
MANUFACTURING, RETAIL TRADE AND SERVICE INDUSTRIES

MANUFACTURING

An historical summary of the development of the Manufacturing industry in Australia since 1788 was contained in *Year Book* No. 71.

Government Authorities

Industry Commission

On 2 November 1989 the Government introduced legislation into the Australian Parliament to establish the Industry Commission. As part of its 1989-90 Budget initiatives, the Government announced that the Industries Assistance Commission (IAC) was to be restructured and renamed the Industry Commission and would become the Government's major review and inquiry body in industry matters. The IAC had been established in January 1974 to advise on industry assistance and itself replaced the Tariff Board which had advised governments on assistance for manufacturing industries since 1921.

The Industry Commission also absorbs the functions of two other bodies: the Interstate Commission, which had been re-established in 1984 to advise the Commonwealth Government on interstate transport matters; and the Business Regulation Review Unit, an agency of the Department of Industry, Technology and Commerce which reviewed the efficacy of existing regulations and advised on new regulatory proposals.

Like the IAC, the Industry Commission is an advisory body with an economy-wide perspective, a broad industry charter and public inquiry processes. The principal functions of the Industry Commission are to hold public inquiries and make reports on the industry matters referred to it. In order to ensure the widest possible scope for its inquiries, industry matters include legislative or administrative actions of the Commonwealth, States or Territories and industry is defined to cover industry of any kind or grouping.

The Commission will be required to report annually on the economic performance of industry, the principal factors affecting that performance, and the effects of assistance and regulation on industry and the economy generally. The Government also intends that the Commission give advice on business regulation; and prepare occasional research and information papers that will enhance community understanding of issues relating to structural reform.

The Commission is to operate under general policy guidelines which are cast in terms of encouraging the development of efficient industries, facilitating structural adjustment, reducing unnecessary industry regulation and recognising the interests of other industries and the community generally.

The legislation contains provisions similar to those in the IAC Act which constrain Commonwealth Ministers from changing tariffs, import restrictions and financial assistance without a prior report from the Commission. However, the Government is not obliged to accept the Commission's advice: final responsibility for altering these assistance arrangements rests with Parliament.

The provisions covering the conduct of inquiries provide for the fullest possible participation by all interested parties. The Commission will be required to give wide public notice that it is conducting an inquiry. Typically, draft reports will be prepared on the basis of written submissions, the Commission's own investigative work and wide ranging consultations with industry, users, Commonwealth and State bodies, and the community generally. Draft reports will be published and public hearings held to give interested parties an opportunity to examine and comment before Commission reports are finally settled. Public hearings will be conducted in an informal manner and may be held in Canberra or other cities throughout Australia. For the most part, reports arising from the inquiry process have to be tabled in Parliament within 25 sitting days of the Minister receiving them. Commission reports will be available from Commonwealth Government Bookshops.

The two-year work program for the new Commission demonstrates the wide spectrum of issues on which it is expected to contribute information, analysis and advice. The five early references sent to the IAC and for later transferral to the Industry Commission are:

- Mining and minerals processing
- Construction costs of major projects
- Product liability
- Recycling of products
- Aids and appliances for the disabled.

The indicative timetable agreed for the remaining inquiries is:

Inquiries commencing in the first half of 1990

- Exports of health services
- Energy generation and distribution
- Railways
- Statutory marketing arrangements
- Exports of education services

Inquiries commencing in the second half of 1990

- Commercial Tariff Concession and By-law Systems
- Dairying
- Raw material pricing for domestic use
- Export franchising and distribution arrangements

References commencing in 1991

- Passenger motor vehicles
- Sugar
- Availability of capital
- Implications for Australia of firms locating offshore.

Bureau of Industry Economics

The Australian Government established the Bureau of Industry Economics in 1977 as a major centre for research into the manufacturing and commerce sectors. In recent years this role has been expanded to include science and technology and building issues. Formally attached to the Department of Industry, Technology and Commerce, the Bureau has professional independence in the conduct and reporting of its research.

The major objectives of the Bureau are to:

- increase community and industry understanding of economic developments and industry policy issues in the manufacturing and services sectors by conducting and publishing objective research;
- carry out applied economic research to assist the evaluation and formulation of industry policies and programs; and
- foster basic and applied economic research into industry policy issues at Australian tertiary institutions and research institutes.

The recent expansion in the Bureau's responsibilities means that its research now encompasses the full range of factors affecting the performance of the industry and commerce sectors from infrastructural constraints and research and development, through to the final marketing and distribution of products.

In order to ensure the continuing relevance of its research, the Bureau seeks suggestions from interested parties in the private and public sectors on the most pressing economic issues requiring analysis. In formulating the final research program, the Bureau has regard to the priorities of the Minister and Department, and the view of its own Council of Advice.

The members of the Council are drawn from a wide range of backgrounds, including the universities, industries and the trade union movement. In this way the Council of Advice provides a major link between the Bureau and the community. The Council assists with the development of the work of the Bureau and the effective dissemination of the results of the Bureau's work.

In addition to its research work the Bureau provides specialist economic advice to the Department of Industry, Technology and Commerce on matters of immediate importance. The Bureau is also responsible for providing specialist macroeconomic and statistical advice to the Minister and the Department.

The Government has identified small business as an area of major importance, and has established a small business research unit within the Bureau of Industry Economics to investigate issues of concern to that sector.

The need to raise the community's awareness of the economic issues affecting Australian industry has been identified by the Government as a matter of importance. The Bureau is contributing to the community's knowledge of these issues both by means of its publications and by convening conferences such as the Manufacturing Industry Outlook Conference.

The Bureau has a staff of approximately 60 officers with backgrounds in business, government and university teaching and research.

Current research projects include:

- commercial opportunities for Government research;
- investment;
- globalisation (international industrial interdependence);
- factors affecting productivity differences;
- mergers and acquisitions;
- effect of exchange rate fluctuations;
- trade in services;
- strategic alliances;
- directions for CSIRO research for the manufacturing sector; and
- efficiency in residential construction.

On-going functions include:

- short term consultancy;
- small businesses;
- corporate taxation;
- economic conditions; and
- program evaluation.

The results of the Bureau's research are published in:

- working papers—technical issues or preliminary results;
- information bulletins—statistics and other information;
- research reports—comprehensive results of major projects.

Standardisation

The Commonwealth Scientific and Industrial Research Organisation— CSIRO

CSIRO is obliged by two Acts of Parliament to be associated with national standards. The functions of CSIRO as laid down by these Acts involve establishing, developing and maintaining standards of measurement of physical quantities and promotion of the use of these standards.

CSIRO first undertook this role in 1938 after government acceptance of a recommendation by a Secondary Industries Testing and Research Committee that these functions were essential for the successful development of manufacturing industry in Australia. Since that time, standards and calibrations have been established for a very wide range of physical quantities, extending considerably beyond the minimum required by law. From 1978, CSIRO has been responsible for first level calibrations in the defence area.

In certain specialist areas, CSIRO has authorised other bodies to carry out functions related to standards. CSIRO has authorised the Australian Nuclear Science and Technology Organisation (Department of Industry, Technology and Commerce) and the Australian Radiation Laboratory (Department of Community Services and Health) to maintain standards for quantities relating to ionising radiations, such as radioactivity, exposure, and absorbed dose. It has also authorised the Australian Surveying and Land Information Group (Department of Administrative Services) to maintain working standards and coordinated universal time and the Australian Telecommunications Commission (Department of Transport and Communications) to maintain working standards of frequency.

At the international level, a treaty now widely known as the Metric Treaty has been signed by 47 member nations, including Australia. The International Bureau of Weights and Measures (BIPM) coordinates activities under the Treaty by providing a mechanism for making international agreements in scientific metrology and for coordinating research on basic scientific problems in measurement. CSIRO has representatives on five of the BIPM's consultative committees, while the Australian Radiation Laboratory and the Australian Nuclear Science and Technology Organisation (as CSIRO agents) are represented on another consultative committee. Statements recognising the equivalence of many of the Australian primary standards with those of the United States, the United Kingdom and Canada have been exchanged.

The Standards Association of Australia

The Standards Association of Australia is the organisation responsible for the preparation, on a national basis, of Australian standards for materials and products and standard codes of practice.

Formed as the Australian Commonwealth Engineering Standards Association in 1922, it was reconstituted as the Standards Association of Australia in 1929, and was incorporated

by Royal Charter in 1950. It is an independent body, having the full recognition and support of the Commonwealth and State governments and of industry. Approximately one-third of its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from the sale of publications. Organisations, companies, and individuals are eligible for subscribing membership.

The Association is controlled by a council comprising representatives from Commonwealth and State governments and their departments, from associations of manufacturing and commercial interests, and from professional institutions. Standards are prepared by committees composed of expert representatives from the interests associated with the subject under consideration. This assistance is on a voluntary basis.

Preparation of a standard is undertaken in response to a request from any responsible source, subject to verification that the standard will meet a genuine need. Standards may relate to one or more of several aspects of industrial practice such 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 their intrinsic merit, but in many cases where safety of life or property or consumer protection is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trademark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the StandardsMark, under conditions established by the Association. It also operates a Supplier Assessment Scheme which attests to the adequacy of manufacturers quality systems to national and international standards.

The Association has international affiliations and is a member, representing Australia, of the International Organization for Standardization (ISO) and of the International Electrotechnical Commission (IEC). Close links are maintained with overseas standards organisations, and the Association acts as Australian agent for the procurement of ISO and IEC publications and the standards of other countries.

The Association has two specialised information centres, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These centres provide a necessary information service to those concerned with standards development and for researchers from all sectors of the community.

The headquarters of the Association is in Sydney, and there is a major office in Melbourne. Offices are also located in other capital cities and Newcastle.

The National Standards Commission

The Commission is a Commonwealth Statutory Authority established in 1950 and presently located at North Ryde, Sydney. The Commission operates under the National Measurement Act and is directed by a board comprising a part-time Chairman and seven Commissioners. The Commission has responsibility for advising the Government on the scientific, technical and legislative requirements of the Australian National Measurement System and for coordinating that system. In addition the Commission has specific responsibilities for legal metrology, the completion of metrication, and uniformity of trade measurement. The Commission also examines and approves the patterns of measuring instruments used for trade to ensure the instruments will maintain their calibration and will not be affected by environmental factors (e.g. temperature, humidity, electromagnetic interference).

The Commission provides Australia's representative on the International Committee of Legal Metrology and ensures that Australian legal measurement requirements are nationally uniform and internationally harmonised. Through conferences and liaison with government authorities the Commission aims to ensure the traceability of all legal measurements to Australia's primary standards of measurement.

The Commission maintains close liaison with government authorities, industry and commerce and consumer groups to ensure adequacy of measurement throughout Australia.

The Commission provides the Chairman and secretariat for the Standing Committee on Trade Measurement, the Trade Measurement Consultative Committee and Working Parties on oil and gas flow measurement and time measurement.

The Commission is currently developing a National Metrology Policy that will include a policy for the training of metrologists and calibration technicians.

The National Association of Testing Authorities—NATA

NATA accredits competent testing and measurement facilities throughout Australia to serve private and governmental needs. Membership is open to organisations whose testing laboratories conform to the standards of staffing and operations defined by the Association. Testing authorities may register their laboratories voluntarily. The Association assesses the competence of the laboratories and ensures that their standards of competence are maintained. Certificates of test issued by registered laboratories may be endorsed in the name of the Association. NATA-endorsed test certificates are generally accepted by governmental, industrial and commercial interests.

Laboratories are registered for performance of specific tests in the fields of acoustic and vibration measurement, biological testing, chemical testing, electrical testing, heat and temperature measurement, mechanical testing, medical testing, metrology, non-destructive testing, optics and radiometry, and wool.

The Australian Design Council

The Australian Design Council (formerly the Industrial Design Council of Australia) was incorporated in 1958 as an independent and non-profit making educational body.

The Council's objectives are to promote the use of design and innovation in the product development process of Australian manufactured goods to help those products become internationally competitive.

The Council receives no Federal Government funding, and State Government funds are provided only in South Australia and Western Australia. The Council basically operates on funds it generates from its services to industry.

The Council's services include the Australian Design Award, Japan Exporters Program, Integrated Product Management, Design Audit/Assessment Service, Competing Through Product Innovation, Country Field Service, and Design Referral Service.

The Australian Design Award was introduced to encourage manufacturers to incorporate design into their product development process.

The Japan Exporters Program is designed to help manufacturing companies break through the barriers of business and cultural differences to enter the difficult Japanese market.

Integrated Product Management is a program geared to companies which realise the importance of being market driven and need to adopt a team approach to product development.

The Council is staffed by dedicated professionals who believe that product excellence is an essential part of successful long term manufacturing. Its national office is located in Sydney with divisional offices in Perth, Adelaide, Melbourne and Brisbane.

The Australian Standard Commodity Classification—ASCC

ASCC has been developed by the ABS to enable users to compare statistics of commodities produced in Australia with statistics of commodities imported and exported.

The ASCC manual (1207.0 and 1208.0) links production, import and export items at their most detailed level of comparability in the form of standard (ASCC) commodity items. In the ASCC as published to date, commodities are grouped under industries (as defined in the Australian Standard Industrial Classification) in which they are typically produced. The latest edition published is in respect of the year 1984–85.

Since publication of the 1984–85 ASCC some significant changes have occurred. The Harmonized System (HS) has become the mandatory standard for import and export statistics, and for customs administrative purposes. Manufacturing commodity items have been reviewed and are now defined in terms of their relationship with HS items. The complete set of manufacturing commodity items is to be published in the 'Australian Manufacturing Production Commodity Classification' (AMPCC) together with the linkages to the HS. In view of this, the precise direction and content of future editions of the ASCC is currently being reviewed. Work is however continuing to extend the framework of the ASCC to cover non-transportable goods and outputs from service industries.

The Australian Manufacturing Production Commodity Classification—AMPCC

The AMPCC has been produced as a formal classification and is the result of a complete review of manufacturing commodity items. The classification provides a link to the Harmonized System (HS), the Standard International Trade Classification (SITC) and to the Australian Standard Industrial Classification (ASIC). These links facilitate comparability with trade statistics, and provide the basis for industry and market performance studies, etc. Formal linking of manufacturing items to the Harmonised System results in items which are more explicitly defined and therefore less prone to subjective interpretation. By publishing the AMPCC the ABS hopes to establish a more effective and identifiable review mechanism to ensure that manufacturing items are maintained in line with data needs and industry practices. The first issue of the AMPCC is to be released in mid 1990 with respect to the 1989–90 manufacturing census.

The Australian Standard Industrial Classification—ASIC

ASIC (1201.0 and 1202.0) was developed by the ABS as part of its program for the integration of economic statistics. Since its introduction in the processing of the 1969 Integrated Economic Censuses, ASIC has gained a wide acceptance by users of statistics outside the ABS and has been applied in ABS collections and compilations where data are classified by industry.

ASIC has been devised for the purpose of classifying statistical units by industry. It has been designed primarily as a system for the classification of establishments (e.g. individual mines, factories, shops, etc.) although it may also be used for classifying other economic units such as enterprises.

The fundamental concept of this classification system is that an industry (i.e. an individual class, group, etc.) in ASIC is composed of establishments that have been classified to it. Each industry class is defined by a set of *primary activities* which have been assigned to it. These industry definitions are revised only at relatively infrequent intervals to minimise the disruption to time series data assembled on an ASIC basis.

To date, ASIC has been revised twice. ASIC editions published hitherto are: 1969 (original), 1978 (first revision) and 1983 (second revision)—the latter (the 1983 edition) is the one currently in use. A review of this edition is proceeding.

Manufacturing Industry Statistics

Manufacturing industry statistics from 1901 to 1967-68

A series of substantially uniform statistics exist from 1901 up until 1967-68 when the framework within which manufacturing statistics were collected was changed. Detailed manufacturing statistics in respect of this period are included in *Year Book* No. 57, pages 721-9, and in earlier issues.

Manufacturing industry statistics from 1968-69

As from the year ended June 1969, the censuses of Manufacturing, Electricity and Gas have been conducted within the framework of the Integrated Economic Censuses which include the censuses of Mining, Retail Trade, Wholesale Trade, Construction and Electricity and Gas industries. As a result, manufacturing industry statistics for 1968-69 and subsequent years are not directly comparable with previous years.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, covers all the operations carried on under the one ownership at a single physical location. The manufacturing establishment is thus one predominantly engaged in manufacturing, but the data supplied for it cover (with a few exceptions) all activities at the location. The establishment statistics also include data relating to separately located administrative offices and ancillary units serving the establishment and forming part of the business (enterprise) which owns and operates the establishment.

Census units are classified to industry as described in the ABS publication *Australian Standard Industrial Classification* (1201.0 and 1202.0). ASIC defines the industries in the economy for statistical purposes, thus permitting the scope of the different economic censuses to be specified without gaps or overlapping between them. It also sets out standard rules for identifying the statistical units (e.g. establishments) and for coding them to the industries of the classification. This classification is broadly convertible to the *International Standard Industrial Classification* adopted by the United Nations Statistical Commission. The adoption of ASIC has resulted in changes in scope between the integrated economic censuses introduced in 1968-69 and the individual economic censuses conducted in previous years.

In the 1967-68 Census there were approximately 62,600 manufacturing establishments (excluding electricity and gas establishments) with employment of 1,276,000. Of these, approximately 35,400, with employment of 1,097,000 would have been included in the 1967-68 Census if ASIC had been used.

MANUFACTURING ESTABLISHMENTS: SUMMARY OF OPERATIONS, AUSTRALIA

Census year	Establishments at 30 June	Employment at end of June (a)	Wages and salaries (b)	Turn-over	Stocks		Purchases, transfers in and selected expenses	Fixed capital expenditure less added disposals	
					Opening	Closing			
	No.	'000	\$m	\$m	\$m	\$m	\$m	\$m	
1969-70	35,674	1,318	4,328.7	20,687.6	3,322.8	3,634.7	12,862.3	8,137.1	1,030.7
1970-71				No manufacturing census was conducted in respect of this year.					
1971-72	36,206	1,304	5,250.0	23,620.4	3,920.1	4,182.5	14,374.8	9,508.1	1,297.8
1972-73	36,437	1,326	5,820.0	26,352.4	4,187.2	4,306.3	15,963.0	10,508.5	1,244.4
1973-74	37,143	1,362	7,176.4	31,246.7	4,299.1	5,268.5	19,329.8	12,886.3	1,215.5
1974-75(c)	36,836	1,239	8,588.0	35,468.0	5,267.2	6,572.2	21,712.3	15,060.7	1,456.4
1974-75(d)	26,973	1,219	8,533.5	35,133.7	5,241.0	6,542.7	21,522.3	14,913.1	1,445.9
1975-76	27,507	1,209	9,472.4	39,485.3	6,581.1	7,023.3	23,371.7	16,555.8	1,451.7
1976-77	26,780	1,173	10,535.8	44,814.3	6,985.1	7,996.8	27,010.0	18,816.1	1,548.0
1977-78(e)	25,998	n.a.	11,151.4	48,210.8	7,880.2	8,510.8	29,087.8	19,753.6	1,871.8
1977-78(f)	26,065	1,133	11,135.8	48,112.6	7,863.5	8,498.1	28,992.7	19,754.4	1,877.3
1978-79	26,312	1,144	11,966.4	55,211.3	8,515.4	9,299.6	33,765.4	22,230.1	2,262.8
1979-80	27,430	1,148	13,357.5	65,354.8	9,287.6	11,126.4	41,579.5	25,614.0	2,186.7
1980-81	27,681	1,155	14,912.7	73,723.0	11,047.1	12,366.9	46,448.7	28,594.1	2,882.7
1981-82	28,706	1,140	17,002.8	81,869.3	12,377.4	13,297.3	51,240.4	31,548.7	4,084.2
1982-83	27,696	1,012	17,402.7	82,320.6	13,094.4	13,035.1	51,225.8	31,035.5	3,678.4
1983-84(g)	27,472	1,018	17,467.4	88,639.3	12,918.1	13,181.5	54,681.4	34,221.3	2,778.4
1984-85	27,611	1,023	18,780.3	98,208.7	13,088.8	14,473.8	61,206.6	38,387.1	3,133.7
1985-86				No manufacturing census was conducted in respect of this year.					
1986-87	28,846	1,025	21,516.3	116,708.8	15,653.0	16,673.6	72,043.6	45,685.8	n.a.
1987-88	31,606	1,064	23,949.8	133,819.6	n.a.	n.a.	n.a.	n.a.	n.a.

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors. (c) These data and that of previous years include the data of all manufacturing establishments. (d) These data and those of following years exclude single establishment manufacturing enterprises with fewer than four persons employed. (e) These data and those of previous years are classified to the 1969 (preliminary) edition of ASIC. (f) These data and those up to and including 1982-83 are classified to the 1978 edition of ASIC. (g) These data and those of following years are classified to the 1983 edition of ASIC.

The items of data on the census forms were standardised for all census sectors, which has meant changes in the content of the statistics. For example, the 'value of turnover' is now collected instead of the 'value of output' at the factory, and purchases and selected expenses are collected as well as the value of specified materials, fuels, etc., used. However the underlying concept of 'value added' is similar to the former concept 'value of production', even though its method of derivation is different.

Even though the concept of 'value added' is similar to 'value of production', direct comparison of 1968-69 and previous figures is not possible because of the change in census units already mentioned which has resulted in the 'value added' for the whole establishment being reported, not merely the 'value added' for the manufacturing process. Comparison is also affected, of course, by the change in the scope of the Manufacturing Census due to the adoption of ASIC. In addition, 'value added' as calculated for the Manufacturing Census differs from the concept used in the National Accounts where the concept of 'value added' also excludes some administrative expenses and sundry charges and the change in stocks component is measured by valuing the physical change in stocks at current prices. It is not practicable in the Manufacturing Census to collect data fully in accord with the National Accounts concept of 'value added'.

For a more detailed description of the Integrated Economic Censuses reference should be made to *Year Book* No. 56, Chapter 31.

Since the introduction of the system of Integrated Economic Censuses the comparability of Manufacturing Census data has been affected by four additional changes to collection practices:

- (i) Commencing with the 1975–76 Manufacturing Census, only a limited range of data (i.e. employment and wages and salaries) are collected from single establishment manufacturing enterprises with fewer than four persons employed. This procedure significantly reduces both the statistical reporting obligations of small businesses and the collecting and processing costs of the Australian Bureau of Statistics without affecting the reliability of information for the evaluation of trends in the manufacturing sector of the economy (as these small enterprises contribute only marginally to statistical aggregates). In order to provide a link with past and future years, 1974–75 data were processed on both bases.
- (ii) Commencing with the 1977–78 Census the classification of census units to industry is based on the 1978 edition of ASIC which replaces the 1969 preliminary edition in use since the 1968–69 Census. In general the impact of the change in industrial classification is minimal at ASIC Division and Subdivision levels.
- (iii) From 1983–84, the classification of census units to industry is based on the 1983 edition of ASIC. The only changes to manufacturing resulting from use of the revised version of ASIC relate to establishments mainly engaged in minor repairs to aircraft or railway or tramway rolling stock. Previously, these establishments were excluded from manufacturing but are now included in industry subdivision 32—Transport Equipment.
- (iv) Up to and including 1986–87, manufacturing censuses have been conducted for each year, with the exception of 1970–71 and 1985–86. In future, the ABS will be conducting a full-scale census triennially with a small-scale census in each of the intervening years. In the small-scale censuses all businesses will be asked for information on employment, turnover and wages and salaries paid during the year.

Multi-establishment Enterprises and Single Establishment Manufacturing Enterprises with Four or More Persons Employed

Main structural aggregates relating to number of establishments, employment, wages and salaries, turnover, purchases, transfers in and selected expenses, stocks, and value added are shown in the following tables. Further detailed statistics are contained in the following ABS statistical publications: *Manufacturing Establishments, Details of Operations by Industry Class, Australia* (8203.0) and *Manufacturing Establishments, Selected Items of Data Classified by Industry and Employment Size, Australia* (8204.0).

**MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS BY INDUSTRY
SUBDIVISION: AUSTRALIA**

ASIC Description	Estab- lishments operating at 30 June (No.)	Employment at 30 June(a)			Wages and salaries (b) (\$m)	Wages and salaries per empl- oyee (c) (\$'000)	Persons		
		Males (<i>'000</i>)	Females (<i>'000</i>)	Person (<i>'000</i>)			empl- yed per establ- ishment (No.)	Turnover per person employed (\$'000)	
1986-87									
Food, beverages and tobacco	3,561	116.6	52.2	168.8	3,446.4	24,746.7	20.6	47	146.6
Textiles	664	20.9	13.5	34.5	675.8	3,411.9	19.7	52	99.0
Clothing and footwear	2,081	18.1	56.2	74.4	1,129.4	4,269.1	15.3	36	57.4
Wood, wood products and furniture	4,300	64.2	11.8	76.0	1,286.0	5,859.0	17.3	18	77.1
Paper, paper products, printing and publishing	3,076	73.0	34.1	107.1	2,370.3	10,400.7	22.3	35	97.1
Chemical, petroleum and coal products	871	39.3	14.4	53.7	1,414.4	11,277.8	26.4	62	210.2
Non-metallic mineral products	1,811	34.6	4.4	38.9	916.8	5,379.1	23.7	21	138.2
Basic metal products	567	67.7	5.9	73.5	2,019.2	14,053.4	27.5	130	191.2
Fabricated metal products	4,349	80.2	17.3	97.4	1,936.7	8,463.6	20.1	22	86.9
Transport equipment	1,384	96.3	15.3	111.5	2,464.9	10,983.3	22.1	81	98.4
Other machinery and equipment	3,814	97.6	30.6	128.2	2,658.1	11,566.3	20.8	34	90.2
Miscellaneous manufacturing	2,368	42.0	18.8	60.7	1,198.2	6,121.0	19.9	26	100.8
Total manufacturing	28,846	750.4	274.3	1,024.8	21,516.3	116,531.8	21.1	36	113.7
1987-88									
Food, beverages and tobacco	3,938	120.6	55.0	175.5	3,866.0	27,764.7	22.0	45	158.2
Textiles	731	21.3	14.1	35.4	754.7	3,891.0	21.3	48	109.9
Clothing and footwear	2,332	18.6	56.6	75.2	1,217.2	4,672.1	16.2	32	62.1
Wood, wood products and furniture	4,688	68.6	13.4	82.0	1,503.3	7,006.5	18.3	17	85.5
Paper, paper products, printing and publishing	3,356	73.2	36.3	109.5	2,680.2	12,018.3	24.5	33	109.7
Chemical, petroleum and coal products	960	39.6	14.7	54.3	1,566.2	12,877.3	28.8	57	237.1
Non-metallic mineral products	1,863	36.0	4.5	40.5	1,006.2	6,020.8	24.9	22	148.8
Basic metal products	582	68.5	6.2	74.7	2,150.3	16,358.2	28.8	128	219.0
Fabricated metal products	4,848	86.5	18.3	104.8	2,197.6	10,113.0	21.0	22	96.5
Transport equipment	1,494	95.4	15.9	111.3	2,561.9	12,763.8	23.1	75	114.6
Other machinery and equipment	4,220	102.2	32.8	135.0	3,035.9	13,088.4	22.6	32	97.5
Miscellaneous manufacturing	2,594	44.7	20.8	65.5	1,410.4	7,245.5	21.5	25	110.7
Total manufacturing	31,606	775.2	288.6	1,063.8	23,949.8	133,819.6	22.7	34	125.8

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors. (c) Excludes working proprietors and their drawings.

Number of establishments

The following figures relate to manufacturing establishments as such and do not include the numbers of separately located administrative offices and ancillary units.

MANUFACTURING ESTABLISHMENTS—NUMBER OF ESTABLISHMENTS IN OPERATION AT 30 JUNE 1988 BY INDUSTRY

Industry subdivision

ASIC code	Description	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
21	Food, beverages and tobacco	1,060	1,242	709	387	376	121	25	18	3,938
23	Textiles	255	313	58	45	45	11	4	—	731
24	Clothing and footwear	865	1,089	192	95	74	12	1	4	2,332
25	Wood, wood products and furniture	1,409	1,363	855	377	451	176	19	38	4,688
26	Paper, paper products, printing and publishing	1,327	1,023	400	231	247	63	23	42	3,356
27	Chemical, petroleum and coal products	407	301	112	47	76	16	1	—	960
28	Non-metallic mineral products	600	439	388	150	199	51	22	14	1,863
29	Basic metal products	189	202	78	48	48	11	4	2	582
31	Fabricated metal products	1,820	1,283	752	404	430	109	34	16	4,848
32	Transport equipment	458	421	273	138	165	22	11	6	1,494
33	Other machinery and equipment	1,629	1,317	450	358	368	61	15	22	4,220
34	Miscellaneous manufacturing	900	865	357	225	196	33	13	5	2,594
21-34 Total manufacturing—										
	1987-88	10,919	9,858	4,624	2,505	2,675	686	172	167	31,606
	1986-87	9,811	9,109	4,090	2,267	2,660	634	145	130	28,846
	1984-85	10,218	8,499	3,392	2,196	2,451	575	137	143	27,611

Employment

The statistics on the number of persons employed shown in the following table relate to end of June employment, including working proprietors and those persons working at separately located administrative offices and ancillary units in the State.

It should be noted that persons employed in each State (and their wages and salaries) relate to those employed at establishments, administrative offices or ancillary units located in that State, even though the administrative offices or ancillary units may have served establishments located in another State.

**MANUFACTURING ESTABLISHMENTS—EMPLOYMENT AT END OF JUNE BY
INDUSTRY SUBDIVISION, 1987-88**
(No. persons)

<i>Industry subdivision</i>											
<i>ASIC code Description</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>ACT</i>	<i>Aust.</i>		
21 Food, beverages and tobacco	53,333	51,700	34,566	15,816	12,734	5,974	678	713	175,514		
23 Textiles	9,348	19,420	1,263	2,659	1,382	1,287	57	—	35,417		
24 Clothing and footwear	22,954	40,145	5,388	4,118	1,754	748	n.p.	n.p.	75,194		
25 Wood, wood products and furniture	25,062	21,952	14,446	7,147	8,997	3,560	215	614	81,993		
26 Paper, paper products, printing and publishing	39,533	36,078	11,904	7,566	7,413	5,063	454	1,533	109,544		
27 Chemical, petroleum and coal products	24,577	19,568	3,843	2,356	3,114	n.p.	n.p.	—	54,316		
28 Non-metallic mineral products	13,455	11,001	6,483	3,542	4,769	803	200	201	40,454		
29 Basic metal products	36,536	14,734	7,033	6,736	5,882	n.p.	n.p.	n.p.	74,708		
31 Fabricated metal products	36,188	32,930	15,434	8,268	9,386	1,659	390	560	104,815		
32 Transport equipment	28,447	50,401	11,030	15,735	4,848	706	107	64	111,338		
33 Other machinery and equipment	56,626	45,162	10,090	13,625	8,367	780	81	300	135,031		
34 Miscellaneous manufacturing	23,194	24,512	6,064	7,600	3,423	517	98	60	65,468		
21-34 Total manufacturing											
1987-88	369,253	367,603	127,544	95,168	72,069	24,828	3,207	4,120	1,063,792		
1986-87	358,844	356,992	117,935	90,258	69,452	24,371	2,864	4,071	1,024,787		
1984-85	365,170	357,989	112,245	92,533	64,581	24,573	2,686	3,483	1,023,260		

Wages and salaries

The following table shows wages and salaries of all employees of manufacturing establishments including those working at separately located administrative offices and ancillary units in the State. Drawings of working proprietors are excluded.

**MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY INDUSTRY
SUBDIVISION, 1987-88**
(\$ million)

<i>Industry subdivision</i>											
<i>ASIC code Description</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>ACT</i>	<i>Aust.</i>		
21 Food, beverages and tobacco	1,232.9	1,195.0	691.4	312.1	293.3	114.7	14.4	12.2	3,866.0		
23 Textiles	209.6	422.3	20.8	52.2	24.3	24.7	0.8	—	754.7		
24 Clothing and footwear	364.7	679.4	71.0	65.5	24.9	10.2	n.p.	n.p.	1,217.2		
25 Wood, wood products and furniture	484.5	405.2	233.1	129.4	161.4	74.4	3.1	12.2	1,503.3		
26 Paper, paper products, printing and publishing	1,006.1	904.1	255.0	170.0	159.1	138.5	9.2	38.3	2,680.2		
27 Chemical, petroleum and coal products	740.2	549.1	108.5	57.4	86.6	n.p.	n.p.	—	1,566.2		
28 Non-metallic mineral products	349.7	277.2	148.5	86.7	116.0	18.8	4.7	4.8	1,006.2		
29 Basic metal products	1,063.8	407.5	195.2	177.9	182.3	n.p.	43.8	n.p.	2,150.3		
31 Fabricated metal products	804.2	700.7	286.8	155.7	199.8	30.0		n.p.	2,197.6		
32 Transport equipment	684.1	1,162.1	224.4	366.6	105.9	15.5	2.1	1.1	2,561.9		
33 Other machinery and equipment	1,299.5	1,049.3	204.8	271.8	187.4	14.1	1.5	7.4	3,035.9		
34 Miscellaneous manufacturing	520.6	550.2	106.0	158.1	63.7	n.p.	n.p.	1.3	1,410.4		
21-34 Total manufacturing											
1987-88	8,759.8	8,302.0	2,545.4	2,003.4	1,604.8	562.6	81.5	90.2	23,949.8		
1986-87	7,911.6	7,443.2	2,263.3	1,809.1	1,407.0	526.4	67.5	88.3	21,516.3		
1984-85	6,988.3	6,550.8	1,933.9	1,604.0	1,137.6	443.0	58.3	64.4	18,780.3		

Turnover

The following table shows the value of turnover of manufacturing establishments. The figures include sales of goods whether produced by the 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 rent, leasing and hiring revenue), plus capital work for own use, or for rental or lease. Receipts from interest, royalties, dividends, and sales of fixed tangible assets are excluded.

MANUFACTURING ESTABLISHMENTS—TURNOVER BY INDUSTRY SUBDIVISION, 1987-88 (\$ million)

<i>Industry subdivision</i>										
<i>ASIC code</i>	<i>Description</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>ACT</i>	<i>Aust.</i>
21	Food, beverages and tobacco	8,090.5	8,884.0	5,500.6	2,157.3	2,112.4	878.0	89.8	52.1	27,764.7
23	Textiles	1,154.8	1,962.6	138.3	407.0	117.3	108.2	2.9	—	3,891.0
24	Clothing and footwear	1,651.8	2,443.9	227.0	240.6	72.2	33.2	n.p.	n.p.	4,672.1
25	Wood, wood products and furniture	2,323.9	1,798.0	998.4	599.4	786.7	436.1	14.7	49.3	7,006.5
26	Paper, paper products, printing and publishing	4,578.4	4,096.7	1,104.1	732.2	621.7	758.8	29.7	96.7	12,018.3
27	Chemical, petroleum and coal products	5,765.0	3,837.3	1,952.3	447.1	715.7	n.p.	n.p.	—	12,877.3
28	Non-metallic mineral products	2,002.2	1,597.2	1,075.0	476.2	668.0	121.8	34.9	45.4	6,020.8
29	Basic metal products	6,842.2	3,459.6	2,293.1	1,168.0	1,892.9	n.p.	n.p.	n.p.	16,358.2
31	Fabricated metal products	3,629.8	3,112.7	1,482.3	708.6	944.9	132.1	257.8	n.p.	10,113.0
32	Transport equipment	2,272.6	6,762.2	1,029.4	2,260.3	387.2	42.5	4.6	5.0	12,763.8
33	Other machinery and equipment	5,490.4	4,808.7	860.1	1,131.3	708.9	53.1	8.5	27.3	13,088.4
34	Miscellaneous manufacturing	2,642.0	2,814.0	594.0	757.4	388.9	n.p.	n.p.	3.7	7,245.5
21-34 Total manufacturing										
	1987-88	46,443.4	45,576.8	17,254.7	11,085.5	9,416.9	3,242.6	450.7	349.0	133,819.6
	1986-87	40,540.9	39,969.8	14,848.5	9,352.7	8,215.1	3,050.2	404.7	326.9	116,708.8
	1984-85	34,087.4	33,436.3	12,920.6	7,846.7	6,788.5	2,422.9	407.4	298.9	98,208.7

Purchases, transfers in and selected expenses

Stocks

Value added

The above three structural aggregates are now collected triennially and details from the 1986-87 Manufacturing Census are included in *Year Book* No. 72, pages 553-556. These items will again be collected in the next full scale census covering the period 1989-90.

Single Establishment Manufacturing Enterprises with Fewer than Four Persons Employed

SINGLE ESTABLISHMENT MANUFACTURING ENTERPRISES WITH FEWER THAN FOUR PERSONS EMPLOYED: SUMMARY OF OPERATIONS BY INDUSTRY SUBDIVISION, AUSTRALIA, 1987-88

Industry subdivision		Estab- lishments operating at 30 June	Employment at 30 June (a)			Wages and salaries (b) \$m	Turnover \$m
ASIC code	Description		Males	Females	Persons		
		No.	No.	No.	No.		
21	Food, beverages and tobacco	781	1,130	756	1,886	13.4	107.7
23	Textiles	246	316	192	508	4.1	26.6
24	Clothing and footwear	657	553	817	1,370	10.5	60.9
25	Wood, wood products and furniture	3,104	4,995	1,502	6,497	42.7	280.4
26	Paper, paper products, printing and publishing	1,388	1,804	1,241	3,045	31.0	169.9
27	Chemical, petroleum and coal products	228	336	141	477	5.4	34.7
28	Non-metallic mineral products	596	919	362	1,281	9.7	69.7
29	Basic metal products	129	206	54	260	2.8	16.7
31	Fabricated metal products	2,386	3,814	1,267	5,081	44.8	268.7
32	Transport equipment	757	1,291	339	1,630	14.7	84.2
33	Other machinery and equipment	1,778	2,603	1,139	3,742	41.0	202.4
34	Miscellaneous manufacturing	1,819	2,523	1,154	3,677	28.8	172.5
21-34	Total manufacturing						
	1987-88	13,869	20,490	8,964	29,454	248.9	1,494.3
	1986-87	13,332	19,165	7,934	27,099	210.6	1,323.0
	1984-85	14,243	21,351	8,148	29,499	195.4	n.a.

(a) Includes working proprietors. (b) Excludes the drawings of working proprietors.

Principal Manufacturing Commodities

The factory production of certain commodities is shown in the monthly publications of the ABS, and in the triennial publication, *Manufacturing Commodities, Selected Principal Articles Produced, Australia (Preliminary)* (8365.0). A more comprehensive list of articles produced is contained in the triennial publication, *Manufacturing Commodities, Principal Articles Produced, Australia* (8303.0).

The table following shows the total recorded production of some selected articles manufactured in Australia. A more complete list is published in the triennial ABS publication 8303.0 mentioned above.

**QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING
ESTABLISHMENTS: AUSTRALIA**

<i>Commodity code</i>	<i>Article</i>	<i>Unit of quantity</i>	<i>1986-87</i>	<i>1987-88</i>	<i>1988-89</i>
	Acid (in terms of 100%)—				
401.29	Hydrochloric	tonnes	62,318	69,137	63,741
401.37	Nitric	"	203,484	203,547	n.p.
401.57	Sulphuric	'000 tonnes	1,678	1,816	1,904
171.03,07,08	Aerated and carbonated waters	kL	1,205,467	1,346,077	1,447,733
	Animal feeds—				
	From wheat—				
152.06	Pollard	'000 tonnes	241	242	231
159.11	Poultry pellets and crumbles	"	1,639	1,627	1,605
159.15	Poultry mash	"	162	133	118
647.98	Audio cassettes, pre-recorded	'000	21,426	27,118	29,621
	Batteries, wet cell type—				
685.13	Auto (S.L.I.) 6 volts	"	108	95	n.p.
685.17	Auto (S.L.I.) 12 volts	"	2,343	2,280	n.p.
172.02,04,06	Beer (<i>a</i>)	ML	1,859	1,891	1,951
064.21	Biscuits (excluding dog biscuits)	tonnes	133,846	138,103	137,890
152.02	Bran (wheaten)	'000 tonnes	95	103	96
172.21	Brandy	kL	1,453	939	n.y.a.
791.11-15	Brassieres	'000	7,821	7,744	8,252
066.01,05	Breakfast food, cereal (ready to eat)	tonnes	92,895	94,631	101,099
471.91,93,98	Bricks, clay	million	2,002	2,032	2,326
261.41	Briquettes, brown coal	'000 tonnes	811	809	751
	Broadwoven fabric (<i>b</i>)—				
384.91,93,98;	Cotton (including towelling)				
385.21,23		'000 m ²	38,237	39,415	36,243
384.31-87;385.18	Man-made fibres	"	169,586	166,696	190,139
385.01-14,25-31	Wool	"	11,245	10,633	9,648
	Butter (plus direct butter oil) (<i>c</i>)	tonnes	103,855	94,241	95,853
789.71-81,83	Cardigans, jumpers, etc.	'000	11,109	9,096	7,977
474.02	Cement, Portland	'000 tonnes	5,920	6,158	6,901
	Cheese (<i>c</i>)—				
	Cheddar	tonnes	123,284	119,909	121,634
	Non-cheddar	"	54,185	56,394	68,378
435.22	Coke—metallurgical	'000 tonnes	3,253	3,727	3,889
475.90	Concrete, ready mixed	'000 m ³	13,810	15,093	17,030
	Confectionery—				
104.06-18	Chocolate	tonnes	82,667	85,979	92,227
104.21-29	Other	"	63,288	66,770	64,655
452.04	Copper, refined (<i>d</i>)	'000 tonnes	171	186	211
171.06,10	Cordials and syrups	kL	122,804	130,506	140,448
499.42	Electricity	mil. kWh	130,122	136,869	144,854
523.76-78	Electrodes for manual welding	'000 kg	14,571	13,601	13,001
696.01,03,05	Fans, electric (propeller type)	No.	651,192	736,335	753,394
	Floor coverings—(<i>e</i>)				
	Tufted carpets, floor rugs, mats and matting, of, or predominantly of—				
386.63	Man-made fibres	'000 m ²	23,879	23,812	28,251
386.71	Wool or fine animal hair	"	12,473	13,416	13,317
	Flour—				
062.01,32	Wheaten (<i>f</i>)	'000 tonnes	1,220	1,266	1,278
	Fruit juices, natural—				
074.61,65	Single strength	kL	227,419	235,829	177,838
127.21	Glucose	tonnes	71,004	84,592	97,035
	Heaters, room—				
651.11-20	Electric radiators, fires and room heaters	'000	603,350	580,315	594,631
651.15	Gas fires and space heaters	No.	59,226	70,381	64,121

For footnotes see end of table.

**QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING
ESTABLISHMENTS: AUSTRALIA—continued**

<i>Commodity code</i>	<i>Article</i>	<i>Unit of quantity</i>	<i>1986-87</i>	<i>1987-88</i>	<i>1988-89</i>
	Hosiery—				
789.53,54,55,57,59	Men's	'000 pairs	30,418	26,554	29,187
789.63,65	Children's and infants' (excl. pantihose)	"	17,449	16,946	17,700
051.56,58,59	Ice cream (<i>g</i>)	kL	207,676	212,774	208,099
051.87,89,90	Infants', invalids' and health beverages (<i>h</i>)	tonnes	29,534	28,258	28,961
	Iron and steel—				
442.04,08	Pig iron	'000 tonnes	5,783	5,455	5,875
442.71-73	Steel ingots (including continuous cast billets)	"	6,387	6,093	6,651
442.28	Blooms and slabs (<i>i</i>)	"	3,670	2,660	2,578
076.60	Jams (including conserves, jellies, etc.)	tonnes	30,731	33,625	34,127
	Lawn mowers—				
699.51	Petrol, rotary	No.	276,501	279,122	298,286
453.04	Lead, refined (<i>j</i>)	'000 tonnes	142	182	184
063.15	Malt (excluding extract)	'000 tonnes	542	562	590
	Margarine—				
121.01	Table	tonnes	111,267	112,767	107,462
121.06,08	Other	"	40,169	43,721	43,112
844.22,25,27	Mattresses, inner spring	'000	791	851	869
027.02-75	Meat, canned (<i>k</i>)	tonnes	24,748	18,403	18,138
482.78	Meters, water consumption	'000	204	244	290
	Milk, condensed, concentrated and evaporated—				
051.28	Skim	tonnes	20,402	24,253	58,178
	Milk in powdered form (<i>c</i>)—				
	Wholemilk	"	65,283	63,743	68,038
	Skim or mixed skim and buttermilk	"	128,472	120,010	119,135
	Buttermilk	"	8,435	7,838	7,663
503.13-32	Motors, electric	'000	2,523	2,844	3,077
	Motor vehicles, assembled—				
551.03	Cars	No.	249,428	253,768	265,406
551.06	Station wagons	"	52,629	61,107	63,778
551.21,29	Vehicles for transportation of goods and materials (<i>l</i>)	"	20,462	22,860	30,657
	Paint, etc.—				
	Architectural and decorative (<i>m</i>)—				
	Solvent thinned—				
410.01	Primers and undercoats	kL	6,515	6,169	6,024
410.03,05,07	Finishing coats	"	20,195	20,679	20,094
	Water thinned—				
410.11,13,15	Plastic latex	"	57,948	64,479	74,002
410.17	Other water based	"	4,129	4,877	5,675
	Paper—				
351.11	Newsprint	'000 tonnes	386	401	401
351.18-65	Other	"	823	834	862
352.01	Paperboard	"	497	557	606
336.12	Particle board (resin bonded)	'000 m ³	705	728	780
	Preserves—				
	Fruit—				
076.04-40	Packaged (<i>n</i>)	tonnes	186,474	186,798	158,063
	Vegetables—				
094.04-48	Packaged (<i>n</i>)	"	133,782	138,303	138,328
	Pyjamas—				
791.75,80	Men's and boys', woven (suits only)	'000	2,741	2,343	2,132
	Records (phonograph) (<i>o</i>)				
647.93,94	45 r.p.m.	"	7,391	8,104	8,407
647.95	33 r.p.m.	"	14,335	14,910	13,403

For footnotes see end of table.

**QUANTITIES OF SELECTED ARTICLES PRODUCED IN MANUFACTURING
ESTABLISHMENTS: AUSTRALIA—continued**

Commodity code	Article	Unit of quantity	1986-87	1987-88	1988-89
657.33,34,35	Refrigerators, domestic, electric	'000	289	386	380
403.22-94	Resins, synthetic and plastics, for moulding, extrusion, lamination, calendering, etc	'000 tonnes	651	716	700
123.18	Sauce, tomato (incl. tomato ketchup)	kL	31,883	32,739	33,697
062.04	Semolina	'000 tonnes	50	54	61
	Shirts, (men's and boys')—				
	Men's—				
791.20,21,23	Knitted	'000	15,736	14,861	12,356
791.25,26,30,31	Woven	"	13,352	12,605	12,087
	Boys'—				
791.28,32	Knitted	"	10,818	7,883	5,919
791.34	Woven	"	1,626	1,118	603
805.01	Soap, for personal toilet use	tonnes	27,361	30,365	26,764
127.15	Starch (incl. cornflour)	"	161,940	173,550	180,941
	Stoves, ovens and ranges, domestic cooking—				
661.02,11	Electric (q)	No.	183,021	207,738	232,777
662.26,31,34	Gas, upright or elevated (with oven)	"	94,706	93,700	89,938
405.36	Sulphate of ammonia	tonnes	165,397	179,211	161,757
415.07;405.25	Superphosphate (s)	'000 tonnes	2,769	3,194	3,681
792.03-10	Swimwear (t)	'000	3,905	4,029	4,532
	Tallow (including dripping), rendered—				
391.15	Edible	"	83,061	82,337	74,951
391.24	Inedible	"	268,208	289,059	297,853
647.14-19	Television sets (colour)	No.	210,590	176,756	162,398
	Tiles, roofing—				
475.32	Concrete	'000 m ²	14,388	16,343	21,085
472.15	Terracotta	"	3,285	3,399	3,715
683.53-61	Transformers, chokes and ballasts, for distribution of power and light, etc.	kVA	8,395,724	8,559,212	6,290,420
693.02,04	Washing machines, household, electric	'000	400	394	397
152.14	Wheatmeal for stock feed	'000 tonnes	354	325	334
	Wine, beverage—				
172.42	Fortified	kL	31,766	31,403	n.y.a.
172.46	Unfortified	"	306,804	322,993	n.y.a.
341.32-45	Wood pulp (air dried)	'000 tonnes	906	994	1,036
383.09,11	Wool, scoured or carbonised	tonnes	130,254	126,633	119,842
383.27-31	Wool tops, pure	"	24,474	25,904	26,559
	Yarn (including mixtures)—				
383.79-87	Cotton	"	21,161	20,667	20,332
383.89-95	Worsted	"	5,577	5,493	5,247
383.97,99;384.01,03	Woollen	"	17,485	17,592	16,211
383.46-73	Discontinuous synthetic fibre	"	11,389	10,173	10,359
457.04	Zinc, refined (d)	'000 tonnes	300	306	303

(a) Excludes waste beer and beverages with alcohol content of 1.15 per cent or less. (b) Includes mixture predominantly of the fibre named. (c) Source: Australian Dairy Corporation. (d) Primary origin only. Source: Bureau of Mineral Resources. (e) Excludes underfelts and products of coir, sisal or other hard fibres. (f) Includes wheatmeal for baking, includes sharps. (g) Includes ice cream combined with other confections, including those aerated milk-based confections which contain 10 per cent or more butterfat. (h) Includes infants milk powder, malted milk, etc. (i) From rolling and forging of iron and steel (primary mills output). (j) Includes lead content of lead alloys from primary sources but excludes lead-silver bullion. (k) Excludes poultry, ham and bacon and baby food. (l) Includes utilities, panel vans, prime movers for semi-trailers and units consisting of chassis, engine and cabs produced for sale and transfer out as such. Excludes off-highway trucks (e.g. dump wagons), materials handling trucks (e.g. forklift trucks) and semi-trailers. (m) Excludes heavy duty coatings. (n) Packaged: canned, bottled or stored in plastic or other containers. Excludes dehydrated or evaporated fruits and fruit pulp and puree, and frozen vegetables. (o) Conventional stereophonic discs. (q) Includes wall ovens but excludes cooking tops and portable units. (s) Includes double and triple superphosphate and ammonium phosphate expressed in terms of single superphosphate i.e. 22 per cent P₂O₅ equivalent. (t) Includes board shorts. Excludes infants' and babies' swimwear.

Enterprise Statistics—Integrated Economic Censuses and Surveys

The Integrated Economic Censuses and Surveys conducted by the Australian Bureau of Statistics have, since 1977–78, included enterprises primarily engaged in Mining and Manufacturing, with Electricity and Gas Production and Distribution collected in 1977–78 and annually from 1979–80, while other economic sectors are approached on a rotating basis. Statistics in respect of enterprises have been published in *Annual Economic Censuses and Surveys: Enterprise Statistics, Australia* (8103.0).

Below is a brief summary of the Censuses' collection units and methodology and a summary table of enterprise statistics. More detailed explanations on the Censuses are shown in the above publication.

The business units, as standardised for purposes of the Economic Censuses and Surveys are at three levels: the establishment (and associated administrative offices and ancillary units); the enterprise; and the enterprise group.

The central unit from which statistical information was collected is the *enterprise*, defined broadly as the unit comprising all operations in Australia of a single operating legal entity. The term legal entity is used to cover a sole proprietor, or partnership, or company, but also includes cooperative societies and some government authorities mainly engaged in the industries included in the Censuses and Surveys.

The group of legal entities owned or controlled by a single company is recognised as a separate type of unit—the *enterprise group*. The basic unit for which most data were collected and tabulated is *the establishment*, defined in general as a unit comprising all the operations carried on by the one enterprise at a single physical location—such as an individual factory, shop or mine.

In the Integrated Economic Censuses and Surveys, information was collected using a common framework of reporting units (enterprises and establishments as defined above) and data concepts, in accordance with a standard industrial classification (the *Australian Standard Industrial Classification*, 1983 Edition). As a result the statistics for the industries covered by the Censuses and Surveys are provided with no overlapping or gaps in scope, so that aggregates for economic data such as value added, employment, wages and salaries, fixed capital expenditure and stocks are obtained on a consistent basis for all industries and business units covered by the Censuses and Surveys. A detailed description of the Integration of Economic Censuses is contained in Chapter 31, *Year Book* No. 56, 1970.

ENTERPRISES—SUMMARY OF OPERATION BY INDUSTRY, AUSTRALIA

Industry and year	Enterprises operating during year (a)	Persons employed at 30 June (b)	Wages and salaries (c)	Turnover (d)	Purchases and selected expenses (e)	Rent leasing and hiring expenses (f)	Stocks (g)		Value added (h)	Fixed capital expenditure less disposals (i)
							Opening	Closing		
	No.	No.	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Mining (excluding services to Mining)—										
1983-84	890	72,743	2,002.5	12,687.7	4,210.1	202.3	1,853.2	1,852.7	8,274.7	2,428.7
1984-85	925	76,696	2,235.1	15,891.3	5,237.3	197.8	1,993.5	1,895.4	10,358.1	1,920.7
Manufacturing—										
1983-84	22,807	1,026,041	17,679.9	88,744.3	51,613.7	1,484.1	14,085.2	14,294.1	35,855.3	2,914.0
1984-85	23,105	1,046,139	19,215.5	99,525.5	58,624.9	1,630.3	14,386.1	16,052.4	40,935.9	3,236.1
Electricity and Gas—										
1983-84	97	94,981	2,119.0	10,383.4	4,762.4	163.9	766.2	785.8	5,476.9	3,684.2
1984-85	97	94,519	2,295.3	11,461.2	5,252.6	266.5	781.6	697.2	5,857.6	3,076.6

(a) The number of enterprises in operation for all or any part of the year which were in the scope of the censuses and surveys. (b) Working proprietors and employees, including part-time and casual employees as at 30 June. (c) Wages and salaries paid during the year to employees of the enterprise. Drawings of working proprietors are excluded. (d) Sales of goods, commission revenue, repair and service revenue, rent, leasing and hiring revenue, government bounties and subsidies and all other operating revenue except interest, royalties and dividends. (e) Purchases by the enterprise of goods for manufacture or resale, containers, stores and supplies (except office supplies) and charges for fuels, electricity and water, freight and cartage, vehicle running expenses, sales commission expenses, repair and maintenance expenses, and commission and subcontract expenses. (f) Amount paid for rent and leasing premises, vehicles and equipment. (g) Stocks of materials, fuels etc. work in progress and finished goods owned by the enterprise. (h) This is derived as turnover plus increase (less decrease) in stocks, less purchases and selected expenses, less rent, leasing and hiring expenses. (i) Outlay on new assets (including progress payments) and land and secondhand fixed tangible assets less disposals.

Foreign Ownership and Control in the Manufacturing Industry

Summary information on foreign ownership and control in the manufacturing industry is given in Chapter 26.

RETAIL TRADE

Estimates of the value of retail turnover (excluding motor vehicles, parts, petrol, etc.) by industry are obtained by means of sample surveys. Prior to June 1988, these series reflect retail sales adjusted to turnover basis, and exclude the Northern Territory.

TURNOVER OF RETAIL ESTABLISHMENTS (EXCLUDING MOTOR VEHICLES, PARTS, PETROL, ETC.) AT CURRENT PRICES: INDUSTRIES
 (\$ million)

Description	1986-87	1987-88	1988-89
Grocers, confectioners, tobacconists	18,221.0	19,350.5	21,178.3
Butchers	1,707.5	1,696.0	1,963.0
Other food stores	3,953.7	4,471.1	4,774.6
Hotels, liquor stores, licensed clubs	8,943.1	9,838.5	10,168.1
Cafes and restaurants	n.a.	n.a.	3,288.3
Clothing and fabric stores	5,546.6	6,019.4	6,338.8
Department and general stores	8,183.2	8,748.8	9,226.0
Footwear stores	896.3	979.6	1,007.7
Domestic hardware stores, jewellers	2,042.9	2,317.5	2,659.1
Electrical goods stores	3,693.1	4,111.5	4,456.2
Furniture stores	1,558.9	1,618.7	1,664.3
Floor coverings stores	552.6	667.7	718.8
Pharmacies	2,248.4	2,477.6	2,876.9
Newsagents	2,356.9	2,563.4	2,760.7
Other stores	n.a.	n.a.	3,762.2
Total	65,420.3	70,880.7	76,842.2

Service Industries

The 1986-87 Service Industries Survey covered ten personal and travel related industries. Seven of these were also part of the 1979-80 Census of Retail and Selected Services Industries, therefore allowing some comparisons between the two periods. (These industries are motion picture theatres, cafes and restaurants, hotels (mainly drinking places), accommodation, licensed clubs, laundries and dry cleaners, and hairdressers and beauty salons.) Data for motor vehicle hire, travel agency services and photography services have been collected for the first time.

Also collected as part of the 1986-87 Service Industries Survey were data on selected tourist attractions. A brief summary of details of this survey is available in Chapter 12, Culture, Recreation, Environment and Tourism. Further details by type of attraction are shown in *Tourist Attractions* (8661.0).

The 1987-88 Service Industries Survey covered twelve professional and business related industries. The industries included in the 1987-88 Survey have not previously been surveyed in this detail by ABS so there are no earlier statistics available to which they can be compared. Detailed statistics for each of the industries covered, plus a number of 'sub-industries', will be progressively released during 1990.

A brief summary of details of the 1986-87 and 1987-88 Surveys is contained in the table below. A list of available publications containing more detailed statistics is shown in the Bibliography at the end of this chapter.

SELECTED SERVICE INDUSTRIES: SUMMARY OF OPERATIONS AUSTRALIA, 1986-87 AND 1987-88

ASIC Class	Enterprises operating at end June	Persons employed at end June	Wages and salaries(a)	Turnover	Gross product	Net operating surplus
	No.	No.	\$'000	\$m	\$m	\$m
<i>1986-87—</i>						
Motor vehicle hire (5711)	281	3,173	54.8	446.8	139.5	58.0
Travel agency services (5741) (b)	1,494	11,632	191.5	428.8	1,207.2	-0.2
Motion picture theatres (9133)	202	4,472	56.6	256.5	96.2	29.2
Cafes and restaurants (9231)	8,489	85,974	646.7	2,583.9	942.2	221.5
Hotels (mainly drinking places) (9232)	4,986	82,644	814.8	4,807.6	1,270.0	370.5
Accommodation (9233)	4,841	56,364	640.3	2,281.5	1,078.8	310.7
Licensed clubs (9241-3)	3,927	52,336	687.8	2,636.1	1,059.4	229.0
Laundries and dry cleaners (9340) (c)	1,581	12,452	142.0	400.1	228.4	56.6
Hairdressers and beauty salons (9351-2)	11,027	39,628	300.0	790.0	433.0	113.1
Photography services (9361)	1,547	4,290	36.5	183.3	67.6	23.3
<i>1987-88—</i>						
Real estate agents (6310)	5,741	36,408	835	2,201	1,262	356
Architectural services (6334)	4,534	17,777	354	1,030	584	185
Surveying services (6335)	1,104	6,878	116	309	178	46
Engineering and technical services (6336) (d)	5,186	28,357	682	1,716	1,000	223
Legal services (6371)	6,459	55,402	500	3,069	1,427	884
Accounting services (6372)	6,048	49,510	503	2,334	1,050	497
Computing services (6381)	3,691	24,067	585	1,628	775	78
Advertising services (6382)	2,390	16,051	423	4,675	619	147
Debt collecting and credit reporting services (6385)	234	2,669	52	142	69	12
Pest control services (6386)	565	2,902	44	135	76	25
Cleaning services (6387) (e)	4,181	44,324	330	622	434	81
Security/protection and business services n.e.c. (6388 and 6389) (f)	1,087	25,483	365	839	515	120

(a) Gross earnings of all employees before taxation and other deductions. Drawings of working proprietors and partners are excluded. (b) Includes Australian branch offices of foreign resident airlines and the travel agency divisions of the major financial institutions (mainly banks). (c) Excludes carpet cleaning services. (d) Includes quantity surveyors. (e) Includes carpet cleaning services. (f) Excludes quantity surveyors.

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ABS Publications

Integration of Economic Statistics: The Conceptual and Operational Framework (1113.0)

Australian National Accounts: Concepts, Sources and Methods (5216.0)—Chapter 4 'Estimates at Constant Prices'

Retail Trade, Australia (8501.0)

Retail Industry: Details of Operations by Industry Class, Australia (8622.0)

Retailing in Australia (8628.0)

Wholesale Establishments: Details of Operation by Industry Class, Australia (8638.0)

Selected Tourism and Personal Service Industries: Summary of Operations, Australia, 1986–87, Preliminary (8650.0)

1986–87 Motor Vehicle Hire, Australia (8652.0)

1986–87 Travel Agency Services, Australia (8653.0)

1986–87 Motion Picture Theatres, Australia (8654.0)

1986–87 Cafes and Restaurants, Australia (8655.0)

1986–87 Hotels and Accommodation, Australia (8656.0)

1986–87 Licensed Clubs, Australia (8657.0)

1986–87 Laundries and Dry Cleaners, Australia (8658.0)

1986–87 Hairdressers and Beauty Salons, Australia (8659.0)

1986–87 Photography Services, Australia (8660.0)

1986–87 Tourist Attractions, Australia (8661.0)

Professional and Business Services Industries, Summary Operating Statistics, Australia, 1987–88 (8662.0)

—Detailed statistics for the following industries are available by contacting the ABS

- Real estate agents
- Architectural services
- Surveying services
- Engineering and technical services
- Legal services
- Accounting services
- Computing services
- Advertising services
- Debt collecting and credit reporting services
- Pest control services
- Cleaning services
- Security/protection and business services n.e.c.