## MANUFACTURING

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CONTENTS
page
Notes ..... 2
Main features ..... 3
TABLE
1 Manufacturing establishments, summary ..... 5
ADDITIONAL INFORMATION
Explanatory notes ..... 8

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ANNUAL MANUFACTURING INDUSTRY COLLECTION

ABOUT THIS ISSUE

## MANUFACTURING

PUBLICATIONS

The 1998-99 collection was a survey of approximately 17,000 manufacturing establishments. All selected manufacturing establishments were asked to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. A sub-sample of approximately 7,000 manufacturing establishments was also asked to provide detailed structural and performance data, and value of sales for commodities produced. This publication provides preliminary estimates of employment, wages and salaries, turnover and industry value added (IVA). Information in respect of all the data items collected will be released in either Manufacturing Industry, Australia, 1998-99 (Cat. no. 8221.0), other Australian Bureau of Statistics (ABS) publications, or will be available on a consultancy basis.

For some time now, the ABS has been using Australian Taxation Office (ATO) information on group employer (GE) registrations to add new businesses to the ABS business register. After detailed investigation, it has now been decided to use GE information to delete from the business register those businesses which have ceased trading or are no longer employing staff. For more details, see paragraphs 9-11 of the Explanatory Notes.

Estimates for turnover and IVA in this publication reflect the implementation of new international standards, specifically the introduction of the 1993 edition of the United Nations System of National Accounts (SNA93). These new international standards were introduced in respect of turnover, with the 1997-98 issue of this publication. The current issue of this publication introduces IVA estimates. For definitions and further information, see paragraphs $15-17$ of the Explanatory Notes.

Analysis of the results of past manufacturing collections shows that preliminary estimates are generally slightly higher than final estimates, typically by about $1 \%$.

The 1998-99 series of final manufacturing industry publications (Cat. nos 8221.0 to 8221.6) for Australia and States will be released progressively commencing with the release of Manufacturing Industry, Australia, 1998-99 (Cat. no. 8221.0) in August 2000. Manufacturing Industry, Australia, 2000 (Cat. no. 8225.0), a compendium publication, is to be released in December 2000.
$\qquad$

## ABBREVIATIONS

ABS Australian Bureau of Statistics
ANZSIC Australian and New Zealand Standard Industrial Classification
ATO Australian Taxation Office
GE group employer
IGP industry gross product
IVA industry value added
PAYE pay as you earn
SNA93 United Nations System of National Accounts, 1993
W. McLennan

Australian Statistician

OVERVIEW

## EMPLOYMENT

## TURNOVER

Manufacturing establishments operating in Australia employed 937,400 persons at the end of June 1999. For the year to the end of June 1999, they paid $\$ 35,099 \mathrm{~m}$ in wages and salaries and recorded $\$ 220,555 \mathrm{~m}$ in turnover, which resulted in an industry value added (IVA) of $\$ 68,296 \mathrm{~m}$.

PERCENTAGE CHANGE FROM PREVIOUS YEAR


Australian manufacturing employment decreased between June 1998 and June 1999 (down 1\% from 943,600 persons to 937,400 persons). Employment fell in the Australian Capital Territory (down 7\%), Tasmania (down 5\%), South Australia and the Northern Territory (both down 3\%), Victoria (down 2\%) and Western Australia (down 1\%). Increases were recorded for Queensland (up 2\%) and New South Wales (up 1\%).

Nationally, the industry subdivision with the largest percentage decrease in employment and the second largest fall in absolute terms was Textile, clothing, footwear and leather manufacturing (down $9 \%$ or 6,900 persons). Machinery and equipment manufacturing recorded the second largest percentage decrease; however, it recorded the largest fall in absolute terms (down $4 \%$ or 7,800 persons). Other percentage decreases were recorded in Wood and paper product manufacturing and Other manufacturing (both down $2 \%$ ). The industry subdivision with the largest percentage and absolute increase was Petroleum, COAL, chemical and associated product manufacturing (up $5 \%$ or 4,700 persons), followed by Printing, publishing and recorded media (up $4 \%$ or 4,000 persons) and Food, beverage and tobacco manufacturing (up $1 \%$ or 2,400 persons). Employment in Non-metallic mineral product manufacturing and Metal product manufacturing remained steady.

Turnover (in current prices) rose by $\$ 8,592 \mathrm{~m}$ or $4 \%$ from $\$ 211,963 \mathrm{~m}$ in $1997-98$ to $\$ 220,555 \mathrm{~m}$ in $1998-99$. Prices for manufactured goods fell by about $1 \%$ over the year, implying real turnover growth of approximately $5 \%$ compared with 1997-98.

Most States and Territories recorded an increase in turnover at current prices between 1997-98 and 1998-99. New South Wales and Victoria (both up 5\%) recorded the largest increases in percentage terms, followed by Queensland (up 4\%), Western Australia and the Australian Capital Territory (both up 3\%) and South Australia (up 1\%). Turnover in Tasmania remained steady, while the Northern Territory (down 5\%) recorded the only decrease.

## MAIN FEATURES continued

TURNOVER continued

INDUSTRY VALUE ADDED

IGP/IVA PER PERSON
EMPLOYED AT THE END
OF JUNE (CURRENT PRICES)

Nationally, all nine industry subdivisions recorded an increase in turnover at current prices. Non-metallic mineral product manufacturing (up 12\%) recorded the largest percentage increase, followed by Printing, publishing and recorded media (up 10\%), Machinery and equipment manufacturing (up 6\%), Wood and paper product manufacturing (up 5\%) and Food, beverage and tobacco manufacturing and Metal product manufacturing (both up 3\%).

IVA (in current prices) fell by $\$ 376$ m or $0.5 \%$ from $\$ 68,671 \mathrm{~m}$ in $1997-98$ to $\$ 68,296 \mathrm{~m}$ in 1998-99.

Six of the nine industry subdivisions recorded an increase in IVA and three recorded a decrease. The industry subdivisions to record a decrease were Metal product manufacturing (down 6\%), Petroleum, coal, chemical and associated product manufacturing (down 4\%) and Machinery and equipment manufacturing (down 3\%). The industry subdivisions to record the largest percentage increases were Non-metallic mineral product manufacturing (up 15\%), Wood and paper product manufacturing (up 7\%) and Other manufacturing (up 5\%).

SERIES BREAK FROM IGP TO IVA(a)

(a) For the definition and derivation of IVA and IGP, see paragraphs 16 and 17 of the Explanatory Notes.

The graph above shows that the level of the estimates for value added has been affected by the change from IGP to IVA. However, the estimates of year to year changes in value added have been much less affected. This means that the flatter curve for IVA is most likely the result of a slowing in the rate of growth of value added rather than the change of variable.

| INDUSTRY | SUBDIVISION | Employment at end of June(b) | Wages <br> and <br> salaries(c) | Turnover | Industry value added(d) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ANZSIC |  |  |  |  |  |
| code | Description | '000 | \$m | \$m | \$m |
| NEW SOUTH WALES |  |  |  |  |  |
| 21 | Food, beverage and tobacco mfg | 47.9 | 1863 | 14293 | 3935 |
| 22 | Textile, clothing, footwear and leather mfg | 19.2 | 546 | 2944 | 913 |
| 23 | Wood and paper product mfg | 17.1 | 618 | 3682 | 1333 |
| 24 | Printing, publishing and recorded media | 43.8 | 1729 | 7505 | 2842 |
| 25 | Petroleum, coal, chemical and associated product mfg | 34.0 | 1467 | 12329 | 3601 |
| 26 | Non-metallic mineral product mfg | 10.5 | 463 | 3253 | 1118 |
| 27 | Metal product mfg | 52.4 | 2279 | 13751 | 4369 |
| 28 | Machinery and equipment mfg | 60.9 | 2519 | 11427 | 3988 |
| 29 | Other manufacturing | 16.5 | 455 | 2006 | 730 |
| 21-29 | Total manufacturing | 302.3 | 11938 | 71189 | 22829 |


|  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | ---: | ---: | ---: |
| 21 | Food, beverage and tobacco mfg | VICTORIA |  |  |  |  |
| 22 | Textile, clothing, footwear and leather mfg | 48.5 | 1860 | 15054 | 4285 |  |
| 23 | Wood and paper product mfg | 34.9 | 1023 | 4958 | 1826 |  |
| 24 | Printing, publishing and recorded media | 17.1 | 632 | 3396 | 1151 |  |
| 25 | Petroleum, coal, chemical and associated product mfg | 32.6 | 1214 | 5219 | 2097 |  |
| 26 | Non-metallic mineral product mfg | 36.3 | 1686 | 11241 | 3448 |  |
| 27 | Metal product mfg | 10.0 | 386 | 2537 | 890 |  |
| 28 | Machinery and equipment mfg | 38.2 | 1459 | 9040 | 2623 |  |
| 29 | Other manufacturing | 69.2 | 2914 | 18598 | 5514 |  |
| $21-29$ | Total manufacturing | 18.6 | 523 | 2321 | 760 |  |
|  |  | 305.3 | 11698 | 72364 | 22594 |  |


| QUEENSLAND |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 21 | Food, beverage and tobacco mfg | 38.3 | 1277 | 10314 | 2753 |
| 22 | Textile, clothing, footwear and leather mfg | 5.4 | 128 | 620 | 186 |
| 23 | Wood and paper product mfg | 12.8 | 385 | 1877 | 662 |
| 24 | Printing, publishing and recorded media | 11.7 | 391 | 1533 | 707 |
| 25 | Petroleum, coal, chemical and associated product mfg | 11.8 | 460 | 4691 | 1157 |
| 26 | Non-metallic mineral product mfg | 6.4 | 254 | 1888 | 571 |
| 27 | Metal product mfg | 26.2 | 906 | 6851 | 1894 |
| 28 | Machinery and equipment mfg | 23.5 | 811 | 3583 | 1266 |
| 29 | Other manufacturing | 9.7 | 250 | 1110 | 406 |
| 21-29 | Total manufacturing | 145.6 | 4860 | 32466 | 9603 |
| SOUTH AUSTRALIA |  |  |  |  |  |
| 21 | Food, beverage and tobacco mfg | 16.3 | 541 | 4581 | 1515 |
| 22 | Textile, clothing, footwear and leather mfg | 3.9 | 129 | 659 | 145 |
| 23 | Wood and paper product mfg | 5.2 | 180 | 1005 | 350 |
| 24 | Printing, publishing and recorded media | 5.2 | 180 | 731 | 343 |
| 25 | Petroleum, coal, chemical and associated product mfg | 7.2 | 278 | 1606 | 584 |
| 26 | Non-metallic mineral product mfg | 2.3 | 96 | 593 | 190 |
| 27 | Metal product mfg | 11.4 | 458 | 2737 | 745 |
| 28 | Machinery and equipment mfg | 27.8 | 1056 | 7368 | 2151 |
| 29 | Other manufacturing | 4.5 | 124 | 590 | 153 |
| 21-29 | Total manufacturing | 83.7 | 3041 | 19869 | 6175 |

(a) See paragraph 5 of the Explanatory Notes.
(b) Includes working proprietors and partners.
(c) Excludes the drawings of working proprietors and partners.
(d) See paragraph 16 of the Explanatory Notes.

| INDUST | Y SUBDIVISION | Employment at end of June(b) | Wages <br> and <br> salaries(c) | Turnover | Industry value added(d) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| ANZSIC |  |  |  |  |  |
| code | Description | '000 | \$m | \$m | \$m |
| WESTERN AUSTRALIA |  |  |  |  |  |
| 21 | Food, beverage and tobacco mfg | 13.0 | 413 | 3137 | 744 |
| 22 | Textile, clothing, footwear and leather mfg | 3.1 | 77 | 328 | 114 |
| 23 | Wood and paper product mfg | 4.2 | 133 | 737 | 273 |
| 24 | Printing, publishing and recorded media | 7.7 | 252 | 1024 | 501 |
| 25 | Petroleum, coal, chemical and associated product mfg | 6.2 | 291 | 3467 | 695 |
| 26 | Non-metallic mineral product mfg | 5.2 | 221 | 1307 | 460 |
| 27 | Metal product mfg | 16.2 | 628 | 5068 | 1184 |
| 28 | Machinery and equipment mfg | 13.0 | 447 | 2289 | 694 |
| 29 | Other manufacturing | 5.2 | 132 | 584 | 225 |
| 21-29 | Total manufacturing | 73.7 | 2595 | 17941 | 4891 |


|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| 21 | Food, beverage and tobacco mfg |  |  |  |  |
| 22 | Textile, clothing, footwear and leather mfg | 5.6 | 163 | 1508 | 498 |
| 23 | Wood and paper product mfg | 1.4 | 42 | 181 | 67 |
| 24 | Printing, publishing and recorded media | 3.4 | 153 | 182 | 416 |
| 25 | Petroleum, coal, chemical and associated product mfg | 1.3 | 48 | 152 | 71 |
| 26 | Non-metallic mineral product mfg | 0.9 | 37 | 230 | 81 |
| 27 | Metal product mfg | 0.6 | 23 | 250 | 120 |
| 28 | Machinery and equipment mfg | 3.3 | 139 | 1122 | 167 |
| 29 | Other manufacturing | 2.7 | 99 | 508 | 209 |
| $21-29$ | Total manufacturing | 0.6 | 13 | 53 | 19 |


|  |  |  |  |  |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
|  | NORTHERN | TERRITORY |  |  |  |
| 21 | Food, beverage and tobacco mfg | 0.5 | 13 | 78 | 21 |
| 22 | Textile, clothing, footwear and leather mfg | 0.1 | 1 | 4 | 2 |
| 23 | Wood and paper product mfg | 0.2 | 8 | 33 | 14 |
| 24 | Printing, publishing and recorded media | 0.4 | 12 | 40 | 25 |
| 25 | Petroleum, coal, chemical and associated product mfg | 0.1 | 4 | 35 | 10 |
| 26 | Non-metallic mineral product mfg | 0.2 | 9 | 73 | 24 |
| 27 | Metal product mfg | 1.5 | 67 | 607 | 212 |
| 28 | Machinery and equipment mfg | 0.4 | 14 | 53 | 19 |
| 29 | Other manufacturing | 0.1 | 3 | 14 | 4 |
| $21-29$ | Total manufacturing | 3.5 | 133 | 936 | 330 |

AUSTRALIAN CAPITAL TERRITORY

| 21 | Food, beverage and tobacco mfg | 0.5 | 15 | 120 | 25 |
| :--- | :--- | ---: | ---: | ---: | ---: |
| 22 | Textile, clothing, footwear and leather mfg | 0.1 | 3 | 10 | 5 |
| 23 | Wood and paper product mfg | 0.3 | 10 | 51 | 22 |
| 24 | Printing, publishing and recorded media | 1.2 | 46 | 198 | 89 |
| 25 | Petroleum, coal, chemical and associated product mfg | - | 1 | 3 | 2 |
| 26 | Non-metallic mineral product mfg | 0.1 | 3 | 28 | 9 |
| 27 | Metal product mfg | 0.2 | 6 | 33 | 13 |
| 28 | Machinery and equipment mfg | 0.7 | 23 | 110 | 43 |
| 29 | Other manufacturing | 0.4 | 10 | 49 | 18 |
| $21-29$ | Total manufacturing | 3.5 | 117 | 603 | 225 |

- nil or rounded to zero (including null cells)
(a) See paragraph 5 of the Explanatory Notes.
(b) Includes working proprietors and partners.
(c) Excludes the drawings of working proprietors and partners.
(d) See paragraph 16 of the Explanatory Notes

| Employment <br> at end of <br> June(b) | Wages <br> and <br> salaries(c) | Turnover | Industry <br> value <br> added(d) |
| :--- | :--- | :--- | :--- |
| '000 | $\$ \mathrm{~m}$ | $\$ \mathrm{~m}$ | $\$ \mathrm{~m}$ |

## ANZSIC

AUSTRALIA

| 21 | Food, beverage and tobacco mfg | 170.6 | 6146 | 49085 | 13775 |
| :--- | :--- | ---: | ---: | ---: | ---: |
| 22 | Textile, clothing, footwear and leather mfg | 68.0 | 1949 | 9705 | 3257 |
| 23 | Wood and paper product mfg | 60.2 | 2120 | 11963 | 4221 |
| 24 | Printing, publishing and recorded media | 103.8 | 3871 | 16402 | 6675 |
| 25 | Petroleum, coal, chemical and associated product mfg | 96.5 | 4223 | 33602 | 9577 |
| 26 | Non-metallic mineral product mfg | 35.4 | 1456 | 9930 | 3383 |
| 27 | Metal product mfg | 149.2 | 5942 | 39207 | 11208 |
| 28 | Machinery and equipment mfg | 198.1 | 7882 | 43935 | 13883 |
| $\mathbf{2 9}$ | Other manufacturing | 55.6 | 1510 | 6727 | 2315 |
| 21-29 | Total manufacturing | $\mathbf{9 3 7 . 4}$ | $\mathbf{3 5 0 9 9}$ | $\mathbf{2 2 0 5 5 5 5}$ | $\mathbf{6 8 2 9 6 5}$ |

(a) See paragraph 5 of the Explanatory Notes.
(b) Includes working proprietors and partners.
(c) Excludes the drawings of working proprietors and partners.
(d) See paragraph 16 of the Explanatory Notes.

1 This publication presents preliminary statistics compiled from a survey of manufacturing establishments for 1998-99.

2 Manufacturing, as specified in Division C of the Australian and New Zealand Standard Industrial Classification (ANZSIC), broadly relates to the physical or chemical transformation of materials or components into new products, whether the work is performed by power-driven machines or by hand.

3 The manufacturing collection is conducted on an annual basis. For the 1998-99 collection, a sample of approximately 17,000 manufacturing establishments was asked to provide data on employment, wages and salaries, turnover, purchases and whether their products were exported. Data on industry value added (IVA) are also available from this collection.

4 For the 1998-99 collection, a sub-sample of approximately 7,000 manufacturing establishments was also asked to provide detailed structural and performance data, and value of sales for commodities produced. Information in respect of all of these data items will be released in either the publication Manufacturing Industry, Australia, 1998-99 (Cat. no. 8221.0), other Australian Bureau of Statistics (ABS) publications, or will be available on a consultancy basis.

5 The business unit for which statistics are presented in this publication is the establishment. A manufacturing establishment is one predominantly engaged in manufacturing activities, but the data collected for it cover all activities of the establishment (including non-manufacturing activities). Conversely, there are some establishments predominantly engaged in non-manufacturing activities which also undertake limited manufacturing activities; these are excluded from the collection.

6 A small number of manufacturing establishments engage, in a significant way, in a variety of activities which are normally carried out by different industries. For example, a predominantly manufacturing establishment may also undertake significant amounts of wholesaling. Similarly, a manufacturing establishment may produce significant volumes of a variety of goods which are normally produced in different manufacturing industries. In such cases, the original establishment is 'split' into a separate establishment for each significant activity which belongs to a separate industry. For the 1998-99 manufacturing collection, 'significant' was defined as turnover of $\$ 7.3$ million or more.

7 The statistics in this publication exclude some very small manufacturers. Those excluded are manufacturers not employing staff at 30 June 1999 (such as sole proprietorships or family partnerships) which had not registered as group employers (GE) with the Australian Taxation Office (ATO). Though a substantial number, these businesses would contribute only marginally to aggregate data were they to be included. In addition, the ABS attempts to obtain data for those businesses which ceased operation during the year, but it is not possible to obtain data for all of them.

8 Data in this issue continue to be adjusted to allow for lags in processing new businesses to the ABS business register, i.e. adjustments have been made to allow for new businesses which had commenced operations but for which details had not been processed to the ABS business register in time for inclusion in the annual manufacturing industry collection. Adjustments of this type will continue to be applied in future periods. The majority of businesses affected by these lags are small in size. The effect of these adjustments on 1998-99 Australian employment is an increase of $0.8 \%$ while the effect on turnover is an increase of $0.4 \%$. Most States and Territories and most industries were affected to a similar degree.

9 For some time now, the ABS has been using ATO information on GE registrations to add new businesses to the ABS business register. After detailed investigation, it has now been decided to use GE information to delete from the business register those businesses which have ceased trading or are no longer employing staff.
10 The process of using GE information to delete businesses from the ABS business register has been introduced for the 1998-99 manufacturing survey. The result is that a large number of businesses were removed from the business register and, therefore, from the population for the 1998-99 manufacturing survey. This process will now also be ongoing, but the number of businesses removed in future years will be relatively small.

11 Estimates for the previous three manufacturing surveys (covering 1995-96 to 1997-98 inclusive) have been adjusted in such a way as to phase in the impact over this time. The impact on survey results has been to reduce estimates slightly. For example, total Australian manufacturing employment for 1997-98 was reduced by $1.1 \%$ and turnover by $0.5 \%$. Most States and Territories and most industries were affected to a similar degree. For periods before 1995-96, the impact is estimated to have been negligible. The impacts of the ongoing process are also expected to be negligible.

12 Establishment. The establishment is the smallest accounting unit of a business, within a State or Territory, controlling its productive activities and maintaining a specified range of detailed data i.e. the data needed to compile turnover, opening and closing inventories, purchases and transfers in, motor vehicle running expenses, freight and cartage expenses, commission expenses, rent, leasing and hiring expenses, and repair and maintenance expenses. In general, an establishment covers all operations at a physical location, but may consist of a group of locations provided they are within the same State or Territory. The majority of establishments operate at one location only.

13 Employment at end of June. The number of working proprietors and partners, plus all employees for whom pay as you earn (PAYE) tax has been deducted during the last pay period ending in June 1999. Non-salaried directors, self-employed persons such as consultants and contractors for whom PAYE tax has not been deducted, and volunteers are excluded.
14 Wages and salaries. The gross wages and salaries (including capitalised wages and salaries) of all employees of the establishment. The item includes severance, termination and redundancy payments, but excludes reimbursements or allowances to employees for travel, entertainment, etc. Provision expenses for employee entitlements (e.g. provisions for annual leave and leave bonus, long service leave, sick leave, and severance, termination and redundancy payments) are included. The drawings of working proprietors and partners are excluded.

RELIABILITY OF ESTIMATES

15 Turnover. Sales (exclusive of excise and sales tax) of goods whether or not produced by the establishment and transfers out of goods to other establishments of the same business, plus service income (such as income from work done or sales made on a commission basis, income from repair, maintenance or servicing, installation and delivery charges separately invoiced to customers, advertising income, management fees/charges received from related or unrelated businesses, income from intellectual property royalties, and rent, leasing and hiring income (except from finance leases)), funding by Federal, State and/or Local Governments for operational costs, and capitalised work done by the employees or proprietors of an establishment for use by the business unit or for rental or lease to other businesses. Excluded from turnover are interest income, income from natural resource royalties, funding by Federal, State and/or Local Governments for specific capital items, dividends, and receipts from the sale of fixed tangible assets.

16 Industry value added (IVA). IVA represents the value added by an industry to the intermediate inputs used by the industry. Commencing with estimates for 1997-98, under new international standards, IVA has replaced industry gross product (IGP) as the measure of the contribution by manufacturing industries to gross domestic product. The derivation of IVA is as follows:

Turnover
plus Closing inventories
less Opening inventories
less Intermediate input expenses
equals IVA
However, it should be noted that IVA is not a measure of operating profits before tax. Wages, salaries and most other labour costs are not taken into account in its calculation and nor are most insurance premiums, interest expenses or depreciation and a number of lesser expenses.

17 Industry gross product (IGP). The relationship between IVA estimates and IGP estimates is:

IVA
plus Intellectual property royalty expenses
less Intellectual property royalty income
less Computer software expenses not capitalised by the business
less $\quad$ Selected indirect taxes (For manufacturing industries, the main types are fringe benefits tax, payroll tax, land rates and land taxes.)
equals IGP
18 Data in this publication are based on information obtained from samples of manufacturers and are, therefore, subject to sampling variability; that is, they may differ from the figures that would have been produced if the data had been obtained from all manufacturers in the population. The measure of the likely difference as used by the ABS is given by the standard error, which indicates the extent to which an estimate might have varied by chance because the data were obtained from only a sample of units. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the data had been obtained from all units, and about 19 chances in 20 that the difference will be less than two standard errors.
19 The standard error can also be expressed as a percentage of the estimate, and this is known as the relative standard error. The relative standard errors for the data in this publication are $2 \%$ or less for all Australian estimates. Relative standard errors across all States and Territories are generally higher. Detailed estimates of relative standard errors can be made available on request.

RELIABILITY OF ESTIMATES continued

ACKNOWLEDGMENT

RELATED PUBLICATIONS

## ROUNDING

20 The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of inadequacies in available sources from which the population frame was compiled, imperfections in reporting by providers, errors made in collection such as in recording and coding data, and errors made in processing data. Inaccuracies of this kind are referred to collectively as non-sampling error and they may occur in any enumeration, whether it be a census or a sample. Every effort is made to reduce non-sampling error to a minimum by the careful design of forms and the use of efficient and effective operating procedures and systems.

21 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.

22 More detailed manufacturing industry statistics will be released in the publication Manufacturing Industry, Australia, 1998-99 (Cat. no. 8221.0), which will be released in August 2000. State publications (Cat. nos 8221.1-8221.6) will also be produced. All of these publications contain details of employment, wages and salaries, turnover and IVA classified by ANZSIC class, as well as ANZSIC subdivision data classified by employment size and data relating to exporting activity. The Australian publication also contains details classified by ANZSIC subdivision of the components of IVA, on the acquisition and disposal of assets, and for selected labour costs. The publication for New South Wales (Cat. no. 8221.1) also contains selected data for the Australian Capital Territory. Manufacturing Industry, Australia, 2000 (Cat. no. 8225.0), a compendium publication, is to be released in December 2000. In general, preliminary 1998-99 data for all variables and table formats can now be made available on a consultancy basis.

23 Users may also wish to refer to the publication Price Indexes of Articles Produced by Manufacturing Industry, Australia (Cat. no. 6412.0).

24 Where figures have been rounded, discrepancies may occur between totals and the sums of the component items. However, estimates of change shown in the Main Features 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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