

# MANUFACTURING PRODUCTION

**AUSTRALIA** 

EMBARGO: 11:30AM (CANBERRA TIME) FRI 9 FEB 2001

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

## **NOTES** ISSUE FORTHCOMING ISSUES RELEASE DATE March quarter 2001 11 May 2001 June quarter 2001 10 August 2001 September quarter 2001 9 November 2001 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 as a special data service, as are monthly series for a limited number of data items. These data items are listed in paragraph 20 of the

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.

ABBREVIATIONS AND SYMBOLS

ABARE Australian Bureau of Agricultural and Resource Economics

ABS Australian Bureau of Statistics
ADC Australian Dairy Corporation

DISR Department of Industry, Science and Resources

n.a. not availablen.p. not publishablen.y.a. not yet availablep preliminary

Explanatory Notes on page 8.

r figure or series revised since previous issue

nil or rounded to zero

Dennis Trewin Australian Statistician

Percentage changes

<sup>(</sup>a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes.

												same
No.	Item and unit/Series	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	prev. quarter	quarter prev. year
740.	tem and anyoches	DCC	Wildi	Jun	ОСР	Dec	iviai	Juli	ОСР	DCC	quarter	prev. year
• • •		• • • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • • •	• • • • •
15	Portland cement ('000 tonnes)											
	Original	2 067	1 737	1 944	2 005	2 027	1 835	2 070	1 898	1 652	-13.0	-18.5
	Seasonally adjusted	1 998	1 911	1 916	1 931	1 941	1 996	2 041	1 835	1 605	-12.5	-17.3
	Trend(b)	1 938	1 941	1 922	1 922	1 959	2 015	1 994	1 886	1 729	-8.3	-11.7
16	Clay bricks (million)											
	Original	391	383	408	437	425	423	450	420	382	-9.0	-10.1
	Seasonally adjusted	392	420	401	407	427	456	443	394	385	-2.3	-10.0
	Trend(b)	399	405	407	414	431	446	438	416	389	-6.5	-9.6
17	Ready mixed concrete ('000 m <sup>3</sup> )											
	Original	4 850	4 251	4 611	5 187	5 217	r4 864	r5 329	r4 665	4 176	-10.5	-20.0
	Seasonally adjusted	4 729	4 574	4 655	4 923	5 081	r5 237	r5 379	r4 427	4 064	-8.2	-20.0
	Trend(b)	4 634	4 641	4 706	4 873	5 119	5 292	5 154	4 776	4 300	-10.0	-16.0
18	Basic iron, spiegeleisen and											
	sponge iron ('000 tonnes)											
	Original	1 834	1 841	1 827	1 972	1 507	1 503	1 507	1 567	n.y.a.	4.0	-20.5
	Seasonally adjusted	1 861	1 865	1 832	1 931	1 524	1 516	1 511	1 531	n.y.a.	1.3	-20.7
	Trend(c)	1 865	1 851	1 870	1 888	1 530	1 522	1 517	1 523	n.y.a.	0.4	-19.4
19	Blooms and slabs of iron or steel											
	('000 tonnes)	4 000	4.004	4.000	0.050	4 505	4 577	4 004	4 004		4.0	40.0
	Original	1 890	1 864	1 900	2 056	1 505	1 577	1 604	1 681	n.y.a.	4.8	-18.2
	Seasonally adjusted Trend(c)	1 920 1 917	1 891 1 898	1 908	1 986 1 951	1 532 1 559	1 599	1 610	1 624	n.y.a.	0.9	-18.2 -16.5
20	Alumina ('000 tonnes)	1 917	1 898	1 919	1 951	1 559	1 584	1 608	1 630	n.y.a.	1.3	-16.5
20	Original	3 553	3 522	3 601	3 707	3 702	3 710	r3 856	3 974	n.v.o	3.1	7.2
	Seasonally adjusted	3 533	3 612	3 582	3 657	3 702	3 757	r3 836	3 914	n.y.a. n.y.a.	2.0	7.2
	Trend	3 551	3 582	3 611	3 651	3 702	3 769	3 836	3 895	n.y.a.	1.5	6.7
21	Zinc ('000 tonnes)	3 331	3 302	3 011	3 031	3 102	3 103	3 030	3 633	m.y.a.	1.5	0.7
21	Original	78	79	85	90	90	112	r112	139	n.y.a.	24.1	54.4
	Seasonally adjusted	78	81	84	88	90	115	r111	136	n.y.a.	22.3	54.4
	Trend	79	81	84	88	89	114	120	126	n.y.a.	5.2	43.2
22	Silver (tonnes)	10	01	01	00	00		120	120	my.a.	0.2	10.2
	Original	100	96	113	134	129	131	149	110	n.y.a.	-26.2	-17.9
	Seasonally adjusted	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.y.a.	n.p.	n.p.
	Trend	103	105	104	133	137	136	130	122	n.y.a.	-6.2	-8.5
23	Copper ('000 tonnes)									,		
	Original	73	77	102	121	119	116	120	119	n.y.a.	-0.8	-1.7
	Seasonally adjusted	76	84	95	116	124	125	112	115	n.y.a.	2.6	-1.4
	Trend	72	83	99	114	123	122	117	113	n.y.a.	-3.5	-0.5
24	Lead ('000 tonnes)									•		
	Original	45	53	62	65	60	55	55	51	n.y.a.	-7.3	-21.5
	Seasonally adjusted	46	52	59	67	61	54	53	53	n.y.a.	-0.1	-21.7
	Trend	45	53	60	64	61	56	53	52	n.y.a.	-2.0	-18.4
25	Tin (tonnes)											
	Original	125	170	150	140	125	155	180	215	n.y.a.	19.4	53.6
	Seasonally adjusted	145	161	129	150	147	144	159	224	n.y.a.	41.0	49.9
	Trend	154	145	144	143	141	152	173	197	n.y.a.	14.1	38.1
26	Gold (tonnes)											
	Original	106	96	86	78	115	88	101	78	n.y.a.	-22.8	_
	Seasonally adjusted	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.y.a.	n.p.	n.p.
	Trend(d)	98	94	89	88	93	96	93	88	n.y.a.	-5.7	-0.5

<sup>(</sup>a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes.

<sup>(</sup>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.

<sup>(</sup>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.

<sup>(</sup>d) Due to abnormal movements in the original series for each of September quarter 1998 and December quarter 1999, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

		1998 1999 2000						between I	between latest quarter shown and			
No.	Item and unit/Series	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	prev. quarter	same quarter prev. year
• • •		• • • • • •	• • • • •	• • • • •	• • • • •	• • • • • •	• • • • • •	• • • • •	• • • • •	• • • • •	• • • • • •	• • • • • •
27	Electricity (million kWh)											
	Original	43 235	45 084	45 227	46 785	44 591	46 040	47 374	49 387	45 977	-6.9	3.1
	Seasonally adjusted	44 400	46 054	45 043	44 866	45 783	47 006	47 191	47 383	47 200	-0.4	3.1
	Trend(b)	44 516	44 800	44 931	45 214	45 862	46 701	47 189	47 327	47 311	_	3.2
28	Gas (petajoules)(c)											
				400	400	105	161	199	213	172	-19.3	4.1
	Original	157	145	182	198	165	164	199	213	112	-19.5	4.1
	Original Seasonally adjusted	15 <i>7</i> 169	145 169	182 171	198 172	178	192	187	186	185	-19.3 -0.4	4.1

<sup>(</sup>a) Trend estimates shown may have been revised. See paragraph 15 of the Explanatory Notes.

<sup>(</sup>b) Due to an abnormal movement in the original series for March quarter 1999, the trend has been modified to remove the effect. See also paragraphs 14–16 of the Explanatory Notes.

<sup>(</sup>c) From September quarter 1999, there has been an improvement in coverage for this item. This improvement contributed approximately a 6.5% increase for that quarter.

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, Science and Resources (DISR), 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 DISR 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-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, 11 and 18.
- **10** Details of the value of manufacturers' sales and stocks are published quarterly in *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 21 Zinc, 23 Copper and 25 Tin are more volatile than other series. Seasonally adjusted estimates for 12 Fuel oil and 22 Silver are not sufficiently reliable to be published, while those for 26 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 Mark Zhang, of the ABS's Time Series Analysis section, on Canberra 02 6252 5132 or by email through the internet to mark.zhang@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 Mining Industry (Cat. no. 8414.0) issued biennially
- 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, 2000 (Cat. no. 8225.0) released on 22 December 2000
- Manufacturing Industry, Australia, 1998–99 (Cat. no. 8221.0) released on 22 September 2000
- Manufacturing Industry, Australia, Preliminary, 1999–2000
   (Cat. no. 8201.0) to be released in March 2001
- Manufacturing Production, Australia: Commodities Produced, 1997–98 (Cat. no. 8365.0) released on 16 December 1999
- Mining Operations, Australia (Cat. no. 8415.0) issued biennially

#### OTHER PUBLISHED STATISTICS

**19** Some annual manufacturing production series which mainly relate to textiles, clothing, footwear and food are published in the June and September quarter issues of this publication.

#### UNPUBLISHED STATISTICS

**20** More detailed and other commodity items are collected by the 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. Items for which additional production data are available are:

beer

cars and station wagons

clay bricks

concrete bricks, blocks and pavers

cotton broadwoven fabric

cotton yarn

hosiery

knitted sweatshirts and sloppy-joes

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

mowers

other clothing (excluding those listed here)

plasterboard

Portland cement and cement clinkers

ready mixed concrete

roofing tiles

space heaters

starches, wheat gluten and glucose

textile floor coverings

water heaters

women's shirts and blouses

### EXPLANATORY NOTES continued

#### UNPUBLISHED STATISTICS continued

wool broadwoven fabric wool yarn

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

#### **CURRENT PUBLICATIONS**

**21** 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 Basic iron, spiegeleisen In pigs, blocks and other primary forms; includes pig iron. This item comprises

and sponge iron production of BHP Steel only.

19 Blooms and slabs Continuous cast; includes steel in the molten state. This item comprises

of iron or steel production of BHP Steel only.

20 Alumina Aluminium oxide.

21 Zinc Primary origin only.

22 Silver Refined.

23 Copper Primary origin only.

24 Lead Includes lead content of lead from primary sources.

25 Tin Primary origin only.

26 Gold From primary and secondary sources.

## APPENDIX CLARIFICATION OF TERMS continued

27 Electricity Excludes purchases or transfers in of electricity.

28 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 MORF 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

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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).

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