

MANUFACTURING

NATURAL RESOURCES AND LOCATION

Natural resources

Victoria's natural resources—a temperate climate, adequate rainfall and water supply, and productive soils—have been used to provide both raw materials and power for industry. For example, clay deposits for brick, tile, and pottery making are worked near Melbourne, Ballarat, Bendigo, Colac, Shepparton, Wangaratta, and in other areas of Victoria. Sand, used in foundries, and concrete and glass works, is obtained in the Port Phillip and west Gippsland districts. Stone and gravel are quarried in many parts of Victoria, but, since large loads are expensive to transport, sites are concentrated within 80 kilometres of the principal market, metropolitan Melbourne. Inside a similar radius, the availability of limestone has attracted the establishment of cement works at Geelong and Traralgon, while the Lilydale deposits are extracted to produce agricultural lime.

Although Victoria's historic gold rush has long since passed, gold is still mined in the Castlemaine, Gaffneys Creek, and Harrietteville areas. Victoria's other mineral resources include salt collected from solar evaporation on the western shores of Port Phillip and from the Wimmera and Mallee lakes; gypsum is also found in the north-western Mallee. More detailed information on mining activity can be found on pages 280–2.

Victorian forests provide approximately one-quarter of Australia's timber output. The fine vegetation of the Central Highlands forms the basis of important felling activities. The industry is also significant in Gippsland, where paper is manufactured at Maryvale. Other paper mills are situated in Melbourne, which is a major market for all wood and timber products.

Water, needed in large quantities for industry, is available throughout much of Victoria from dams in the catchment areas of the chief rivers (see pages 1–19 of this edition and the map on page 478 of the *Victorian Year Book* 1966). In most years, Melbourne is well supplied from the storages to its north and north-east in the Plenty, Upper Yarra, Maroondah, and O'Shannassy watersheds. However, severe restrictions were imposed during the 1967–68 and 1972–73 summers because of widespread drought conditions. To meet future demands, construction works are being extended. (See pages 285–8.)

Power supplies and the fuels from which they are derived are basic for industrial development. Victoria's range of carboniferous fuels is not great and, in the past, it was necessary to import significant amounts of black coal from New South Wales. Subsequently, the State Electricity Commission developed the brown coal resources of the La Trobe Valley. The open-cut mines of the Yallourn–Morwell region presently produce about 31.6 megatonnes per year for use in the steam-generation of electricity and briquette making. The Commission now delivers the bulk of Victoria's public electricity requirements; the balance is purchased interstate.

The discovery, in February 1965, and subsequent development of sizeable offshore reserves of oil and natural gas in the Gippsland basin have augmented Victoria's power and chemical resources. In March 1969, natural gas for commercial use flowed from the Barracouta field and, a month later, the first domestic customers were connected. The Marlin field began to operate in January 1970. Natural gas is now piped from Longford to Melbourne and then to Geelong, Ballarat, and Bendigo. Oil in commercial quantities

has been produced from the Barracouta field since October 1969, from Halibut since March 1970, and from Kingfish since April 1971. Petroleum refining is carried out at Altona, Geelong, and Crib Point, and petrochemical manufacturing at Altona, Geelong, Dandenong, and Footscray.

Location

Victoria's earliest industries were located in Melbourne, the entry port for most of the people and their supplies. As Victoria developed, Melbourne became its most populous centre, the major port, the hub of the railway and road network, and major manufacturing centre. At 30 June 1980, 79.6 per cent of Victoria's 12,302 manufacturing establishments and 82.9 per cent of its work force engaged in manufacturing, were located in the Melbourne Statistical Division. Of the 12,302 manufacturing establishments the full range of financial data was only collected from the 8,902 manufacturing establishments owned by multi-establishment enterprises and all single establishment manufacturing enterprises employing four or more persons (see pages 370-1 for further details). There are basic reasons for this: Melbourne's function as port and transport focus makes the collection of raw materials and the distribution of manufactured goods relatively easy; the concentration of Victoria's population in the city means a concentration of potential purchasers and potential workers; and by locating their operations in Melbourne, manufacturers can enjoy easy interchange of materials, parts, and services with other manufacturers.

Melbourne's early industrial suburbs grew on the fringes of the city centre in Port Melbourne, South Melbourne, Richmond, Collingwood, Spotswood, Fitzroy, and Footscray. In these suburbs a wide range of manufacturing industry is to be found. The more recent new industrial municipalities are Altona, Broadmeadows, Moorabbin, Oakleigh, and Dandenong, where extensive areas are available for the establishment of new industries.

Apart from smelting and large-scale steel making, most types of secondary industry are to be found in Melbourne. In terms of employment, engineering and metal processing constitute Melbourne's major industries, but a high proportion of Victoria's chemical, textile, paper, furniture, food, and building materials industries are also concentrated there.

Outside the Melbourne metropolitan area, Geelong is the most important industrial centre, with port facilities, close proximity to the Melbourne market, and rich surrounding rural areas. Industries established in the area include petroleum refining, and the manufacture of agricultural machinery, motor vehicles, aluminium ingots and extruded products, textiles, chemical fertilisers, glass, clothing, carpets, foodstuffs, cement, fertilisers, and sporting ammunition.

The other country areas in which more than 1,000 persons are employed in manufacturing establishments (ranked in order of the number of persons employed in factories) are the Ballarat Statistical District, Bendigo Statistical District, Shepparton-Mooroopna Statistical District, Morwell Shire, Wodonga Rural City, Wangaratta City, Warrnambool City, Portland Town, Maryborough City, and Castlemaine City. The factory population in country areas is engaged in the production of food and textiles from locally produced raw materials; clothing; engineering plants (some of which had their origin in the gold mining era of the nineteenth century); and more recently in decentralised plants with a defence significance.

MANUFACTURING ACTIVITY

Manufacturing developments during 1980

During 1980, the manufacturing sector of Victoria generally reported satisfactory levels of performance. Some areas reported improved performance, while others a slackening in demand.

The level of demand for heavy engineering products was subdued. However, several Victorian firms were successful in winning contracts for the fabrication and assembly of materials handling equipment for power generation, as well as mineral and energy

development projects throughout Australia. Agricultural machinery manufacturers were also affected by adverse climatic conditions; however, offsetting this was a high level of export demand.

Although national sales of motor vehicles in 1980 were marginally higher than in 1979, sales of locally made passenger vehicles declined while sales of imported passenger and commercial vehicles rose strongly. Victorian sales declined during 1980, despite a strong rise in sales of light commercial vehicles. In response to the Commonwealth Government's announcement in late 1979 of the Export Facilitation Scheme, Victorian based motor vehicle manufacturers announced investment plans worth \$1,100m.

Although demand for electrical equipment relating to the building industry remained stable in 1980, sales of industrial items such as transformers, electrical switchgear, and signalling equipment were encouraging. Demand was mainly from the manufacturing, mining, and electrical supply authorities. Manufacturers responded to this demand by increasing capital expenditure within the electrical machinery and equipment industry by 15 per cent in 1979-80. A significant amount of this additional investment occurred in the Albury-Wodonga Statistical District with the establishment of a distribution transformer plant and the upgrading facilities for the production of a new range of power cable.

Manufacturers of medical, scientific, and specialised electronic equipment increased their exports, however, demand for building materials remained affected by the adverse conditions in the building industry. The paper and paperboard industries continued to achieve satisfactory sales, although competition in Asian markets adversely affected exports.

Production in the plastics industry increased by 4.9 per cent in 1980. Low density polyethylene and polyvinyl chloride remain the most important materials for the manufacture of products such as film and sheet, injection mouldings, and pipe and conduit. The major growth areas in the market occurred in the agriculture, packaging, furniture, bedding, and appliance industries.

Several large investments took place in the production and distribution of food products during 1980. Within the manufacturing sector large investments occurred in both the beverages and malt and milk products industries with increases in capital expenditure of 40 per cent and 99 per cent, respectively. The major capital improvements were a distillery to produce pear spirit from pear waste and a powdered milk production complex, both being located in the Shepparton region. In addition, wholesalers in the Geelong area built a new fruit and vegetable warehouse.

Overall profitability in the chemical industry declined in 1980. This was attributed to the general economic slowdown, rising costs of raw materials, the increasingly competitive nature of the world industry, and disruption to feedstocks and electricity supplies by industrial action. Expenditure continued on the development of offshore crude oil production facilities in Bass Strait and the construction of No. 3 gas plant at Longford near Sale.

Strong interest from various international sources was shown in Victoria's brown coal deposits for the purposes of conversion of coal to liquid fuel and other products. An agreement was signed with the Victorian Government in December 1980 to establish a \$200m pilot plant.

The Commonwealth Government announced the sale of a Victorian based pharmaceutical group, which had been purchased by the Government in 1975.

Significant rationalisation occurred within the tyre manufacturing industry as a result of the merger between two major manufacturers.

During the year the Commonwealth Government announced its decision for a new programme of assistance to the textile, clothing, and footwear industries. These measures are designed to maintain the relative stability achieved in these industries in recent years. The measures will last for a period of seven years commencing from 1 January 1982.

There was some increase in consumer demand for the products of the clothing, textiles, and footwear industries during 1980. This provided the impetus for certain organisations to rationalise and strengthen their operations through takeovers, involving in particular several notable firms in the knitting industry. Investment in modern textile equipment totalling several million dollars took place in establishments located at Yarraville, Ararat, Wangaratta, and Dandenong.

Government activities

Industrial legislation

The *Labour and Industry Act 1958* represents the development and consolidation of industrial legislation which had its beginnings in 1873. Among other matters, the Act deals with the registration and inspection of factories, guarding of machinery, and conditions of employment. The Act also provides for the appointment of Wages Boards and the Industrial Appeals Court. Further information on these matters may be found on pages 196-8.

Ministry for Economic Development

Introduction

The Ministry for Economic Development was established by an Act of the Victorian Parliament on 1 July 1981. The Ministry is responsible for promoting the industrial development of Victoria, and to lead and co-ordinate the Victorian Government's policy of creating more jobs through strong and sustained economic growth.

The Ministry's objectives include sponsoring and promoting the full and balanced economic development of Victoria; this in turn requires the Ministry to focus its efforts on industry and regional development objectives. These objectives include: the promotion of industries with longer term economic viability; monitoring and encouraging investment in regions according to economic and social needs; and facilitating investment in Victoria by establishing liaison with government bodies providing services or involved in regulation activities (i.e., planning, conservation, etc.).

The Ministry has established Regional Development Committees at Ballarat, Bendigo, and Portland, in order to foster, encourage, promote, and implement programmes directed towards the optimum level of development of the area of Committee activity, and to assist and advise the Minister in relation to legislation or matters charged to his administration, while regional offices are located at Wodonga, Ballarat, Geelong, Shepparton, Mildura, Portland, Warrnambool, Traralgon, Wangaratta, and Bendigo.

Development and Decentralisation Division

The Division has been charged with responsibility for the promotion, co-ordination, and facilitation of development and has operated in close liaison with the Victorian Economic Development Corporation.

In all cases, other than the very biggest and most complex projects, the Division facilitates all industrial and commercial developments in Victoria that require Victorian Government assistance or co-ordination.

The Division is also responsible for the Victorian Government's decentralisation programme; for facilitating the development of high technology and export oriented industries; for facilitating and co-ordinating "special" and similar projects; and for mounting and maintaining the Victorian Government's "deregulation" and purchasing initiatives.

Under the Victorian Government's decentralisation programme, the Ministry offers secondary industries engaged in manufacturing and processing in country areas of Victoria a range of financial incentives, including payroll tax and land tax rebates, road and rail transport concessions, transport of plant and machinery subsidies, and employment incentives. Other incentives cover electricity power connection costs, housing assistance, and a Victorian Government contract preference scheme.

During 1980-81, the Ministry spent \$33m on incentives to approved industries under its decentralisation programme. In addition, grants to Regional Development Committees in country centres to assist with the promotion and attraction of industry amounted to \$33,000.

Major State projects

The Ministry provides the mechanism to co-ordinate Victorian Government involvement in major development projects throughout the State. The principal objective is to implement Victorian Government policy associated with the establishment of large-scale industries and associated developments through the State.

In fulfilling this function, the Ministry undertakes studies to assess the regional impact of these developments and assesses the likely effect of the development on the economy of

Victoria and the Commonwealth. It is responsible for the operation of Ministerial Councils and Consultative Committees in areas experiencing rapid growth, such as the La Trobe Valley region and at Portland and for Geelong and Albury-Wodonga where major regional development activities are being carried out.

The Ministry is also responsible for ensuring that initiators of major projects are informed of Victorian Government policies and statutory requirements, and that investors are placed in direct contact with Victorian Government agencies which have a specific function to perform in relation to the project.

The Ministry also investigates and prepares reports and submissions to the Victorian and Commonwealth Governments seeking funds for infrastructure development and other purposes related to the project.

Policy and Planning Division

The research and policy function of the Ministry has as its principal objective, the provision of advice on policies to develop the State's economy.

To provide a basis for policy advice, this Division of the Ministry monitors the condition of the world economy, the international energy situation, the changing competitiveness of Victoria's main industries, changes in relevant Commonwealth Government policies, the labour market, and the impact of technological change. As part of this responsibility the Division reviews existing policies, and provides advice on specific initiatives and on matters of relevance to the Ministry's overall functions.

The Division also undertakes research studies on regions within Victoria in order to assess their problems, their opportunities, and their resource potential. Ministry submissions to influence policy at the other levels of government are prepared within this Division, e.g., submissions to bodies such as the Industries Assistance Commission.

In addition to these activities the Policy and Planning Division conducts studies to identify industries suitable for encouragement, provides details of development opportunities throughout Victoria, and advises and negotiates with such industries on assistance to secure new investment in Victoria.

Victorian Economic Development Corporation

The Victorian Economic Development Corporation is a statutory authority established by the Victorian Government under the *Victorian Economic Development Corporation Act 1981*. The Corporation came into being on 1 July 1981, and took over the functions of the former Victorian Development Corporation and the Victoria Promotion Committee.

The Corporation was established to facilitate and encourage:

- (1) Balanced industrial development, investment, and technology from overseas and interstate;
- (2) improved tourist facilities and accommodation; and
- (3) the export of Victorian goods and services.

To accomplish these aims the Corporation is empowered to undertake research, participate in trade fairs, maintain overseas and interstate offices as well as arrange finance, acquire land and factories, and do whatever is necessary to stimulate the economic development of Victoria. The Corporation can also make available loans at preferential rates and Government-backed guarantees to a wide range of Victorian industry.

The major functions of the Corporation are executed primarily through two divisions, the Development Division and the Finance Division.

Development Division

This Division endeavours to attract overseas investment, facilitate joint ventures and licensing agreements, and assist Victorian industry to expand export markets of primary produce, manufactured goods, and services.

It provides advice, arranges appointments, furnishes reports, and conducts confidential investigations on behalf of overseas inquirers. It also co-ordinates incoming and outgoing trade missions.

Finance Division

The Finance Division is principally responsible for the provision of financial assistance by way of loan or guarantee to:

- (1) Country manufacturing industries;
- (2) tourist accommodation and facilities throughout Victoria;
- (3) industries utilising advanced technology; and
- (4) manufacturing industries seeking to increase their exports overseas or interstate.

Finance is provided through medium to long-term loans at a concessional interest rate, the rate at October 1981 being within a maximum of 13.5 per cent per year, although in certain circumstances a lower rate may apply.

Loan applications are assessed on the score of viability, creation of new jobs, level of technology being utilised, and the value to Victoria of any increase in exports. Tourism loans, in addition, take into account the extent of the need for the new service to be provided, and the effect upon existing operators in that field.

Because its funds are limited, the Corporation is generally a secondary lender and is prepared, where necessary, to accept secondary charges over assets following first mortgages and debentures to more traditional lenders.

**VICTORIA—VICTORIAN ECONOMIC DEVELOPMENT CORPORATION:
APPROVAL OF LOANS, 1979-80 AND 1980-81**

Sector	1979-80			1980-81		
	Number	Amount (\$)	Per cent	Number	Amount (\$)	Per cent
INDUSTRY						
Electrical machinery, cables, and appliances	1	700,000	6.2	1	15,000	0.1
Building materials and fittings	11	890,500	8.0	18	1,489,000	10.6
Furniture and joinery	6	473,000	4.2	6	227,292	1.6
Motor vehicles, parts, and motor engineering	4	133,750	1.2	5	286,500	2.0
Machinery, equipment, and general engineering	16	954,875	8.6	21	2,083,250	14.9
Leather and leather goods	—	—	—	—	—	—
Textiles and clothing	10	1,722,500	15.4	14	2,360,600	16.9
Printing of newspapers and other publications	3	132,000	1.2	1	67,000	0.5
Paper and cardboard products and printing	2	150,000	1.3	2	55,000	0.4
Sawmilling	5	467,000	4.2	6	630,000	4.5
Food processing, drink, confectionery, and tobacco	17	2,728,100	24.3	15	2,275,000	16.3
Other manufacturing	15	834,000	7.4	7	599,000	4.3
Sundry	4	159,000	1.4	5	200,000	1.4
Total industry	94	9,344,725	83.4	101	10,287,642	73.5
TOURISM						
Hotels, motels, and guest houses	24	1,439,000	12.8	35	2,611,700	18.6
Caravan parks	9	220,500	2.0	5	118,500	1.0
Other	9	199,000	1.8	19	970,000	6.9
Total tourism	42	1,858,500	16.6	59	3,700,200	26.5
Grand total	136	11,203,225	100.0	160	13,987,842	100.0

Commonwealth Department of Industry and Commerce

The Department's role is to provide advice on Commonwealth Government policy relating to the development of Australian manufacturing and tertiary industries, the tourist industry, and small business. In the course of developing advice appropriate to present and likely future circumstances in these sectors and administering certain aspects of policy, the Department monitors industry trends and conditions, and undertakes reviews of specific industries. The Department is also responsible for the manufacture of goods and the provision of services for defence purposes.

Commonwealth Department of Productivity

The Department of Productivity was abolished in November 1980. Functions relating to manufacturing enterprises were transferred to the Department of Science and Technology.

Commonwealth Department of Science and Technology

The main functions of the Department of Science and Technology relating to manufacturing include development and transfer of technology in industry and commerce;

registration of patents, trade marks, and designs; inventions and innovation assistance; and encouragement of industrial research and development. It also encourages government-industry initiatives through Adventure Workshops in Innovation and entrepreneurship and enterprise development programmes.

The Regional Office (Victoria) participates in planning and operating departmental projects, provides policy advice to Central Office, and develops relations with industry and other Victorian Government organisations.

Commonwealth Department of Trade and Resources

The Department is responsible for developing and maintaining Australia's position as a major world trading nation, through international trade and commodity commitments and agreements, development of export markets, and formulation of policy proposals for the Commonwealth Government's international trade policy and trading objectives. It is also responsible for matters related to the commercial development, marketing, and export of minerals, including uranium, and hydrocarbon fuels.

Prices Justification Tribunal

The Prices Justification Tribunal was established in August 1973 pursuant to the *Prices Justification Act 1973*. Amendments to the Act occurred in 1974, 1976, and 1979. The Act was repealed on 26 June 1981.

The functions of the Tribunal were to conduct inquiries in relation to prices charged for the supply of goods or services by prescribed companies, and to report to the Minister for Business and Consumer Affairs the results of every such inquiry.

On 26 June 1981, the *Petroleum Products Pricing Act 1981* was proclaimed. This Act established the Petroleum Products Pricing Authority, which assumed responsibility for price surveillance of the petroleum products industry.

Petroleum Products Pricing Authority

The Petroleum Products Pricing Authority was established on 26 June 1981 pursuant to the *Petroleum Products Pricing Act 1981*. The functions of the Authority are to conduct inquiries in relation to prices for the supply of petroleum products or related services, and to report to the Minister for Business and Consumer Affairs the results of every such inquiry.

An inquiry may be either:

- (1) A prices justification inquiry, that is to say, an inquiry as to whether the price or prices at which a company or companies supplies or supply, or proposes or propose to supply, products or services of a particular description is or are justified; or
- (2) an inquiry into such specified matter or matters relating to the prices at which products or services are supplied as is required by the Minister.

Those companies that are declared by the Minister in the Commonwealth of Australia *Gazette* are required by section 19 of the *Petroleum Products Pricing Act* to notify the Authority of proposed increases in the prices of defined petroleum products and associated services. Where a proposed increase is to be the subject of an inquiry, an interim price increase may be allowed by the Authority pending the outcome of such an inquiry.

Scientific research and standardisation

Commonwealth Scientific and Industrial Research Organisation

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is a statutory body established by the *Science and Industry Research Act 1949*. Under the Act, the CSIRO replaced the former Council for Scientific and Industrial Research which was established in 1926. Its principal functions under the Act are the carrying out of scientific research in connection with Australian primary and secondary industries or any other matter referred to it by the Minister for Science and Technology; encouraging the utilisation of the results of such research; the training of scientific research workers and the awarding of studentships; the making of grants in aid of scientific research; the recognition and support of research associations; the maintenance of the national standards of measurement; the dissemination of scientific and technical information; the publication of scientific and technical reports; and acting as a means of liaison between Australia and other countries in matters of scientific research.

Standards Association of Australia

This Association is the officially endorsed national organisation for the promotion of standardisation in Australia. It is an independent body incorporated by Royal Charter, having the full recognition and support of the Commonwealth and State Governments and industry. Formed as the Australian Commonwealth Engineering Standards Association in 1922 it was reconstituted as the Standards Association of Australia in 1929. Approximately 30 per cent of its funds are provided by Commonwealth Government grants, the remainder coming from membership subscriptions and the sale of publications.

A Council composed of representatives of Commonwealth and State Government departments, associations of manufacturing and commercial interests, and professional institutions controls the Association's activities. The technical work of the Association is carried out on a voluntary basis by committees composed of experts in the particular subjects for which standards have been requested.

Australian standards are developed by co-operative effort and negotiation on the part of those most concerned, whether as producers or as users. They are based on what is best in present practice. They do not attempt to attain an ideal which might be too costly to adopt under industrial and commercial conditions. They are constantly revised to take account of new developments and to eliminate outmoded practices.

Industrial associations, firms, or government departments may request standards relating to such things as terminology, test methods, dimensions, specifications of performance and quality of products, and safety or design codes. In general, standards derive authority from voluntary adoption based on intrinsic merit. It is only in special cases where safety of life and property is involved, that they may have compulsory application. The Association owns a registered certification trade mark which manufacturers may obtain a licence to use.

The Association has international affiliations, being the Australian member body on the International Standards Organization (ISO) and the International Electrotechnical Commission (IEC); it also maintains close links with overseas standards organisations. It acts as Australian agent for the procurement of overseas publications and the standards of other countries. The headquarters office of the Association is in Sydney, and there is a major office in Melbourne. Branch offices are located in other capital cities and at Newcastle, New South Wales.

National Association of Testing Authorities, Australia

This is the Australian organisation for accreditation of testing and measuring facilities. It registers testing and measuring laboratories which can demonstrate their technical and managerial competence. Registration of laboratories is voluntary. Registered laboratories are operated by industrial, governmental, educational, and commercial testing authorities. The Association is recognised by all State Governments, the Commonwealth Government, and industry associations. Registered laboratories have the right to endorse their test documents in the name of the Association.

Industrial Design Council of Australia

The Industrial Design Council of Australia has established its Victorian and national headquarters at the Australian Design Centre, 37 Little Collins Street, Melbourne. At the Australian Design Centre, there is a small changing display of quality Australian designed products which have received Design Council recognition. The Council provides three authoritative types of endorsements for companies and their products. They are made on the recommendation of independent panels with a wide range of technical and design expertise.

The Design Council's field advisors who are experts in engineering, design, and marketing are available to assist manufacturers with new product development including the provision of scientific and technological abstracts that apply to specific product development needs. The Council's Design Referral Service offers quick access to preselected lists from the Council's extensive register of specialists in all aspects of product development.

The Design Council also runs new product development workshops and lectures. These training programmes, for middle and upper management, follow a logical progression

through the product development process from idea generation to sales and promotion, and include such important stages as financial planning, product design, and research.

The Council assists manufacturers with product design management helping establish corporate design policies and strategies for new product development. If required, the Council can develop a complete product development programme that is tailored to the specific needs of particular companies. Such programmes may encompass design audit, new product idea searches, idea development and evaluation, development of a product profile, and the contracting of external talent and the supervision of their work. The Council can also assist manufacturers with the assembly of panels of creative persons who can apply techniques of creative problem solving. These panels also assist in the training of company staff.

The Design Council's education officers work with teachers and curriculum planners in schools and state colleges assisting them to develop programmes which will create an awareness and understanding of design.

MANUFACTURING INDUSTRY STATISTICS

Basis of collection

A series of substantially uniform statistics exists from 1901 to 1967-68 when the framework within which manufacturing statistics were collected was changed. The table on pages 371-2 contains a summary of statistics on manufacturing activities in Victoria over that period. More detailed manufacturing statistics in respect of this period have been included in previous editions of the *Victorian Year Book*.

As from the year ended June 1969, the Census of Manufacturing, Electricity, and Gas has been conducted within the framework of the integrated economic censuses, which include the Censuses of Mining, Retail Trade and Selected Services, and Wholesale Trade. As a result, manufacturing industry statistics for 1968-69 and subsequent years are not directly comparable with previous years. The electricity and gas industries, which were previously included in the annual Manufacturing Census, were the subject of separate censuses. The integration of these economic censuses was designed to increase substantially the usefulness and comparability of economic statistics collected and published by the Australian Bureau of Statistics and to form a basis for the sample surveys which supply current economic statistics from quarter to quarter, particularly those which provide data for the quarterly national income and expenditure estimates.

The economic censuses of Manufacturing, Mining, and Retail Trade previously conducted in Australia were originally designed and subsequently developed primarily to provide statistics for particular industries on a basis which would best suit the requirements of users interested in statistics of those industries. More recently there has been a growth of interest in statistics describing activity in the economy as a whole—reflected, for example, in the development of employment and earnings statistics, surveys of capital expenditure and stocks, and the whole field of national accounts statistics. For such purposes statistics derived from economic censuses in the past have had serious limitations despite the fact that they covered a broad area of the whole economy. Because of the special requirements of each of the censuses, there were no common definitions of data, there was no common system of reporting units, and, as a standard industrial classification was not used for these censuses, industry boundaries were not defined in ways which would avoid overlapping or gaps occurring between the industrial sectors covered. For these reasons, direct aggregation and comparison of statistics from different censuses were not possible.

The integration of these economic censuses meant that for the first time they were being collected on the basis of a common framework of reporting units and data concepts and in accordance with a standard industrial classification. As a result, the statistics for the industries covered by the censuses are now provided with no overlapping or gaps in coverage, and in such a way that aggregates for certain important economic data such as value added, employment, wages and salaries, fixed capital expenditure, and stocks can be obtained on a consistent basis for all sectors of the economy covered by the censuses. From the 1975-76 Census of Manufacturing Establishments onwards, only a limited range of data—employment and wages and salaries—is collected from single establishment

manufacturing enterprises with less than four persons employed. This procedure has significantly reduced the statistical reporting obligations of small businesses, while at the same time only marginally affecting statistical aggregates other than the number of establishments. Data in respect of establishments from which the full range of data is collected under the new collection criteria (i.e., all manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed) is considered to provide reliable information for the evaluation of trends in the manufacturing sector of the economy. All tables in this and subsequent *Victorian Year Books* will show details collected from all manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises employing four or more persons, while for 1974-75 some tables also show data collected from single establishment manufacturing enterprises employing less than four persons.

From the 1977-78 Manufacturing Census, the classification of census units to industry is based on the 1978 edition of the *Australian Standard Industrial Classification (ASIC)*. The 1978 edition of the classification replaces the 1969 preliminary edition which had been in use since the 1968-69 Census.

The 1977-78 data used in the following tables is classified according to the 1978 edition of ASIC. In general, the impact of the change in industrial classification is minimal at the ASIC division and sub-division levels, leaving their basic character and structure unchanged. The ASIC division and sub-division levels are the levels used in this chapter.

For a more detailed description of the integrated economic censuses, reference should be made to pages 368-89 of the *Victorian Year Book* 1971.

Summary of manufacturing statistics

Manufacturing statistics compiled for 1967-68 were the last of the old series, and definitions used in the 1967-68 and previous manufacturing censuses were published in the *Victorian Year Book* 1971, pages 394-7. The first publication of statistics from the 1968-69 economic censuses, *Manufacturing establishments and electricity and gas establishments: preliminary statement* (8208.0), was issued in January 1971 and contained information in respect of twelve industry sub-divisions permitting comparisons to be made between States, but did not permit comparisons to be made between 1968-69 and previous years because of the changes in the definition of the establishment, bases of classification, and forms.

In respect of 1979-80, the four metal products sub-divisions, namely, Basic metal products (sub-division 29), Fabricated metal products (sub-division 31), Transport equipment (sub-division 32), and Other machinery and equipment (sub-division 33), with 165,455 persons or 41.6 per cent of the total employment in manufacturing establishments in 1979-80, employed considerably more persons than any other part of manufacturing industry. Next in order of employment was Food, beverages, and tobacco (sub-division 21), with 54,477 or 13.7 per cent, followed by Clothing and footwear (sub-division 24), and Paper, paper products, printing, and publishing (sub-division 26) with 44,219 and 33,268, respectively, or 11.1 per cent and 8.4 per cent of the total.

VICTORIA—DEVELOPMENT OF MANUFACTURING ACTIVITY

Year	Manufacturing establishments	Employment (a)	Wages and salaries paid (b)	Turnover	Purchases, transfers in, and selected expenses	Value added	Fixed capital expenditure less disposals
	number	number	\$m	\$m	\$m	\$m	\$m
1901	3,249	66,529	n.a.	n.a.	n.a.	n.a.	(f) 25
1911	5,126	111,948	18	(e) 84	(d) 51	32	(f) 28
1920-21	6,532	140,743	43	(e) 212	(d) 135	77	(f) 71
1932-33	8,612	144,428	42	(e) 204	(d) 122	82	(f) 136
1946-47	10,949	265,757	156	(e) 631	(d) 368	263	(f) 244
1953-54	15,533	331,277	472	(e) 1,971	(d) 1,154	817	(f) 679
1960-61	17,173	388,050	776	(e) 3,332	(d) 1,914	1,418	(f) 1,642
1965-66	17,980	439,149	1,077	(e) 4,625	(d) 2,597	2,028	(f) 2,386
1967-68	18,030	449,945	1,244	(e) 5,351	(d) 2,957	2,395	(f) 2,685
1968-69	(c) 11,563	431,651	1,342	6,336	3,861	2,542	278
1969-70	(c) 11,393	445,663	1,497	6,998	4,307	2,799	300

VICTORIA—DEVELOPMENT OF MANUFACTURING ACTIVITY—*continued*

Year	Manufacturing establishments	Employment (a)	Wages and salaries paid (b)	Turnover	Purchases, transfers in, and selected expenses	Value added	Fixed capital expenditure less disposals
	number	number	\$m	\$m	\$m	\$m	\$m
1971-72	(c) 11,408	450,026	1,800	8,055	4,812	3,328	374
1972-73	(c) 11,735	455,029	2,045	9,078	5,392	3,738	438
1973-74	(c) 12,070	469,838	2,524	10,669	6,486	4,546	418
1974-75	(g) (c) 8,924	432,851	2,961	11,730	7,024	5,131	455
	(h) (c) 2,834	5,727	17	100	53	48	2
1975-76	(g) (c) 8,873	417,107	3,287	13,220	7,564	5,765	462
1976-77	(g) (c) 8,735	409,196	3,650	15,040	8,696	6,637	495
1977-78	(g) (c) 8,571	396,722	3,831	16,175	9,473	6,905	653
1978-79	(g) (c) 8,546	394,964	4,102	(i) 18,228	11,109	(j) 7,377	742
1979-80	(g) (c)(j) 8,902	397,313	4,563	(i) 21,233	13,353	(i) 8,505	735

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

(b) Excludes drawings of working proprietors.

(c) Number of establishments operating at 30 June.

(d) Prior to 1968-69, details relate to materials and fuels used.

(e) Output.

(f) Prior to 1968-69, details relate to land, buildings, plant, and machinery.

(g) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed.

(h) Single establishment manufacturing enterprises with less than four persons employed.

(i) Commencing with 1978-79 census, the method of calculating value added, purchases etc. and turnover has been changed to accord more closely with the concepts and definitions used in the Australian National Accounts.

(j) The coverage of the 1979-80 manufacturing census was improved as a result of conducting the 1979-80 Census of Retail and Selected Services Industries. While this improved coverage contributes to the increase in the number of establishments in some States or industries, its effects on any other statistical aggregates are only marginal.

NOTE: A line drawn across a column between the figures indicates a break in continuity in the series. No census of manufacturing establishments was conducted for the year ending 30 June 1971.

A comparison between manufacturing activity in Victoria and the other States is shown in the following table:

AUSTRALIA—MANUFACTURING ESTABLISHMENTS (g), 1979-80

State or Territory	Establishments operating at 30 June	Employment (a)	Wages and salaries paid (b)	Turnover (i)	Purchases, transfers in, and selected expenses (i)	Value added (i)	Fixed capital expenditure less disposals
	number	number	\$m	\$m	\$m	\$m	\$m
New South Wales	10,158	436,433	5,253	24,109	9,746	15,071	812
Victoria	8,902	397,313	4,563	21,233	8,505	13,353	735
Queensland	3,170	115,606	1,253	8,304	2,692	5,777	205
South Australia	2,143	107,043	1,186	5,415	2,233	3,426	189
Western Australia	2,301	65,987	734	4,259	1,643	2,663	169
Tasmania	543	26,158	298	1,656	654	1,046	56
Northern Territory	101	2,512	33	251	77	179	18
Australian Capital Territory	112	3,132	37	127	64	64	4
Total	27,430	1,154,184	13,358	65,355	25,614	41,580	2,187

For footnotes see table above.

The total value added in 1979-80 was \$8,505m. Of this amount, the Metal products sub-divisions contributed \$3,441m which represented 40.5 per cent of the total. The Food sub-division followed with \$1,342m or 15.8 per cent, and the next in order were the Paper, paper products, printing, and publishing sub-division with \$748m, 8.8 per cent, and the Clothing and footwear sub-division with \$650m, 7.6 per cent.

The following table contains a summary of manufacturing establishments by subdivision of industry in Victoria during the year 1979-80:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g) BY SUB-DIVISION OF INDUSTRY, 1979-80

ASIC code	Industry sub-division	Establishments operating at 30 June (j)	Employment (a)	Wages and salaries (b)	Turnover (i)	Purchases, transfers in, and selected expenses (i)	Value added (i)	Fixed capital expenditure less disposals
		number	number	\$m	\$m	\$m	\$m	\$m
21	Food, beverages, and tobacco	982	54,477	629	4,435	3,173	1,342	130
23	Textiles	312	20,210	226	930	582	367	19

VICTORIA—MANUFACTURING ESTABLISHMENTS (g) BY SUB-DIVISION OF INDUSTRY, 1979-80—continued

ASIC code	Industry sub-division	Establishments operating at 30 June (i)	Employment (a)	Wages and salaries (b)	Turnover (i)	Purchases, transfers in, and selected expenses (i)	Value added (i)	Fixed capital expenditure less disposals
		number	number	\$m	\$m	\$m	\$m	\$m
24	Clothing and footwear	1,038	44,219	400	1,355	730	650	15
25	Wood, wood products, and furniture	1,156	19,136	184	750	432	331	13
26	Paper, paper products, printing, and publishing	949	33,268	415	1,539	826	748	56
27	Chemical, petroleum, and coal products	295	19,792	272	1,750	1,128	693	118
28	Non-metallic mineral products	397	12,974	169	703	362	351	47
29	Basic metal products	175	13,836	193	1,318	943	419	61
31	Fabricated metal products	1,133	36,269	406	1,598	912	740	35
32	Transport equipment	456	60,994	737	3,034	2,037	1,124	144
33	Other machinery and equipment	1,245	54,356	618	2,419	1,363	1,160	63
34	Miscellaneous manufacturing	764	27,782	315	1,402	864	580	34
	Total	8,902	397,313	4,563	21,233	13,353	8,505	735

For footnotes see page 372.

The next table summarises, by sub-division of industry, the percentage contribution of Victorian manufacturing establishments to the total Australian figures for the year 1979-80:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g)
BY SUB-DIVISION OF INDUSTRY, 1979-80:
PERCENTAGE OF AUSTRALIAN TOTALS
(per cent)

ASIC code	Industry sub-division	Establishments operating at 30 June	Employment (a)	Wages and salaries (b)	Turnover (i)	Purchases, transfers in, and selected expenses (i)	Value added (i)	Fixed capital expenditure less disposals
21	Food, beverages, and tobacco	29	29	30	31	31	30	30
23	Textiles	48	54	55	51	50	52	41
24	Clothing and footwear	51	55	56	55	53	57	58
25	Wood, wood products, and furniture	29	25	25	24	23	24	19
26	Paper, paper products, printing, and publishing	34	33	34	34	34	33	31
27	Chemical, petroleum, and coal products	32	33	33	29	28	32	33
28	Non-metallic mineral products	24	28	28	25	23	27	24
29	Basic metal products	33	15	14	15	15	14	19
31	Fabricated metal products	28	33	34	32	31	34	33
32	Transport equipment	32	45	45	48	51	44	66
33	Other machinery and equipment	34	34	34	36	36	36	39
34	Miscellaneous manufacturing	35	42	43	44	45	43	40
	Total	32	34	34	33	32	33	34

For footnotes see page 372.

The following table shows the number of manufacturing establishments operating in Victoria at 30 June 1976 to 1980, classified according to sub-division of industry:

VICTORIA—NUMBER OF MANUFACTURING ESTABLISHMENTS (g)
BY SUB-DIVISION OF INDUSTRY AT 30 JUNE

ASIC code	Industry sub-division	1976	1977	1978	1979	1980 (i)
21	Food, beverages, and tobacco	992	963	984	957	982
23	Textiles	332	319	301	291	312
24	Clothing and footwear	1,219	1,141	1,079	1,041	1,038
25	Wood, wood products, and furniture	1,083	1,088	1,078	1,068	1,156
26	Paper, paper products, printing and publishing	874	866	848	853	949

VICTORIA—NUMBER OF MANUFACTURING ESTABLISHMENTS (g)
BY SUB-DIVISION OF INDUSTRY AT 30 JUNE—continued

ASIC code	Industry sub-division	1976	1977	1978	1979	1980(j)
27	Chemical, petroleum, and coal products	280	283	276	286	295
28	Non-metallic mineral products	367	373	380	380	397
29	Basic metal products	176	173	166	169	175
31	Fabricated metal products	1,087	1,118	1,097	1,114	1,133
32	Transport equipment	427	425	409	434	456
33	Other machinery and equipment	1,299	1,281	1,228	1,216	1,245
34	Miscellaneous manufacturing	737	705	725	737	764
Total		8,873	8,735	8,571	8,546	8,902

For footnotes see page 372.

The size classification of manufacturing establishments is based on the number of persons employed at 30 June 1980 (including working proprietors). The following table shows the number of manufacturing establishments classified according to the number of persons employed:

VICTORIA—MANUFACTURING
ESTABLISHMENTS (a) CLASSIFIED
ACCORDING TO NUMBER OF
PERSONS EMPLOYED (INCLUDING
WORKING PROPRIETORS)
AT 30 JUNE 1980

Manufacturing establishments employing persons numbering	Number of establishments	Number of persons employed (b)
Less than 10	3,937	23,296
10 to 19	1,929	26,309
20 to 49	1,541	47,209
50 to 99	694	49,126
100 to 199	433	60,500
200 to 499	275	79,612
500 to 999	61	38,456
1,000 and over	32	54,861
Total	8,902	379,369

(a) All manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed. In addition, there were 3,400 single establishment enterprises employing 6,874 persons in the one to three persons employed group.

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

The relative importance of large and small manufacturing establishments is illustrated in the preceding table. At 30 June 1980, 3,937 establishments employing less than ten employees had a total employment of 23,296 persons. That is 44.2 per cent of manufacturing establishments—those employing less than ten persons—employed 6.1 per cent of the persons engaged. The most numerous of the establishments with less than ten persons were printing, stationery, and bookbinding; furniture (excluding sheetmetal); joinery and wooden structural fittings; and industrial machinery and equipment not elsewhere classified.

A general indication of the geographical distribution of manufacturing establishments in Victoria at 30 June 1980 is shown in the following table where they are classified according to statistical divisions:

**VICTORIA—MANUFACTURING ESTABLISHMENTS (g)
IN STATISTICAL DIVISIONS, 1979-80**

Statistical division	Establishments operating at 30 June	Employment (a)	Wages and salaries (b)	Turnover (i)	Purchases, transfers in, and selected expenses (j)	Value added (i)	Fixed capital expenditure less disposals
	number	number	\$m	\$m	\$m	\$m	\$m
Melbourne	7,182	329,679	3,808	17,259	10,806	6,970	492
Barwon	309	20,477	265	1,273	768	547	151
South Western	121	4,817	48	365	267	110	6
Central Highlands	203	8,196	84	322	179	152	11
Wimmera	70	1,451	12	52	31	20	3
Northern Mallee	95	1,360	12	74	47	35	5
Loddon-Campaspe	225	9,036	89	447	300	160	9
Goulburn	215	6,975	77	472	338	148	26
North Eastern	138	5,602	60	337	200	144	16
East Gippsland	106	2,136	20	117	72	43	2
Central Gippsland	178	6,142	70	428	282	149	12
East Central	60	1,442	16	85	62	26	4
Total	8,902	397,313	4,563	21,233	13,353	8,505	735

For footnotes see page 372.

Manufacturing establishments in the Melbourne Statistical Division constituted 80.7 per cent of the total number in Victoria at 30 June 1980, 83.0 per cent of the persons employed, and 82.0 per cent of the value added.

It should be noted that Geelong is located in the Barwon Statistical Division, Bendigo, Castlemaine, and Maryborough in the Loddon-Campaspe Statistical Division, Ballarat in the Central Highlands Statistical Division, Warrnambool in the South Western Statistical Division, Shepparton in the Goulburn Statistical Division, Wangaratta in the North Eastern Statistical Division, and Morwell and Yallourn in the Central Gippsland Statistical Division.

Employment, wages, and salaries

Employment

From 1968-69, all persons employed in a manufacturing establishment and separately located administrative offices and ancillary units serving the establishment (including proprietors working in their own businesses) are included as persons employed. The grouping of persons employed comprises (1) working proprietors; (2) administrative, office, sales, and distribution employees; and (3) production and all other employees.

The figures showing employment in manufacturing establishments represent either the average number of persons employed, including working proprietors, over a full year, or the number of persons employed at June each year as specified in the following tables:

VICTORIA—PERSONS EMPLOYED (a) IN MANUFACTURING ESTABLISHMENTS, (g) 1975-76 TO 1979-80

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
21	Food, beverages, and tobacco	59,172	58,380	58,234	55,283	54,477
23	Textiles	23,811	21,075	19,460	19,046	20,210
24	Clothing and footwear	49,441	46,822	45,012	44,983	44,219
25	Wood, wood products, and furniture	19,301	19,640	19,089	18,401	19,136
26	Paper, paper products, printing, and publishing	32,503	32,656	31,654	31,656	33,268
27	Chemical, petroleum, and coal products	20,239	20,462	21,174	21,610	19,792
28	Non-metallic mineral products	13,524	13,580	12,950	12,737	12,974
29	Basic metal products	12,709	13,197	12,475	12,817	13,836
31	Fabricated metal products	35,989	35,830	35,267	35,061	36,269
32	Transport equipment	60,391	62,171	58,752	61,319	60,994
33	Other machinery and equipment	62,384	58,116	55,402	54,793	54,356
34	Miscellaneous manufacturing	27,643	27,267	27,253	27,258	27,782
Total		417,107	409,196	396,722	394,964	397,313

For footnotes see page 372.

It should be noted that the metal fabricating sub-divisions (31-33) (including transport equipment, machinery, and other equipment), Food, beverages, and tobacco sub-division (21), and Clothing and footwear sub-division (24) are large contributors.

VICTORIA—NUMBER OF MANUFACTURING ESTABLISHMENTS (g) AND PERSONS EMPLOYED (a) IN EACH STATISTICAL DIVISION, CLASSIFIED ACCORDING TO INDUSTRY SUB-DIVISION, 1979-80

ASIC code	Industry sub-division	Statistical division												Total
		Mel-bourne	Barwon	South Western	Central High-lands	Wimmera	North-ern Mallee	Loddon-Campaspe	Goul-burn	North Eastern	East Gipps-land	Central Gipps-land	East Central	
NUMBER OF MANUFACTURING ESTABLISHMENTS (g)														
21	Food, beverages, and tobacco	546	49	35	36	24	38	60	62	46	20	49	17	982
23	Textiles	258	19	1	5	3	2	5	7	3	2	5	2	312
24	Clothing and footwear	959	15	4	11	1	—	16	13	4	1	12	2	1,038
25	Wood, wood products, and furniture	828	47	21	36	7	10	30	44	27	50	35	21	1,156
26	Paper, paper products, printing, and publishing	797	18	12	19	9	11	20	20	9	11	16	7	949
27	Chemical, petroleum, and coal products	270	11	3	4	—	—	2	1	1	—	3	—	295
28	Non-metallic mineral products	220	28	15	23	8	14	30	22	14	8	12	3	397
29	Basic metal products	145	12	1	6	1	—	4	2	1	—	2	1	175
31	Fabricated metal products	972	43	6	20	9	7	22	15	10	3	23	3	1,133
32	Transport equipment	375	13	7	12	—	3	16	15	4	2	9	—	456
33	Other machinery and equipment	1,096	37	14	24	5	10	17	11	17	4	7	3	1,245
34	Miscellaneous manufacturing	716	17	2	7	3	—	3	3	2	5	5	1	764
Total		7,182	309	121	203	70	95	225	215	138	106	178	60	8,902
NUMBER OF PERSONS EMPLOYED (a)														
21	Food, beverages, and tobacco	37,103	1,408	2,429	1,204	508	775	2,383	4,197	1,903	593	1,450	524	54,477
23	Textiles	14,908	1,732	n.p.	413	n.p.	n.p.	644	448	n.p.	n.p.	293	n.p.	20,210
24	Clothing and footwear	37,566	1,850	n.p.	725	n.p.	—	1,236	434	n.p.	n.p.	787	n.p.	44,219
25	Wood, wood products, and furniture	13,621	649	519	797	98	92	399	612	667	1,025	431	226	19,136
26	Paper, paper products, printing, and publishing	29,097	n.p.	185	524	93	162	398	348	350	141	n.p.	170	33,268
27	Chemical, petroleum, and coal products	17,722	1,669	n.p.	n.p.	—	—	n.p.	n.p.	n.p.	—	n.p.	—	19,792
28	Non-metallic mineral products	9,798	1,258	92	652	68	107	310	202	138	n.p.	281	n.p.	12,974
29	Basic metal products	9,803	2,820	n.p.	789	n.p.	—	154	n.p.	n.p.	—	n.p.	n.p.	13,836
31	Fabricated metal products	32,321	1,037	49	510	79	n.p.	901	301	140	n.p.	672	n.p.	36,269
32	Transport equipment	53,204	n.p.	75	1,506	—	33	963	193	19	n.p.	56	n.p.	60,994
33	Other machinery and equipment	47,815	2,504	265	918	159	142	1,409	130	445	62	488	19	54,356
34	Miscellaneous manufacturing	26,721	n.p.	n.p.	n.p.	n.p.	—	n.p.	60	n.p.	n.p.	109	n.p.	27,782
Total		329,679	20,477	4,817	8,196	1,451	1,360	9,036	6,975	5,602	2,136	6,142	1,442	397,313

For footnotes see page 372.

In the following table the number of persons employed in manufacturing establishments in Victoria is classified according to the nature of their employment at 30 June 1976 to 1980:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
TYPE OF EMPLOYMENT

At 30 June—	Working proprietors	Administrative, office, sales, and distribution employees	Production and all other employees	Total
1976	4,287	102,632	311,731	418,650
1977	4,318	102,699	297,946	404,963
1978	4,007	99,170	288,021	391,198
1979	4,019	98,859	294,468	397,346
1980	4,160	98,425	288,442	391,027

For footnotes see page 372.

The following table shows the nature of employment in manufacturing establishments at 30 June 1980 classified according to industry sub-division:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g): TYPE OF
EMPLOYMENT BY INDUSTRY SUB-DIVISION AT 30 JUNE 1980

ASIC code	Industry sub-division	Working proprietors	Administrative, office, sales, and distribution employees	Production and all other employees	Total
21	Food, beverages, and tobacco	633	14,955	36,542	52,130
23	Textiles	70	4,870	14,861	19,801
24	Clothing and footwear	590	5,679	38,081	44,350
25	Wood, wood products, and furniture	725	3,541	15,070	19,336
26	Paper, paper products, printing, and publishing	381	10,168	23,038	33,587
27	Chemical, petroleum, and coal products	33	7,565	12,188	19,786
28	Non-metallic mineral products	184	3,116	9,410	12,710
29	Basic metal products	45	4,914	8,914	13,873
31	Fabricated metal products	504	9,124	26,553	36,181
32	Transport equipment	199	13,429	43,655	57,283
33	Other machinery and equipment	481	14,414	39,640	54,535
34	Miscellaneous manufacturing	315	6,650	20,490	27,455
	Total	4,160	98,425	288,442	391,027

For footnotes see page 372.

Although "production and all other employees" constitute 73.8 per cent of the total number employed in manufacturing establishments, the percentage varies from 85.9 per cent in sub-division 24 to 61.6 per cent in sub-division 27. Sub-division 27 also has the highest percentage of "administrative, office, sales, and distribution employees", 38.2 per cent, compared with the Victorian average of 25.2 per cent.

Where small establishments predominate there is usually a higher proportion of working proprietors than on the average and a smaller than average managerial and clerical staff. This is particularly evident in sub-division 25 where working proprietors comprise 3.7 per cent of the total number employed.

The numbers of males and females employed in manufacturing establishments, and the proportions of the average male and female population per 10,000 working in these establishments in 1979-80 and earlier years are shown in the following table:

**VICTORIA—MANUFACTURING ESTABLISHMENTS:
EMPLOYMENT (a) OF MALES AND FEMALES, 1901 TO 1979-80**

Year	Males		Females		Total	
	Number	Average per 10,000 of male population	Number	Average per 10,000 of female population	Number	Average per 10,000 of total population
1901	47,059	778	19,470	325	66,529	553
1911	73,573	1,118	38,375	579	111,948	848
1920-21	96,379	1,283	44,364	574	140,743	923
1932-33	91,899	1,020	52,529	575	144,428	796
1946-47	188,758	1,876	76,999	745	265,757	1,303
1953-54	240,698	1,979	90,579	751	331,277	1,367
1960-61	280,207	1,925	107,843	750	388,050	1,341
1965-66	310,303	1,937	128,846	809	439,149	1,375
1967-68	316,108	1,912	133,837	812	449,945	1,362
1968-69	297,411	1,771	134,240	800	431,651	1,286
1969-70	306,917	1,794	138,746	812	445,663	1,303
1971-72	310,750	1,751	139,276	785	450,026	1,268
1972-73	314,259	1,744	140,770	782	455,029	1,263
1973-74	320,921	1,758	148,917	816	469,838	1,287
1974-75	302,234	1,634	130,617	706	432,851	1,170
1974-75 (h)	4,275	23	1,452	8	5,727	15
1975-76 (g)	291,736	1,560	125,371	668	417,107	1,113
1976-77 (g)	288,743	1,530	120,453	636	409,196	1,082
1977-78 (g)	280,708	1,461	116,014	601	396,722	1,030
1978-79 (g)	279,315	1,454	115,649	598	394,964	1,025
1979-80	281,959	1,455	115,354	592	397,313	1,022

For footnotes see page 372.

Female workers in manufacturing establishments at 30 June 1980 were 29.0 per cent of the total number employed. Females exceeded males in the Clothing and footwear sub-division (24) where they accounted for 75.9 per cent of the sub-division total.

In sub-division 29, Basic metal products, the proportion of females to total persons employed is at its lowest, 10.5 per cent.

**VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
EMPLOYMENT AT 30 JUNE**

ASIC code	Industry sub-division	Number at 30 June—				
		1976	1977	1978	1979	1980
MALES						
21	Food, beverages, and tobacco	42,256	42,149	39,929	37,907	37,727
23	Textiles	13,337	11,625	11,083	11,139	11,852
24	Clothing and footwear	11,800	11,389	11,221	11,053	10,741
25	Wood, wood products, and furniture	16,503	16,645	16,023	15,682	16,431
26	Paper, paper products, printing, and publishing	24,119	24,172	23,418	23,417	24,526
27	Chemical, petroleum, and coal products	15,160	15,487	15,959	16,369	15,004
28	Non-metallic mineral products	12,059	11,854	10,959	11,073	10,852
29	Basic metal products	11,616	11,774	11,027	11,824	12,423
31	Fabricated metal products	28,853	28,509	27,981	28,303	29,242
32	Transport equipment	51,915	50,728	49,565	53,835	48,689
33	Other machinery and equipment	46,442	43,571	41,103	41,658	41,415
34	Miscellaneous manufacturing	19,067	18,595	18,544	18,910	19,068
Total		293,127	286,498	276,812	281,170	277,970
FEMALES						
21	Food, beverages, and tobacco	15,826	15,451	14,983	14,733	14,403
23	Textiles	9,933	8,425	8,223	7,948	7,949
24	Clothing and footwear	37,156	34,522	33,758	34,084	33,609
25	Wood, wood products, and furniture	3,049	3,213	2,908	2,882	2,905
26	Paper, paper products, printing, and publishing	8,714	8,781	8,379	8,328	9,061
27	Chemical, petroleum, and coal products	5,188	5,151	5,322	5,445	4,782
28	Non-metallic mineral products	1,800	1,760	1,788	1,920	1,858
29	Basic metal products	1,417	1,363	1,253	1,342	1,450
31	Fabricated metal products	7,639	7,316	6,960	6,916	6,939
32	Transport equipment	10,124	9,344	8,983	10,173	8,594
33	Other machinery and equipment	15,574	14,540	13,515	13,749	13,120
34	Miscellaneous manufacturing	9,103	8,599	8,314	8,656	8,387
Total		125,523	118,465	114,386	116,176	113,057

For footnotes see page 372.

Wages and salaries

The next table gives details of wages paid in the various classes of industry in Victoria in 1979-80. Amounts paid to "administrative, office, sales, and distribution employees" are shown separately from those paid to "production and all other workers". It should be noted that in all tables of salaries and wages paid the amounts drawn by working proprietors are excluded.

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
WAGES AND SALARIES PAID, 1979-80
(\$m)

ASIC code	Industry sub-division	Paid to—		
		Administrative, office, sales, and distribution employees	Production and all other workers	All employees
21	Food, beverages, and tobacco	194	435	629
23	Textiles	71	155	226
24	Clothing and footwear	68	332	400
25	Wood, wood products, and furniture	41	143	184
26	Paper, paper products, printing, and publishing	139	276	415
27	Chemical, petroleum, and coal products	114	158	272
28	Non-metallic mineral products	50	120	169
29	Basic metal products	79	114	193
31	Fabricated metal products	111	294	406
32	Transport equipment	208	530	737
33	Other machinery and equipment	182	435	618
34	Miscellaneous manufacturing	87	228	315
	Total	1,344	3,219	4,563

For footnote see page 372.

Of the total amount of wages and salaries paid in Victoria in 1979-80—\$4,563m—the metal fabricating sub-divisions (29-33) (including transport equipment, machinery, and other equipment), were responsible for \$1,954m or 42.8 per cent; Food, beverages, and tobacco, \$629m or 13.8 per cent; Clothing and footwear, \$400m or 8.8 per cent; and Paper, paper products, printing, and publishing, \$415m or 9.1 per cent.

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include 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, such as commission, repair and service revenue, and the value of capital work done on own account. Rents, leasing revenue, interest, royalties, and receipts from the sale of fixed tangible assets are excluded.

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
TURNOVER BY INDUSTRY SUB-DIVISION (i)
(\$m)

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
21	Food, beverages, and tobacco	2,767	3,104	3,477	3,901	4,435
23	Textiles	674	699	710	827	930
24	Clothing and footwear	942	1,002	1,073	1,208	1,355
25	Wood, wood products, and furniture	521	606	618	661	750
26	Paper, paper products, printing, and publishing	939	1,047	1,165	1,314	1,539
27	Chemical, petroleum, and coal products	904	1,076	1,216	1,458	1,750
28	Non-metallic mineral products	487	579	586	635	703
29	Basic metal products	577	744	773	953	1,318
31	Fabricated metal products	959	1,104	1,196	1,360	1,599
32	Transport equipment	1,909	2,311	2,444	2,656	3,034
33	Other machinery and equipment	1,696	1,811	1,886	2,078	2,419
34	Miscellaneous manufacturing	845	957	1,032	1,177	1,402
	Total	13,220	15,040	16,175	18,228	21,233

For footnotes see page 372.

Purchases, transfers in, and selected items of expense

In the following table the figures include 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, and from 1978-79, rent, leasing, and hiring expenses:

**VICTORIA—MANUFACTURING ESTABLISHMENTS (g): PURCHASES,
TRANSFERS IN, AND SELECTED ITEMS OF EXPENSE
BY INDUSTRY SUB-DIVISION
(\$m)**

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
21	Food, beverages, and tobacco	1,808	1,998	2,339	2,707	3,173
23	Textiles	391	407	420	511	582
24	Clothing and footwear	495	512	551	653	730
25	Wood, wood products, and furniture	286	330	335	371	432
26	Paper, paper products, printing, and publishing	467	535	604	703	826
27	Chemical, petroleum, and coal products	514	670	723	881	1,128
28	Non-metallic mineral products	239	285	299	322	362
29	Basic metal products	378	499	486	677	943
31	Fabricated metal products	497	576	640	739	912
32	Transport equipment	1,093	1,355	1,510	1,689	2,037
33	Other machinery and equipment	938	1,001	1,005	1,160	1,363
34	Miscellaneous manufacturing	460	528	561	697	864
Total		7,564	8,696	9,473	11,109	13,353

For footnotes see page 372.

Stocks

The figures in the following tables include all stocks of materials, fuels, etc., finished goods and work-in-progress whether located at the establishment or elsewhere. It should be noted that due to reporting differences on individual returns and variations in the number of establishments from year to year, the closing stocks in one year may differ from the opening stocks in the following year.

**VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
STOCKS BY INDUSTRY SUB-DIVISION
(\$m)**

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
OPENING STOCKS						
21	Food, beverages, and tobacco	382	383	407	482	515
23	Textiles	126	140	141	150	162
24	Clothing and footwear	130	159	169	186	217
25	Wood, wood products, and furniture	64	73	82	84	94
26	Paper, paper products, printing, and publishing	138	133	145	166	187
27	Chemical, petroleum, and coal products	189	175	202	239	254
28	Non-metallic mineral products	52	57	73	89	83
29	Basic metal products	105	131	152	139	163
31	Fabricated metal products	180	194	215	222	254
32	Transport equipment	379	382	462	514	537
33	Other machinery and equipment	475	473	473	509	550
34	Miscellaneous manufacturing	144	151	176	178	200
Total		2,364	2,451	2,696	2,959	3,216
CLOSING STOCKS						
21	Food, beverages, and tobacco	396	409	464	497	596
23	Textiles	139	143	144	158	181
24	Clothing and footwear	154	167	187	219	241
25	Wood, wood products, and furniture	72	83	85	89	107
26	Paper, paper products, printing, and publishing	134	152	160	185	222
27	Chemical, petroleum, and coal products	176	200	232	257	325
28	Non-metallic mineral products	57	75	91	81	93
29	Basic metal products	130	161	139	160	207
31	Fabricated metal products	197	213	226	236	307

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
STOCKS BY INDUSTRY SUB-DIVISION—continued
(\$m)

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
CLOSING STOCKS—continued						
32	Transport equipment	377	471	478	555	664
33	Other machinery and equipment	491	504	515	578	654
34	Miscellaneous manufacturing	149	168	178	200	243
Total		2,473	2,746	2,899	3,217	3,840

For footnotes see page 372.

Value added

Statistics on value added in the following table have been calculated by adding to turnover the increase (or deducting the decrease) in value of stocks and deducting the value of purchases and selected items of expense:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
VALUE ADDED BY INDUSTRY SUB-DIVISION
(\$m)

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
21	Food, beverages, and tobacco	973	1,132	1,195	1,208	1,342
23	Textiles	296	295	293	324	367
24	Clothing and footwear	471	498	540	588	650
25	Wood, wood products, and furniture	244	285	285	296	331
26	Paper, paper products, printing, and publishing	468	530	576	630	748
27	Chemical, petroleum, and coal products	377	432	523	595	693
28	Non-metallic mineral products	254	312	305	306	351
29	Basic metal products	225	276	275	297	419
31	Fabricated metal products	479	547	567	635	740
32	Transport equipment	814	1,044	950	1,008	1,124
33	Other machinery and equipment	775	841	922	987	1,160
34	Miscellaneous manufacturing	390	445	474	502	580
Total		5,765	6,637	6,905	7,377	8,505

For footnotes see page 372.

Relation of costs to turnover

Certain costs of production, the value of turnover, movement in stocks, and the balance available for profit, interest, taxation, depreciation, etc., in each sub-division of manufacturing industry during 1979-80 are given in the following tables:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
COSTS AND TURNOVER, 1979-80
(\$m)

ASIC code	Industry sub-division	Turnover (i)	Movement in stocks	Cost of—		Balance between turnover, stocks, and costs (a)
				Purchases and selected items of expense (i)	Wages and salaries	
21	Food, beverages, and tobacco	4,435	+ 81	3,173	629	714
23	Textiles	930	+ 19	582	226	141
24	Clothing and footwear	1,355	+ 24	730	400	249
25	Wood, wood products, and furniture	750	+ 13	432	184	147
26	Paper, paper products, printing, and publishing	1,539	+ 35	826	415	333
27	Chemical, petroleum, and coal products	1,750	+ 71	1,128	272	421
28	Non-metallic mineral products	703	+ 10	362	169	182
29	Basic metal products	1,318	+ 44	943	193	226
31	Fabricated metal products	1,599	+ 53	912	406	334
32	Transport equipment	3,034	+127	2,037	737	387
33	Other machinery and equipment	2,419	+104	1,363	618	542
34	Miscellaneous manufacturing	1,402	+ 43	864	315	266
Total		21,233	+ 624	13,353	4,563	3,941

(a) Balance available to provide for all other costs and overhead expenses such as interest, insurance, pay-roll tax, income tax, depreciation, etc., as well as drawings by working proprietors and profit.

For other footnotes see page 372.

**VICTORIA—MANUFACTURING ESTABLISHMENTS (g) : PERCENTAGE OF
SPECIFIED COSTS TO TURNOVER, 1979-80
(per cent)**

ASIC code	Industry sub-division	Turnover (i)	Movement in stocks	Cost of—		Balance between turnover, stocks, and costs (a)
				Purchases and selected items of expense (i)	Wages and salaries	
21	Food, beverages, and tobacco	100.0	1.8	71.5	14.2	16.1
23	Textiles	100.0	2.0	62.6	24.3	15.2
24	Clothing and footwear	100.0	1.8	53.9	29.5	18.4
25	Wood, wood products, and furniture	100.0	1.7	57.6	24.5	19.6
26	Paper, paper products, printing, and publishing	100.0	2.3	53.7	27.0	21.6
27	Chemical, petroleum, and coal products	100.0	4.1	64.5	15.5	24.1
28	Non-metallic mineral products	100.0	1.4	51.5	24.0	25.9
29	Basic metal products	100.0	3.3	71.5	14.6	17.1
31	Fabricated metal products	100.0	3.3	57.0	25.4	20.9
32	Transport equipment	100.0	4.2	67.1	24.3	12.8
33	Other machinery and equipment	100.0	4.3	56.3	25.5	22.4
34	Miscellaneous manufacturing	100.0	3.1	61.6	22.5	19.0
Total		100.0	2.9	62.9	21.5	18.6

(a) Balance available to provide for all other costs and overhead expenses such as interest, insurance, pay-roll tax, income tax, depreciation, etc., as well as drawings by working proprietors and profit.

For other footnotes see page 372.

There are considerable variations in the proportions which purchases and selected items of expenditure, and wages and salaries, bear to the turnover in the different sub-divisions. These are due to the difference in the treatment required to convert materials to their final form. Thus in sub-division 24 the sum paid in wages represents 29.5 per cent and the purchases and selected items of expense 53.9 per cent of the values of the finished articles, while in sub-division 21 the expenditure on wages amounts to 14.2 per cent and that on purchases, etc., to 71.5 per cent of the value of turnover.

In the following table specified costs of production, the value of turnover of manufacturing establishments, and the balance available for profit and miscellaneous expenses are compared for each of the years 1975-76 to 1979-80:

**VICTORIA—MANUFACTURING ESTABLISHMENTS (g): SPECIFIED COSTS
OF PRODUCTION, ETC., AND TURNOVER
(\$m)**

Year	Turnover (i)	Movement in stocks	Cost of—		Balance between turnover, stocks, and costs (a)
			Purchases and selected items of expense (i)	Wages and salaries	
1975-76	13,219	+ 108	7,564	3,287	2,476
1976-77	15,040	+ 293	8,696	3,656	2,981
1977-78	16,175	+ 203	9,473	3,831	3,074
1978-79	18,228	+ 258	11,109	4,102	3,275
1979-80	21,233	+ 624	13,353	4,563	3,941

(a) Balance available to provide for all other costs, such as rent (prior to 1978-79), interest, insurance, pay-roll tax, income tax, depreciation, etc., as well as drawings by working proprietors and profit.

For other footnotes see page 372.

In the following table the components of cost are converted to their respective percentages of the value of turnover:

VICTORIA—MANUFACTURING ESTABLISHMENTS (g): PERCENTAGE OF SPECIFIED COSTS OF PRODUCTION, ETC., TO TURNOVER (per cent)

Year	Turnover	Movement in stocks	Cost of—		Balance between turnover, stocks, and costs (a)
			Purchases and selected items of expense	Wages and salaries	
1975-76 (g)	100.0	+ 0.8	57.2	24.7	18.7
1976-77 (g)	100.0	+ 1.9	57.8	24.3	19.8
1977-78 (g)	100.0	+ 1.3	58.6	23.7	19.0
1978-79 (g)	100.0	+ 1.4	60.9	22.5	18.0
1979-80 (g)	100.0	+ 2.9	62.9	21.5	18.6

(a) Balance available to provide for all other costs, such as rent (prior to 1978-79), interest, insurance, pay-roll tax, income tax, depreciation, etc., as well as drawings by working proprietors and profit.

For other footnotes see page 372.

Fixed capital expenditure, and rent, leasing, and hiring expenses

Fixed capital expenditure is the outlay on new and second-hand fixed tangible assets less disposals. Rent, leasing, and hiring expenses are the amounts paid for renting, leasing, and hiring of premises, vehicles, and equipment.

VICTORIA—MANUFACTURING ESTABLISHMENTS (g): FIXED CAPITAL EXPENDITURE LESS DISPOSALS AND RENT, LEASING, AND HIRING EXPENSES, 1979-80 (\$'000)

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	35,627	94,489	130,116	36,769
23	Textiles	1,158	18,180	19,338	12,491
24	Clothing and footwear	2,273	12,627	14,900	17,799
25	Wood, wood products, and furniture	3,516	9,648	13,164	15,692
26	Paper, paper products, printing, and publishing	6,231	50,028	56,259	20,601
27	Chemical, petroleum, and coal products	10,671	106,974	117,646	11,085
28	Non-metallic mineral products	18,204	28,629	46,833	4,739
29	Basic metal products	19,312	41,794	61,106	6,675
31	Fabricated metal products	7,948	27,283	35,231	20,438
32	Transport equipment	38,400	105,167	143,567	19,187
33	Other machinery and equipment	12,043	50,777	62,820	33,297
34	Miscellaneous manufacturing	3,698	30,061	33,760	21,343
	Total	159,082	575,657	734,738	220,117

For footnotes see page 372.

VICTORIA—MANUFACTURING ESTABLISHMENTS (g): FIXED CAPITAL EXPENDITURE LESS DISPOSALS (\$'000)

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
21	Food, beverages, and tobacco	50,694	63,982	91,453	120,962	130,116
23	Textiles	14,522	14,674	11,576	15,667	19,338
24	Clothing and footwear	8,152	7,154	11,148	13,393	14,900
25	Wood, wood products, and furniture	16,072	21,656	9,169	16,970	13,164
26	Paper, paper products, printing, and publishing	37,093	57,021	60,106	62,933	56,259
27	Chemical, petroleum, and coal products	61,343	57,444	161,264	159,475	117,646
28	Non-metallic mineral products	42,350	18,370	26,724	25,657	46,833
29	Basic metal products	59,370	72,762	55,970	46,125	61,106
31	Fabricated metal products	31,782	33,277	27,685	32,505	35,231
32	Transport equipment	61,902	77,323	120,689	154,718	143,567
33	Other machinery and equipment	45,102	36,414	45,484	59,760	62,820
34	Miscellaneous manufacturing	33,765	35,050	31,974	34,327	33,760
	Total	462,149	495,127	653,243	742,492	734,738

For footnotes see page 372.

Electricity and fuels used

VICTORIA—MANUFACTURING ESTABLISHMENTS (g): VALUE OF
ELECTRICITY AND FUELS USED BY INDUSTRY SUB-DIVISION
(\$'000)

ASIC code	Industry sub-division	1975-76	1976-77	1977-78	1978-79	1979-80
21	Food, beverages, and tobacco	35,682	38,219	44,530	49,921	57,767
23	Textiles	10,226	10,930	11,521	13,563	15,347
24	Clothing and footwear	5,595	5,530	5,925	7,160	8,530
25	Wood, wood products, and furniture	4,618	5,600	6,318	7,390	9,126
26	Paper, paper products, printing, and publishing	14,393	13,191	13,754	16,947	20,020
27	Chemical, petroleum, and coal products	21,049	25,740	29,822	35,061	41,538
28	Non-metallic mineral products	18,232	21,524	23,555	24,577	27,154
29	Basic metal products	21,385	24,028	25,816	35,086	40,067
31	Fabricated metal products	10,220	11,673	12,667	14,969	18,877
32	Transport equipment	14,223	17,342	18,258	22,384	26,815
33	Other machinery and equipment	13,509	13,763	15,196	17,596	20,224
34	Miscellaneous manufacturing	12,260	13,606	14,594	17,682	20,560
	Total	181,393	201,146	221,955	262,337	306,027

For footnotes see page 372.

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
VALUE OF ELECTRICITY AND FUELS USED BY COMMODITY
(\$'000)

Commodity	1975-76	1976-77	1977-78	1978-79	1979-80
Electricity	107,344	117,847	131,909	158,651	183,317
Coal and coke—					
Black coal	53	65	31	34	58
Brown coal	1,568	1,468	1,382	1,965	1,893
Brown coal briquettes	3,626	4,111	3,931	4,635	5,067
Coke (including coke breeze)	2,573	3,346	3,137	3,882	4,298
Petroleum fuels (non-gaseous)—					
Light oils, etc.	3,391	4,590	5,921	5,727	7,063
Industrial diesel fuel	4,835	6,141	6,486	6,588	8,412
Furnace oil and other fuel oil	23,759	19,688	17,169	18,826	24,393
Reticulated gas	25,431	35,669	42,240	50,634	57,422
Other fuels	8,811	8,220	9,748	11,397	14,105
Total	181,393	201,146	221,955	262,339	306,027

For footnotes see page 372.

VICTORIA—MANUFACTURING ESTABLISHMENTS (g):
QUANTITIES OF FUELS USED BY COMMODITY

Fuel	Unit	1975-76	1976-77	1977-78	1978-79	1979-80
Coal and coke—						
Black coal	tonne	1,700	1,470	693	658	859
Brown coal	"	386,547	331,417	310,475	r426,639	399,197
Brown coal briquettes	"	345,222	337,738	279,249	r285,135	274,199
Coke (including coke breeze)	"	38,376	39,719	35,264	r37,816	36,546
Petroleum fuels (non-gaseous)—						
Light oils, etc.	'000 litres	29,652	35,103	40,902	r33,795	33,012
Industrial diesel fuel	tonne	63,760	74,009	71,795	r54,626	40,956
Furnace oil and other fuel oil	"	442,938	310,055	232,865	r221,094	181,673

For footnotes see page 372.

Some selected factory products of Victoria and Australia

Annual quantity and value

From February 1976, production statistics have no longer been collected from single establishment manufacturing enterprises employing less than four persons or from establishments predominantly engaged in non-manufacturing activities but which may carry on, in a minor way, some manufacturing activity. However, except for a few

commodities, the effect of this modification on production levels and movements is marginal.

The following table shows quantities of some selected articles manufactured in Victoria, and corresponding figures for Australia during 1979-80 and 1980-81. Owing to the limited number of producers, it is not permissible under statute to publish particulars regarding some articles of manufacture which would otherwise appear.

VICTORIA AND AUSTRALIA—SELECTED ARTICLES MANUFACTURED (a)

Commodity code no.	Article	Unit	Victoria		Australia	
			1979-80	1980-81	1979-80	1980-81
027.02-29, 72-77; 023.17	Meat—canned (excluding baby food)	'000 tonnes	22	17	39	36
051.56-59			Ice cream	84	88	215
051.72-73	Milk—powdered: full cream	'000 tonnes	65	55	80	65
n.a.	Factory butter (b)	"	69	68	84	79
n.a.	Cheese (b)	"	r 95	79	r 154	135
062.01	Flour, white (including sharps)	"	224	235	1,042	1,091
063.11, 21, 31	Malt	"	233	242	522	557
064.21	Biscuits	"	50	52	124	129
074.61, 65	Natural fruit juices	mill litres	r 48	52	r 152	150
076.08, 15, 22	Canned or bottled apricots, peaches and pears	'000 tonnes	97	99	119	130
076.60	Jam, etc.	"	r 14	18	r 22	24
094.02-47	Vegetables canned or bottled (including pickled)	"	35	29	126	117
	Confectionery—					
104.06-18	Chocolate or containing chocolate	"	26	32	56	61
104.21-29	Other	"	27	32	53	57
123.18	Sauce—tomato	mill litres	17	18	22	25
159.01	Canned cat and dog food	'000 tonnes	185	186	199	201
171.03, 07, 08,	Aerated and carbonated waters, canned or bottled (c)	mill litres	r 235	264	r 943	1007
242.07-11	Wool-scoured or carbonised	'000 tonnes	32	34	83	90
261.41	Briquettes—brown coal	"	r 1,230	1,081	r 1,230	1,081
372.22-36, 48, 50	Finished woven fabric—woollen (d)	'000 sq m	r 2,873	3,244	5,950	6,628
372.52-72;						
374.51-59	Blankets, and rugs (e)	'000	r 689	626	r 1,099	1,064
403.02, 18,						
20, 52-96	Plastics and synthetic resins	'000 tonnes	r 547	536	762	727
404.01-98						
472.01, 03	Bricks—clay	mill	438	451	r 2,200	2,251
472.12; 475.30	Tiles, roofing	"	57	57	r 224	236
475.90	Ready mixed concrete	'000 cub m	2,580	2,570	11,282	12,076
503.13-32	Electric motors	'000	1,303	1,449	r 3,720	4,007
581.02-08,	Finished motor vehicles (f)—	'000				
10-16			Cars and station wagons	206	193	363
773.02-35	Shirts (men's and boys')	'000 doz	1,636	1,815	2,819	3,313
775.01-39	Women's hosiery	'000 doz pairs	5,300	5,943	6,628	7,642
775.51-82,	Men's hosiery	"	1,774	1,936	2,007	2,255
775.91-98;	Children's hosiery	"	1,209	1,268	r 1,209	1,270
776.11-22						
776.31-42	Infants' hosiery	"	114	113	114	114
	Footwear—boots, shoes, and sandals (g)—					
793.05, 08,	Men's and youths'	'000 pairs				
21, 22, 31,						
32, 41, 46,						
51, 61, 65						
66, 71, 81						
793.06, 09, 23,	Women's and maids'	"				
24, 33, 34,						
42, 47, 52,						
62, 67, 68,						
72, 82						
793.04, 07, 10,	Children's and infants'	"				
25, 35, 43,						
48, 53, 63,						
69, 73, 83						

(a) By all manufacturing establishments owned by multi-establishment enterprises and single establishment manufacturing enterprises with four or more persons employed.
 (b) Source: Australian Dairy Corporation.
 (c) Excludes bulk aerated and carbonated waters.
 (d) Excludes blanketing and rug material.
 (e) Double, three-quarter, single cot, bassinet, pram etc; wool mixture and other fibre. From 1 July 1975, includes tufted blankets.
 (f) Excludes vehicles finished by specialist body building works outside the motor vehicle manufacturers' organisation.
 (g) Excludes thongs and adults boots with uppers of rubber or synthetic material.

Monthly production statistics

The Australian Bureau of Statistics collects monthly production returns and makes available printed tables of Australian production statistics within a few weeks of the

month to which they relate. A list of the subjects included in these production bulletins is given in the following table:

AUSTRALIA—PRODUCTION BULLETINS

No.	Subject	No.	Subject
1	Electricity, Gas, and Electrical Appliances (8357.0)	5	Building Materials and Fittings (8361.0)
2	Clothing and Footwear (8358.0)	6	Chemicals and By-Products (8362.0)
3	Food, Drink, and Tobacco (8359.0)	7	Motor Vehicles, Parts, and Accessories (8363.0)
4	Textiles, Bedding, and Floor Coverings (8360.0)	8	Miscellaneous Products (8364.0)

A preliminary production bulletin showing Australian totals for selected major production indicators is also published. In addition, statistical publications for the meat and dairying industries are issued each month. Selected Victorian production figures are published in the *Monthly Summary of Statistics, Victoria* (1303.2).

MANUFACTURING INDUSTRY IN THE BALLARAT AREA

General background

The Ballarat Statistical District is defined as the City of Ballarat, Borough of Sebastopol, and parts of the Shires of Ballarat, Buninyong, Bungaree, Creswick, and Grenville, the total area representing some 49,450 hectares with a population of more than 80,000 persons. The topography of the region is relatively uniform. The mean maximum temperature is 17°C and the mean minimum temperature is 5°C. Mean rainfall for the area is 810mm and is distributed all the year round, with the highest falls from June to September. Light snow falls on an average of two days in the months of August and September.

The region is a designated area for accelerated development under the Victorian Government's decentralisation programme, and its industrial base, stimulated by major investments, has broadened in recent years. At the beginning of 1982, there were more than 263 businesses which had been approved as decentralised secondary establishments. This development has, in part, been fostered by the Ballarat Development Committee which comprises local businessmen and council representatives from the Ballarat area.

Ballarat is well situated in Victoria's network of highways and railways and is a recognised industrial and trading area of the State. The region is well serviced with water, electricity, natural gas, and sewerage facilities all of which can cope with expansion. Areas of serviced industrial estates are also available at rates deliberately set to attract industry. Ballarat has an airport with capacity to handle planes up to the size of Fokker Friendships with night landing facilities, and charter air services are available to any of the three Melbourne airports and to those in other areas of the State.

Immediately east of Ballarat is the main potato growing area for Australia. This and other agricultural activities have prompted the development of agricultural equipment manufacturers who now service not only the local market but also extend to international distribution. There are deposits of china clays, fine clays, white plastic clays, and alluvial clays, and these are used by several brick and tile manufacturers in the area. Extensive deposits of kaolin also occur in the region and these are being refined locally and used for paper coating. There are both hardwood and softwood forests most of which are owned by either the Forests Commission of Victoria, the Ballarat Water Commissioners, or Australian paper Manufacturers Limited.

Recent developments

Ballarat has become established as a manufacturing and agricultural area as well as the commercial centre for western Victoria, and its manufacturing sector has been assisted by the policy of the Victorian Government through its decentralisation programme and by the Ballarat Development Committee. The engineering sector is the most important of Ballarat's industrial economy. This includes several types of engineering activities from small panel beating shops to large manufacturers. This sector in particular has experienced

rapid growth since the Second World War. Other important industrial sectors are textiles and textile goods, food, drink, bricks, and pottery. Major industrial expansion since 1976 has been in confectionery and home construction.

More recently there has been substantial diversification and expansion of established industries in the areas of ceramics, dairy product manufacture, fabrics, pottery, tourist facilities, footwear, engineering, prefabricated construction, coated papers, and hydroponics.

The Ballarat Begonia Festival, the Royal South Street Eisteddfod, the Art Gallery, several theatre groups, Kryal Castle, and Sovereign Hill are well known and popular cultural and tourist attractions in Ballarat. Sovereign Hill is a living museum complex developed and run by the Ballarat Historical Park Association. It comprises the Red Hill Gully Diggings, and a Gold Mining Township, which illustrates the story of the ordinary man's quest for gold, paralleling the development of Ballarat during the first decade of its existence after the discovery of gold in 1851. The presentation is in the form of recreations of shops, businesses, buildings, and equipment known to have existed in Ballarat during that decade, and the exhibits are activated by appropriately costumed staff. Several of the re-created businesses at Sovereign Hill constitute "industries" under the Victorian Government's "Approved Decentralised Secondary Industries" classification.

Ballarat has continued to grow since commercial mining ceased at the turn of the century. It is recognised that substantial quantities of gold are still to be found in Ballarat and major mining companies still hold exploration leases over many of the old fields. The cessation of company mining was due to underground streams flooding shafts, thus making gold winning uneconomical. This situation still remains although a few small mining ventures are being planned in close proximity to Ballarat where the water table is not a problem.

Further references: History of manufacturing, *Victorian Year Book* 1961, pp. 531-5; Motor vehicle industry, 1962, pp. 591-4; Chemical industry, 1963, pp. 615-20; Petrochemical industry, 1964, pp. 650-4; Glass industry, 1965, pp. 606-8; Agricultural machinery industry, 1966, pp. 587-9; Aluminium industry, 1967, pp. 415-18; Automation and technical development in industry, 1967, pp. 376-82; Textile industry, 1968, pp. 416-20; Canning of foodstuffs, 1967, pp. 432-5; Butter, cheese and processed milk products, 1970, pp. 431-6; Heavy engineering, 1971, pp. 419-22; Light engineering, 1972, pp. 392-5; Secondary industry and the environment, 1974, pp. 418-21; Concrete pipe industry, 1975, pp. 500-1; Paper industry, 1976, pp. 466-8; Wine industry in Victoria, 1977, pp. 510-11; Timber industry in Victoria, 1978, pp. 434-7; Manufacturing industry in the Geelong area, 1980, pp. 406-8; Development of Point Wilson, 1981, pp. 382-3; History of the brewing industry in Victoria, 1981, pp. 405-7; Manufacturing industry in the Bendigo area, 1981, pp. 407-9

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- Census of manufacturing establishments—summary of operations by industry sub-division (preliminary statement) (8201.0)
- Manufacturing establishments: details of operations (8201.2)
- Manufacturing establishments—summary of operations by industry class (8202.0)
- Manufacturing establishments: selected items of data classified by industry and employment size (8202.2)
- Manufacturing establishments—details of operations by industry class (8203.0)
- Manufacturing establishments: small area statistics (8203.2)
- Manufacturing establishments: usage of electricity and fuels (8204.2)
- Manufacturing establishments: summary of operations (8205.2)
- Production bulletins Nos 1 to 8 (see pages 386 of this *Year Book*) 8357.0-8364.0