## MANUFACTURING PRODUCTION

CONTENTS
Notes ..... 2
TABLES
1 Quarterly commodity production ..... 3
2 Annual commodity production ..... 5
ADDITIONAL INFORMATION
Explanatory notes ..... 6
Appendix: Clarification of terms ..... 10

- For further information about these and related statistics, contact Merv Leaker on Adelaide 0882377536 or the National Information and Referral Service on 1300135070.


## NOTES

FORTHCOMING ISSUES

IN THIS ISSUE

EFFECTS OF ROUNDING

ABBREVIATIONS AND SYMBOLS

ISSUE
December quarter 2002
March quarter 2003
June quarter 2003

## RELEASE DATE

11 February 2003
12 May 2003

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

This issue also includes annual summary data mainly related to yarns, textiles, clothing, hosiery and footwear, which were last published in the September quarter 2001 issue of this publication. See also paragraph 19 of the Explanatory Notes on page 8.

Trend and seasonally adjusted estimates of production for all quarterly series have been revised as a result of new seasonal factors being calculated (please refer to paragraphs 12-15 of the Explanatory Notes on page 7).

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 8.

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.

| 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 |
| r | figure or series revised since previous issue |
| - | nil or rounded to zero |


a) Users should note that the seasonally adjusted and trend estimates have been revised. Generally, 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) The recent large downward movement in the original series has caused some uncertainty in the trend estimates from December quarter 2001. More data is required before the effect of the abrupt change in the level can be appropriately assessed, and hence a more accurate trend estimate can be made.

(a) Users should note that the seasonally adjusted and trend estimates have been
revised. Generally, 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 a change in the level of the original estimates from September quarter 2000 and onwards, a trend break has been introduced at September quarter 2000 to remove the effect from the seasonal adjustment process. See also paragraphs 14-16 of the Explanatory Notes.


## Yarns and textiles

A1

| 200 | 175 | 139 |
| ---: | ---: | ---: |
| 499 | 473 | 367 |
| 3283 | 3082 | 2792 |
| 1933 | 1646 | 1517 | 933

9620
$8761 \quad 8587$

| 506 | 410 | 469 |
| ---: | ---: | ---: |
| 1570 | 1044 | 991 |
| 5007 | 4144 | 3697 |
|  |  |  |
| 2001 | 1523 | 1493 |
|  |  |  |
| 1762 | 1671 | 1520 |
| n.p. | 2654 | 2222 |
| 22064 | 17432 | 15211 |
| 5462 | 4434 | n.p. |
| 605 | 613 | 656 |
| 2223 | 1619 | 1777 |
| 2949 | 2936 | 2605 |
| 300 | 243 | 258 |


| 165268 | 165104 | 129753 | 118558 | 124679 | 99924 | -19.9 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| 57645 | 60084 | 53162 | 55335 | 61315 | 53828 | -12.2 |
| 18285 | 18077 | 17668 | 19020 | 14894 | 15815 | 6.2 |
| 39853 | 36897 | 36814 | 33368 | 33203 | 26926 | -18.9 |
| 12547 | 12913 | 10311 | 11148 | 9080 | 7638 | -15.9 |
| 6300 | 6636 | 6254 | 5427 | 4013 | 3641 | -9.3 |
| 60617 | 62088 | 55824 | 47230 | 39305 | 33780 | -14.1 |
| 142194 | 135768 | 136886 | 132847 | 88294 | 69136 | -21.7 |
| 16117 | 13019 | (b)14004 | 14135 | 14946 | 9227 | -38.3 |
|  |  |  |  |  |  |  |
| 11610 | 11709 | 13286 | 14894 | 12732 | 12825 | 0.7 |
| 30483 | 31241 | 30261 | 29993 | 29326 | 29173 | -0.5 |
| 1888 | 1544 | 1595 | 1515 | r 1456 | 1291 | -11.3 |

## Other ('000 tonnes)

## Clothing ('000)

Men's complete suits
Men's and boys' woven coats
Men's and boys' shorts
Women's and girls' woven coats, blazers and jackets

## Women's and girls' long trousers

Women's shirts and blouses
Men's and boys' knitted cardigans, jumpers, sweatshirts and sloppy-joes
Women's and girls' knitted cardigans, jumpers,
sweatshirts and sloppy-joes
A24 Knitted underwear (excl. men's and boys' singlets)

A28 Long jeans gins swimwear
Knitted complete tracksuits

## Hosiery ('000 pairs)

Pantyhose and tights
Women's knitted other hosiery
Men's knitted hosiery
Children's knitted hosiery
Footwear ('000 pairs)
Men's
Men's
Women's
Children's
Scoured and carbonised wool (tonnes)
Wool and man-made fibre tops (tonnes)
Wool yarn (tonnes)
Cotton yarn (tonnes)
Synthetic fibre yarn (tonnes)
Wool broadwoven fabric ('000 $\mathrm{m}^{2}$ )
Cotton broadwoven fabric ('000 m²)
Man-made fibre broadwoven fabric ('000 m²)
Knitted or crocheted fabrics (tonnes)
Textile floor coverings-
Of tufted wool or fine animal hair ('000 m²)
Of other tufted textile material ('000 m$\left.{ }^{2}\right)$
Other ('OOO m$\left.{ }^{2}\right)$

| 55418 | (a) 48 268 | 43030 | 37872 | 30264 | 29009 | -4.1 |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| n.a. | 19847 | 19000 | 19119 | 16379 | 15909 | -2.9 |
| 24230 | 24330 | 24159 | 23507 | 19851 | 16926 | -14.7 |
| 9939 | 10160 | 8993 | 7854 | 6669 | 5739 | -13.9 |
|  |  |  |  |  |  |  |
| 4687 | 4558 | 4254 | 3722 | 3200 | 2879 | -10.0 |
| 7197 | 6947 | 6249 | 5807 | 4871 | 3397 | -30.3 |
| 1272 | 862 | 735 | 169 | r61 | 64 | 4.8 |
|  |  |  |  |  |  |  |
| 1138 | 1177 | 1285 | 1385 | 1395 | 1392 | -0.2 |
| 1511 | 1819 | 1464 | 1429 | 1379 | 1585 | 14.9 |

(a) Refer to the Clarification of terms from page 11 for important definitional information.
(b) Commencing with 1998-99, there has been an improvement in coverage for knitted or crocheted fabrics. For 1998-99, this improved coverage contributed
approximately a $6 \%$ increase in the production level for Australia.

## INTRODUCTION

1 This publication presents quarterly and annual 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 International Energy 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).

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 Henderson 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 trend estimates for the most recent quarters as additional observations become available. Generally, subsequent revisions become smaller and are negligible after two quarters. There will also be revisions as a result of changes to the original estimates and annual reviews of seasonal and 'working day' factors. Users should note that these factors have been reviewed in this issue for all series in Table 1.

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 0262526345 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.

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, 1999-2000 (Cat. no. 8415.0) released on 29 August 2001

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

## EXPLANATORXNOTESccinued

## ABS DATA AVAILABLE ON REQUEST continued

roofing tiles
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 Merv Leaker on Adelaide 0882377536.
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 0292684541.

## 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


| A1 Scoured and carbonised wool | Includes scoured and carbonised wool used in further processing (e.g. for production of tops). Excludes scoured wool used for carbonising in the same establishment. |
| :---: | :---: |
| A2 Wool and man-made fibre tops | Tops of, or predominantly of, sheep's or lamb's wool or man-made fibres. |
| A3 Wool yarn | Of, or predominantly of, sheep's or lamb's wool. Excludes elastic or elastomeric. |
| A4 Cotton yarn | Of, or predominantly of, cotton, of weight less than 2,000 tex. Excludes sewing thread, elastic or elastomeric. |
| A5 Synthetic fibre yarn | Of, or predominantly of, synthetic fibre. Excludes artificial fibres (e.g. viscose, acetate), sewing thread, elastic or elastomeric. |
| A6 Wool broadwoven fabric | Of, or predominantly of, sheep's or lamb's wool or fine animal hair. Excludes elastic fabrics. |
| A7 Cotton broadwoven fabric | Of, or predominantly of, cotton. Excludes gauze and elastic fabrics. |
| A8 Man-made fibre broadwoven fabric | Of, or predominantly of, man-made fibres. Excludes elastic or tyre cord. |
| A9 Knitted or crocheted fabrics | Excludes tufted, elastic and elastomeric knitted or crocheted fabrics and parts knitted to shape for garments and other articles. |
| A10-A12 Textile floor coverings | Consists of carpets, carpeting (excluding underfelt), floor rugs, mats and matting of, or predominantly of, textile materials other than coir, sisal, or other hard fibres. Excludes products designed for automotive purposes. |
| A13 Men's complete suits | Chest measurement 86 cm and over. Of woven fabric; with or without waistcoats. Includes six-way suits; excludes uniforms. |
| A14 Men's and boys' woven coats | All lengths, of woven fabric. Includes suit coats, sports coats, blazers, structured jackets and those for uniforms; excludes coats as part of 'complete suits', parkas, waterproof coats/jackets, dustcoats and shave coats. |
| A15 Men's and boys' long trousers | Excludes suit trousers if part of 'complete suits', jeans and waterproof type. |
| A16 Men's and boys' shorts | Excludes swimshorts and boardshorts designed for swimwear. |
| A17 Men's and boys' shirts | Excludes sweatshirts and nightshirts. |
| A18 Women's and girls' woven coats, blazers and jackets | Excludes dustcoats, housecoats, parkas, other waterproof coats/jackets, and those which are part of complete suits or ensembles. |
| A19 Women's and girls' long trousers | Includes overalls and slacks; excludes suit trousers if part of complete suits or ensembles, jeans and waterproof type. |
| A20 Women's shirts and blouses | Includes T-shirts and tank tops; excludes sweatshirts and workshirts. |
| A21-A22 Knitted cardigans, jumpers, sweatshirts and sloppy-joes | Includes those of crocheted fabric. Includes sweaters, pullovers, twin sets, Rugby-style jumpers; excludes jackets for tracksuits, sweatsuits, jogging suits and leisure suits. |
| A23 Sleepwear | All sizes; of woven, knitted, or crocheted fabric. |

## APPENDIX CLARIFICATION OF TERMS continued

A24 Knitted underwear

A25 Brassieres Short and other.

A26 Men's and boys' swimwear Knitted or woven. Includes boardshorts designed for swimwear.

A27 Women's and girls
Knitted or woven.
swimwear

A28 Long jeans All sizes.

A29 Knitted complete tracksuits Knitted or crocheted. Includes sweatsuits, jogging suits, leisure suits and jump suits

A30 Pantyhose and tights
Excludes leotards and body stockings. Production figures for periods prior to December quarter 1997 exclude pantyhose and tights of 4.4 tex or greater.

A31-A33 Knitted hosiery Includes crocheted.

| A34-A36 Footwear | Includes sheepskin and furskin products; excludes thongs, waterproof footwear <br> (of rubber or plastic) and sports footwear. Men's and women's footwear each |
| :--- | :--- |
|  | comprises size 2 second size range and above; children's footwear comprises <br> sizes below size 2 second size range. |
| A37 Paperboard containers $\quad$ | Includes corrugated paperboard and paperboard containers. |
| A38 Superphosphates $\quad$ | Expressed in terms of single super phosphate (9\% P equivalent). |

A38 Superphosphates Expressed in terms of single super phosphate (9\% P equivalent).

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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 1900986400 (call cost 77c per minute).

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