years 1981-82 to 1985-86, Victoria's contribution also 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 24.0 per cent in 1981-82 to 21.4 per cent in 1986-87. For Australia, the figures were 19.5 per cent and 17.3 per cent, respectively.

Victoria compared with Australia

In 1986-87, Victorian manufacturing industry contributed over 50 per cent of the Australian manufacturing industry's turnover in the Clothing and footwear (56 per cent), Transport equipment (52 per cent), and Textiles (51 per cent) ASIC subdivisions. It also contributed more than 50 per cent of value added in the Clothing and footwear (58 per cent) and Textiles (53 per cent) subdivisions.

Victorian based establishments accounted for 56 per cent of employment within the Australian Textiles, clothing, and footwear manufacturing industry during 1986-87.

Victorian manufacturing industry invested 38.5 per cent (\$2,448m) of the Australian manufacturing industry's total private new fixed capital expenditure during 1986-87. This compared with \$1,973m, or 37.5 per cent for 1985-86.

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 8,916 establishments were operating, and 1982-83 (8,392 operating). However, by 30 June 1987, the number of establishments had risen to 9,107 (an increase of 608 establishments over the 1984-85 figure).

Employment

During June 1987, manufacturing employment comprised 22.5 per cent of the Victorian labour force compared with 24 per cent in June 1985.

Manufacturing employment declined from 391,800 persons in 1980-81 to 352,817 persons in 1986-87, a fall of 10 per cent.

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

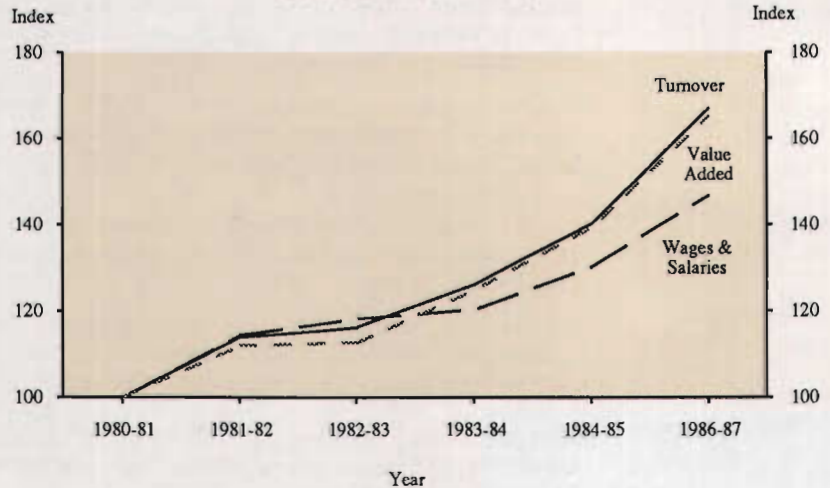
The greatest losses in employment between 1980-81 and 1986-87 occurred in the Transport equipment ASIC subdivision, where employment decreased by 9,866 persons or 17.1 per cent, and the Other machinery and equipment subdivision, where employment fell by 9,894 persons, or 18.4 per cent. Other significant falls occurred in the Fabricated metal products (down 6,167 persons or 16.8 per cent), Food, beverages, and tobacco (down 4,125 persons or 7.8 per cent), Clothing and footwear (down 2,502 persons or 5.7 per cent) and the Miscellaneous manufacturing (down 3,538 persons or 13.1 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 fell 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 7,285 and employment increased to 289,922 persons by 30 June 1987.

In 1986-87, 81.3 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, 1980-81 TO 1986-87**
(Base year 1980-81 = 100)



Turnover and value added

Turnover of Victorian manufacturing establishments at current prices increased by 67.0 per cent and value added increased by 65.2 per cent between 1980-81 and 1986-87.

Within individual industry subdivisions, the greatest percentage increase in turnover occurred in the Basic metal products subdivision where it increased by 103.0 per cent. However, value added rose by only 57.9 per cent.

Turnover in the Paper, paper products, printing, and publishing subdivision rose by 102.0 per cent over the seven year period. Value added for this subdivision rose by 106.0 per cent, the greatest rise of any subdivision.

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 at current prices from 1980-81 to 1986-87 was 46.9 per cent.

Major manufacturing industries

In 1986-87, 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 13.8 per cent of manufacturing employment, 19.4 per cent of turnover and 17.0 per cent of value added. The Transport equipment industry provided 13.5 per cent, 14.1 per cent, and 12.0 per cent, respectively.

The Wood, wood products, and furniture and Other machinery and equipment subdivisions contained the greatest number of manufacturing establishments with 1,261 and 1,189, respectively.

Industry profile - Transport equipment, Victoria (ASIC subdivision 32)

At 30 June 1987, there were 403 establishments classified to the Transport equipment ASIC subdivision. These contributed 12.0 per cent of Victoria's value added and 13.5 per cent of its manufacturing employment. Victorian based establishments accounted for 43.0 per cent of employment within the Australian Transport equipment industry and 45.0 per cent of value added.

Between 1981 and 1987, Victorian employment within the subdivision dropped by 17.1 per cent and the number of manufacturing establishments declined by 7.8 per cent.

Wages per person employed rose by 68.1 per cent during this period whereas per capita value added rose by 87.9 per cent.

During the six year period, employment in the Transport Equipment n.e.c. ASIC class dropped 62.5 per cent. It fell by 31.0 per cent within the Ship building ASIC class and by 29.5 per cent in Motor vehicle bodies, trailers and caravans ASIC class. In contrast employment in the Motor vehicle instruments and electrical equipment rose by 17.0 per cent.

Significant growth in turnover occurred in the Motor vehicle manufacture (up 104.4 per cent) and the Motor vehicle instruments and electrical equipment classes (up 108.6 per cent).

TABLE 7.1 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 7.2 MANUFACTURING ACTIVITY, VICTORIA, 1968-69 TO 1986-87

| 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 | 440,236 | 1,342 | 6,336 | 3,861 | 2,542 | 278 |
| 1969-70 | 11,393 | 450,352 | 1,497 | 6,998 | 4,307 | 2,799 | 300 |
| 1980-81 | 8,726 | 391,801 | 5,032 | 23,856 | 14,814 | 9,440 | 712 |
| 1981-82 | 8,916 | 388,872 | 5,757 | 27,208 | 17,031 | 10,578 | 1,046 |
| 1982-83 | 8,392 | 349,679 | 5,950 | 27,747 | 17,060 | 10,649 | 998 |
| 1983-84 | 8,404 | 354,409 | 6,059 | 30,081 | 18,405 | 11,779 | 779 |
| 1984-85 | 8,499 | 357,989 | 6,551 | 33,436 | 20,782 | 13,154 | 1,035 |
| 1986-87 | 9,107 | 354,771 | 7,390 | 39,829 | 24,591 | 15,596 | n.a. |

(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) As at 30 June 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 7.3 MANUFACTURING ESTABLISHMENTS (a) BY INDUSTRY SUBDIVISION, VICTORIA, 1986-87

| ASIC code | Industry subdivision | Establishments operating at 30 June | Employment (b) | Wages and salaries paid (c) | Turnover | Purchases, transfers in, and selected expenses | Value added (d) |
|-----------|---|-------------------------------------|----------------|-----------------------------|---------------|--|-----------------|
| | | number | '000 | \$m | \$m | \$m | \$m |
| 21 | Food, beverages, and tobacco | 1,102 | 48.8 | 1,022 | 7,734 | 5,112 | 2,654 |
| 23 | Textiles | 300 | 19.1 | 375 | 1,750 | 1,040 | 749 |
| 24 | Clothing and footwear | 1,030 | 41.5 | 655 | 2,392 | 1,294 | 1,146 |
| 25 | Wood, wood products, and furniture | 1,261 | 21.2 | 362 | 1,587 | 942 | 675 |
| 26 | Paper, paper products, printing, and publishing | 947 | 35.2 | 784 | 3,612 | 1,841 | 1,792 |
| 27 | Chemical, petroleum, and coal products | 284 | 19.3 | 496 | 3,400 | 2,061 | 1,380 |
| 28 | Non-metallic mineral products | 421 | 10.6 | 255 | 1,393 | 797 | 600 |
| 29 | Basic metal products | 203 | 13.4 | 361 | 3,082 | 2,339 | 769 |
| 31 | Fabricated metal products | 1,139 | 30.4 | 621 | 2,548 | 1,444 | 1,139 |
| 32 | Transport equipment | 403 | 47.9 | 1,073 | 5,624 | 3,828 | 1,871 |
| 33 | Other machinery and equipment | 1,189 | 43.8 | 906 | 4,253 | 2,408 | 1,811 |
| 34 | Miscellaneous manufacturing | 828 | 23.4 | 480 | 2,457 | 1,487 | 1,008 |
| | Total | 9,107 | 354.8 | 7,390 | 39,289 | 24,591 | 15,596 |

(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) At 30 June 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 7.4 MANUFACTURING ESTABLISHMENTS (a) BY INDUSTRY SUBDIVISION, PERCENTAGE OF AUSTRALIAN TOTALS, VICTORIA, 1986-87 (per cent)

| ASIC code | Industry subdivision | Establishments operating at 30 June | Employment (b) | Wages and salaries paid (c) | Turnover | Purchases, transfers in, and selected expenses | Value added (d) |
|-----------|------------------------------------|-------------------------------------|----------------|-----------------------------|----------|--|-----------------|
| 21 | Food, beverages, and tobacco | 31 | 29 | 30 | 32 | 32 | 32 |
| 23 | Textiles | 45 | 56 | 56 | 51 | 51 | 53 |
| 24 | Clothing and footwear | 50 | 56 | 58 | 56 | 55 | 58 |
| 25 | Wood, wood products, and furniture | 29 | 28 | 28 | 27 | 28 | 27 |

TABLE 7.4 MANUFACTURING ESTABLISHMENTS (a) BY INDUSTRY SUBDIVISION, PERCENTAGE OF AUSTRALIAN TOTALS, VICTORIA, 1986-87 - continued
(per cent)

| ASIC code | Industry subdivision | Establishments operating at 30 June | Employment (b) | Wages and salaries paid (c) | Turnover | Purchases, transfers in, and selected expenses | Value added (d) |
|----------------------------|---|-------------------------------------|----------------|-----------------------------|-----------|--|-----------------|
| 26 | Paper, paper products, printing, and publishing | 31 | 33 | 33 | 35 | 35 | 35 |
| 27 | Chemical, petroleum, and coal products | 33 | 36 | 35 | 30 | 29 | 34 |
| 28 | Non-metallic mineral products | 23 | 27 | 28 | 26 | 25 | 27 |
| 29 | Basic metal products | 36 | 18 | 18 | 22 | 24 | 18 |
| 31 | Fabricated metal products | 26 | 31 | 32 | 30 | 29 | 32 |
| 32 | Transport equipment | 29 | 43 | 44 | 52 | 56 | 45 |
| 33 | Other machinery and equipment | 31 | 34 | 34 | 37 | 38 | 35 |
| 34 | Miscellaneous manufacturing | 35 | 39 | 40 | 41 | 40 | 41 |
| Total manufacturing | | 32 | 35 | 35 | 34 | 34 | 34 |

(a) See footnote to Table 7.2.

MANUFACTURING ESTABLISHMENTS: SELECTED VARIABLES BY INDUSTRY SUBDIVISION, PERCENTAGE OF AUSTRALIAN TOTALS, VICTORIA, 1986-87



TABLE 7.5 MANUFACTURING ESTABLISHMENTS (a), 1986-87

| <i>State or Territory</i> | <i>Establishments operating at 30 June</i> | <i>Employment (b)</i> | <i>Wages and salaries paid (c)</i> | <i>Turnover</i> | <i>Purchases, transfers in, and selected expenses</i> | <i>Value added (d)</i> |
|------------------------------|--|-----------------------|------------------------------------|-----------------|---|------------------------|
| | number | number | \$m | \$m | \$m | \$m |
| New South Wales | 9,812 | 359,800 | 7,909 | 40,417 | 24,103 | 16,664 |
| Victoria | 9,107 | 354,771 | 7,390 | 39,829 | 24,591 | 15,596 |
| Queensland | 4,087 | 117,800 | 2,260 | 14,824 | 9,908 | 5,043 |
| South Australia | 2,245 | 88,300 | 1,768 | 9,074 | 5,506 | 3,691 |
| Western Australia | 2,654 | 69,400 | 1,399 | 8,101 | 5,152 | 2,980 |
| Tasmania | 631 | 24,600 | 531 | 3,049 | 1,825 | 1,250 |
| Northern Territory | 133 | 2,600 | 63 | 391 | 261 | 129 |
| Australian Capital Territory | 132 | 4,100 | 90 | 330 | 185 | 146 |
| Total | 28,801 | 1,021,371 | 21,410 | 116,015 | 71,531 | 45,499 |

(a) See footnote to Table 7.2.

MANUFACTURING ESTABLISHMENTS: SELECTED VARIABLES BY INDUSTRY SUBDIVISION, PERCENTAGE OF VICTORIAN TOTALS, 1986-87

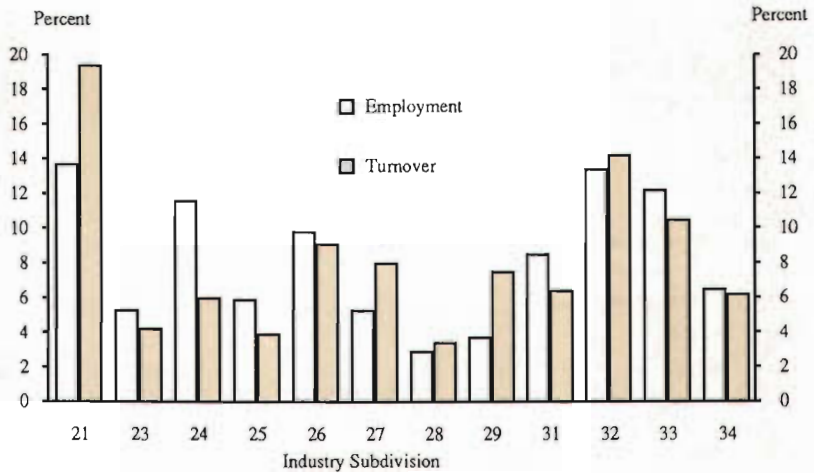


TABLE 7.6 NUMBER OF MANUFACTURING ESTABLISHMENTS (a) BY INDUSTRY SUBDIVISION VICTORIA

| ASIC code | Industry sub-division | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1986-87 |
|--------------|---|--------------|--------------|--------------|--------------|--------------|--------------|
| 21 | Food, beverages, and tobacco | 975 | 1,000 | 966 | 991 | 1,003 | 1,102 |
| 23 | Textiles | 309 | 325 | 307 | 295 | 304 | 300 |
| 24 | Clothing and footwear | 1,004 | 1,011 | 943 | 932 | 955 | 1,030 |
| 25 | Wood, wood products, and furniture | 1,129 | 1,130 | 1,074 | 1,086 | 1,124 | 1,261 |
| 26 | Paper, paper products, printing, and publishing | 903 | 916 | 881 | 889 | 899 | 947 |
| 27 | Chemical, petroleum, and coal products | 283 | 293 | 289 | 288 | 278 | 284 |
| 28 | Non-metallic mineral products | 393 | 406 | 392 | 390 | 388 | 421 |
| 29 | Basic metal products | 174 | 181 | 191 | 177 | 175 | 203 |
| 31 | Fabricated metal products | 1,153 | 1,197 | 1,086 | 1,079 | 1,074 | 1,139 |
| 32 | Transport equipment | 437 | 413 | 374 | 381 | 383 | 403 |
| 33 | Other machinery and equipment | 1,230 | 1,259 | 1,159 | 1,162 | 1,173 | 1,189 |
| 34 | Miscellaneous manufacturing | 736 | 785 | 730 | 734 | 743 | 828 |
| Total | | 8,726 | 8,916 | 8,392 | 8,404 | 8,499 | 9,107 |

(a) See footnote to Table 7.2.

TABLE 7.7 MANUFACTURING ESTABLISHMENTS (a) CLASSIFIED ACCORDING TO NUMBER OF PERSONS EMPLOYED (INCLUDING WORKING PROPRIETORS), VICTORIA

| Manufacturing establishments employing persons numbering - | At 30 June 1985 | | At 30 June 1987 | |
|--|--------------------------|--------------------------------|--------------------------|--------------------------------|
| | Number of establishments | Number of persons employed (b) | Number of establishments | Number of persons employed (b) |
| Less than 10 | 3,839 | 22,742 | 4,689 | 29,543 |
| 10 to 19 | 1,859 | 25,560 | 1,824 | 28,112 |
| 20 to 49 | 1,417 | 43,570 | 1,325 | 45,481 |
| 50 to 99 | 646 | 45,494 | 625 | 49,272 |
| 100 to 199 | 411 | 57,564 | 373 | 57,832 |
| 200 to 499 | 251 | 74,929 | 196 | 63,590 |
| 500 to 999 | 52 | 36,305 | 59 | 43,717 |
| 1,000 and over | 24 | 42,166 | 16 | 27,985 |
| Total | 8,499 | 348,330 | 9,107 | 345,532 |

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed. In addition, there were 3,733 single establishment enterprises employing 7,729 persons in the one to three persons employed group for 1986-87.

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

TABLE 7.8 PERSONS EMPLOYED (a) IN MANUFACTURING ESTABLISHMENTS, BY INDUSTRY SUBDIVISION, VICTORIA

| ASIC code | Industry sub-division | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1986-87 |
|-----------|------------------------------------|---------|---------|---------|---------|---------|---------|
| 21 | Food, beverages, and tobacco | 52,927 | 51,835 | 48,867 | 48,604 | 49,246 | 48,802 |
| 23 | Textiles | 19,743 | 18,738 | 17,150 | 17,794 | 18,009 | 19,129 |
| 24 | Clothing and footwear | 43,977 | 43,536 | 40,887 | 43,189 | 42,926 | 41,475 |
| 25 | Wood, wood products, and furniture | 19,693 | 19,602 | 17,743 | 18,520 | 19,466 | 21,215 |

TABLE 7.8 PERSONS EMPLOYED (a) IN MANUFACTURING ESTABLISHMENTS, VICTORIA - continued

| ASIC code | Industry subdivision | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1986-87 |
|--------------|---|----------------|----------------|----------------|----------------|----------------|----------------|
| 26 | Paper, paper products, printing, and publishing | 33,549 | 32,956 | 33,335 | 34,106 | 34,201 | 35,221 |
| 27 | Chemical, petroleum, and coal products | 20,006 | 20,272 | 20,160 | 19,699 | 19,759 | 19,329 |
| 28 | Non-metallic mineral products | 12,447 | 12,296 | 10,802 | 10,472 | 10,280 | 10,625 |
| 29 | Basic metal products | 14,450 | 14,675 | 12,734 | 12,747 | 12,579 | 13,431 |
| 31 | Fabricated metal products | 36,612 | 35,942 | 30,612 | 30,163 | 29,789 | 30,445 |
| 32 | Transport equipment | 57,825 | 60,223 | 51,368 | 53,927 | 55,403 | 47,959 |
| 33 | Other machinery and equipment | 53,667 | 52,236 | 43,512 | 42,271 | 43,295 | 43,773 |
| 34 | Miscellaneous manufacturing | 26,905 | 26,561 | 22,509 | 22,917 | 23,036 | 23,367 |
| Total | | 391,801 | 388,872 | 349,679 | 354,409 | 357,989 | 354,771 |

(a) Employment at 30 June including working proprietors (Includes persons working at separately located administrative offices and ancillary units).

TABLE 7.9 MANUFACTURING ESTABLISHMENTS (a), TYPE OF EMPLOYMENT, VICTORIA

| At 30 June | Working proprietors | Administrative, office, sales, and distribution employees | Production and all other employees | Total |
|------------|---------------------|---|------------------------------------|---------|
| 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 |
| 1987 | 1,954 | 98,059 | 254,758 | 354,771 |

(a) See footnote to Table 7.2.

TABLE 7.10 MANUFACTURING ESTABLISHMENTS (a), TYPE OF EMPLOYMENT BY INDUSTRY SUBDIVISION, VICTORIA, AT 30 JUNE 1987

| ASIC code | Industry subdivision | Working proprietors | Administrative, office, sales, and distribution employees | Production and all other employees | Total |
|--------------|---|---------------------|---|------------------------------------|----------------|
| 21 | Food, beverages, and tobacco | 452 | 14,122 | 34,228 | 48,802 |
| 23 | Textiles | 55 | 4,557 | 14,517 | 19,129 |
| 24 | Clothing and footwear | 317 | 6,462 | 34,696 | 41,475 |
| 25 | Wood, wood products, and furniture | 393 | 4,936 | 15,886 | 21,215 |
| 26 | Paper, paper products, printing, and publishing | 190 | 13,746 | 21,285 | 35,221 |
| 27 | Chemical, petroleum, and coal products | 11 | 7,924 | 11,394 | 19,329 |
| 28 | Non-metallic mineral products | 74 | 2,747 | 7,804 | 10,625 |
| 29 | Basic metal products | 23 | 4,462 | 8,946 | 13,431 |
| 31 | Fabricated metal products | 136 | 8,666 | 21,643 | 30,445 |
| 32 | Transport equipment | 80 | 11,091 | 36,788 | 47,959 |
| 33 | Other machinery and equipment | 135 | 13,279 | 30,359 | 43,773 |
| 34 | Miscellaneous manufacturing | 88 | 6,067 | 17,212 | 23,367 |
| Total | | 1,954 | 98,059 | 254,758 | 354,771 |

(a) See footnote to Table 7.2.

TABLE 7.11 MANUFACTURING ESTABLISHMENTS (a), TURNOVER (b) BY INDUSTRY SUBDIVISION, VICTORIA (\$m)

| ASIC code | Industry subdivision | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1986-87 |
|-----------|---|---------------|---------------|---------------|---------------|---------------|---------------|
| 21 | Food, beverages, and tobacco | 5,029 | 5,452 | 5,959 | 6,266 | 6,673 | 7,734 |
| 23 | Textiles | 1,020 | 1,107 | 1,087 | 1,219 | 1,370 | 1,750 |
| 24 | Clothing and footwear | 1,524 | 1,647 | 1,717 | 1,926 | 2,057 | 2,392 |
| 25 | Wood, wood products, and furniture | 871 | 1,016 | 1,014 | 1,115 | 1,292 | 1,587 |
| 26 | Paper, paper products, printing, and publishing | 1,788 | 2,066 | 2,262 | 2,499 | 2,833 | 3,612 |
| 27 | Chemical, petroleum, and coal products | 2,121 | 2,365 | 2,451 | 2,668 | 2,876 | 3,400 |
| 28 | Non-metallic mineral products | 787 | 902 | 884 | 1,001 | 1,188 | 1,393 |
| 29 | Basic metal products | 1,519 | 1,809 | 1,721 | 2,116 | 2,397 | 3,082 |
| 31 | Fabricated metal products | 1,797 | 2,043 | 1,953 | 2,037 | 2,186 | 2,548 |
| 32 | Transport equipment | 3,077 | 3,825 | 4,014 | 4,269 | 5,159 | 5,624 |
| 33 | Other machinery and equipment | 2,751 | 3,196 | 2,987 | 3,055 | 3,325 | 4,253 |
| 34 | Miscellaneous manufacturing | 1,573 | 1,780 | 1,701 | 1,911 | 2,080 | 2,457 |
| | Total | 23,856 | 27,208 | 27,747 | 30,081 | 33,436 | 39,829 |

(a) See footnote to Table 7.2.

(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 7.12 MANUFACTURING ESTABLISHMENTS (a), PURCHASES, TRANSFERS IN, AND SELECTED ITEMS OF EXPENSE (b) BY INDUSTRY SUBDIVISION, VICTORIA (\$m)

| ASIC code | Industry subdivision | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1986-87 |
|-----------|---|---------------|---------------|---------------|---------------|---------------|---------------|
| 21 | Food, beverages, and tobacco | 3,549 | 3,801 | 4,145 | 4,198 | 4,495 | 5,112 |
| 23 | Textiles | 623 | 682 | 658 | 741 | 863 | 1,040 |
| 24 | Clothing and footwear | 805 | 878 | 894 | 1,030 | 1,115 | 1,294 |
| 25 | Wood, wood products, and furniture | 492 | 584 | 571 | 628 | 744 | 942 |
| 26 | Paper, paper products, printing, and publishing | 962 | 1,106 | 1,213 | 1,325 | 1,530 | 1,841 |
| 27 | Chemical, petroleum, and coal products | 1,338 | 1,468 | 1,518 | 1,619 | 1,711 | 2,061 |
| 28 | Non-metallic mineral products | 414 | 482 | 470 | 515 | 629 | 797 |
| 29 | Basic metal products | 1,109 | 1,319 | 1,258 | 1,592 | 1,885 | 2,339 |
| 31 | Fabricated metal products | 1,005 | 1,161 | 1,076 | 1,137 | 1,234 | 1,444 |
| 32 | Transport equipment | 1,989 | 2,614 | 2,601 | 2,760 | 3,468 | 3,828 |
| 33 | Other machinery and equipment | 1,574 | 1,824 | 1,618 | 1,703 | 1,856 | 2,408 |
| 34 | Miscellaneous manufacturing | 955 | 1,112 | 1,037 | 1,156 | 1,252 | 1,487 |
| | Total | 14,814 | 17,031 | 17,060 | 18,405 | 20,782 | 24,591 |

(a) See footnote to Table 7.2.

(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 7.13 MANUFACTURING ESTABLISHMENTS (a), STOCKS (b) BY INDUSTRY
SUBDIVISION, VICTORIA
(\$m)**

| <i>ASIC code</i> | <i>Industry subdivision</i> | <i>1980-81</i> | <i>1981-82</i> | <i>1982-83</i> | <i>1983-84</i> | <i>1984-85</i> | <i>1986-87</i> |
|-----------------------|--|----------------|----------------|----------------|----------------|----------------|----------------|
| OPENING STOCKS | | | | | | | |
| 21 | Food, beverages, and tobacco | 579 | 641 | 646 | 741 | 744 | 657 |
| 23 | Textiles | 183 | 186 | 204 | 192 | 212 | 270 |
| 24 | Clothing and footwear | 245 | 265 | 289 | 280 | 316 | 374 |
| 25 | Wood, wood products, and furniture | 112 | 127 | 140 | 136 | 151 | 201 |
| 26 | Paper, paper products, printing, and publishing | 225 | 263 | 291 | 285 | 291 | 358 |
| 27 | Chemical, petroleum, and coal products | 320 | 369 | 404 | 420 | 452 | 610 |
| 28 | Non-metallic mineral products | 101 | 104 | 121 | 132 | 120 | 144 |
| 29 | Basic metal products | 183 | 263 | 293 | 258 | 273 | 307 |
| 31 | Fabricated metal products | 306 | 330 | 364 | 306 | 316 | 343 |
| 32 | Transport equipment | 659 | 640 | 674 | 709 | 660 | 885 |
| 33 | Other machinery and equipment | 653 | 742 | 781 | 720 | 682 | 979 |
| 34 | Miscellaneous manufacturing | 241 | 270 | 274 | 266 | 269 | 290 |
| Total | | 3,809 | 4,200 | 4,480 | 4,444 | 4,486 | 5,418 |
| CLOSING STOCKS | | | | | | | |
| 21 | Food, beverages, and tobacco | 652 | 655 | 722 | 764 | 769 | 690 |
| 23 | Textiles | 187 | 206 | 195 | 211 | 242 | 310 |
| 24 | Clothing and footwear | 266 | 295 | 287 | 320 | 345 | 422 |
| 25 | Wood, wood products, and furniture | 121 | 143 | 140 | 155 | 174 | 231 |
| 26 | Paper, paper products, printing, and publishing | 269 | 312 | 291 | 286 | 343 | 380 |
| 27 | Chemical, petroleum, and coal products | 368 | 411 | 425 | 463 | 471 | 652 |
| 28 | Non-metallic mineral products | 106 | 121 | 132 | 119 | 125 | 148 |
| 29 | Basic metal products | 261 | 290 | 275 | 268 | 311 | 334 |
| 31 | Fabricated metal products | 333 | 371 | 320 | 324 | 336 | 378 |
| 32 | Transport equipment | 649 | 705 | 665 | 677 | 780 | 960 |
| 33 | Other machinery and equipment | 731 | 799 | 737 | 686 | 789 | 944 |
| 34 | Miscellaneous manufacturing | 265 | 291 | 253 | 273 | 301 | 328 |
| Total | | 4,207 | 4,601 | 4,442 | 4,546 | 4,986 | 5,777 |

(a) See footnote to Table 7.2.

(b) Figures include finished goods, work-in-progress and stocks of materials, 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 7.14 MANUFACTURING ESTABLISHMENTS (a), VALUE ADDED (b) BY INDUSTRY SUBDIVISION, VICTORIA (\$m)

| ASIC code | Industry subdivision | 1980-81 | 1981-82 | 1982-83 | 1983-84 | 1984-85 | 1986-87 |
|--------------|---|--------------|---------------|---------------|---------------|---------------|---------------|
| 21 | Food, beverages, and tobacco | 1,553 | 1,666 | 1,890 | 2,092 | 2,203 | 2,654 |
| 23 | Textiles | 401 | 445 | 420 | 497 | 538 | 749 |
| 24 | Clothing and footwear | 740 | 800 | 821 | 937 | 973 | 1,146 |
| 25 | Wood, wood products, and furniture | 388 | 447 | 443 | 505 | 572 | 675 |
| 26 | Paper, paper products, printing, and publishing | 870 | 1,009 | 1,049 | 1,174 | 1,354 | 1,792 |
| 27 | Chemical, petroleum, and coal products | 830 | 940 | 953 | 1,093 | 1,184 | 1,380 |
| 28 | Non-metallic mineral products | 377 | 438 | 425 | 473 | 563 | 600 |
| 29 | Basic metal products | 487 | 516 | 445 | 534 | 549 | 769 |
| 31 | Fabricated metal products | 819 | 924 | 833 | 918 | 973 | 1,139 |
| 32 | Transport equipment | 1,078 | 1,276 | 1,403 | 1,476 | 1,811 | 1,871 |
| 33 | Other machinery and equipment | 1,255 | 1,429 | 1,324 | 1,319 | 1,575 | 1,811 |
| 34 | Miscellaneous manufacturing | 641 | 690 | 643 | 761 | 859 | 1,008 |
| Total | | 9,440 | 10,578 | 10,649 | 11,779 | 13,154 | 15,596 |

(a) See footnote to Table 7.2.

(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 7.15 MANUFACTURING ESTABLISHMENTS (a) BY STATISTICAL DIVISION, VICTORIA, AT 30 JUNE 1987

| Statistical division | Establishments operating at 30 June | Employment at 30 June | | | Wages and salaries paid | Turnover |
|----------------------|-------------------------------------|-----------------------|----------------|----------------|-------------------------|---------------|
| | | Males | Females | Persons | | |
| | number | number | number | number | \$m | \$m |
| Melbourne | 7,285 | 198,961 | 90,961 | 289,922 | 6,069 | 31,841 |
| Barwon | 331 | 14,214 | 3,987 | 18,201 | 415 | 2,404 |
| South Western | 122 | 3,849 | 1,330 | 5,179 | 115 | 753 |
| Central Highlands | 218 | 6,222 | 2,265 | 8,487 | 161 | 760 |
| Wimmera | 65 | 660 | 447 | 1,107 | 16 | 87 |
| Northern Mallee | 94 | 941 | 392 | 1,333 | 24 | 173 |
| Loddon-Campaspe | 249 | 5,980 | 3,342 | 9,322 | 167 | 797 |
| Goulburn | 232 | 4,994 | 1,935 | 6,929 | 145 | 917 |
| North Eastern | 147 | 5,011 | 1,740 | 6,751 | 133 | 985 |
| East Gippsland | 105 | 1,974 | 403 | 2,377 | 42 | 266 |
| Central Gippsland | 196 | 4,039 | 1,476 | 5,515 | 116 | 777 |
| East Central | 64 | 1,052 | 363 | 1,415 | 27 | 150 |
| Total | 9,108 | 247,897 | 108,641 | 356,538 | 7,430 | 39,910 |

(a) See footnote to Table 7.2.

TABLE 7.16 NUMBER OF MANUFACTURING ESTABLISHMENTS (a) AND PERSONS EMPLOYED IN EACH STATISTICAL DIVISION, CLASSIFIED ACCORDING TO INDUSTRY SUB-DIVISION, VICTORIA, 1986-87

| ASIC code | Industry sub-division | Statistical division | | | | | | | | | | | | Total |
|---|---|----------------------|---------------|---------------|-------------------|--------------|-----------------|-----------------|--------------|---------------|----------------|-------------------|--------------|----------------|
| | | Melbourne | Barwon | South Western | Central Highlands | Wimmera | Northern Mallee | Loddon-Campaspe | Goulburn | North Eastern | East Gippsland | Central Gippsland | East Central | |
| NUMBER OF MANUFACTURING ESTABLISHMENTS | | | | | | | | | | | | | | |
| 21 | Food, beverages, and tobacco | 664 | 46 | 37 | 42 | 19 | 29 | 63 | 71 | 44 | 18 | 51 | 18 | 1,102 |
| 23 | Textiles | 244 | 22 | n.p. | 6 | n.p. | n.p. | n.p. | 7 | n.p. | - | n.p. | n.p. | 300 |
| 24 | Clothing and footwear | 936 | 27 | n.p. | 11 | n.p. | - | 17 | 12 | n.p. | n.p. | 10 | 3 | 1,030 |
| 25 | Wood, wood products, and furniture | 925 | 59 | 18 | 43 | 10 | 10 | 28 | 39 | 27 | 43 | 41 | 18 | 1,261 |
| 26 | Paper, paper products, printing, and publishing | 806 | 16 | 11 | 10 | 7 | 13 | 26 | 19 | n.p. | 11 | n.p. | 5 | 947 |
| 27 | Chemical, petroleum, and coal products | 250 | 14 | n.p. | 6 | - | n.p. | n.p. | n.p. | n.p. | - | n.p. | n.p. | 284 |
| 28 | Non-metallic mineral products | 224 | 27 | 16 | 25 | 7 | 13 | 28 | 23 | 15 | 12 | 25 | 6 | 421 |
| 29 | Basic metal products | 155 | 14 | n.p. | 10 | 2 | n.p. | 8 | n.p. | n.p. | n.p. | 3 | - | 203 |
| 31 | Fabricated metal products | 955 | 41 | 11 | 21 | 7 | 8 | 27 | 20 | 16 | n.p. | 22 | n.p. | 1,139 |
| 32 | Transport equipment | 334 | n.p. | 7 | 12 | - | n.p. | 12 | 13 | n.p. | n.p. | 6 | n.p. | 404 |
| 33 | Other machinery and equipment | 1,042 | 30 | 7 | 23 | 5 | 9 | 20 | 17 | n.p. | n.p. | 14 | 3 | 1,189 |
| 34 | Miscellaneous manufacturing | 750 | 25 | n.p. | 9 | n.p. | n.p. | 10 | 7 | n.p. | 4 | 4 | n.p. | 828 |
| | Total | 7,285 | 331 | 122 | 218 | 65 | 94 | 249 | 232 | 147 | 105 | 196 | 64 | 9,108 |
| NUMBER OF PERSONS EMPLOYED | | | | | | | | | | | | | | |
| 21 | Food, beverages, and tobacco | 31,004 | 1,466 | 2,026 | 2,109 | 361 | 700 | 2,534 | 3,776 | 2,642 | 370 | 1,362 | 457 | 48,807 |
| 23 | Textiles | 14,530 | 1,715 | n.p. | 280 | n.p. | n.p. | 345 | 252 | 1,101 | - | 317 | n.p. | 19,129 |
| 24 | Clothing and footwear | 34,251 | 2,024 | 815 | 750 | n.p. | - | 1,914 | 458 | 565 | n.p. | 368 | 90 | 41,475 |
| 25 | Wood, wood products, and furniture | 15,729 | 798 | 467 | 897 | 96 | 74 | 270 | 533 | 786 | 908 | 458 | 199 | 21,215 |
| 26 | Paper, paper products, printing, and publishing | 30,422 | 515 | 212 | 234 | 110 | 187 | 502 | 484 | 465 | 228 | 1,734 | 128 | 35,221 |
| 27 | Chemical, petroleum, and coal products | 17,260 | 1,457 | n.p. | 179 | - | - | 34 | n.p. | n.p. | - | 92 | n.p. | 19,329 |
| 28 | Non-metallic mineral products | 7,619 | 1,164 | 47 | 641 | 52 | 61 | 318 | 236 | 166 | 57 | 224 | 40 | 10,625 |
| 29 | Basic metal products | 9,369 | 2,438 | 484 | 534 | 10 | - | 214 | n.p. | n.p. | n.p. | 79 | - | 13,431 |
| 31 | Fabricated metal products | 26,088 | 954 | 227 | 582 | 62 | 56 | 976 | 340 | 297 | 316 | 374 | 173 | 30,445 |
| 32 | Transport equipment | 42,052 | 4,711 | 50 | 1,287 | - | 94 | 1,021 | 339 | n.p. | n.p. | 44 | n.p. | 49,721 |
| 33 | Other machinery and equipment | 39,721 | 676 | 271 | 847 | 74 | 106 | 792 | 343 | 360 | 174 | 370 | 39 | 43,773 |
| 34 | Miscellaneous manufacturing | 21,877 | 283 | n.p. | 147 | 94 | n.p. | 402 | 77 | 129 | 220 | 93 | n.p. | 23,367 |
| | Total | 289,922 | 18,201 | 5,179 | 8,487 | 1,107 | 1,333 | 9,322 | 6,929 | 6,751 | 2,377 | 5,515 | 1,415 | 356,538 |

(a) See footnote to Table 7.2.

TABLE 7.17 SELECTED ARTICLES MANUFACTURED, 1987-88

| Article | Unit | Victoria | Australia | Victoria as a percentage of Australia |
|---------------------------------------|-----------------|----------|-----------|---------------------------------------|
| Meat (carcass weight) - | | | | |
| Beef and veal | '000 tonnes | 305 | 1,573 | 19.4 |
| Mutton | '000 tonnes | 70 | 289 | 24.2 |
| Lamb | '000 tonnes | 125 | 294 | 42.5 |
| Pigmeat | '000 tonnes | 45 | 284 | 15.8 |
| Dairy products - | | | | |
| Whole milk | ml. litres | 3,649 | 6,112 | 59.7 |
| Butter | tonnes | 82,128 | 94,244 | 87.1 |
| Cheese | tonnes | 102,470 | 176,317 | 58.1 |
| Ice cream | '000 litres | 72,544 | 212,760 | 34.1 |
| Flour, white | tonnes | 249,095 | 1,206,643 | 20.6 |
| Yarns - | | | | |
| Cotton | tonnes | 9,934 | 20,667 | 48.1 |
| Wool | tonnes | 16,744 | 23,180 | 72.2 |
| Woven cloth - | | | | |
| Cotton | '000 sq metres | 18,698 | 39,453 | 47.4 |
| Wool | '000 sq metres | 3,419 | 10,633 | 32.2 |
| Cars and station wagons | '000 | 180 | 315 | 57.3 |
| Plastic and synthetic resins | '000 tonnes | 467 | 716 | 65.3 |
| Building materials - | | | | |
| Clay bricks | million | 427 | 1,870 | 22.8 |
| Terracotta and concrete roofing tiles | '000 sq. metres | 5,236 | 19,741 | 26.5 |
| Ready mixed concrete | '000 cu. metres | 3,599 | 15,083 | 23.9 |

MINING

Overview

The Victorian mining industry in 1986-87 contributed 21.0 per cent of the Australian mining component of Gross Domestic Product (GDP) at factor cost. The mining industry represented 3.1 per cent of Victoria's GDP at factor cost in 1986-87.

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, and gases such as natural gas.

Oil and gas production

In 1987-88, the Gippsland Basin produced 84 per cent of Australia's crude oil and 39 per cent of its natural gas.

Brown coal

Australia's measured and indicated resources of brown coal are estimated at 43,300 Megatonnes., 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 1986-87 valued at \$268.3m.

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 1986-87, Victorian production was 1,346 kilograms and was valued at \$21.6m.

TABLE 7.18 MINING ACTIVITY (a), VICTORIA

| Year | Establish- ments at 30 June | Employ- ment (b) | Wages and salaries (c) | Turnover | Stocks | | Purchases, transfers in and selected expenses | Value added (d) |
|---------|-----------------------------------|------------------------|------------------------------|----------|---------|---------|--|-----------------------|
| | | | | | Opening | Closing | | |
| | 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 |
| 1986-87 | 208 | 5,783 | 182.1 | 2,525.6 | 65.9 | 72.3 | 293.0 | 2,239.0 |

(a) ASIC Subdivisions not available for separate publication.

(b)(c)(d) See footnotes to Table 7.2.

TABLE 7.19 ROYALTIES FROM OIL AND GAS PRODUCTION,
VICTORIA
(\$m)

| Year | Amount received | Amount paid to Commonwealth | Amount retained by Victoria |
|---------|--------------------|--------------------------------|--------------------------------|
| 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 |
| 1986-87 | 218.7 | 71.4 | 147.2 |

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

TABLE 7.20 CRUDE OIL PRODUCTION (a), VICTORIA

| 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 |
| 1987 | 151,571 | 415 | 24,098 | 66.0 |

(a) After processing.

Source: Esso Australia Ltd: *Annual Report*.

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

TABLE 7.21 ESTIMATED HYDROCARBON RESERVES, VICTORIA
(million cu. metres)

| <i>Item</i> | <i>1984</i> | <i>1985</i> | <i>1986</i> |
|-------------|-------------|-------------|-------------|
| Crude oil | 192 | 189 | 184 |
| Natural gas | 162 | 168 | 168 |
| Condensate | 21 | 21 | 21 |
| LPG | 47 | 45 | 46 |

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

TABLE 7.22 MINERAL PRODUCTION, VICTORIA

| <i>Mineral</i> | <i>Unit</i> | <i>1981-82</i> | <i>1982-83</i> | <i>1983-84</i> | <i>1984-85</i> | <i>1985-86</i> | <i>1986-87</i> |
|-------------------------|-------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Brown coal | kilotonnes | 37,565 | 34,708 | 33,199 | 38,380 | 35,468 | 39,124 |
| Metallic minerals - | | | | | | | |
| Bauxite | tonnes | 8,493 | 8,585 | 12,829 | 4,409 | 4,584 | 8,000 |
| Gold bullion (a) | kilograms | 87 | 115 | 150 | 902 | 1,272 | 1,346 |
| Non-metallic minerals - | | | | | | | |
| Diatomite (b) | tonnes | 1,499 | 682 | 538 | 776 | - | 1,104 |
| Gypsum | kilotonnes | 416 | 88 | 207 | 247 | 139 | 274 |
| Kaolin (b) | kilotonnes | 58 | 47 | 84 | 89 | 36 | 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 7.23 MINERAL PRODUCTION AND VALUE, VICTORIA, 1986-87

| <i>Mineral</i> | <i>Unit</i> | <i>Production</i> | <i>Value</i> (<i>'000</i>) |
|----------------|-------------|-------------------|---------------------------------|
| Bauxite | tonnes | 8,000 | 82 |
| Brown coal | kilotonnes | 39,124 | 268,303 |
| Gold | kilograms | 1,346 | 21,599 |
| Gypsum | kilotonnes | 274 | 2,244 |
| Kaolin | kilotonnes | 89 | 4,244 |
| Total | | | 296,472 |

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

TABLE 7.24 STONE PRODUCTION, VICTORIA, 1985-86

| <i>Item</i> | <i>Establishments</i> <i>operating</i> | <i>Total Victorian</i> <i>production</i> | |
|-----------------------|---|---|------------------------|
| | <i>Number</i> | <i>Production</i> '000 tonnes | <i>Value</i> \$'000 |
| Clays - | | | |
| Brick clay and shale | 26 | 986 | 3,525 |
| Fireclay | 3 | 7 | 97 |
| White and other clays | 9 | 131 | 3,560 |
| Total clays | 38 | 1,124 | 7,182 |

TABLE 7.24 STONE PRODUCTION, VICTORIA, 1985-86 - *continued*

| Item | Establishments operating | Total Victorian production | |
|---|-----------------------------|-------------------------------|-----------------|
| | Number | Production '000 tonnes | Value \$'000 |
| Crushed and broken stone - | | | |
| Basalt | 48 | 12,089 | 94,463 |
| Dacite, rhyolite, and rhyodacite | 5 | 2,193 | 24,139 |
| Granite | 12 | 1,928 | 11,451 |
| Hornfels | 7 | 964 | 9,629 |
| Limestone | 7 | 1,228 | 4,214 |
| Sandstone, quartzite | 23 | 2,064 | 5,202 |
| Shale and schist, other | 3 | 132 | 376 |
| Total crushed and broken stone | 105 | 20,598 | 149,473 |
| Dimension stone - | | | |
| Granite, marble, slate, limestone, and sandstone | 7 | 19 | 1,480 |
| Earth and soil | 19 | 626 | 1,664 |
| Gravel | 64 | 4,406 | 9,083 |
| Limestone - | | | |
| For agriculture | 9 | 88 | 1,740 |
| For cement | 3 | 2,370 | 9,855 |
| For other purposes | 3 | 11 | 165 |
| Total limestone | 15 | 2,468 | 11,760 |
| Salamander and filling | 23 | 847 | 239 |
| Sand | 136 | 6,936 | 35,555 |
| Scoria | 12 | 1,360 | 5,616 |
| Tuff | 9 | 187 | 370 |
| Other | 7 | 91 | 316 |
| Grand total | 435 | 38,662 | 222,738 |

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

ENERGY

Overview

In 1986-87, Victoria contributed 30 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 3.5 per cent of Victoria's GDP at factor cost in 1986-87.

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 1986-87 was 30,589 GWh, a rise of 8.7 per cent over the 1985-86 figure.

Victoria's electricity system is based upon the State's extensive brown coal resource in the LaTrobe Valley 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 1987-88 amounted to 4,662.5 megalitres. This represented a 4 per cent rise over the 1986-87 figure.

TABLE 7.25 POWER STATIONS: LOCATIONS, RATING, AND PRODUCTION, VICTORIA

| Station | Maximum output achieved (MW) | | Electricity generated (GWh) | |
|-------------------------------------|------------------------------|-----------|-----------------------------|---------------|
| | 1985-86 | 1986-87 | 1985-86 | 1986-87 |
| Brown coal thermal stations - | | | | |
| Hazelwood | 1,160 | 1,275 | 6,984 | 7,272 |
| Yallourn | 227 | 234 | 803 | 996 |
| Yallourn W | 1,400 | 1,450 | 7,551 | 8,460 |
| Morwell | 141 | 139 | 805 | 762 |
| Loy Yang A | 1,025 | 1,532 | 6,106 | 9,092 |
| Total | .. | .. | 22,249 | 26,582 |
| Other thermal stations - | | | | |
| Newport D | 501 | 501 | 2,774 | 1,835 |
| Jeeralang | 434 | 408 | 598 | 168 |
| Total | .. | .. | 3,372 | 2,003 |
| Hydro stations - | | | | |
| Kiewa | 210 | 206 | 267 | 445 |
| Eildon-Rubicon (incl. Cairn-Curran) | 100 | 137 | 199 | 244 |
| Dartmouth | 148 | 160 | 231 | 17 |
| Total | .. | .. | 697 | 706 |
| Stations operated by other bodies | 1,333 | 1,429 | 1,833 | 1,293 |
| Total input to system | .. | .. | 28,151 | 30,589 |

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

TABLE 7.26 REFINING CAPACITY, VICTORIA, AT 1 JULY 1987

| Refinery | Location in Victoria and year refinery came on stream | Primary processing capacity (a) |
|--|---|---|
| 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 7.27 PRINCIPAL PETROLEUM PRODUCTS MARKETED, VICTORIA
(megalitres)

| Item | 1985-86 | 1986-87 | 1987-88 |
|------------------------|-----------------|-----------------|-----------------|
| Aviation gasoline | 16.77 | 18.04 | 18.80 |
| Motor spirit - | | | |
| Super | 4,230.04 | 4,098.74 | 3,994.29 |
| Standard | 0.29 | 0.22 | - |
| Unleaded | 243.88 | 381.94 | 668.22 |
| Total | 4,474.21 | 4,480.90 | 4,662.51 |
| Power kerosene | 0.53 | 0.36 | 0.18 |
| Aviation turbine fuel | 473.98 | 524.72 | 556.66 |
| Lighting kerosene | 20.15 | 19.38 | 15.35 |
| Heating oil | 50.76 | 50.39 | 39.06 |
| Automotive distillate | 1,418.93 | 1,462.62 | 1,533.84 |
| Industrial diesel fuel | 114.13 | 119.19 | 104.44 |
| Fuel oil | 340.92 | 377.89 | 358.92 |
| Grand total (a) | 6,910.38 | 7,053.49 | 7,289.76 |

(a) 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 1985-86. In order to bring the series up to 1986-87, 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.*