

CHAPTER 21

MANUFACTURING INDUSTRY

Introduction

An historical summary of the development of the manufacturing industry in Australia since 1901 is contained in earlier issues of the Year Book (*see* No. 51, pages 143-4).

Decentralisation and manufacturing industries

The decentralisation of secondary industries, and the steps taken by Commonwealth and State Governments towards its development, are referred to in previous issues of the Year Book (*see* No. 51, page 144).

Bounties on manufacture

Bounties are paid by the Commonwealth Government to encourage local manufacture of certain products. The statutory provisions usually fix a term of operation of the bounty, provide for payment at a rate varying according to changes in the corresponding customs duty, specify the annual maximum amount of bounty payable, and require the bounty to be withheld or reduced if a manufacturer's net profit in production of the commodity exceeds a certain rate, or if rates of wages and conditions of employment in production of the commodity do not conform to prescribed standards. (*See* Chapter 18, Public Finance for products on which bounties are paid.)

Standardisation

The Commonwealth Scientific and Industrial Research Organization has functions concerned with the improvement of efficiency in industrial operations. For further particulars *see* the chapter Education, Cultural Activities, and Research of this Year Book.

The Standards Association of Australia is the organisation responsible for industrial standardisation on a national basis. It issues 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 half its funds are provided by Commonwealth Government grant, the remainder coming primarily from membership subscriptions and from 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 subjects under consideration. This assistance is on a voluntary basis.

Preparation of standards is undertaken in response to requests from industrial associations or firms or from government departments. 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 special cases where safety of life or property is involved, they may have compulsory application through statutory reference.

The Association is the owner of a registered certification trade mark covering conformity of products to standards. Manufacturers of products covered by Australian standards may obtain a licence to use the Australian Standard Mark, under conditions established by the Association.

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 libraries, one in Sydney and one in Melbourne, containing the national standards of all countries with standards organisations. These libraries provide necessary material for committee work and a free information service to those concerned with standards.

The headquarters office of the Association is in Sydney, and there is a major branch office in Melbourne. Branch offices are located also in other capital cities and at Newcastle, New South Wales.

The National Association of Testing Authorities organises testing facilities throughout Australia to serve private and governmental needs.

Membership is open to authorities whose testing laboratories conform to the standards of staffing and operation 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 metrology, mechanical testing, electrical testing, optics and photometry, non-destructive testing, heat and temperature measurement, chemical testing, biological testing, and acoustic and vibration measurement. In June 1972 893 laboratories held NATA registration. A further 33 laboratories had been nominated for registration.

The Industrial Design Council of Australia was established in June 1958 for the purpose of encouraging better design in Australian-made goods and fostering an appreciation of good design throughout the community. The Council is fully representative of industry, commerce and government, together with designers and educationists. Its activities are financed by donations from industry and commerce, and by Commonwealth and State grants. IDCA has established Australian design centres in Adelaide, Melbourne and Sydney. These centres display Australian products of approved design and present changing exhibitions relating to design in manufactured articles. IDCA is also responsible for the Australian Design Index which provides a detailed, illustrated record of well-designed Australian products.

The Design Delegate scheme enables regular contact to be maintained with senior executives of manufacturing companies, departmental officers and designers wishing to participate actively in IDCA's programme of lectures, information, and guidance on all aspects of industrial design. Services to design delegates are administered by IDCA through its design centres.

A Record of Designers has been set up to register information about industrial designers and their work. The Council, which has its headquarters in Melbourne, is also concerned with raising the standard of training in industrial design in co-operation with education authorities. For further particulars see Year Book No. 51, page 145.

Overseas participation in Australian manufacturing industry

For further particulars, see Year Book No. 51, pages 143-4.

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. The following table contains a summary of statistics on manufacturing activities in Australia over that period. More detailed manufacturing statistics in respect of this period have been included in previous editions of the Year Book.

MANUFACTURING INDUSTRY: AUSTRALIA(a), 1901 TO 1967-68

Year	Fac- tories	Employ- ment(b)	Salaries and wages paid(c)	Value of—				
				Materials and fuel used	Output	Production (d)	Land and Buildings (e)	Plant and Machinery (e)
	No.	'000	\$'000	\$'000	\$'000	\$'000	\$'000	\$'000
1901 . . .	11,143	198	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1911 . . .	14,455	312	55,056	163,526	266,044	102,518	65,402	63,032
1920-21 . .	17,113	367	125,864	427,118	647,986	220,868	121,662	137,310
1930-31 . .	21,751	339	124,910	344,978	581,598	236,620	224,422	248,996
1940-41 . .	27,300	650	275,838	773,762	1,289,590	515,828	288,188	322,712
1950-51 . .	43,147	969	983,436	2,613,926	4,301,670	1,687,744	605,570	673,230
1960-61 . .	57,782	1,145	2,289,230	6,115,930	10,465,765	4,349,835	2,389,140	2,785,565
1963-64 . .	59,375	1,210	2,651,620	7,372,682	12,642,686	5,270,003	3,204,685	3,480,673
1964-65 . .	61,042	1,269	2,993,709	8,140,600	14,037,355	5,896,754	3,505,859	3,766,253
1965-66 . .	61,686	1,294	3,162,769	8,437,958	14,689,819	6,251,861	3,776,590	4,154,652
1966-67 . .	62,500	1,309	3,407,683	9,015,844	15,892,845	6,877,001	4,061,193	4,706,843
1967-68 . .	62,954	1,331	3,665,902	9,663,217	17,094,070	7,430,853	4,303,156	4,962,203

(a) Before 1 July 1964, excludes Northern Territory and Australian Capital Territory. (b) 1901 and 1911—average employment during period of operation. Later years relate to average employment over whole year. Working proprietors are included in all years. (c) Excludes amounts drawn by working proprietors. (d) Value added in process of manufacture (i.e. value of output less value of materials and fuel, etc. used). (e) Depreciated or book values at 30 June. Includes estimated values of rented premises and machinery.

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 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 Factory Census, were the subject of separate censuses, details of which are given on page 726. The integration of these economic censuses was designed to increase substantially the usefulness and comparability of economic statistics collected and published by the Bureau 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-purpose nature 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 scope, 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.

For the integration of the various censuses it was necessary to undertake three major developments:

- (a) The census units for which the statistics were to be collected (factories, mines, shops, etc.) had to be defined and identified in consistent ways and recorded in a central register, together with identifying data about the businesses owning and operating them.
- (b) A standard industrial classification had to be adopted so that the census units could be classified in consistent ways and to enable the boundaries of the various economic censuses to be determined without gaps or overlapping between them.
- (c) In order to bring the items of data to a consistent basis of definition in all censuses, it was necessary to revise all the forms used in previous censuses.

The standardisation of census units in the integration of economic censuses means that the basic census unit (the establishment), in general, now 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 now cover (with a few exceptions) all activities at the location. Previously, the manufacturing establishment covered only a specified manufacturing activity primary to one class of industry. It now covers, in addition, subject to certain exceptions mentioned below:

- (a) Any other manufacturing activity (i.e. production of goods primary to another class of industry).
- (b) Any selling and distribution activities connected with the products manufactured.
- (c) Any non-manufacturing activity (e.g. merchanting of goods not manufactured by the establishment; extraction of raw materials for use by the establishment).

The exceptions in general relate to locations where the subsidiary activities (in terms of gross value) exceed \$1 million, which are treated for statistical purposes as two or more establishments corresponding to the various kinds of activity carried on.

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. These units were formerly excluded from the manufacturing census. They are units such as head offices, storage premises and manufacturers' sales branches or sales offices (except those of the kind which distribute to customers from stocks held by such branches or offices, which are treated as establishments in the Wholesale Census).

The Australian Standard Industrial Classification (ASIC), described in the Bureau publication *Australian Standard Industrial Classification (Preliminary Edition)*, 1969, Vol. 1, 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 the 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. The main changes in scope in the manufacturing census, apart from providing for a separate census for electricity and gas, are as follows:

- (a) Establishments mainly engaged in the following activities, previously included in manufacturing censuses, are excluded as from 1968-69: motor vehicle repairs but not engine reconditioning; repair and servicing of agricultural machinery; dry-cleaning, laundering and clothes dyeing services; watch, clock and jewellery repairing; boot and shoe repairing; tyre retreading and repairing; custom dressmaking and tailoring (including clothing repair and alterations); installing and repairing of blinds and awnings, making up and installing of curtains; and repair of domestic appliances. Establishments mainly engaged in these activities are now included in the periodic Retail Trade or Wholesale Trade Censuses.
- (b) Establishments mainly engaged in non-manufacturing activities but which also carry out, as a subsidiary activity, some manufacturing activities, and which in respect of those manufacturing activities, were previously included in the manufacturing census are excluded as from 1968-69 unless such establishments have manufacturing activities of a gross value of \$1 million or more.
- (c) Establishments mainly engaged in the following activities, previously excluded in most States from manufacturing censuses, are included as from 1968-69: slaughtering, milk treatment, and publishing.

An indication of the effect of the changes referred to above can be gained from the following comparison. 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 (but see footnote (b) to the following table) would have been included in the 1967-68 census if ASIC had been used. Figures for the individual States and Territories are given below.

	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Approximate number of manufacturing establishments—									
1967-68 census	24,900	18,000	6,100	6,200	5,300	1,800	180	240	62,600
1967-68 census if ASIC had been used(a)	13,800	11,400	3,500	3,000	2,500	960	70	100	35,400
Approximate number of employees (thousands)—									
1967-68 census	512	433	114	116	63	34	5		1,276
1967-68 census if ASIC had been used(b)	445	376	95	100	51	27	3		1,097

(a) Excludes the establishments referred to in (c), in the paragraph above. (b) These figures relate to employment as defined for the 1967-68 and previous year censuses. They thus exclude employment at the establishments referred to in (c) in the paragraph above, sales and distribution employees, employees connected with non-manufacturing activities and employees at separately located administrative offices and ancillary units serving manufacturing establishments. The figures, therefore, are not directly comparable with those for 1968-69 and 1969-70, which include the aforementioned employees.

The third step in integrating the censuses, whereby the items of data on the census forms were standardised for all census sectors, 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. Value added, the basic measure of the establishment's contribution to total production, is now calculated as turnover less purchases and transfers in (from other establishments of the enterprise), plus increase (or less decrease) in stocks. In the past the corresponding item, value of production, was obtained by deducting the value of materials, fuels, etc., used from the value of output at the factory. A detailed comparison of the method of derivation is shown in the following table.

Value of production 1967-68	Value added as from 1968-69
Selling value at works, exclusive of all delivery costs or charges, of goods manufactured, treated or worked up during the year, including by-products, plus	Sales, and transfers out (to other establishments of the enterprise), of goods manufactured by the establishment, plus
Value of other work done, . . . such as repairing and making up for customers, etc.	Sales and transfers out of goods not manufactured by the establishment, plus
	Bounties and subsidies on production, plus
	All other operating income, plus
	Capital work done for own use, or for rental or lease
<i>Equals:</i> Value of output	<i>Equals:</i> Value of turnover
	<i>Plus:</i> Closing stocks
	<i>Less:</i> Opening stocks
<i>Less—</i>	<i>Less—</i>
Value of materials used	Purchases and transfers in of materials, electricity, fuels, containers, etc.
Power, fuel and light used	Purchases and transfers in of goods for resale
Water used	Charges for commission and subcontract work
Lubricating oils used	Repair and maintenance expenses
Repairs, etc.	Outward freight and cartage, motor vehicle running expenses, sales commission payments
Containers used	
<i>Equals:</i> Value of production	<i>Equals:</i> Value added

Even though the concept of value added is similar to value of production, direct comparison of 1968-69 and previous figures will not be 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.

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

Summary of operations

The following table shows the summary of operations for manufacturing establishments.

**MANUFACTURING ESTABLISHMENTS—SUMMARY OF OPERATIONS, BY INDUSTRY
SUB-DIVISION: AUSTRALIA, 1968-69 AND 1969-70**

Industry sub-division	ASIC code (a)	Number of establishments operating during year	Persons employed(b)			Wages and salaries \$m	Turn-over \$m	Stocks at 30 June		Purchases, transfers in and selected expenses \$m	Value added \$m	Fixed capital expenditure(c) \$m
			Males No.	Females No.	Total No.			opening \$m	closing \$m			
1968-69												
Food, beverages and tobacco	21-2	5,043	138,856	48,994	187,850	548	4,011	497	532	2,864	1,182	132
Textiles	23	913	32,751	26,740	59,491	162	743	157	163	448	301	30
Clothing and footwear	24	3,547	27,776	95,667	123,443	264	933	149	161	536	409	19
Wood, wood products and furniture	25	6,190	72,862	9,700	82,562	220	891	125	133	503	395	25
Paper and paper products, printing	26	3,391	74,716	28,392	103,108	332	1,235	164	174	624	621	84
Chemical, petroleum and coal products	27	1,236	47,533	17,009	64,542	230	1,518	290	288	883	633	113
Non-metallic mineral products	28	1,835	47,900	4,999	52,899	178	747	98	107	389	367	59
Basic metal products	29	663	84,900	5,159	90,059	338	2,151	363	399	1,460	727	175
Fabricated metal products	31	4,961	95,856	21,131	116,987	354	1,363	237	251	756	621	53
Transport equipment	32	1,532	133,913	14,089	148,002	479	1,991	362	381	1,175	835	90
Other machinery and equipment	33	4,786	145,212	47,874	193,086	608	2,231	523	582	1,271	1,019	81
Miscellaneous manufacturing	34	2,793	45,135	23,009	68,144	196	832	137	150	482	363	43
Total manufacturing.		36,890	947,410	342,763	1,290,173	3,908	18,646	3,102	3,320	11,390	7,473	903
1969-70												
Food, beverages and tobacco	21-2	4,911	142,679	51,143	193,822	616	4,438	533	573	3,162	1,317	149
Textiles	23	902	33,269	26,591	59,860	170	769	158	166	465	311	41
Clothing and footwear	24	3,488	27,060	95,924	122,984	286	1,009	161	176	571	453	20
Wood, wood products and furniture	25	6,148	73,082	10,352	83,434	239	973	132	137	546	433	27
Paper and paper products, printing	26	3,523	77,179	29,511	106,690	367	1,388	174	198	713	699	86
Chemical, petroleum, and coal products	27	1,236	48,471	17,825	66,296	257	1,600	292	307	922	692	132
Non-metallic mineral products	28	1,858	47,964	5,249	53,213	200	834	106	117	439	406	67
Basic metal products	29	651	87,800	5,531	93,331	368	2,559	404	445	1,757	843	238
Fabricated metal products	31	5,080	99,135	22,589	121,724	404	1,516	253	277	866	675	55
Transport equipment	32	1,549	134,415	15,713	150,128	539	2,197	380	416	1,324	909	104
Other machinery and equipment	33	4,809	147,229	50,048	197,277	669	2,489	586	649	1,427	1,125	82
Miscellaneous manufacturing	34	2,862	45,935	23,843	69,778	220	929	150	168	547	400	41
Total manufacturing.		37,017	964,218	354,319	1,318,537	4,335	20,702	3,328	3,629	12,739	8,264	1,041

(a) Australian Standard Industrial Classification. assets less disposals.

(b) At end of June. Includes working proprietors.

(c) Outlay on fixed tangible

Employment

The statistics on the number of persons employed shown in the following table relates to working proprietors at end of June 1970 and employees on the payroll of the last pay period in June 1970, including those 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—MALES, FEMALES AND PERSONS EMPLOYED BY INDUSTRY SUB-DIVISION: STATES AND TERRITORIES, 1968-69 AND 1969-70

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
MALES EMPLOYED										
Food, beverages and tobacco	21-2	47,414	42,460	26,998	11,515	8,879	4,641	417	355	142,679
Textiles	23	11,167	17,125	998	1,639	598	1,729	(b)	(b)	33,269
Clothing and footwear	24	8,863	15,167	1,449	1,113	352	116	..	..	27,060
Wood, wood products and furniture	25	25,409	17,534	11,206	6,911	7,320	4,439	31	232	73,082
Paper and paper products, printing	26	29,724	25,216	6,926	5,275	4,176	4,771	96	995	77,179
Chemical, petroleum and coal products	27	21,477	17,032	2,710	2,883	2,944	1,399	(b)	(b)	48,471
Non-metallic mineral products	28	20,501	12,310	5,407	3,539	4,753	961	186	307	47,964
Basic metal products	29	55,738	10,486	3,752	9,630	4,174	4,001	(b)	(b)	87,800
Fabricated metal products	31	38,781	32,319	9,582	8,941	7,604	1,462	93	353	99,135
Transport equipment	32	42,480	49,469	11,427	25,295	4,586	1,060	(b)	(b)	134,415
Other machinery and equipment	33	66,218	51,649	7,464	15,419	5,546	816	12	105	147,229
Miscellaneous manufacturing	34	18,605	19,730	2,768	3,313	1,293	201	(b)	(b)	45,935
Total manufacturing	1969-70	386,377	310,497	90,687	95,473	52,225	25,596	947	2,416	964,218
	1968-69	380,471	303,437	90,905	93,328	50,901	25,346	861	2,161	947,410

FEMALES EMPLOYED										
Food, beverages and tobacco	21-2	17,173	15,924	7,055	4,604	3,928	2,258	89	112	51,143
Textiles	23	9,115	12,252	1,311	1,377	360	2,170	(b)	(b)	26,591
Clothing and footwear	24	35,938	49,367	5,673	3,076	1,617	253	..	..	95,924
Wood, wood products and furniture	25	3,651	2,624	1,659	1,025	1,064	306	3	20	10,352
Paper and paper products, printing	26	12,460	9,543	2,608	1,882	1,526	1,051	36	405	29,511
Chemical, petroleum and coal products	27	9,811	6,286	599	634	413	80	(b)	(b)	17,825
Non-metallic mineral products	28	2,132	1,826	289	375	523	78	8	18	5,249
Basic metal products	29	3,086	1,163	250	632	258	141	(b)	(b)	5,531
Fabricated metal products	31	10,210	7,532	1,519	1,888	1,120	261	12	47	22,589
Transport equipment	32	4,880	8,232	550	1,688	188	170	(b)	(b)	15,713
Other machinery and equipment	33	26,358	16,136	994	5,565	815	139	1	40	50,048
Miscellaneous manufacturing	34	11,005	9,696	886	1,665	563	23	(b)	(b)	23,843
Total manufacturing	1969-70	145,819	140,581	23,393	24,411	12,375	6,930	154	656	354,319
	1968-69	140,898	136,994	22,785	22,986	11,622	6,743	151	584	342,763

PERSONS EMPLOYED										
Food, beverages and tobacco	21-2	64,587	58,384	34,053	16,119	12,807	6,899	506	467	193,822
Textiles	23	20,282	29,377	2,309	3,016	958	3,899	(b)	(b)	59,860
Clothing and footwear	24	44,801	64,534	7,122	4,189	1,969	369	..	..	122,984
Wood, wood products and furniture	25	29,060	20,158	12,865	7,936	8,384	4,745	34	252	83,434
Paper and paper products, printing	26	42,184	34,759	9,534	7,157	5,702	5,822	132	1,400	106,690
Chemical, petroleum and coal products	27	31,288	23,318	3,309	3,517	3,357	1,479	(b)	(b)	66,296
Non-metallic mineral products	28	22,633	14,136	5,696	3,914	5,276	1,039	194	325	53,213
Basic metal products	29	58,824	11,649	4,002	10,262	4,432	4,142	(b)	(b)	93,331
Fabricated metal products	31	48,991	39,851	11,101	10,829	8,724	1,723	105	400	121,724
Transport equipment	32	47,360	57,701	11,977	26,983	4,774	1,230	(b)	(b)	150,128
Other machinery and equipment	33	92,576	67,785	8,458	20,984	6,361	955	13	145	197,277
Miscellaneous manufacturing	34	29,610	29,426	3,654	4,978	1,856	224	(b)	(b)	69,778
Total manufacturing	1969-70	532,196	451,078	114,080	119,884	64,600	32,526	1,101	3,072	1,318,537
	1968-69	521,369	440,431	113,690	116,314	62,523	32,089	1,012	2,745	1,290,173

(a) Australian Standard Industrial Classification. (b) Not available for publication.

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 not included.

**MANUFACTURING ESTABLISHMENTS—WAGES AND SALARIES BY
INDUSTRY SUB-DIVISION: STATES AND TERRITORIES, 1968-69 AND 1969-70**
(\$ million)

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Food, beverages and tobacco	21-2	208	200	96	47	40	20	1	2	616
Textiles	23	59	86	5	9	2	9	(b)	(b)	170
Clothing and footwear	24	102	157	13	9	4	1	..	..	286
Wood, wood products and furniture	25	87	60	33	21	23	13	..	1	239
Paper and paper products, printing	26	147	123	29	23	19	21	1	5	367
Chemical, petroleum and coal products	27	124	90	12	13	14	6	(b)	(b)	257
Non-metallic mineral products	28	86	54	20	15	19	4	1	1	200
Basic metal products	29	232	48	16	39	17	17	(b)	(b)	368
Fabricated metal products	31	166	137	33	33	28	5	..	2	404
Transport equipment	32	170	215	39	96	15	4	(b)	(b)	539
Other machinery and equip- ment	33	317	235	26	66	21	3	..	1	669
Miscellaneous manufacturing	34	94	97	9	15	4	..	(b)	(b)	220
Total manufacturing	1969-70	1,791	1,501	332	385	208	102	4	11	4,335
	1968-69	1,618	1,342	309	348	182	95	4	9	3,908

(a) Australian Standard Industrial Classification.

(b) Not available for publication.

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 the value of capital work done on own account. Rents, leasing revenue, interest (other than hire purchase), royalties and receipts from the sale of fixed tangible assets are excluded.

**MANUFACTURING ESTABLISHMENTS—TURNOVER, BY INDUSTRY SUB-DIVISION
STATES AND TERRITORIES, 1968-69 AND 1969-70**
(\$ million)

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Food, beverages and tobacco	21-2	1,342	1,598	781	313	252	135	10	8	4,438
Textiles	23	264	393	24	42	10	35	(b)	(b)	769
Clothing and footwear	24	369	565	38	26	9	2	..	..	1,009
Wood, wood products and furniture	25	354	242	127	97	93	57	..	3	973
Paper and paper products, printing	26	554	472	108	91	62	90	1	10	1,388
Chemical, petroleum and coal products	27	792	470	140	73	93	30	(b)	(b)	1,600
Non-metallic mineral products	28	333	222	89	68	90	18	4	9	834
Basic metal products	29	1,487	275	264	256	138	139	(b)	(b)	2,559
Fabricated metal products	31	608	505	135	125	115	22	2	4	1,516
Transport equipment	32	606	945	177	388	71	10	(b)	(b)	2,197
Other machinery and equip- ment	33	1,185	887	105	227	76	8	..	1	2,489
Miscellaneous manufacturing	34	385	424	45	55	15	1	(b)	(b)	929
Total manufacturing	1969-70	8,279	6,998	2,034	1,761	1,028	546	19	37	20,702
	1968-69	7,399	6,336	1,869	1,584	920	487	20	31	18,646

(a) Australian Standard Industrial Classification.

(b) Not available for publication.

Purchases, transfers in and selected expenses

The following table gives details of the value of purchases, transfers in and selected expenses. Figures include purchases of materials, fuel, power, containers, etc., 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 and sales commission payments.

MANUFACTURING ESTABLISHMENTS—PURCHASES, TRANSFERS IN AND SELECTED EXPENSES, BY INDUSTRY SUB-DIVISION: STATES AND TERRITORIES, 1968-69 AND 1969-70 (\$ million)

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Food, beverages and tobacco	21-2	929	1,176	566	216	174	89	7	5	3,162
Textiles	23	160	237	15	29	6	18	(b)	(b)	465
Clothing and footwear	24	212	322	19	13	4	1	..	..	571
Wood, wood products and furniture	25	201	137	69	56	48	32	..	2	546
Paper and paper products, printing	26	285	249	54	42	29	50	..	3	713
Chemical, petroleum and coal products	27	445	266	95	43	55	17	(b)	(b)	922
Non-metallic mineral products	28	176	119	45	36	46	8	3	6	439
Basic metal products	29	1,004	197	201	182	93	79	(b)	(b)	1,757
Fabricated metal products	31	347	288	78	71	66	13	1	2	866
Transport equipment	32	345	573	114	240	47	4	(b)	(b)	1,324
Other machinery and equipment	33	686	505	61	124	46	4	..	..	1,427
Miscellaneous manufacturing	34	224	253	27	31	8	1	(b)	(b)	547
Total manufacturing	1969-70	5,013	4,322	1,346	1,083	626	317	12	19	12,739
	1968-69	4,440	3,860	1,225	970	564	302	11	17	11,390

(a) Australian Standard Industrial Classification. (b) Not available for publication.

Stocks

Statistics on the value of opening and closing stocks at 30 June are shown in the following table. Figures include all the stocks of materials, fuels, etc., and finished goods and work-in-progress of the establishment whether located at the establishment or elsewhere.

MANUFACTURING ESTABLISHMENTS—OPENING AND CLOSING STOCKS 1968-69 AND 1969-70, BY INDUSTRY SUB-DIVISION: STATES AND TERRITORIES (\$ million)

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
OPENING STOCKS AT 1 JULY 1969										
Food, beverages and tobacco	21-2	171	209	61	50	19	21	1	..	533
Textiles	23	57	76	4	8	2	11	(b)	(b)	158
Clothing and footwear	24	59	89	8	4	1	..	..	..	161
Wood, wood products and furniture	25	41	32	17	15	14	13	..	..	132
Paper and paper products, printing	26	65	63	14	9	7	13	..	2	174
Chemical, petroleum and coal products	27	143	92	20	12	19	6	(b)	(b)	292
Non-metallic mineral products	28	49	26	11	8	8	2	..	..	106
Basic metal products	29	217	40	45	53	23	25	(b)	(b)	404
Fabricated metal products	31	101	90	22	19	16	4	..	1	253
Transport equipment	32	106	174	23	66	7	2	(b)	(b)	380
Other machinery and equipment	33	267	233	21	48	16	1	..	..	586
Miscellaneous manufacturing	34	60	72	7	8	2	..	(b)	(b)	150
Total manufacturing		1,336	1,197	255	301	135	99	2	4	3,328

CLOSING STOCKS AT 30 JUNE 1970

Food, beverages and tobacco	21-2	183	225	65	56	20	23	2	..	573
Textiles	23	58	80	5	9	2	11	(b)	(b)	166
Clothing and footwear	24	65	96	8	5	1	..	..	..	176
Wood, wood products and furniture	25	44	33	18	14	14	13	..	..	137
Paper and paper products, printing	26	75	73	17	10	8	14	..	2	198
Chemical, petroleum and coal products	27	150	99	21	12	19	6	(b)	(b)	307
Non-metallic mineral products	28	53	28	13	9	11	2	..	..	117
Basic metal products	29	226	42	66	59	29	23	(b)	(b)	445
Fabricated metal products	31	110	99	22	24	18	4	..	1	277
Transport equipment	32	122	180	26	75	10	3	(b)	(b)	416
Other machinery and equipment	33	296	261	20	53	18	2	..	..	649
Miscellaneous manufacturing	34	68	78	9	9	3	..	(b)	(b)	168
Total manufacturing		1,448	1,293	290	336	153	101	3	3	3,629

Opening and Closing Stocks 1968-69

Opening stocks 1 July 1968		1,244	1,128	237	274	120	95	2	3	3,102
Closing stocks 30 June 1969		1,323	1,195	254	302	133	105	2	4	3,320

(a) Australian Standard Industrial Classification. (b) Not available for publication.

Value added

The statistics on value added contained in the following table have been calculated by adding to the value of turnover the increase (or deducting the decrease) in the value of stocks, and deducting the value of purchases, transfers in and selected expenses. A more detailed description of the method of deriving value added is given on page 721.

**MANUFACTURING ESTABLISHMENTS—VALUE ADDED, BY INDUSTRY SUB-DIVISION
STATES AND TERRITORIES, 1968-69 AND 1969-70**

(\$ million)

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Food, beverages and tobacco	21-2	425	438	218	104	78	47	4	3	1,317
Textiles	23	105	161	9	15	5	17	(b)	(b)	311
Clothing and footwear	24	164	250	19	13	5	1	..	..	453
Wood, wood products and furniture	25	156	106	59	41	45	25	..	2	433
Paper and paper products, printing	26	278	233	57	49	34	41	1	6	699
Chemical, petroleum and coal products	27	354	210	46	30	38	13	(b)	(b)	692
Non-metallic mineral products	28	161	105	46	33	47	10	3	3	406
Basic metal products	29	493	79	84	79	52	57	(b)	(b)	843
Fabricated metal products	31	269	226	58	59	50	9	1	2	675
Transport equipment	32	276	378	66	157	26	6	(b)	(b)	909
Other machinery and equipment	33	528	409	43	109	32	4	..	..	1,125
Miscellaneous manufacturing	34	169	177	20	25	8	1	(b)	(b)	400
Total manufacturing	1969-70	3,378	2,773	724	714	419	231	8	17	8,264
	1968-69	3,041	2,541	660	643	368	195	10	15	7,473

(a) Australian Standard Industrial Classification. (b) Not available for publication.

Number of establishments

The following table shows the number of establishments, in each State, which operated during the year 1969-70. These 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 OPERATING
DURING 1968-69 AND 1969-70 BY INDUSTRY SUB-DIVISION: STATES AND TERRITORIES**

Industry sub-division	ASIC code	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Food, beverages and tobacco	21-2	1,466	1,361	878	508	468	196	22	12	4,911
Textiles	23	357	383	56	50	35	20	(a)	(a)	902
Clothing and footwear	24	1,377	1,728	178	117	75	13	..	..	3,488
Wood, wood products and furniture	25	2,022	1,558	968	539	607	417	5	32	6,148
Paper and paper products, printing	26	1,476	1,209	299	251	199	60	4	25	3,523
Chemical, petroleum and coal products	27	586	376	84	91	78	17	(a)	(a)	1,236
Non-metallic mineral products	28	686	462	225	186	218	52	16	13	1,858
Basic metal products	29	254	215	65	68	33	15	(a)	(a)	651
Fabricated metal products	31	1,973	1,557	521	457	449	88	15	20	5,080
Transport equipment	32	554	455	179	182	150	26	(a)	(a)	1,549
Other machinery and equipment	33	2,137	1,594	308	414	285	60	3	8	4,809
Miscellaneous manufacturing	34	1,172	1,019	216	240	190	24	(a)	(a)	2,862
Total manufacturing	1969-70	14,060	11,917	3,977	3,103	2,787	988	69	116	37,017
	1968-69	13,975	11,829	4,103	3,085	2,713	997	73	115	36,890

(a) Not available for publication.

Electricity and gas establishments

As mentioned on page 719, the electricity and gas industries, which were previously included in the Annual Factory Census, have been the subject of separate censuses as from 1968-69. In addition the electricity and gas census has been extended to cover distribution as well as production. The following tables show statistics for each State and Territory, and for Australia for the years 1968-69 and 1969-70.

For electricity and gas, the basic census unit is an exception to the general concept of the standardised unit. Because of the nature of the activities of electricity and gas undertakings, the single operating location basis is not suitable. The establishment unit used consists of all locations, including administrative offices and ancillary units, mainly concerned with the production and/or distribution of electricity or gas, operated by the undertaking in the one State. The use of this concept

is one of the reasons for the number of electricity and gas establishments since 1968-69 being considerably less than in previous years. The other main reason is that until 1967-68, a number of electricity generating stations operated by enterprises principally for their own use were included. However, as from 1968-69, these generating stations have been included in the electricity census only if sales and transfers of electricity exceeded \$100,000 in value.

ELECTRICITY AND GAS ESTABLISHMENTS(a), SUMMARY OF OPERATIONS
STATES AND TERRITORIES, 1968-69 AND 1969-70

State or Territory	Number of establishments operating during year	Persons employed(b)			Wages and salaries (\$m)	Turnover (c) (\$m)	Stocks at 30 June		Purchases, transfers in and selected expenses (\$m)	Value added (\$m)	Fixed capital expenditure(d) (\$m)
		Males (No.)	Females (No.)	Total (No.)			Opening (\$m)	Closing (\$m)			
1968-69											
New South Wales—											
Electricity . . .	51	23,942	2,334	26,276	107	532	41	45	255	282	157
Gas . . .	34	2,991	493	3,484	13	44	3	3	18	26	5
Victoria—											
Electricity . . .	15	13,784	1,339	15,123	62	273	21	21	90	183	107
Gas . . .	8	3,804	556	4,360	17	54	5	6	15	40	21
Queensland—											
Electricity . . .	23	6,971	438	7,409	27	149	10	11	60	90	57
Gas . . .	7	648	118	766	2	9	1	1	3	6	1
South Australia—											
Electricity . . .	19	5,631	204	5,835	21	84	6	7	30	54	22
Gas . . .											
Western Australia—											
Electricity . . .	59	3,447	264	3,711	13	51	5	6	15	37	28
Gas . . .											
Tasmania—											
Electricity . . .	5	2,432	194	2,626	11	35	5	5	1	33	4
Gas . . .											
Northern Territory—											
Electricity . . .	5	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
Gas . . .											
Australian Capital Territory—											
Electricity . . .	1	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
Gas . . .											
Australia—											
Electricity . . .	171	55,476	4,690	60,166	238	1,123	87	94	453	677	374
Gas . . .	56	8,873	1,309	10,182	37	123	10	11	42	82	30
1969-70											
New South Wales—											
Electricity . . .	51	23,628	2,358	25,986	113	580	45	47	274	308	165
Gas . . .	34	2,769	502	3,271	12	44	3	3	18	27	2
Victoria—											
Electricity . . .	14	13,558	1,311	14,869	64	289	21	23	94	197	96
Gas . . .	8	3,447	574	4,021	19	57	6	5	17	39	20
Queensland—											
Electricity . . .	21	7,337	566	7,903	29	158	11	11	63	94	52
Gas . . .	7	592	115	707	2	10	1	1	4	6	1
South Australia—											
Electricity . . .	17	5,576	185	5,761	23	91	7	6	26	64	25
Gas . . .											
Western Australia—											
Electricity . . .	57	3,598	291	3,889	15	62	6	7	18	44	39
Gas . . .											
Tasmania—											
Electricity . . .	6	2,552	202	2,754	12	39	5	5	1	39	2
Gas . . .											
Northern Territory—											
Electricity . . .	6	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
Gas . . .											
Australian Capital Territory—											
Electricity . . .	1	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)	(e)
Gas . . .											
Australia—											
Electricity . . .	167	55,330	4,865	60,195	252	1,213	94	99	477	740	383
Gas . . .	55	8,338	1,312	9,650	39	129	11	10	44	84	26

(a) Covers production and distribution. (b) At end of June. Includes working proprietors. (c) In some States electricity is produced by certain undertakings and sold to other undertakings for distribution. In these States sales of electricity are duplicated due to the inclusion of the bulk sales to these distributors. (d) Outlay on fixed tangible assets less disposals. (e) Not available for publication. Included in total for Australia.

Principal factory products

The factory production of certain commodities is shown in the monthly and quarterly publications of this Bureau, in the series *Manufacturing Industries*, and in the bulletin *Manufacturing Commodities*, formerly *Secondary Industries, Part II.—Materials Used and Articles Produced in Factories*.

The following table shows the total recorded production of some of the principal articles (i.e. of those for which production can be represented in quantitative terms) manufactured in Australia. A more complete list, where available, is published in the aforementioned bulletin and in the mimeographed statement *Principal Manufacturing Commodities*.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING
ESTABLISHMENTS: AUSTRALIA 1966-67 TO 1969-70

Commodity code	Article	1966-67 (a)	1967-68 (a)	1968-69	1969-70p	
	Acid (in terms of 100%)—					
401.29	Hydrochloric	tons	n.a.	n.a.	35,320	35,483
401.37	Nitric	"	31,009	35,033	65,039	124,725
401.57	Sulphuric	'000 tons	1,991	1,892	1,853	1,752
171.03, 05	Aerated and carbonated waters	'000 gal	112,937	126,933	133,676	142,556
	Air-conditioning equipment—					
657.03, 05	Room air conditioners (refrigerated)	No.	22,217	30,509	49,980	39,266
657.13, 15	Room air coolers (evaporative coolers)	"	10,414	18,363	(b)	(b)
657.21, 22, 23	Package unit air conditioners	"	3,491	4,654	8,115	7,202
475.04, 06, 07, 85	Asbestos cement building sheets (finished)	'000 sq yd	32,609	36,251	38,049	42,120
	Bags, leather, fibre, etc.—					
	Handbags—					
864.31	Leather	No.	501,762	492,736	448,197	
864.33	Plastic	'000	1,938	2,294	2,442	
864.39	Other	No.	392,798	396,281	491,402	
946.01-52	Hessian and calico bags	'000 doz	3,808	3,973	3,697	
864.11-19	Suitcases, kitbags and trunks	'000	1,551	1,592	(b)	
864.41-49	All other(c)	"	2,057	1,988	2,002	
	Bath heaters—					
652.01	Electric	No.	11,701	11,777	10,055	7,629
652.03, 04	Gas	"	9,026	8,468	6,270	5,584
652.05	Solid fuel	"	12,446	11,820	9,584	5,033
779.02-55	Bathing suits	doz	301,723	299,825	354,445	326,326
	Baths—					
671.01	C.I.P.E.	No.	74,489	74,527		
671.03-08	Other	"	79,987	87,419	159,994	180,888
	Batteries, wet cell type—					
685.13, 15	Auto (S.L.I.) 6 volts	'000	481	465	330	420
685.17, 19	Auto (S.L.I.) 12 volts	"	1,488	1,653	1,718	1,824
685.33, 35	Radio, home lighter, fencer	No. of 2 volt cells	117,445	106,525	91,851	76,357
685.43-65	Traction, plant and other	"	99,537	70,518	92,332	136,341
172.02, 04, 06	Beer (excluding waste beer)	'000 gal	293,714	309,775	326,623	341,205
064.21	Biscuits	'000 lb	230,118	233,383	233,672	243,387
372.52-66	Blankets	'000	1,725	1,654	1,582	1,699
	Boots and shoes (see Footwear)					
152.02	Bran (wheaten)	tons (2,000 lb)	202,183	195,862	184,004	181,332
172.21	Brandy	'000 proof gal	791	872	1,096	
777.41, 49	Brassieres	doz	792,015	815,130	765,065	840,543
064.03-13	Bread (2 lb loaf equivalent)	'000	802,936	805,679	790,617	
066.01-31	Breakfast food, cereal (ready to eat)	cwt	900,231	935,523	967,728	992,837
472.01, 03	Bricks, clay	million	1,361	1,440	1,612	1,697
261.41	Briquettes, brown coal	'000 tons	1,820	1,745	1,471	1,539
051.31	Butter	'000 lb	489,217	432,313	439,220	494,206
773.51, 71, 81	Cardigans, sweaters, etc.	'000 doz	1,436	1,378	1,345	1,410
474.02	Cement, Portland	'000 tons	3,661	3,805	4,075	4,439
051.36-46	Cheese (green weight)	'000 lb	153,834	155,385	164,837	168,219
183.02, 11	Cigarettes and cigars	"	50,384	51,517	55,050	(f)65,500
	Cloth (including mixtures)—					
373.10-52	Cotton(d)	'000 sq yd	57,573	59,043	56,715	57,075
374.02-16	Rayon and acetate	"	35,692	37,226	36,199	34,887
374.20-34	Synthetic (non-cellulosic)	"	23,530	27,904	32,193	37,431
372.02-50	Wool	"	30,635	32,599	32,036	32,323
	Coke—					
435.22	Metallurgical	'000 tons	3,365	3,678	3,647	3,994
435.12	Other	tons	551,326	507,253	404,887	
475.90	Concrete, ready mixed	'000 cu yd	7,000	7,955	8,712	
	Confectionery—					
104.02-18	Chocolate	'000 lb	104,934	98,984	108,506	102,788
104.21-29	Other	"	111,796	112,848	114,237	123,315
452.04	Copper, refined(e)	tons	74,313	72,166	94,786	
	Coppers (wash boilers)—					
653.31	Electric	No.	8,011	9,462	6,935	
653.33, 34	Gas	"	4,949	6,464	5,195	
653.51	Inserts	"	9,047	(b)	7,203	

(a) Excludes Northern Territory and Australian Capital Territory. (b) Not available for publication.
(c) Excludes canvas water bags. (d) Excludes tyre-cord fabric. (e) Primary origin only. (f) Includes tobacco.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA, 1966-67 TO 1969-70—continued

Commodity code	Article		1966-67 (a)	1967-68 (a)	1968-69	1969-70 ^b
171.06, 10	Cordials and syrups	'000 gal	9,160	9,776	10,459	10,974
777.01-29	Corsets and corselets	doz	393,231	418,145	367,287	343,547
611.01	Cycles (complete)	No.	69,365	90,671	98,971	127,385
804.01	Dentifrices (toothpaste)	'000 lb	10,773	10,324	11,424	
	Electric generators—					
503.06	Non-automotive—Alternating current	No.	1,763	2,111	3,013	
503.08	Direct current	"	708	632	438	
499.42, 44	Electricity	mil. kWh	41,484	44,531	48,901	53,827
523.76-78	Electrodes for manual welding	'000 lb	45,705	45,180	48,833	50,461
502.22-39	Engines, internal combustion(c)	'000	288	258	293	363
	Essences, flavouring—					
139.31	Domestic	gal	100,460	90,861	104,407	
139.35	Industrial	"	733,289	840,894	856,007	
802.11, 12	Face powder	lb	376,236	298,233	353,396	
696.01, 03, 05	Fans, electric	No.	321,600	360,346	426,080	426,696
045.01, 51	Fish, canned (including fish loaf)	'000 lb	13,713	17,403	14,880	15,619
	Floorboards—					
332.06	Australian timber	'000 super ft	154,286	151,812	164,991	
332.08	Imported timber	"	324	463	579	
	Floor coverings—					
841.01-07	Textile	'000 sq yd	12,624	12,758	16,170	18,343
841.31-41,	Smooth surface	"	12,150	14,524	13,496	14,574
841.54-68						
841.85	Underfelts, underlays, etc.	"	(d)14,802	(d)16,613	(d)18,485	(d)20,273
692.22	Floor polishers, electric	No.	88,840	72,657	53,382	52,988
	Flour—					
068.01	Self-raising	'000 cwt	832	804	837	
062.01, 10, 32	Wheaten(e)	'000 tons (2,000 lb)	1,392	1,419	1,398	1,408
	Footwear (not rubber)—					
791	Boots, shoes and sandals	'000 pairs	37,080	38,076	38,391	38,014
	Slippers	"	4,454	4,298	3,972	3,818
	Fruit juices, natural—					
074.61-79	Single strength	'000 gal	9,798	8,779	12,967	
074.76, 82, 89	Concentrated(f)	"	1,236	1,047	1,794	
434.09	Gas (town)	mil. cubic ft	56,743	58,070	(g)62,214	
	Gloves—					
781.01, 03	Dress	doz pairs	27,761	30,913	25,604	(b)
	Work—					
781.06, 07, 31	Sewn(h)	'000 doz pairs	358	371	2,556	2,324
781.11-29	Dipped	"	1,343	1,539	69,258	72,769
127.21	Glucose	'000 lb	65,422	61,945	39,006	41,914
832.58, 59	Golf clubs	doz	40,680	38,082		
	Handkerchiefs—					
786.01	Men's	'000 doz	1,664	1,971	1,910	
786.11	Women's	"	1,371	1,205	1,314	
	Heaters, room—					
651.01, 03	Solid fuel	No.	31,606	24,558	23,104	16,094
651.11-17	Radiators and electric fires	"	600,294	623,950	803,475	714,172
651.21, 22, 26, 27	Gas fires and space heaters, domestic	"	38,764	38,268	58,457	49,855
281.04	Ice	tons	190,274	187,306	139,791	
051.61	Ice cream	'000 gal	34,974	37,423	38,737	41,950
051.87, 89	Infants' and invalids' milk-based health beverages(j)	'000 lb	49,348	48,234	54,448	56,459
	Ink, printing—					
419.31	News	"	16,190	17,401	18,751	
419.43-59	Other	"	14,782	15,440	(b)	
	Iron and steel—					
442.04, 08	Pig iron	'000 tons	4,893	5,209	5,722	5,983
442.10-19	Steel ingots, open hearth and electric	"	6,114	6,287	(j)6,599	6,874
442.28	Blooms and slabs	"	4,978	5,372	(k)5,749	5,894
693.51, 61, 63	Irons, electric (hand, domestic)	No.	507,882	465,501	550,916	581,347
076.60	Jams (including conserves, jellies, etc.)	'000 lb	90,761	83,917	92,150	80,116
391.04	Lard	"	6,670	6,475	10,956	
	Lawn mowers—					
699.52, 53	Petrol, rotary	No.	219,826	184,908	208,562	270,749
699.41, 45, 55, 61	Other types(l)	"	11,235	11,688	19,115	21,150
453.04	Lead refined(m)	tons	192,429	186,908	175,664	185,366

(a) Excludes Northern Territory and Australian Capital Territory. (b) Not available for publication. (c) Petrol and diesel. Excludes car, motor cycle, truck, tractor, aero, and marine engines. (d) New basis—Needled (or bonded) felts of jute or jute/hair mixtures (for all purposes) as from July 1966. (e) Includes wheatmeal for baking and sharps and other flour. (f) Excludes grape must. (g) Includes natural gas. (h) Excludes fabric liners for dipped gloves but includes moulded or heat sealed work gloves. (i) Includes malted milk and milk sugar (lactose). (j) Including semi-permanent mould castings, investment casting and diecasting of iron and steel. (k) Year ended 31 May. (l) Petrol cylinder, electric and hand. (m) Includes lead content of lead only from primary sources, but excludes lead-silver bullion produced for export.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING
ESTABLISHMENTS: AUSTRALIA, 1966-67 TO 1969-70—continued

Commodity code	Article		1966-67 (a)	1967-68 (a)	1968-69	1969-70 ^b
	Leather—					
	Dressed or finished—					
301.43-65	Chrome tanned (including retanned)	'000 sq ft	71,953	72,214	74,617	
301.31-37, 83-89	Vegetable tanned, by weight	'000 lb	12,883	11,296	10,573	
301.67, 69	Vegetable tanned, by measurement	'000 sq ft	4,009	3,303	3,174	
311.08, 14, 18	Tanned or dressed skins with hair or wool retained	doz	82,018	110,381	115,143	
	Lime—					
275.43, 45	Crushed	tons	249,807	253,755	181,513	
479.18	Hydrated	"	97,544	95,539	(b)	
479.12	Quick	"	155,173	179,536	(b)	
802.21	Lipstick	lb	74,842	72,323	116,734	
063.11-31	Malt (excluding extract)	'000 bushel	14,239	13,776	14,103	14,428
	Margarine—					
121.01	Table	'000 lb	48,356	35,576	34,393	36,709
121.06, 08	Other	"	76,138	89,285	97,032	89,815
	Mattresses and bed bases—					
844.01	Box spring	No.	100,362	118,883	143,874	167,128
844.21	Inner spring	"	682,587	659,452	656,922	716,634
844.11	Woven wire, link mesh and spring	"	638,726	626,534	722,629	674,937
844.41, 51, 61	Other	"	302,882	304,533	291,361	318,207
027.02-76	Meat, canned(c)	'000 lb	100,849	106,957	96,338	103,252
	Meters—					
702.01	Electric (domestic)(d)	No.	296,571	304,905	295,999	315,249
703.01	Gas	"	37,884	37,831	60,893	64,434
703.11	Water	"	146,915	148,839	143,912	174,537
	Milk, condensed, concentrated and evaporated—					
051.21, 22	Full cream, sweetened	'000 lb	61,510	47,316	40,439	36,551
051.24, 25, 26, 27	Full cream, unsweetened	"	91,700	87,946	98,658	120,893
051.28	Skim	"	24,974	18,932	19,670	40,146
	Milk powder—					
051.72, 73	Full cream	"	48,018	47,272	54,424	50,585
051.76-79	Skim	"	188,584	196,029	156,230	208,893
051.81, 82	Buttermilk or mixed skim and buttermilk	"	32,518	33,592	33,859	40,675
503.17-32	Motors, electric	'000	2,667	2,911	3,203	3,155
	Motor vehicles, finished—					
581.02-08	Cars	No.	238,720	270,963	288,104	339,133
581.10-16	Station wagons	"	57,534	59,047	53,788	54,998
582.04	Utilities	"	33,909	31,174	33,971	37,416
582.06	Panel vans	"	14,013	14,687	15,726	18,610
582.08-24	Truck and truck-type vehicles	"	768	1,137	1,664	1,000
	Motor vehicles, partly finished—					
581.22-28	Cars, station wagons, utilities, vans	"	1,381	1,663	1,397	1,663
582.31, 32	Trucks and truck-type vehicles	"	21,747	21,857	25,168	26,724
582.33-46	Motor vehicle safety belts	"	835,162	962,851	984,640	
465.16, 17	Nails	tons	23,830	22,925	23,243	
782.03, 04	Neckties	doz	490,677	473,503	439,102	
	Oatmeal and rolled oats—					
062.61, 63	For porridge, etc.	cwt	340,781	314,319	309,476	295,835
062.65	Other	"	308,712	116,034	(b)	
393.08-90, 394.01-54	Oils, vegetable, crude	'000 lb	84,519	95,033	94,962	106,961
	Paints, etc.—					
412.02-20	Paints (not water) and enamels ready for use	'000 gal	16,037	16,473	16,795	17,858
412.28	Paints (not water) in paste form	'000 lb	2,589	2,238	1,888	1,949
412.22, 24	Lacquers (nitro-cellulose)	'000 gal	1,427	1,427	1,481	1,446
412.32	Tinting colours, packaged ready for sale	"	57	68	79	97
412.54	Stains and clear varnishes packaged ready for sale	"	913	875	933	1,063
	Water paints—					
412.42, 44, 46	Emulsion type	"	4,193	4,357	4,428	4,912
412.48, 50	In powder form	'000 lb	870	745	776	673
412.64, 66	Thinners	'000 gal	4,031	4,233	4,327	4,594
	Paper—					
351.11	Newsprint	tons	97,255	92,648	123,935	170,576
351.17-79	Other	"	389,223	385,567	440,153	484,793
352.11-33	Paperboard	"	329,496	334,660	342,403	378,894
975.04, 09, 11	Perambulators, pushers and strollers	No.	133,018	139,082	148,715	157,638
	Petrol—					
431.12	For blending and refining	million gal	1,832	50	(b)	
431.04, 08, 20	Other (all types)	"		1,911	1,983	
479.22	Plaster of paris	tons	261,054	278,225	281,737	302,568
479.32, 33	Plaster sheets	'000 sq yd	30,601	32,809	35,310	39,594
334.32, 34, 36, 38	Plywood, $\frac{1}{8}$ inch basis	'000 sq ft	200,451	230,018	228,581	
152.06	Pollard	tons (2,000 lb)	284,628	305,468	311,960	312,485

(a) Excludes Northern Territory and Australian Capital Territory. (b) Not available for publication. (c) Excludes poultry and baby food. (d) New basis—electricity consumption meters from 1 July 1965.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA, 1966-67 TO 1969-70—continued

Commodity code	Article	1966-67 (a)	1967-68 (a)	1968-69	1969-70p
	Preserves—				
	Fruit				
076.01-50	Canned or bottled	'000 lb 611,552	659,700	511,970	677,067
074.01	Pulp and puree—single strength	'000 cwt 51	44	77	
	Vegetables—				
094.02-49	Canned or bottled	'000 lb 194,834	182,051	191,857	204,257
092.02, 06, 19	Quick frozen	" 118,216	100,862	142,790	169,820
	Pyjamas—				
774.21, 23	Men's and boys' (suits only)	doz 422,640	420,563	435,920	473,957
774.51-58	Women's and girl's (incl. nightdresses)	" 722,519	746,779	719,358	762,334
832.65, 85	Racquet frames (all types)	" 16,866	15,798	16,802	16,663
643.01, 03, 15-37	Radio receiving sets (including radiograms)	No. 445,766	522,394	676,312	721,501
	Records (Phonograph)—				
646.32, 35, 62, 65	Single play (78 and 45 rpm)	'000 4,727	5,296	7,080	6,856
646.37, 41, 51, 67, 71, 81, 646.43, 45, 53, 55, 73, 75, 83, 85, 657.32, 41, 53	Extended play	" 2,103	1,869	1,601	1,422
	Long play	" 6,714	6,847	9,512	10,476
403.404	Refrigerators, domestic	No. 232,200	245,138	(b)289,907	247,158
061.67, 69	Resins, plastic and synthetic, for all purposes	'000 cwt 2,854	3,349	3,883	3,814
369.11	Rice, polished, unpolished and broken	" 2,373	(c)	3,302	
372.70, 72, 374.59	Ropes and cables (excluding wire)	cwt 130,845	117,670	(c)	(c)
	Rugs	'000 191	170	184	
123.18-25	Sauce	'000 pints 42,213	43,692	41,655	
062.04	Semolina	tons (2,000 lb) 20,777	24,287	24,555	23,957
773.02-31	Shirts (men's and boys')	'000 doz 2,214	2,226	2,367	2,544
653.01	Sink heaters, electric	No. 10,174	9,941	9,473	8,580
671.14	Sinks, steel	" 226,076	212,752	220,376	248,825
805.01-13	Soap, for personal toilet use	'000 cwt 483	500	502	524
	Socks and stockings—				
775.51-82	Men's and youths'	'000 doz pairs 1,815	1,910	1,902	1,951
775.01-39	Women's and maids'	" 4,971	5,600	5,820	6,099
775.91-776.42	Children's and infants'	" 1,045	1,004	1,097	1,132
	Soup—				
122.02, 09	Canned	'000 pints 78,985	67,201	71,413	74,160
122.13, 15	Dry-mix	'000 lb 8,803	9,127	9,141	
127.11-19	Starch	" 165,563	183,800	204,105	232,721
401.53	Stearine (stearic acid)	" 10,722	11,780	12,890	
461.20	Steel, constructional, fabricated	tons 547,258	558,591	539,218	
	Stoves, ovens and ranges, domestic cooking—				
661.01-11	Electric(d)	No. 192,655	193,627	210,804	222,613
661.31-42	Gas(e)	" 75,482	73,127	84,614	83,318
662.01, 03	Solid fuel	" 18,785	14,921	13,119	10,213
	Sugar—				
102.01, 02	Raw (94 net titre)	'000 tons 2,343	2,334	2,643	
102.11	Refined	" 613	614	643	
405.36	Sulphate of ammonia	tons 110,246	87,007	93,589	114,085
415.07	Superphosphate	'000 tons (f)4,430	(f)3,935	(g)3,879	(g)3,598
803.61	Talcum powder	'000 lb 8,134	8,975	9,510	
	Tallow (including dripping), rendering—				
391.14, 16	Edible	" 150,789	148,099	164,278	
391.24	Inedible	" 351,588	353,901	357,343	
643.51-68	Television sets	No. 254,811	253,247	283,398	321,740
645.52-66	Television picture tubes	" 368,517	342,159	394,942	404,501
	Tiles, roofing—				
475.30	Cement	'000 88,509	96,831	116,227	130,761
472.12	Terracotta	" 47,101	46,972	49,956	52,768
	Timber—				
331.01-07	From native logs—				
331.09-19	Hardwood, etc.	'000 super ft 1,143,814	1,165,376	(c)	
331.23, 25	Softwood	" 317,591	307,683	(c)	
661.21, 23	From imported logs	" 25,771	32,379	(c)	
183.02-28	Toasters, electric (domestic)	No. 366,972	331,717	392,321	374,766
094.51	Tobacco	'000 lb 7,595	7,463	7,314	
094.53	Tomato juice	'000 gal 2,627	2,463	2,114	1,930
094.57	" paste and puree	'000 pints 22,776	11,546	13,663	
373.58-64	" pulp	'000 cwt 181	193	127	
671.51-59	Towels	'000 doz 892	892	823	895
683.03-11	Toilet cisterns	No. 352,791	370,346	398,751	459,759
	Transformers, chokes and ballasts, for distribution of power and light, etc.	" 16,823	15,892	16,106	16,285
622.01-07, 19	Tubes, pneumatic(h)	'000 4,211	4,528	4,676	
369.21-27	Twine (all types)	cwt 248,825	185,966	(c)	
621.31-37	Tyres, pneumatic(h)	'000 5,930	6,887	(j)7,400	(j)8,031
863.01	Umbrellas, street and general purpose	No. 825,032	930,266	611,490	
774.01-18, 41-47, 60, 62, 91-97	Underwear, (men's, women's, children's)	'000 doz 6,179	6,624	(j)6,252	(j)6,270

(a) Excludes Northern Territory and Australian Capital Territory. (b) Code 657.53 not collected prior to July 1968. (c) Not available for publication. (d) Includes wall ovens but excludes cooking tops and portable units. (e) Upright and elevated (with ovens) including wall ovens, but excluding hotplates, stovettes, etc. (f) Excludes ammonium phosphate. (g) Source: Department of Primary Industry, includes ammonium phosphate. (h) Excludes bicycle tubes and tyres. (i) Excludes Code 621.35. (j) Excludes Codes 774.16 and 774.18.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING
ESTABLISHMENTS: AUSTRALIA, 1966-67 TO 1969-70—continued

Commodity code	Article		1966-67 (a)	1967-68 (a)	1968-69	1969-70 ^p
692.01	Vacuum cleaners (domestic)	No.	156,307	163,613	151,532	156,213
	Wash basins—					
671.31	C.I.P.E.	No.	58,040	52,919	44,631	(b)
671.37	Earthenware	"	146,546	159,480	184,625	230,809
671.33-35	Pressed steel	"	78,893	91,796	97,685	97,990
693.02-18	Washing machines, household, electric	"	231,601	278,348	302,532	316,213
	Weatherboards—					
332.12	Australian timber	'000 super ft	19,025	18,799	14,564	
322.14	Imported timber	"	1,857	2,175	1,917	
152.14	Wheatmeal for stock feed	tons (2,000 lb)	228,872	283,589	202,913	218,584
519.01	Wheelbarrows (metal)	No.	123,291	118,797	109,156	
	Wine, beverage—					
172.42	Fortified	'000 gal	12,401	11,534	12,447	
172.46	Unfortified	"	12,020	14,562	16,401	
341.31-45	Wood pulp	tons	357,665	351,268	410,933	513,581
242.07-11	Wool, scoured or carbonised	'000 lb	154,119	157,860	155,882	161,706
242.32	Wool tops, pure	"	44,535	42,439	43,538	41,657
	Yarn (including mixtures)—					
364.11-50	Cotton	"	60,792	60,849	61,114	64,558
363.47-75	Woollen	"	32,641	34,596	35,672	39,621
363.17-31	Wool worsted	"	18,781	18,896	18,364	18,800
365.38-66	Rayon and acetate, spun	"	6,771	9,213	10,996	12,145
365.90, 366.03 04, 16, 29, 30, 42, 55, 56, 88, 96, 97	Synthetic (non-cellulosic) fibres spun	"	8,843	9,543	10,408	11,692
457.04	Zinc, refined(c)	tons	197,030	187,565	228,198	257,674

(a) Excludes Northern Territory and Australian Capital Territory. (b) Not available for publication. (c) Primary origin only includes small quantities of zinc dust.