

## 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 1973, 925 laboratories held NATA registration. A further 41 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 Year Book, No. 57, pages 721-9 and earlier issues.

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

Year	Fac- tories	Employ- ment(b)	Value of—					
			Salaries and wages paid(c)	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 736. 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. merchandising 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.

	<i>N.S.W.</i>	<i>Vic.</i>	<i>Qld</i>	<i>S.A.</i>	<i>W.A.</i>	<i>Tas.</i>	<i>N.T.</i>	<i>A.C.T.</i>	<i>Aust.</i>
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.

<i>Value of production</i> <i>1967-68</i>	<i>Value added</i> <i>as from 1968-69</i>
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: Value of output</i>	<i>Equals: Value of turnover</i>
	<i>Plus: Closing stocks</i>
	<i>Less: Opening stocks</i>
<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: Value of production</i>	<i>Equals: Value added</i>

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, 1969-70 AND 1971-72**

Industry sub-division	ASIC code (a)	Number of establishments operating at end of June	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			
1969-70												
Food, beverages and tobacco	21-2	4,702	141,787	50,176	191,963	615	4,440	533	570	3,155	1,322	149
Textiles	23	872	32,762	26,399	59,161	170	768	158	165	465	310	42
Clothing and footwear	24	3,332	26,540	95,751	122,291	286	1,007	161	176	570	452	20
Wood, wood products and furniture	25	5,878	71,458	9,810	81,268	238	974	132	138	546	434	27
Paper and paper products, printing	26	3,394	75,679	29,303	104,982	367	1,387	174	198	710	702	74
Chemical, petroleum and coal products	27	1,196	48,378	17,348	65,726	259	1,586	293	307	918	682	132
Non-metallic mineral products	28	1,818	47,369	4,997	52,366	200	835	106	117	438	408	69
Basic metal products	29	636	86,008	5,239	91,247	367	2,559	404	445	1,755	846	238
Fabricated metal products	31	4,924	97,230	21,417	118,647	404	1,513	252	276	861	676	54
Transport equipment	32	1,496	133,435	14,764	148,199	535	2,199	380	417	1,324	911	104
Other machinery and equipment	33	4,662	144,132	48,301	192,433	667	2,490	585	648	1,429	1,124	82
Miscellaneous manufacturing	34	2,766	45,291	23,066	68,357	220	930	151	168	547	400	40
<b>Total manufacturing</b>		<b>35,676</b>	<b>950,069</b>	<b>346,571</b>	<b>1,296,640</b>	<b>4,329</b>	<b>20,686</b>	<b>3,326</b>	<b>3,623</b>	<b>12,716</b>	<b>8,267</b>	<b>1,031</b>
1971-72												
Food, beverages and tobacco	21-2	4,423	148,130	53,460	201,590	790	5,295	620	675	3,666	1,684	180
Textiles	23	873	30,539	24,647	55,186	191	812	171	182	489	334	29
Clothing and footwear	24	3,216	25,096	91,043	116,139	324	1,143	181	190	630	522	19
Wood, wood products and furniture	25	5,884	70,744	10,340	81,084	280	1,077	150	154	590	496	45
Paper and paper products, printing	26	3,588	77,792	28,536	106,328	445	1,616	217	225	806	818	81
Chemical, petroleum, and coal products	27	1,165	47,976	17,634	65,610	314	1,827	327	341	1,037	804	106
Non-metallic mineral products	28	1,854	46,206	5,120	51,328	238	1,002	129	142	519	496	59
Basic metal products	29	627	86,964	5,884	92,848	454	2,657	506	535	1,802	884	444
Fabricated metal products	31	5,170	97,836	22,500	120,336	484	1,774	308	331	973	824	63
Transport equipment	32	1,426	135,807	16,083	151,890	669	2,531	446	504	1,542	1,047	136
Other machinery and equipment	33	4,899	141,391	48,198	189,589	796	2,808	692	716	1,536	1,297	91
Miscellaneous manufacturing	34	3,022	46,655	24,201	70,856	272	1,094	177	191	611	497	46
<b>Total manufacturing</b>		<b>36,147</b>	<b>955,138</b>	<b>347,646</b>	<b>1,302,784</b>	<b>5,257</b>	<b>23,637</b>	<b>3,921</b>	<b>4,187</b>	<b>14,200</b>	<b>9,703</b>	<b>1,298</b>

(a) Australian Standard Industrial Classification. (b) Average over whole year. Includes working proprietors. (c) Outlay on fixed tangible assets less disposals.

Employment

The statistics on the number of persons employed shown in the following table relates to the average whole year employment including working proprietors, and 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, 1969-70 AND 1971-72

Industry sub-division	ASIC code(a)	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
<b>MALES EMPLOYED</b>										
Food, beverages and tobacco	21-2	48,605	45,602	26,775	12,661	9,465	4,228	351	443	148,130
Textiles	23	9,636	16,456	890	1,470	457	1,630	..	..	30,539
Clothing and footwear	24	7,991	14,423	1,259	1,033	297	93	..	..	25,096
Wood, wood products and furniture	25	23,823	17,653	11,050	6,947	6,699	4,256	59	255	70,744
Paper and paper products, printing	26	29,369	25,628	7,081	5,224	4,260	5,126	97	1,007	77,792
Chemical, petroleum and coal products	27	21,879	16,723	2,741	2,526	2,711	1,396	..	..	47,976
Non-metallic mineral products	28	19,562	11,946	5,216	3,762	4,200	948	218	356	46,208
Basic metal products	29	54,624	10,595	3,986	9,326	4,721	3,681	(b)	(b)	86,964
Fabricated metal products	31	38,424	30,819	9,616	9,530	7,827	1,179	130	311	97,836
Transport equipment	32	41,432	51,291	11,926	25,107	4,815	1,047	(b)	(b)	135,807
Other machinery and equipment	33	62,435	49,847	7,671	14,858	5,379	1,053	(b)	(b)	141,391
Miscellaneous manufacturing	34	18,463	19,897	3,030	3,788	1,218	219	..	40	46,655
Total manufacturing	1971-72	376,263	310,882	91,241	96,232	52,049	24,856	1,014	2,601	955,138
	1969-70	380,596	306,959	88,413	94,601	50,963	25,371	821	2,345	950,069
	1968-69	373,427	297,411	88,546	91,011	51,771	24,892	804	2,109	929,971
<b>FEMALES EMPLOYED</b>										
Food, beverages and tobacco	21-2	17,807	17,203	7,157	5,149	4,135	1,753	98	158	53,460
Textiles	23	7,933	12,131	1,135	1,194	227	2,027	..	..	24,647
Clothing and footwear	24	33,620	47,349	5,175	3,242	1,443	214	..	..	91,043
Wood, wood products and furniture	25	3,457	2,660	1,665	1,124	1,066	326	3	39	10,340
Paper and paper products, printing	26	12,021	9,238	2,491	1,832	1,579	941	35	399	28,536
Chemical, petroleum and coal products	27	10,234	5,915	472	563	370	80	..	..	17,634
Non-metallic mineral products	28	2,206	1,702	281	383	424	79	17	28	5,120
Basic metal products	29	3,184	1,268	247	674	375	130	(b)	(b)	5,884
Fabricated metal products	31	9,825	7,177	1,826	2,394	1,023	196	18	41	22,500
Transport equipment	32	4,972	8,379	581	1,715	228	200	(b)	(b)	16,083
Other machinery and equipment	33	24,647	16,192	1,135	5,296	754	127	(b)	(b)	48,198
Miscellaneous manufacturing	34	10,709	10,093	962	1,838	544	40	..	15	24,201
Total manufacturing	1971-72	140,615	139,307	23,127	25,404	12,168	6,113	180	732	347,646
	1969-70	143,147	138,746	22,102	23,815	11,634	6,389	123	615	346,571
	1968-69	138,385	134,240	21,686	22,069	10,842	6,182	118	544	334,066
<b>PERSONS EMPLOYED</b>										
Food, beverages and tobacco	21-2	66,412	62,805	33,932	17,810	13,600	5,981	449	601	201,590
Textiles	23	17,569	28,587	2,025	2,664	684	3,657	..	..	55,186
Clothing and footwear	24	41,611	61,772	6,434	4,275	1,740	307	..	..	116,139
Wood, wood products and furniture	25	27,280	20,315	12,715	8,071	7,765	4,582	62	294	81,084
Paper and paper products, printing	26	41,390	34,866	9,572	7,056	5,839	6,067	132	1,406	106,328
Chemical, petroleum and coal products	27	32,113	22,638	3,213	3,089	3,081	1,476	..	..	65,610
Non-metallic mineral products	28	21,768	13,648	5,497	4,145	4,624	1,027	235	384	51,328
Basic metal products	29	57,808	11,863	4,233	10,000	5,096	3,811	(b)	(b)	92,848
Fabricated metal products	31	48,249	37,996	11,442	11,924	8,850	1,375	148	352	120,336
Transport equipment	32	46,424	59,670	12,507	26,822	5,043	1,247	(b)	(b)	151,890
Other machinery and equipment	33	87,082	66,039	8,806	20,154	6,133	1,180	(b)	(b)	189,589
Miscellaneous manufacturing	34	29,172	29,990	3,992	5,626	1,762	259	..	35	70,856
Total manufacturing	1971-72	516,878	450,189	114,368	121,636	64,217	30,969	1,194	3,333	1,302,784
	1969-70	523,743	445,705	110,515	118,416	62,597	31,760	944	2,960	1,296,640
	1968-69	511,812	431,651	110,232	113,080	62,613	31,074	922	2,653	1,264,037

(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, 1969-70 AND 1971-72  
(\$ 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	269	255	126	63	51	22	2	2	790
Textiles	23	63	100	6	9	3	11	..	..	191
Clothing and footwear	24	117	177	16	10	4	1	..	..	324
Wood, wood products and furniture	25	99	72	41	26	26	15	..	1	280
Paper and paper products, printing	26	178	146	35	28	23	27	1	6	445
Chemical, petroleum and coal products	27	156	107	15	14	15	7	..	..	314
Non-metallic mineral products	28	105	63	25	18	20	4	1	2	238
Basic metal products	29	280	59	23	45	28	19	(b)	(b)	454
Fabricated metal products	31	201	153	42	45	36	5	1	2	484
Transport equipment	32	207	271	51	116	20	4	(b)	(b)	669
Other machinery and equipment	33	375	281	34	76	25	4	(b)	(b)	796
Miscellaneous manufacturing	34	114	118	13	20	6	1	..	..	272
Total manufacturing	1971-72	2,164	1,801	426	470	256	119	6	15	5,257
	1969-70	1,788	1,497	332	386	208	102	4	11	4,329
	1968-69	1,618	1,342	309	348	183	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, 1969-70 AND 1971-72  
(\$ 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	1,590	1,869	981	375	308	150	13	10	5,295
Textiles	23	267	432	21	40	11	40	..	..	812
Clothing and footwear	24	423	637	39	32	10	2	..	..	1,143
Wood, wood products and furniture	25	379	273	148	115	91	66	1	4	1,077
Paper and paper products, printing	26	642	548	126	113	71	100	2	16	1,616
Chemical, petroleum and coal products	27	909	564	145	73	100	36	..	..	1,827
Non-metallic mineral products	28	399	256	122	86	99	21	7	12	1,002
Basic metal products	29	1,506	282	273	235	222	136	(b)	(b)	2,657
Fabricated metal products	31	711	567	162	169	138	20	3	5	1,774
Transport equipment	32	681	1,148	233	376	79	12	(b)	(b)	2,531
Other machinery and equipment	33	1,341	980	129	257	88	11	(b)	(b)	2,808
Miscellaneous manufacturing	34	445	497	55	70	23	3	..	..	1,094
Total manufacturing	1971-72	9,293	8,055	2,433	1,942	1,240	596	29	50	23,637
	1969-70	8,277	6,995	2,022	1,764	1,029	542	20	37	20,686
	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, 1969-70 AND 1971-72**  
(\$ 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	1,084	1,302	705	253	211	99	8	6	3,666
Textiles	23	158	266	13	26	7	21	..	..	489
Clothing and footwear	24	242	350	17	16	4	1	..	..	630
Wood, wood products and furniture	25	208	155	73	68	46	38	1	2	590
Paper and paper products, printing	26	320	280	64	53	32	53	..	4	806
Chemical, petroleum and coal products	27	495	321	100	43	56	21	..	..	1,037
Non-metallic mineral products	28	207	133	64	43	50	9	4	7	519
Basic metal products	29	988	185	194	156	182	95	(b)	(b)	1,802
Fabricated metal products	31	387	309	94	93	75	11	2	2	973
Transport equipment	32	386	702	155	243	50	5	(b)	(b)	1,542
Other machinery and equipment	33	740	524	75	138	52	5	(b)	(b)	1,536
Miscellaneous manufacturing	34	240	287	32	38	13	1	..	..	611
Total manufacturing	1971-72	5,454	4,814	1,584	1,169	777	359	18	25	14,200
	1969-70	5,002	4,307	1,346	1,085	626	318	13	19	12,716
	1968-69	4,440	3,860	1,225	970	564	300	11	17	11,388

(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, 1969-70 AND 1971-72 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.
<b>OPENING STOCKS AT 30 JUNE 1971</b>										
Food, beverages and tobacco	21-2	191	237	67	81	22	22	2	..	620
Textiles	23	60	89	4	7	2	10	..	..	171
Clothing and footwear	24	68	99	8	5	1	..	..	..	181
Wood, wood products and furniture	25	44	38	20	16	14	14	..	..	146
Paper and paper products, printing	26	83	79	17	11	9	16	..	2	217
Chemical, petroleum and coal products	27	171	106	19	10	15	6	..	..	327
Non-metallic mineral products	28	56	32	15	10	13	2	1	1	129
Basic metal products	29	253	51	81	57	35	28	(b)	(b)	506
Fabricated metal products	31	125	105	25	28	20	4	..	1	308
Transport equipment	32	132	200	27	73	10	3	(b)	(b)	446
Other machinery and equipment	33	306	287	25	58	15	1	(b)	(b)	692
Miscellaneous manufacturing	34	71	80	9	12	3	1	..	..	177
Total manufacturing		1,558	1,403	317	368	160	108	3	4	3,921
<b>CLOSING STOCKS AT 30 JUNE 1972</b>										
Food, beverages and tobacco	21-2	210	253	73	93	24	22	2	..	675
Textiles	23	63	95	5	7	2	10	..	..	182
Clothing and footwear	24	73	102	8	5	2	..	..	..	190
Wood, wood products and furniture	25	48	40	21	16	15	14	..	..	154
Paper and paper products, printing	26	87	81	17	13	9	17	..	2	225
Chemical, petroleum and coal products	27	184	107	17	12	14	6	..	..	341
Non-metallic mineral products	28	63	36	16	10	13	3	1	1	142
Basic metal products	29	264	56	83	58	39	35	(b)	(b)	535
Fabricated metal products	31	132	115	29	30	20	4	..	1	331
Transport equipment	32	144	232	32	81	10	3	(b)	(b)	504
Other machinery and equipment	33	323	286	27	60	18	2	(b)	(b)	716
Miscellaneous manufacturing	34	75	87	11	13	4	1	..	..	191
Total manufacturing		1,666	1,490	338	399	169	117	4	5	4,187
Opening stocks	1969-70	1,334	1,197	254	301	135	99	2	4	3,326
	1968-69	1,247	1,126	236	274	120	95	2	3	3,102
Closing stocks	1969-70	1,442	1,294	291	336	153	101	3	3	3,623
	1968-69	1,328	1,192	252	303	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 731.

MANUFACTURING ESTABLISHMENTS—VALUE ADDED, BY INDUSTRY SUB-DIVISION  
STATES AND TERRITORIES, 1968-69, 1969-70 AND 1971-72  
(\$ 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	527	583	281	134	100	50	4	3	1,684
Textiles	23	113	173	9	15	5	19	..	..	334
Clothing and footwear	24	186	289	22	17	6	1	..	..	522
Wood, wood products and furniture	25	174	121	76	48	46	29	1	2	496
Paper and paper products, printing	26	325	269	64	61	39	47	1	12	818
Chemical, petroleum and coal products	27	426	244	43	33	42	16	..	..	804
Non-metallic mineral products	28	199	127	59	43	48	12	3	5	496
Basic metal products	29	529	101	81	80	44	48	(b)	(b)	884
Fabricated metal products	31	331	269	71	78	62	8	1	3	824
Transport equipment	32	307	479	83	141	29	8	(b)	(b)	1,047
Other machinery and equipment	33	618	455	56	120	39	6	(b)	(b)	1,297
Miscellaneous manufacturing	34	210	217	25	32	11	1	..	..	497
Total manufacturing	1971-72	3,947	3,328	871	803	472	245	11	26	9,703
	1969-70	3,382	2,785	713	715	420	226	9	17	8,267
	1968-69	3,041	2,541	660	643	368	197	10	15	7,475

(a) Australian Standard Industrial Classification.

(b) Not available for publication.

## Number of establishments

The following table shows the number of establishments, in each State, in operation at 30 June for the years indicated. 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 IN OPERATION  
AT END OF YEAR 1968-69, 1969-70 AND 1971-72 BY INDUSTRY SUB-DIVISION: STATES AND TERRITORIES

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	1,340	1,197	805	457	423	168	21	12	4,423
Textiles	23	337	384	51	49	31	21	..	..	873
Clothing and footwear	24	1,266	1,606	160	106	65	13	..	..	3,216
Wood, wood products and furniture	25	1,956	1,473	961	524	561	364	11	34	5,884
Paper and paper products, printing	26	1,555	1,156	299	251	228	62	5	32	3,588
Chemical, petroleum and coal products	27	552	357	79	78	78	21	..	..	1,165
Non-metallic mineral products	28	689	445	249	173	211	54	18	15	1,854
Basic metal products	29	231	210	59	66	44	14	2	1	627
Fabricated metal products	31	2,076	1,470	562	463	473	86	17	23	5,170
Transport equipment	32	460	452	169	164	141	34	4	2	1,426
Other machinery and equipment	33	2,184	1,652	326	382	285	60	2	8	4,899
Miscellaneous manufacturing	34	1,237	1,007	281	266	187	36	..	8	3,022
Total manufacturing	1971-72	13,883	11,409	4,001	2,979	2,727	933	80	135	36,147
	1969-70	13,631	11,394	3,848	2,977	2,705	945	65	111	35,676
	1968-69	13,633	11,563	4,032	2,994	2,585	951	69	112	35,939

(a) Australian Standard Industrial Classification.

## Electricity and gas establishments

As mentioned on page 729, 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, 1969-70 AND 1971-72

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)			
1969-70											
New South Wales—											
Electricity . . .	51	23,628	2,358	25,986	113	580	45	47	277	305	165
Gas . . .	34	2,769	502	3,271	12	44	3	3	18	27	2
Victoria—											
Electricity . . .	13	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	7,760	772	8,532	32	158	11	11	63	94	52
Gas . . .	7	592	115	707	2	10	1	1	4	6	1
South Australia—											
Electricity . . .	18	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	44
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 . . .	166	55,753	5,071	60,824	255	1,213	94	99	480	738	425
Gas . . .	56	8,338	1,312	9,650	39	129	11	10	44	84	27
1971-72											
New South Wales—											
Electricity . . .	49	23,469	2,395	25,864	140	707	50	54	345	367	154
Gas . . .	23	2,352	524	2,876	13	49	3	3	18	30	4
Victoria—											
Electricity . . .	13	16,409	1,816	18,225	99	375	27	28	136	239	116
Gas . . .											
Queensland—											
Electricity . . .	21	8,038	837	8,875	45	194	13	14	79	116	66
Gas . . .	7	565	104	669	3	12	1	1	5	7	1
South Australia—											
Electricity . . .	16	6,174	358	6,532	34	106	9	9	29	78	24
Gas . . .											
Western Australia—											
Electricity . . .	48	4,275	331	4,606	23	82	8	8	23	60	81
Gas . . .											
Tasmania—											
Electricity . . .	5	2,727	244	2,971	15	48	5	5	2	46	35
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 . . .	153	57,089	5,391	62,480	332	1,444	105	112	591	861	452
Gas . . .	40	7,409	1,298	8,707	41	148	10	11	57	91	43

(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, and in the bulletin *Manufacturing Commodities—Principal Articles Produced*.

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.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA 1968-69 TO 1971-72

Commodity code	Article	1968-69 (a)	1969-70 (a)	1970-71 (a)	1971-72 (a)
	Acid (in terms of 100%)—				
401.29	Hydrochloric . . . . . tons	35,326	37,439	42,524	46,622
401.37	Nitric . . . . . "	63,876	123,617	117,976	138,100
401.57	Sulphuric . . . . . '000 tons	1,851	1,734	1,586	1,728
171.03, 05	Aerated and carbonated waters . . . '000 gal	137,133	144,532	159,520	170,172
	Air-conditioning equipment—				
657.03, 05	Room air conditioners (refrigerated) . . No.	50,788	38,966	34,252	41,843
657.13, 15	Room air coolers (evaporative coolers) . . "	27,263	46,147	41,429	50,007
657.21, 22, 23	Package unit air conditioners . . . . . "	8,463	7,610	7,977	9,277
475.04, 06, 07, 85	Asbestos cement building sheets (finished) . '000 sq yd	38,112	40,868	40,240	43,829
	Bags, leather, fibre, etc.—				
	Handbags—				
864.31	Leather . . . . . No.	456,574	475,841	n.a.	509,214
864.33	Plastic . . . . . '000	2,032	2,278	n.a.	1,655
864.39	Other . . . . . No.	510,942	478,773	n.a.	383,430
946.01-52	Hessian and calico bags . . . . . '000 doz	3,880	(b)	n.a.	3,948
864.11-19	Suitcases, kitbags and trunks . . . . . '000	(c)1,542	(c)1,606	n.a.	1,749
864.41-49	All other(d) . . . . . "	1,948	1,655	n.a.	1,346
	Bath heaters—				
652.01	Electric . . . . . No.	10,528	7,831	7,724	7,394
652.03, 04	Gas . . . . . "	6,267	3,953	2,981	3,358
652.05	Solid fuel . . . . . "	6,389	4,703	7,716	6,516
779.02-55	Bathing suits . . . . . doz	344,676	367,526	(e)340,351	(e)337,862
	Baths—				
671.01	C.I.P.E. . . . . '000	182	183	190	200
671.03-08	Other . . . . . "				
	Batteries, wet cell type—				
685.13, 15	Auto (S.L.I.) 6 volts . . . . . '000	445	420	378	380
685.17, 19	Auto (S.L.I.) 12 volts . . . . . "	1,720	1,822	1,894	2,095
685.33, 35	Radio, homelighter, fencer . . . . . No. of 2 volt cells	90,338	76,202	59,997	57,396
685.43-65	Traction, plant and other . . . . . "	75,205	136,081	146,516	157,971
172.02, 04, 06	Beer (excluding waste beer) . . . . . '000 gal	326,771	341,627	356,149	366,189
064.21	Biscuits . . . . . '000 lb	231,403	244,589	249,458	256,958
372.52-66	Blankets . . . . . '000	1,610	1,682	1,687	1,531
	Boots and shoes (see Footwear)				
152.02	Bran (wheaten) . . . . . '000 tons (2,000 lb)	185	181	173	147
172.21	Brandy . . . . . '000 proof gal	1,100	1,343	n.a.	1,728
777.41, 49	Brassieres . . . . . doz	782,877	735,093	820,717	819,263
064.03-13	Bread (2 lb loaf equivalent) . . . . . '000	796,505	803,451	n.a.	813,875
066.01-31	Breakfast food, cereal (ready to eat) . . '000 cwt	812	1,004	1,040	1,089
472.01, 03	Bricks, clay . . . . . million	1,627	1,694	1,669	1,744
261.41	Briquettes, brown coal . . . . . '000 tons	1,471	1,539	1,376	1,287
051.31	Butter . . . . . '000 lb	439,202	494,269	448,024	431,579
773.51, 71, 81	Cardigans, sweaters, etc. . . . . '000 doz	1,402	1,582	1,552	1,930
474.02	Cement, Portland . . . . . '000 tons	4,075	4,428	4,611	4,807
051.36-46	Cheese (green weight) . . . . . '000 lb	164,972	168,219	171,004	174,556
183.02, 11	Cigarettes and cigars . . . . . "	55,130	65,900	(f)66,847	64,622
	Cloth (including mixtures)—				
373.10-52	Cotton(g) . . . . . '000 sq yd	57,452	56,986	56,495	56,387
374.02-16	Rayon and acetate . . . . . "	36,178	34,914	31,893	27,285
374.20-34	Synthetic (non-cellulosic) . . . . . "	32,275	37,762	39,029	50,012
372.02-50	Wool . . . . . "	32,173	32,404	18,881	26,800
	Coke—				
435.22	Metallurgical . . . . . '000 tons	3,647	3,969	4,470	4,070
435.12	Other . . . . . "	407	272	n.a.	131
475.90	Concrete, ready mixed . . . . . '000 cu yd	9,267	10,843	11,684	12,681
	Confectionery—				
104.02-18	Chocolate . . . . . '000 lb	107,980	102,371	109,211	116,875
104.21-29	Other . . . . . "	115,702	123,249	125,425	130,210
452.04	Copper, refined(h) . . . . . tons	94,786	103,680	113,500	128,759
	Coppers (wash boilers)—				
653.31	Electric . . . . . No.	6,939	(b)	3,972	2,792
653.33, 34	Gas . . . . . "	5,195	1,502	335	273
653.51	Inserts . . . . . "	14,854	8,885	n.a.	(b)

(a) Includes Northern Territory and Australian Capital Territory. (b) Not available for publication.  
(c) Excludes code 864.19 bags and cases other than those of leather, fibre, plastic, canvas. (d) Excludes canvas water bags.  
(e) Excludes codes 779.51, 55 infants' and babies' swim-wear. (f) Includes tobacco. (g) Excludes tyre-cord fabric.  
(h) Primary origin only.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA, 1968-69 TO 1971-72—continued

Commodity code	Article	1968-69 (a)	1969-70 (a)	1970-71 (a)	1971-72 (a)
171.06, 10	Cordials and syrups . . . . .	'000 gal 10,580	11,412	13,338	15,347
777.01-29	Corsets and corselets . . . . .	doz 369,685	344,666	271,384	251,248
611.01	Cycles (complete) . . . . .	No. 114,671	126,091	124,491	131,039
804.01	Dentifrices (toothpaste) . . . . .	'000 lb 11,424	11,856	n.a.	12,227
	Electric generators—				
503.06	Non-automotive—Alternating current . . . . .	No. 3,043	2,790	n.a.	3,081
503.08	Direct current . . . . .	" 535	297	n.a.	139
499.42, 44	Electricity . . . . .	mil. kWh 48,898	53,887	69,828	59,501
523.76-78	Electrodes for manual welding . . . . .	'000 lb 49,061	51,301	53,410	51,706
502.22-39	Engines, internal combustion(b) . . . . .	'000 293	364	312	355
	Essences, flavouring—				
139.31	Domestic . . . . .	gal 114,140	114,337	n.a.	91,705
139.35	Industrial . . . . .	" 960,253	942,752	n.a.	1,103,616
802.11, 12	Face powder . . . . .	'000 lb 260	309	n.a.	278
696.01, 03, 05	Fans, electric . . . . .	No. 426,774	429,018	374,167	405,196
045.01, 51	Fish, canned (including fish loaf) . . . . .	'000 lb 14,890	15,536	11,352	13,938
	Floorboards—				
332.06	Australian timber . . . . .	'000 super ft 158,187	156,459	n.a.	131,373
332.08	Imported timber . . . . .	" 748	974	n.a.	426
	Floor coverings—				
841.01-07	Textile . . . . .	'000 sq yd 16,142	18,312	20,836	25,826
841.31-41, 841.54-68	Smooth surface . . . . .	" 13,443	15,096	15,631	15,672
841.85	Underfelts, underlays, etc.(c) . . . . .	" 18,485	20,273	21,218	20,881
692.22	Floor polishers, electric . . . . .	No. 53,388	53,701	49,720	35,998
	Flour—				
068.01	Self-raising . . . . .	'000 cwt 995	827	n.a.	836
062.01, 10, 32	Wheaten(d) . . . . .	'000 tons (2,000 lb) 1,395	1,410	1,447	1,327
	Footwear (not rubber)—				
791	Boots, shoes and sandals . . . . .	'000 pairs 38,176	39,105	36,500	35,968
	Slippers . . . . .	" 4,059	4,026	3,533	3,932
	Fruit juices, natural—				
074.61-79	Single strength . . . . .	'000 gal 16,821	20,410	n.a.	19,270
074.76, 82, 89	Concentrated(e) . . . . .	" 1,799	2,074	n.a.	3,158
434.09	Gas (town)(f) . . . . .	'000 therms 360,141	410,713	n.a.	616,392
	Gloves—				
781.01, 03	Dress . . . . .	doz pairs 25,604	16,339	(g)	(g)
	Work—				
781.06, 07, 31	Sewn(h) . . . . .	'000 doz pairs } 2,553	2,333	2,445	3,168
781.11-29	Dipped . . . . .	" } 69,253	78,417	97,069	116,034
127.21	Glucose . . . . .	'000 lb 39,763	42,178	46,067	50,131
832.58, 59	Golf clubs . . . . .	doz 39,763	42,178	46,067	50,131
	Handkerchiefs				
786.01	Men's . . . . .	'000 doz 1,986	1,800	n.a.	1,672
786.11	Women's . . . . .	" 1,343	1,275	n.a.	1,249
	Heaters, room—				
651.01, 03	Solid fuel . . . . .	No. 23,104	16,153	9,648	9,767
651.11-17	Radiators and electric fires . . . . .	" 801,546	714,197	813,000	812,632
651.21, 22, 26, 27	Gas fires and space heaters, domestic(f) . . . . .	" 51,787	44,649	55,988	58,421
281.04	Ice . . . . .	'000 tons 112	120	n.a.	112
051.61	Ice cream(j) . . . . .	'000 gal 39,591	42,172	41,965	43,229
051.87, 89	Infants' and invalids' milk-based health beverages(k) . . . . .	'000 lb 23,907	25,581	23,853	30,106
	Ink, printing—				
419.31	News . . . . .	" 20,413	23,962	n.a.	24,787
419.43-59	Other . . . . .	" 17,318	18,044	n.a.	25,830
	Iron and steel—				
442.04, 08	Pig iron . . . . .	'000 tons 5,703	5,862	6,240	5,911
442.80-83	Steel ingots, open hearth and electric(l) . . . . .	" 6,598	6,764	6,800	6,376
442.28	Blooms and slabs (m) . . . . .	" 5,759	5,787	5,765	5,481
693.51, 61, 63	Irons, electric (hand, domestic) . . . . .	No. 550,989	591,663	555,613	592,964
076.60	Jams (including conserves, jellies, etc.) . . . . .	'000 lb 92,360	82,373	85,228	77,000
391.04	Lard . . . . .	" 6,914	6,207	n.a.	5,258
	Lawn mowers—				
699.52, 53	Petrol, rotary . . . . .	No. 210,112	269,573	290,224	293,350
699.41, 45, 55, 61	Other types(n) . . . . .	" 18,902	19,763	16,995	19,219
453.04	Lead refined(o) . . . . .	'000 tons 176	186	152	188

(a) Includes Northern Territory and Australian Capital Territory. (b) Petrol and diesel. Excludes car, motor cycle, truck, tractor, aero, and marine engines. (c) New basis—Needled (or bonded) felts of jute or jute/hair mixtures (for all purposes) as from July 1966. (d) Includes wheatmeal for baking and sharps and other flour. (e) Excludes grape must. (f) Includes natural gas. (g) Not available for publication. (h) Excludes fabric liners for dipped gloves but includes moulded or heat-sealed work gloves. (i) Excludes L.P. and T.L.P. gas—capacity of under 25,000 B.T.U./hr. (j) Includes ice-cream combined with other confections. Including those aerated milk-based confections which contain 10% or more butterfat. (k) Includes malted milk and milk sugar (lactose). (l) Year ended 31 May. (m) Including semi-permanent mould castings, investment casting and diecasting of iron and steel. (n) Petrol cylinder, electric and hand. (o) 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, 1968-69 TO 1971-72—continued

Commodity code	Article		1968-69 (a)	1969-70 (a)	1970-71 (a)	1971-72 (a)
	<b>Leather—</b>					
	<b>Dressed or finished—</b>					
301.43-65	Chrome tanned (including retanned) . . . . .	'000 sq ft	75,250	70,279	n.a.	65,904
301.31-37, 83-89	Vegetable tanned, by weight . . . . .	'000 lb	10,934	9,997	n.a.	8,122
301.67, 69	Vegetable tanned, by measurement . . . . .	'000 sq ft	3,529	3,405	n.a.	2,507
311.08, 14, 18	Tanned or dressed skins with hair or wool retained(b) . . . . .	doz	111,404	103,779	n.a.	85,276
	<b>Lime—</b>					
275.43, 45	Crushed . . . . .	tons	184,535	208,206	n.a.	203,060
479.18	Hydrated . . . . .	"	142,632	162,138	n.a.	136,982
479.12	Quick . . . . .	"	396,382	427,301	n.a.	416,511
802.21	Lipstick . . . . .	'000 lb	117	107	n.a.	100
063.11-31	Malt (excluding extract) . . . . .	'000 bushel	14,141	14,593	17,404	20,532
	<b>Margarine—</b>					
121.01	Table . . . . .	'000 lb	35,106	34,635	35,804	38,800
121.06, 08	Other . . . . .	"	100,708	105,302	110,906	119,988
	<b>Mattresses and bed bases—</b>					
844.01	Box spring . . . . .	No.	143,845	167,791	191,946	206,237
844.21	Inner spring . . . . .	"	660,007	720,456	721,462	695,508
844.11	Woven wire, link mesh and spring . . . . .	"	688,646	665,960	650,102	618,632
844.41, 51, 61	Other . . . . .	"	330,545	358,516	n.a.	376,784
027.02-76	Meat, canned(c) . . . . .	'000 lb	100,916	103,037	119,903	118,261
	<b>Meters (domestic)—</b>					
702.01	Electricity consumption . . . . .	No.	248,655	268,917	312,785	215,226
703.01	Gas consumption . . . . .	"	60,893	64,493	66,287	67,581
703.11	Water consumption . . . . .	"	143,912	174,475	184,547	157,844
	<b>Milk, condensed, concentrated and evaporated—</b>					
051.21, 22	Full cream, sweetened . . . . .	'000 lb	40,452	35,551	36,809	36,828
051.24, 25, 26, 27	Full cream, unsweetened . . . . .	"	89,511	125,945	136,240	105,451
051.28	Skim . . . . .	"	19,990	46,715	36,133	25,330
	<b>Milk powder—</b>					
051.72, 73	Full cream . . . . .	"	53,590	50,659	56,512	63,412
051.76-79	Skim . . . . .	"	157,885	207,245	201,737	204,324
051.81, 82	Buttermilk or mixed skim and buttermilk . . . . .	"	33,937	40,490	37,865	32,028
503.17-32	Motors, electric . . . . .	'000	3,185	3,357	3,249	3,466
	<b>Motor vehicles, finished—</b>					
581.02-08	Cars . . . . .	No.	289,246	334,802	320,510	340,122
*31.10-16	Station wagons . . . . .	"	53,621	55,734	54,023	51,931
582.04	Utilities . . . . .	"	33,720	37,753	33,156	34,105
582.06	Panel vans . . . . .	"	15,812	18,013	18,059	20,330
582.08-24	Truck and truck-type vehicles . . . . .	"	1,422	1,052	799	3,357
	<b>Motor vehicles, partly finished—</b>					
581.22-28	Cars, station wagons, utilities, vans . . . . .	"	1,379	2,183	1,509	2,244
582.31, 32	Trucks and truck-type vehicles . . . . .	"	24,279	26,678	22,985	18,986
582.33-46	Motor vehicle safety belts . . . . .	"	1,011,887	1,142,302	n.a.	3,020,493
589.81-89						
465.16, 17	Nails . . . . .	tons	24,175	24,186	23,920	24,007
782.03, 04	Neckties . . . . .	doz	452,706	463,548	n.a.	619,573
	<b>Oatmeal and rolled oats—</b>					
062.61, 63	For porridge, etc. . . . .	'000 cwt	306	301	288	339
062.65	Other . . . . .	"	114	153	n.a.	(d)
393.08-90, 394.01-54	Oils, vegetable, crude . . . . .	'000 lb	96,832	106,731	127,107	112,654
	<b>Paints, etc.—</b>					
412.02-20	Paints (not water) and enamels ready for use . . . . .	'000 gal	16,908	17,930	19,112	18,263
412.28	Paints (not water) in paste form . . . . .	'000 lb	1,899	1,948	n.a.	n.a.
412.22, 24	Lacquers (nitro-cellulose) . . . . .	'000 gal	1,481	1,444	1,124	1,107
412.32	Tinting colours, packaged ready for sale . . . . .	"	75	98	n.a.	n.a.
412.54	Stains and clear varnishes packaged ready for sale . . . . .	"	931	1,063	n.a.	n.a.
	<b>Water paints—</b>					
412.42, 44, 46	Emulsion type . . . . .	"	4,306	4,913	n.a.	n.a.
412.48, 50	In powder form . . . . .	'000 lb	776	666	n.a.	n.a.
412.64, 66	Thinners . . . . .	'000 gal	4,307	4,587	4,681	4,910
	<b>Paper—</b>					
351.11	Newsprint . . . . .	tons	123,935	170,576	175,860	178,610
351.17-79	Other . . . . .	"	443,420	485,746	498,199	517,811
352.11-33	Paperboard . . . . .	"	342,406	370,677	379,142	375,999
975.04, 09, 11	Perambulators, pushers and strollers . . . . .	No.	148,774	158,400	172,167	176,747
	<b>Petrol—</b>					
431.12	For blending and refining . . . . .	million gal	(d)	(d)	(d)	2,707
431.04, 08, 20	Other (all types) . . . . .	"	1,983	1,990	2,230	j
479.22	Plaster of paris . . . . .	tons	281,646	297,946	145,044	309,776
479.32, 33	Plaster sheets . . . . .	'000 sq yd	31,434	35,748	41,100	41,040
334.32, 34, 36, 38	Plywood, $\frac{1}{8}$ inch basis . . . . .	'000 sq ft	232,926	259,711	n.a.	233,091
152.06	Pollard . . . . .	tons (2,000 lb)	311,783	311,570	313,404	282,588

(a) Includes Northern Territory and Australian Capital Territory. (b) Excludes codes 311.14 rabbit, and 311.20 water rat. (c) Excludes poultry and baby food. (d) Not available for publication.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING ESTABLISHMENTS: AUSTRALIA, 1968-69 TO 1971-72—continued

Commodity code	Article		1968-69 (a)	1969-70 (a)	1970-71 (a)	1971-72 (a)
	Preserves—					
	Fruit					
076.01-50	Canned or bottled	'000 lb	508,116	678,791	664,388	559,515
074.01	Pulp and puree—single strength	'000 cwt	76	88	n.a.	88
	Vegetables—					
094.02-49	Canned or bottled	'000 lb	196,327	206,678	195,892	251,234
092.02, 06, 19	Quick frozen	"	157,064	174,976	131,643	201,996
	Pyjamas—					
774.21, 23	Men's and boys' (suits only)	doz	460,168	485,577	471,319	468,068
774.51-58	Women's and girl's (incl. nightdresses)	"	762,269	779,394	811,562	882,614
832.65,85	Racquet frames (all types)	"	17,701	16,663	16,699	19,019
643.01,03,15-37	Radio receiving sets (including radiograms)	No.	659,232	729,514	745,828	770,343
	Records (phonograph)—					
646.32,35,62,65	Single play (78 and 45 rpm)	'000	6,534	6,913	6,366	5,965
646.37,41,51,67,71,81	Extended play	"	1,601	1,623	1,298	805
646.43,45,53,55,73,75,83,85	Long play	"	9,523	11,262	14,207	15,066
637.32,41,53	Refrigerators, domestic electric	No.	286,832	255,575	241,010	283,527
403.404	Resins, plastic and synthetic, for all purposes	'000 cwt	3,900	4,409	5,040	5,618
061.67,69	Rice, polished, unpolished and broken	"	2,915	3,445	n.a.	3,985
369.11	Ropes and cables (excluding wire)	cwt	(b)	(b)	(b)	115,671
372.70,72,374.59	Rugs	'000	187	215	280	186
123.18-25	Sauce	'000 pints	43,152	40,793	n.a.	51,221
062.04	Semolina	tons (2,000 lb)	24,543	23,938	25,203	26,409
773.02-31	Shirts (men's and boys')	'000 doz	2,527	2,566	2,407	2,545
653.01	Sink heaters, electric	No.	9,552	8,744	9,594	9,315
671.11-18	Sinks, steel and other (standard size)	"	225,823	256,925	238,000	239,902
805.01-13	Soap, for personal toilet use	'000 cwt	503	534	557	(b)
	Socks and stockings—					
775.51-82	Men's and youths'	'000 doz pairs	1,884	1,953	1,859	1,831
775.01-39	Women's and maids'	"	5,894	6,118	7,313	8,326
775.91-776.42	Children's and infants'	"	1,109	1,140	1,054	1,142
	Soup—					
122.02,09	Canned	'000 pints	78,948	74,418	73,839	90,637
122.13,15	Dry-mix	'000 lb	10,927	11,114	12,737	12,968
127.11-19	Starch	"	206,142	233,400	280,237	292,478
401.53	Stearine (stearic acid)	"	12,890	13,613	n.a.	14,308
461.20	Steel, constructional, fabricated	tons	559,025	671,415	n.a.	685,291
	Stoves, ovens and ranges, domestic cooking—					
661.01-11	Electric(c)	No.	210,804	221,379	219,868	227,314
661.26,31,34	Gas(d)	"	84,880	70,204	82,486	89,343
662.01,03	Solid fuel	"	13,128	10,626	8,453	7,612
	Sugar—					
102.01,02	Raw (94 net litre)	'000 tons	2,725	2,179	n.a.	2,749
102.12	Refined	"	643	671	669	664
405.36	Sulphate of ammonia	tons	106,214	106,339	174,206	109,352
415.07	Superphosphate	'000 tons	(e)3,821	(e)3,522	3,066	3,366
803.61	Talcum powder	'000 lb	9,547	9,978	n.a.	10,446
	Tallow (including dripping), rendering—					
391.14,16	Edible	"	176,459	177,096	n.a.	205,976
391.24	Inedible	"	364,444	535,372	n.a.	650,694
643.49-65	Television sets	No.	283,380	319,657	337,017	361,169
645.52-66	Television picture tubes	"	394,922	420,022	502,715	444,410
	Tiles, roofing—					
475.30	Cement	'00 sq ft	1,485,612	1,666,433	1,637,075	1,828,231
472.12	Terracotta	"				
	Timber—					
	From native logs—					
331.01-07	Hardwood, etc.	'000 super ft	1,113,679	1,132,201	n.a.	1,049,260
331.09-19	Softwood	"	295,594	302,686	n.a.	331,396
331.23,25	From imported logs	"	11,307	9,537	n.a.	3,806
661.21,23	Toasters, electric (domestic)	No.	392,281	371,333	380,582	373,399
183.21-28	Tobacco	'000 lb	7,601	6,876	n.a.	6,698
094.51	Tomato juice	'000 gal	1,970	1,879	3,547	3,330
394.53	" paste and puree	'000 pints	13,663	13,431	n.a.	16,528
094.57	" pulp	'000 cwt	101	131	n.a.	(b)
373.58-64	Towels	'000 doz	838	913	898	936
671.51-59	Toilet cisterns	No.	409,769	459,920	402,749	430,205
683.03-11	Transformers, chokes and ballasts, for distribution of power and light, etc.	"	15,362	16,168	15,172	14,946
622.01-07,19	Tubes, pneumatic(f)	'000	4,587	(g)4,738	4,734	4,580
369.21-27	Twine (all types)	cwt	266,258	218,745	227,119	241,647
621.31-37	Tyres, pneumatic(f)	'000	(h)7,368	(h)8,146	(h)8,106	(h)8,048
863.01	Umbrellas, street and general purpose	No.	620,490	602,790	n.a.	731,658
774.01-18,41-47,60,62,91-97	Underwear (men's women's, children's)	'000 doz	(i)6,922	(i)7,073	7,370	6,745

(a) Includes Northern Territory and Australian Capital Territory. (b) Not available for publication. (c) Includes wall ovens but excludes cooking tops and portable units. (d) Upright and elevated (with ovens) including wall ovens, but excluding hotplates, stovettes, etc. (e) Source: Department of Primary Industry, includes ammonium phosphate. (f) Excludes bicycle tubes and tyres. (g) Excludes code 622.07 aero tubes. (h) Excludes code 621.35. (i) Excludes codes 774.16 and 774.18.

QUANTITIES OF PRINCIPAL ARTICLES PRODUCED IN MANUFACTURING  
ESTABLISHMENTS: AUSTRALIA, 1968-69 TO 1971-72—*continued*

Commodity code	Article		1968-69 (a)	1969-70 (a)	1970-71 (a)	1971-72 (a)
692.01	Vacuum cleaners (domestic)	No.	151,581	156,340	175,824	173,512
	Wash basins—					
671.37	Earthenware	..	184,625	230,314	212,997	232,538
671.33-35	Pressed steel	..	97,375	98,290	104,312	97,691
693.02-18	Washing machines, household, electric	..	302,639	315,607	304,554	311,962
	Weatherboards—					
332.12	Australian timber	'000 super ft	13,483	14,473	n.a.	14,193
332.14	Imported timber	..	3,018	2,326	n.a.	2,345
152.14	Wheatmeal for stock feed	tons (2,000 lb)	231,460	224,722	313,192	345,222
519.01	Wheelbarrows (metal)	No.	121,760	110,826	n.a.	144,080
	Wine, beverage—					
172.42	Fortified	'000 gal	12,066	13,799	11,082	13,181
172.46	Unfortified	..	15,987	19,629	18,274	20,762
341.31-45	Wood pulp (air dried)	tons	403,907	464,992	546,579	498,334
242.07-11	Wool, scoured or carbonised	tonne(b)	73,693	72,576	62,804	68,254
242.32	Wool tops, pure	'000 lb	43,196	42,122	41,200	38,565
	Yarn (including mixtures)—					
364.11-50	Cotton	..	62,124	64,526	63,545	59,647
363.47-75	Woollen	..	36,081	39,807	42,158	42,210
363.17-31	Wool worsted	..	18,370	18,650	19,544	19,102
365.38-66	Rayon and acetate, spun	..	10,506	12,145	11,803	12,291
365.90, 366.03 04, 16, 29, 30, 42, 55, 56, 88, 96, 97	Synthetic (non-cellulosic) fibres spun	..	10,412	11,771	15,069	15,452
457.04	Zinc, refined(c)	tons	228,198	257,674	250,000	270,000

(a) Includes Northern Territory and Australian Capital Territory. (b) Items 242.07 to 242.11 are published in metric units of measurement (1 Imperial ton equals 1.016 metric tonne). (c) Primary origin only includes small quantities of zinc dust.