

MANUFACTURING PRODUCTION

AUSTRALIA

EMBARGO: 11:30AM (CANBERRA TIME) TUES 12 MAY 1998

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- For more information about these and related statistics, contact John Ridley on Sydney 02 9268 4541 or refer to the back cover of this publication.

NOTES

FORTHCOMING ISSUES

ISSUE	RELEASE DATE
June quarter 1998	11 August 1998
September quarter 1998	11 November 1998
December quarter 1998	11 February 1999

IN THIS ISSUE

This publication presents quarterly estimates of selected major indicators of manufacturing production for Australia.

This issue of the publication is the third in the new quarterly series, whereby data items are published as quarterly data series. Some additional manufacturing production data items are collected by the Australian Bureau of Statistics (ABS) and are available to users as a special data service, as are monthly series for a limited number of the data items contained in this publication. These data items are listed in paragraph 19 of the Explanatory Notes on page 7. In addition, production data for some other commodities are collected annually. Summary data for these commodities will be published in the June quarter publication each year, commencing with the next issue.

The seasonally adjusted estimates of production for '12 Fuel oil' and '13 Aviation turbine fuel' have been revised and new seasonal factors calculated (please refer to paragraphs 12 and 13 of the Explanatory Notes on page 6).

EFFECTS OF ROUNDING

Estimates of change shown in this publication have been calculated using unrounded estimates and may be different from, but are more accurate than, movements obtained from the rounded estimates.

SYMBOLS AND OTHER USAGES

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ADC	Australian Dairy Corporation
DPIE	Department of Primary Industries and Energy
n.p.	not publishable
n.y.a.	not yet available
r	figure or series revised since previous issue
—	nil or rounded to zero

W. McLennan
Australian Statistician

											Percentage changes between latest quarter shown and....	
1996..... 1997..... 1998..												
No.	Item and unit/Series	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	prev. quarter	same quarter prev. year
1	Red meat ('000 tonnes)											
	Original r	669	661	632	668	674	742	732	730	718	-1.6	6.5
	Seasonally adjusted r	681	655	635	656	707	725	731	717	741	3.3	4.7
	Trend	675	658	638	659	705	726	724	724	738	1.9	4.6
2	Chicken meat ('000 tonnes)											
	Original	122	118	123	127	122	125	135	r139	138	-0.9	12.9
	Seasonally adjusted	122	120	123	125	122	127	135	r136	139	2.2	13.6
	Trend	121	120	123	125	123	128	134	136	138	1.2	12.3
3	Cheese (tonnes)											
	Original	66 327	48 063	58 108	95 264	75 575	56 004	r61 176	97 939	n.y.a.	60.1	2.8
	Seasonally adjusted	63 676	70 215	66 970	67 762	72 572	81 525	r70 549	69 694	n.y.a.	-1.2	2.9
	Trend	66 320	66 967	67 533	69 971	73 648	75 448	73 795	70 669	n.y.a.	-4.2	1.0
4	Butter (tonnes)											
	Original	39 838	24 608	31 850	58 082	35 352	21 665	r33 119	63 243	n.y.a.	91.0	8.9
	Seasonally adjusted	38 258	r41 866	41 054	36 407	34 010	36 750	r42 675	39 658	n.y.a.	-7.1	8.9
	Trend	38 617	40 862	39 959	36 932	35 648	37 412	39 840	41 247	n.y.a.	3.5	11.7
5	Beer (megalitres)											
	Original	409	398	398	507	432	398	406	526	428	-18.6	-0.9
	Seasonally adjusted	422	432	424	428	450	433	433	442	449	1.6	-0.2
	Trend	431	425	427	434	438	438	437	440	445	1.1	1.6
6	Tobacco and cigarettes (tonnes)											
	Original	4 275	5 239	6 293	5 575	4 802	5 523	5 708	4 821	4 919	2.0	2.4
	Seasonally adjusted	4 768	5 302	5 544	5 641	5 453	5 575	4 987	4 833	5 655	17.0	3.7
	Trend	5 006	5 187	5 494	5 623	5 568	5 324	5 133	5 128	5 268	2.7	-5.4
7	Newsprint ('000 tonnes)											
	Original	115	111	111	102	104	105	104	96	100	4.2	-3.8
	Seasonally adjusted	112	108	112	106	101	102	107	98	100	2.0	-1.0
	Trend	112	111	109	106	104	103	103	101	100	-1.0	-3.8
8	Wood pulp ('000 tonnes)											
	Original	242	244	231	244	239	235	233	250	259	3.6	8.4
	Seasonally adjusted	242	241	234	244	239	r231	236	251	259	3.2	8.4
	Trend	242	239	239	239	237	235	239	248	255	2.8	7.6
9	Undressed sawn timber ('000 m ³)											
	Original	807	846	924	809	777	872	889	854	n.y.a.	-3.9	5.6
	Seasonally adjusted	855	839	871	821	821	866	837	868	n.y.a.	3.7	5.7
	Trend	851	850	844	836	834	842	854	862	n.y.a.	0.9	3.1
10	Hardwood woodchips ('000 tonnes)											
	Original	1 163	1 128	1 128	1 220	1 106	1 325	1 402	1 362	1 428	4.8	29.1
	Seasonally adjusted	1 205	1 117	1 094	1 228	1 143	1 311	1 363	1 370	1 472	7.4	28.8
	Trend	1 171	1 137	1 130	1 155	1 216	1 279	1 344	1 404	1 445	2.9	18.8
11	Automotive gasoline (megalitres)											
	Original	r4 554	4 682	4 596	4 378	4 455	4 655	4 622	4 745	n.y.a.	2.7	8.4
	Seasonally adjusted	4 552	4 663	4 515	4 455	4 506	4 634	4 532	4 767	n.y.a.	5.2	7.0
	Trend	4 607	4 591	4 530	4 500	4 506	4 568	4 632	4 677	n.y.a.	1.0	3.9
12	Fuel oil (megalitres)											
	Original	394	431	434	422	455	485	460	418	n.y.a.	-9.1	-0.9
	Seasonally adjusted r	403	436	410	432	465	490	435	429	n.y.a.	-1.4	-0.7
	Trend r	450	413	415	440	461	466	451	433	n.y.a.	-4.0	-1.6
13	Aviation turbine fuel (megalitres)											
	Original	1 264	r1 130	1 259	1 383	1 412	1 230	1 370	1 407	n.y.a.	2.7	1.7
	Seasonally adjusted r	1 263	1 186	1 261	1 321	1 409	1 289	1 373	1 344	n.y.a.	-2.1	1.7
	Trend r	1 230	1 228	1 265	1 319	1 354	1 351	1 345	1 345	n.y.a.	—	2.0
14	Automotive diesel oil (megalitres)											
	Original	2 982	3 164	r3 076	3 277	3 362	3 253	r3 186	3 392	n.y.a.	6.5	3.5
	Seasonally adjusted	3 017	3 161	3 090	3 212	3 471	3 244	r3 146	3 355	n.y.a.	6.6	4.4
	Trend	3 062	3 086	3 159	3 267	3 312	3 291	3 252	3 250	n.y.a.	-0.1	-0.5

(a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes on page 6.

										Percentage changes between latest quarter shown and....	
1996..... 1997..... 1998..										prev. quarter	same quarter prev. year
No.	Item and unit/Series	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	
15	Portland cement ('000 tonnes)										
	Original	1 526	1 593	1 706	1 699	1 511	1 785	1 826	1 830	1 719	-6.1
	Seasonally adjusted	1 670	1 576	1 587	1 666	1 678	1 765	1 700	1 818	1 886	3.7
	Trend	1 594	1 600	1 610	1 645	1 694	1 721	1 754	1 806	1 861	3.0
16	Clay bricks (million)										
	Original	310	358	379	369	330	390	416	383	339	-11.5
	Seasonally adjusted	339	345	360	365	368	376	392	384	373	-2.9
	Trend	347	346	355	364	370	379	384	383	379	-1.0
17	Ready mixed concrete ('000 m ³)										
	Original	3 473	3 568	3 922	3 989	3 534	4 099	4 252	r4 394	4 389	-0.1
	Seasonally adjusted	3 802	3 557	3 713	3 886	3 867	4 086	4 025	4 278	4 715	10.2
	Trend	3 622	3 659	3 725	3 819	3 931	3 988	4 121	4 335	4 572	5.5
18	Basic iron, spiegeleisen and sponge iron ('000 tonnes)										
	Original	1 876	1 854	1 917	1 734	1 804	1 891	1 966	2 025	1 950	-3.7
	Seasonally adjusted	1 914	1 850	1 834	1 760	1 840	1 890	1 924	2 034	2 009	-1.2
	Trend	1 902	1 862	1 814	1 799	1 824	1 882	1 947	1 995	2 028	1.6
19	Blooms and slabs of iron or steel ('000 tonnes)										
	Original	1 944	1 956	1 996	1 877	1 948	1 954	2 108	2 075	2 083	0.4
	Seasonally adjusted	1 989	1 968	1 948	1 872	1 989	1 969	2 059	2 071	2 123	2.5
	Trend	1 998	1 964	1 931	1 922	1 947	1 994	2 041	2 080	2 116	1.7
20	Alumina ('000 tonnes)										
	Original	3 319	3 348	3 341	3 341	3 201	3 370	3 429	3 385	n.y.a.	-1.3
	Seasonally adjusted	3 327	3 342	3 304	3 315	3 279	3 363	3 358	3 416	n.y.a.	1.7
	Trend	3 327	3 330	3 314	3 302	3 309	3 338	3 373	3 405	n.y.a.	0.9
21	Zinc ('000 tonnes)										
	Original	81	82	82	81	77	79	73	78	n.y.a.	6.8
	Seasonally adjusted	84	80	81	81	80	78	72	78	n.y.a.	8.3
	Trend	83	82	81	81	79	77	75	75	n.y.a.	—
22	Silver (tonnes)										
	Original	90	97	84	85	84	87	58	51	n.y.a.	-12.1
	Seasonally adjusted	90	90	85	91	83	81	59	55	n.y.a.	-6.8
	Trend	87	88	89	88	85	75	64	57	n.y.a.	-10.9
23	Copper ('000 tonnes)										
	Original	62	82	84	83	62	76	75	58	n.y.a.	-22.7
	Seasonally adjusted	67	81	77	86	67	74	68	60	n.y.a.	-11.8
	Trend	71	76	80	79	75	71	67	64	n.y.a.	-4.5
24	Lead ('000 tonnes)										
	Original	54	56	44	50	52	56	50	46	n.y.a.	-8.0
	Seasonally adjusted	54	55	47	48	52	55	53	44	n.y.a.	-17.0
	Trend	55	52	49	49	52	53	51	49	n.y.a.	-3.9
25	Tin (tonnes)										
	Original	90	135	100	135	160	175	145	125	n.y.a.	-13.8
	Seasonally adjusted	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.y.a.	n.p.
	Trend	129	103	121	145	159	159	153	146	n.y.a.	-4.6
26	Gold (tonnes)										
	Original	85	83	81	81	85	80	85	92	n.y.a.	8.2
	Seasonally adjusted	84	82	79	84	84	79	84	95	n.y.a.	13.1
	Trend	81	82	82	82	82	83	86	90	n.y.a.	4.7
27	Electricity (million kWh)										
	Original	41 076	42 122	43 742	40 761	41 011	42 901	45 521	r43 169	45 920	6.4
	Seasonally adjusted	r42 344	41 927	41 568	41 885	42 285	42 697	43 276	r44 345	47 072	6.1
	Trend	41 987	41 916	41 786	41 850	42 204	42 604	43 461	44 794	46 377	3.5
28	Gas (petajoules)										
	Original	133	162	184	146	135	171	183	151	141	-6.8
	Seasonally adjusted	158	154	157	157	161	163	156	162	167	3.1
	Trend	156	156	156	158	160	160	160	162	165	1.9

(a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes on page 6.

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents quarterly estimates of production of selected major manufacturing commodities for Australia.

SCOPE AND COVERAGE

2 Data presented in this publication are collected from a number of different sources. The prime source is the ABS surveys of manufacturing production. Data are also obtained from surveys undertaken by the Department of Primary Industries and Energy (DPIE), the Australian Bureau of Agricultural and Resource Economics (ABARE), the Australian Dairy Corporation (ADC) and from ABS agriculture collections. Scope and coverage varies slightly depending on the source of the information.

3 Where production statistics are collected by the ABS manufacturing production surveys, they are not collected from single establishment manufacturing businesses with less than four persons employed nor from establishments predominantly engaged in non-manufacturing activities but which may carry out some manufacturing in a minor way. However, in general, the contribution of these small producers to statistical aggregates is only marginal and data contained in this publication provide reliable information for the evaluation of movements in commodity production.

4 The statistics on meat production include data collected from abattoirs and other major slaughtering establishments and include estimates of animals slaughtered on farms and by country butchers and other small slaughtering establishments for human consumption. Further information about this series, including more detail, is available in the monthly publication *Livestock Products, Australia* (Cat. no. 7215.0).

5 The statistics on chicken meat have been collected from commercial poultry slaughtering establishments. Many very small producers are excluded from the collection, however, the statistics represent a high level of coverage. Further information about this series, including more detail, is available in the monthly publication *Livestock Products, Australia* (Cat. no. 7215.0).

6 Data on the production of base metals and sawn timber are obtained from the ABARE publication *Mineral Statistics* and as unpublished data.

7 Data on the production of fuels are obtained from the DPIE Petroleum and Fisheries Division publication *Australian Petroleum Statistics*, from July 1996. Previously, these data were obtained from ABARE.

8 Data on the production of cheese and butter are obtained from the ADC publication *Dairystats*.

COMPARABILITY WITH OTHER ESTIMATES

9 The production statistics referred to in paragraph 1 account, in total, for less than one-quarter of the output of the manufacturing sector. For information on general trends in the manufacturing sector, refer to the publications shown in paragraphs 10 and 11.

10 Details of manufacturers' sales and stocks are published quarterly in *Stocks and Sales, Selected Industries, Australia* (Cat. no. 5629.0).

COMPARABILITY WITH OTHER ESTIMATES *continued*

11 Details from the annual manufacturing collection are published in *Manufacturing Industry, Australia* (Cat. no. 8221.0) and corresponding State publications.

SEASONALLY ADJUSTED AND TREND ESTIMATES

12 In the seasonal adjustment process, account has been taken not only of normal seasonal factors, but also where appropriate, of 'working day' effects (arising from the varying numbers of Sundays, Mondays, Tuesdays, etc. in the quarter) which may, in successive years, affect figures for different quarters. Details of the methods used in seasonally adjusting these series are available on request.

13 Seasonal adjustment procedures do not aim to remove the irregular or non-seasonal influences which may be present in any particular quarter, such as the non-systematic effect of strikes, holiday shutdowns, providers' inconsistent reporting periods (where, for example, a 'quarter' may variously represent 13 or 14 weeks production), or other factors which vary with the prevailing demand for products. Irregular influences that are highly volatile can make it difficult to interpret the movement of the series even after seasonal adjustment. Seasonally adjusted estimates of production for the series 12 Fuel oil, 21 Zinc, and 26 Gold are more volatile than other series. Seasonally adjusted estimates for 25 Tin are not sufficiently reliable to be published.

14 The smoothing of seasonally adjusted series to create trend estimates is a means of reducing the impact of the irregular component of the series. The trend estimates have been derived by applying a 7-term moving average to the quarterly seasonally adjusted series. The 7-term Henderson averages (like all Henderson averages) are symmetric but, as the end of a time series is approached, asymmetric forms of the average are applied. Unlike the weights of the standard 7-term Henderson moving average, the surrogate weights employed with the quarterly data have been tailored to suit the particular characteristics of individual series.

15 While the asymmetric weights enable trend estimates for recent quarters to be produced, it does result in revisions to the estimates for the most recent quarters as additional observations become available. Generally, subsequent revisions become smaller and after two quarters have little impact on the series. There will also be revisions as a result of changes to the original estimates and annual reviews of seasonal and 'working day' factors.

16 Users may wish to refer to the ABS's *Information Paper: A Guide to Interpreting Time Series — Monitoring 'Trends', an Overview* (Cat. no. 1348.0) for more detailed information on smoothing of seasonally adjusted time series data.

GENERAL ACKNOWLEDGEMENTS

17 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act 1905*.

RELATED PUBLICATIONS

18 Other ABS publications which may be of interest are:

- *Australian Mining Industry* (Cat. no. 8414.0) issued annually
- *Information Paper: Availability of Statistics Related to Manufacturing, 1997* (Cat. no. 8205.0), released on 16 January 1998
- *Livestock Products, Australia* (Cat. no. 7215.0) issued monthly
- *Manufacturing, Australia, 1997* (Cat. no. 8225.0) to be released shortly
- *Manufacturing Industry, Australia* (Cat. no. 8221.0) issued annually
- *Manufacturing Industry, Australia, Preliminary* (Cat. no. 8201.0) issued annually
- *Manufacturing Production, Australia: Principal Commodities Produced, 1993–94* (Cat. no. 8365.0), released on 6 August 1997
- *Manufacturing Production, Australia: Commodities Produced, 1995–96* (Cat. no. 8365.0), to be released in May 1998
- *Stocks and Sales, Selected Industries, Australia* (Cat. no. 5629.0) issued quarterly

UNPUBLISHED STATISTICS

19 Additional manufacturing production data are collected by the ABS through user funded surveys and are available to users as a special data service. These series are:

audio cassette tapes
 audio compact discs
 beer
 brass bars, rods and sections
 cars and station wagons
 children's footwear
 clay bricks
 clothes drying machines
 concrete blocks, bricks and pavers
 cotton broadwoven fabric
 cotton yarn
 domestic clothes washing machines
 domestic cooking stoves, ovens and ranges
 domestic deep-freezers
 domestic refrigerators
 foundation garments and swimwear
 gas
 hosiery
 knitted and woven sleepwear
 knitted cardigans, jumpers, sweatshirts and sloppy-joes
 knitted or crocheted fabrics
 knitted underwear
 malt
 man-made fibre broadwoven fabric
 men's and boys' long trousers and shorts
 men's and boys' shirts
 men's complete suits and men's and boys' woven coats
 men's footwear
 mowers
 other clothing (excluding those listed here)

UNPUBLISHED STATISTICS *continued*

plasterboard
 Portland cement
 ready mixed concrete
 rigid PVC tubes, pipes and hoses
 roofing tiles
 scoured and carbonised wool
 space heaters
 starches, wheat gluten and glucose
 synthetic fibre yarn
 textile floor coverings
 unlaminated particle board
 water heaters
 women's and girls' woven coats, blazers, jackets, overalls, slacks and other
 long trousers
 women's footwear
 women's shirts and blouses
 wool and man-made fibre tops
 wool broadwoven fabric
 wool yarn

For further information, please call John Ridley on Sydney 02 9268 4541 or by email through the Internet to john.ridley@abs.gov.au.

CURRENT PUBLICATIONS

20 Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (Cat. no. 1101.0). The ABS also issues, on Tuesdays and Fridays, a *Release Advice* (Cat. no. 1105.0) which lists publications to be released in the next few days. The Catalogue and Release Advice are available from any ABS office.

APPENDIX CLARIFICATION OF TERMS

1 Red meat	Includes veal, pork and buffalo.
2 Chicken meat	Expressed in the dressed weight of whole birds, pieces and giblets.
3 Cheese	Includes fresh cheeses such as ricotta, cottage, cream and quark.
4 Butter	Includes direct butter oil.
5 Beer	Includes ale and stout; excludes low alcohol beer containing less than 1.15% but more than 0.5%, by volume of alcohol.
6 Tobacco and cigarettes	Includes those containing tobacco substitutes.
7 Newsprint	Excludes directory paper, mechanical and printing paper.
8 Wood pulp	Expressed as air-dried weight.
9 Undressed sawn timber	Expressed in terms of green off saw volumes.
10 Hardwood woodchips	Expressed as greenweight; excludes chips which are not sold or are used in own works.
11 Automotive gasoline	Produced by Australian refineries from imported and indigenous petroleum.
12 Fuel oil	Oils derived from the distillation of petroleum which are generally used for domestic heating or fuelling furnaces; produced by Australian refineries from imported and indigenous petroleum.
13 Aviation turbine fuel	Produced by Australian refineries from imported and indigenous petroleum.
14 Automotive diesel oil	Produced by Australian refineries from imported and indigenous petroleum.
15 Portland cement	Includes blended Portland cement. Excludes both Portland cement clinker and Portland cement used to make blended Portland cement in-house.
16 Clay bricks	Saleable bricks (of all sizes) removed from kiln; excludes firebricks and bricks for other than structural purposes.
17 Ready mixed concrete	Excludes production used or for use within the same business.
18 Basic iron, spiegeleisen and sponge iron	In pigs, blocks and other primary forms; includes pig iron. This item comprises production of BHP Steel only.
19 Blooms and slabs of iron or steel	Continuous cast; includes steel in the molten state. This item comprises production of BHP Steel only.
20 Alumina	Aluminium oxide.
21 Zinc	Primary origin only.
22 Silver	Refined.
23 Copper	Primary origin only.

APPENDIX CLARIFICATION OF TERMS *continued*

- 24 **Lead** Includes lead content of lead from primary sources.
- 25 **Tin** Primary origin only.
- 26 **Gold** From primary and secondary sources.
- 27 **Electricity** Excludes purchases or transfers in of electricity.
- 28 **Gas** Gas (including natural gas) available for issue through mains. From September quarter 1996, includes gas production for distribution via natural gas pipelines which service a single user.

SELF-HELP ACCESS TO STATISTICS

<i>PHONE</i>	Call 1900 986 400 for the latest statistics on CPI, Labour Force, Earnings, National Accounts, Balance of Payments and other topics. (Call cost is 75c per minute)
<i>INTERNET</i>	http://www.abs.gov.au
<i>LIBRARY</i>	A range of ABS publications is available from public and tertiary libraries Australia wide. Contact your nearest library to determine whether it has the ABS statistics you require.

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EMAIL client.services@abs.gov.au



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