



MARCH QUARTER 2002

8301.0

MANUFACTURING PRODUCTION

AUSTRALIA

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C O N T E N T S

Page

Notes 2

TABLES

1 Quarterly commodity production 3

ADDITIONAL INFORMATION

Explanatory notes 5

Appendix: Clarification of terms 9

- For further information about these and related statistics, contact Denis Linney on Sydney 02 9268 4219 or the National Information and Referral Service on 1300 135 070.

NOTES

FORTHCOMING ISSUES

<i>ISSUE</i>	<i>RELEASE DATE</i>
June quarter 2002	9 August 2002
September quarter 2002	11 November 2002
December quarter 2002	11 February 2003

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IN THIS ISSUE

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

More detailed and other commodity items are collected by the Australian Bureau of Statistics (ABS) and are available to users on request and for a charge, as are monthly series for a limited number of data items. These data items are listed in paragraph 20 of the Explanatory Notes on page 7.

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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.

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ABBREVIATIONS AND SYMBOLS

ABARE	Australian Bureau of Agricultural and Resource Economics
ABS	Australian Bureau of Statistics
ADC	Australian Dairy Corporation
DITR	Department of Industry, Tourism and Resources
n.a.	not available
n.p.	not publishable
n.y.a.	not yet available
p	preliminary
r	figure or series revised since previous issue
—	nil or rounded to zero

Dennis Trewin
Australian Statistician

										Percentage changes between latest quarter shown and....	
2000.....				2001.....				2002..		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	1 835	2 070	1 898	1 652	1 554	1 717	1 679	1 836	1 729	-5.8
	Seasonally adjusted	1 996	2 027	1 826	1 623	1 693	1 681	1 628	1 776	1 914	7.8
	Trend(b)	2 015	1 993	1 879	1 744	1 656	1 642	1 693	1 770	1 869	5.6
16	Clay bricks (million)										
	Original	423	450	420	382	298	348	367	380	356	-6.2
	Seasonally adjusted	458	440	396	385	325	341	344	383	388	1.3
	Trend(b)	446	443	415	375	344	335	351	373	391	4.8
17	Ready mixed concrete ('000 m ³)										
	Original	4 880	5 349	4 679	4 188	3 932	4 452	4 880	4 896	4 531	-7.4
	Seasonally adjusted	5 262	5 305	4 441	4 145	4 238	4 412	4 633	4 849	4 884	0.7
	Trend(b)	5 304	5 157	4 758	4 359	4 221	4 385	4 626	4 797	4 921	2.6
18	Alumina ('000 tonnes)										
	Original	3 710	3 918	4 004	4 049	3 950	4 096	4 119	4 106	n.y.a.	-0.3
	Seasonally adjusted	3 776	3 890	3 940	4 037	4 053	4 067	4 081	4 079	n.y.a.	-0.1
	Trend	3 787	3 873	3 957	4 019	4 055	4 070	4 077	4 082	n.y.a.	0.1
19	Zinc ('000 tonnes)										
	Original	112	112	139	130	127	137	144	146	n.y.a.	1.4
	Seasonally adjusted	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.y.a.	n.p.
	Trend	114	120	127	132	133	136	141	144	n.y.a.	2.3
20	Silver (tonnes)										
	Original	131	149	110	148	140	134	154	148	n.y.a.	-3.9
	Seasonally adjusted	137	141	111	148	147	128	155	148	n.y.a.	-4.8
	Trend	134	131	132	135	140	143	145	149	n.y.a.	3.0
21	Copper ('000 tonnes)										
	Original	114	126	117	127	133	141	147	139	n.y.a.	-5.4
	Seasonally adjusted	121	119	114	132	140	133	143	145	n.y.a.	0.9
	Trend	120	118	121	128	135	139	141	144	n.y.a.	2.0
22	Lead ('000 tonnes)										
	Original	55	55	51	63	54	47	66	70	n.y.a.	6.1
	Seasonally adjusted	54	54	52	63	53	46	67	70	n.y.a.	4.4
	Trend	56	54	56	56	54	55	61	69	n.y.a.	12.2
23	Tin (tonnes)										
	Original	155	180	216	182	296	345	266	187	n.y.a.	-29.7
	Seasonally adjusted	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.y.a.	n.p.
	Trend	152	171	196	237	281	295	275	238	n.y.a.	-13.4
24	Gold (tonnes)										
	Original	88	101	78	82	92	108	85	88	n.y.a.	3.7
	Seasonally adjusted	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.y.a.	n.p.
	Trend(c)	96	91	85	86	91	96	94	89	n.y.a.	-5.5
25	Electricity (million kWh)										
	Original	46 040	47 374	49 387	45 977	46 865	46 317	47 412	45 977	45 814	-0.4
	Seasonally adjusted	46 544	47 207	47 397	47 196	47 867	46 157	45 582	47 177	46 804	-0.8
	Trend	46 501	47 067	47 433	47 525	47 085	46 500	46 285	46 505	46 987	1.0
26	Gas (petajoules)										
	Original	164	199	213	173	177	205	218	185	166	-10.3
	Seasonally adjusted	189	187	187	186	203	193	191	200	191	-4.4
	Trend	186	187	188	191	195	196	195	194	194	0.1

(a) The most recent trend estimates published in this release are likely to be improved (revised) when next quarter's seasonally adjusted estimates become available. For more information, users should refer to paragraphs 12–15 of the Explanatory Notes.

(b) Due to an abnormal movement in the original series for September quarter 2000, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

(c) Due to an abnormal movement in the original series for December quarter 1999, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

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 Industry, Tourism and Resources (DITR), 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 Production statistics sourced from ABS manufacturing production surveys are not collected from single establishment manufacturing businesses with fewer 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 of meat production include data collected from abattoirs and other major slaughtering establishments, plus estimates of animals slaughtered for human consumption on farms and by country butchers and other small slaughtering establishments. Further information about this series, including more detail, is available in the monthly publication *Livestock and Meat, Australia* (Cat. no. 7218.0) and in the quarterly 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 and Tasmanian 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 quarterly publication *Livestock Products, Australia* (Cat. no. 7215.0).

6 Data on the production of base metals and sawn timber are obtained from the ABARE publications *Mineral Statistics* and *Australian Forest Products Statistics*.

7 Data on the production of fuels are obtained from the DITR Petroleum and Fisheries Division publication *Australian Petroleum Statistics*.

8 Data on the production of cheese and butter are obtained from the ADC as unpublished data.

COMPARABILITY WITH OTHER ESTIMATES

9 The quarterly production statistics presented in this publication account, in total, for less than one-fifth of the output of the manufacturing sector. For information on general trends in the manufacturing sector, refer to the publications shown in paragraphs 10, 11 and 18.

10 Details of the value of manufacturers' sales and inventories are published quarterly in *Business Indicators, Australia* (Cat. no. 5676.0) (which has replaced *Inventories and Sales, Selected Industries, Australia* (Cat. no. 5629.0)). Information about the manufacturing sector's contribution to the Australian economy is published quarterly in *Australian National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0).

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 20 Silver, 21 Copper, and 22 Lead are more volatile than other series. Seasonally adjusted estimates for 19 Zinc and 23 Tin are not sufficiently reliable to be published, while those for 12 Fuel Oil and 24 Gold do not exhibit sufficient seasonal behaviour 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 More detailed up-to-date information on smoothing of seasonally adjusted time series data is available in unpublished form. Interested users should contact the ABS's Time Series Analysis section, on Canberra 02 6252 6345 or by email through the internet to timeseries@abs.gov.au.

ACKNOWLEDGEMENT

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 National Accounts: National Income, Expenditure and Product* (Cat. no. 5206.0) issued quarterly
 - *Business Indicators, Australia* (Cat. no. 5676.0) issued quarterly
 - *Electricity, Gas, Water and Sewerage Industries, Australia, 1999–2000* (Cat. no. 8208.0), released on 28 August 2001
 - *Experimental Estimates, Australian Industry, a State Perspective* (Cat. no. 8156.0) released on 21 March 2002
 - *Information Paper: Availability of Statistics Related to Manufacturing, 1997* (Cat. no. 8205.0), released on 16 January 1998
 - *Livestock and Meat, Australia* (Cat. no. 7218.0) issued monthly
 - *Livestock Products, Australia* (Cat. no. 7215.0) issued quarterly
 - *Manufacturing, Australia, 2001* (Cat. no. 8225.0) released on 8 March 2002
 - *Manufacturing Industry, Australia, 1999–2000* (Cat. no. 8221.0) released on 24 October 2001
 - *Manufacturing Industry, Australia, Preliminary, 2000–01* (Cat. no. 8201.0) released on 27 March 2002
 - *Mining Operations, Australia* (Cat. no. 8415.0) issued annually

OTHER PUBLISHED STATISTICS

- 19** Some annual manufacturing production series which mainly relate to textiles, clothing and footwear were published in the September quarter 2001 issue. Selected annual food series (which are now collected less frequently) were last published in the September quarter 2000 issue.

ABS DATA AVAILABLE ON REQUEST

- 20** More detailed and other commodity items are collected by the ABS and are available to users on request and for a charge, as are monthly series for a limited number of the data items contained in this publication. Items for which additional production data are available are:

beer
cars and station wagons
clay bricks (for structural purposes)
clay bricks (for other than structural purposes)
commercial office furniture
concrete bricks, blocks and pavers
cotton broadwoven fabric
hosiery
knitted sweatshirts and sloppy-joes
knitted underwear
malt
man-made fibre broadwoven fabric
men's and boys' long trousers
men's and boys' shirts
men's and boys' woven coats
mowers
other clothing (excluding those listed here)
plasterboard
Portland cement and cement clinkers
ready mixed concrete
roofing tiles

EXPLANATORY NOTES *continued*

ABS DATA AVAILABLE ON REQUEST *continued*

- semi-trailers
- synthetic fibre yarn
- textile floor coverings
- water heaters
- women's knitted briefs and panties
- women's shirts and blouses
- women's footwear
- wool broadwoven fabric
- wool yarn

For further information, please contact Denis Linney on Sydney 02 9268 4219.

21 The value of sales for commodities produced (classified in accordance with the Manufacturing Input-Output Commodity Classification) is collected in the annual manufacturing industry survey, and is available to users on request and for a charge. For further information, please contact John Ridley on Sydney 02 9268 4541.

CURRENT PUBLICATIONS

22 Current publications and other products 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 products to be released in the next few days. The Catalogue and Release Advice are available from any ABS office or by subscription, and can also be accessed through the ABS web site www.abs.gov.au.

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 Alumina	Aluminium oxide.
19 Zinc	Primary origin only.
20 Silver	Refined.
21 Copper	Primary origin only.
22 Lead	Includes lead content of lead from primary sources.
23 Tin	Primary origin only.
24 Gold	From primary and secondary sources.
25 Electricity	Excludes purchases or transfers in of electricity.
26 Gas	Gas (including natural gas) available for issue through mains, including gas production for distribution via natural gas pipelines which service a single user.

FOR MORE INFORMATION...

- INTERNET** www.abs.gov.au the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
- LIBRARY** 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, or visit our web site for a list of libraries.
- CPI INFOLINE** For current and historical Consumer Price Index data, call 1902 981 074 (call cost 77c per minute).
- DIAL-A-STATISTIC** For the latest figures for National Accounts, Balance of Payments, Labour Force, Average Weekly Earnings, Estimated Resident Population and the Consumer Price Index call 1900 986 400 (call cost 77c per minute).

INFORMATION SERVICE

Data which have been published and can be provided within five minutes are free of charge. Our information consultants can also help you to access the full range of ABS information—ABS user-pays services can be tailored to your needs, time frame and budget. Publications may be purchased. Specialists are on hand to help you with analytical or methodological advice.

- PHONE** **1300 135 070**
- EMAIL** **client.services@abs.gov.au**
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