## STOCKS AND SALES, SELECTED INDUSTRIES

EMBARGO: 11:30AM (CANBERRA TIME) MON 1 JUNE 1998



[^0]- For further information about these and related statistics, contact John Stamolis on 029268 4241, or any ABS Office.


## MARCH QTR KEY FIGURES

## TREND ESTIMATES(a)

|  | Mar 97 | Dec 97 | Mar 98 | Dec 97 to <br> Mar 98 <br> \% change | Mar 97 to <br> Mar 98 <br> \% change |
| :--- | :--- | :--- | :--- | :---: | :---: |
| Stocks held by | $\mathbf{\$ m}$ | $\mathbf{\$ m}$ |  |  |  |
| Private businesses | 64464 | 64377 | 64922 | 0.8 | 0.7 |
| Sales by |  |  |  |  |  |
| $\quad$ Manufacturers | 43447 | 43136 | 43134 | 0.0 | -0.7 |
| $\quad$ Wholesale trade | 40666 | 42228 | 41928 | -0.7 | 3.1 |

## SEASONALLY ADJUSTED(a)

|  | Mar 97 | Dec 97 | Mar 98 | Dec 97 to <br> Mar 98 <br> \% change | Mar 97 to <br> Mar 98 <br> \% change |
| :---: | :--- | :--- | :--- | :--- | :---: |
| Stocks held by <br> Private businesses <br> Sales by | 64182 | 63798 | 65623 | 2.9 | 2.2 |
| Manufacturers    <br> Wholesale trade 43225 42535 43635 2.6 | 0.9 |  |  |  |  |
|  | 39955 | 41702 | 42011 | 0.7 | 5.1 |

(a) At average 1989-90 prices.

## MARCH QTR KEY POINTS

## TREND ESTIMATES

- Trend estimates (in constant price terms) for stocks held by private businesses have increased by $\$ 545 \mathrm{~m}(0.8 \%)$ since December 1997. This is the third quarter of increasing growth rates.
- Stock levels held by the Mining and Retail industries have been falling over the last four quarters. Manufacturing stocks have now increased for two consecutive quarters after falling from a peak in December 1996.
- Trend estimates for Manufacturers' sales have been falling slowly for the past four quarters. The current estimate of $\$ 43,134 \mathrm{~m}$ is $\$ 313 \mathrm{~m}(0.7 \%)$ lower than for March 1997.
- Growth rates for Wholesale sales have been falling over the last three quarters. The current estimate of $\$ 41,928 \mathrm{~m}$ is $\$ 300 \mathrm{~m}(0.7 \%)$ lower than for December 1997 but $\$ 1,262 \mathrm{~m}$ (3.1\%) higher than for March 1997.


## EXPECTEDSALES

- The fourth estmate (in current price terms) of Manufacturers' expected sales for $1997-98$ is $\$ 200,214 \mathrm{~m}$. This is $\$ 3,046 \mathrm{~m}$ (1.5\%) higher than the actual sales in 1996-97.

FORTHCOMING ISSUES

CHANGES IN THIS ISSUE

SAMPLING ERRORS

REVISIONS TO TREND

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The estimates in this publication are based on a sample survey of businesses. Because data are not collected from all businesses, the published estimates are subject to sampling variability.

Standard errors for estimates contained in this publication are shown on pages 23-24.

Readers should exercise care in the interpretation of the trend data as the data for the last three quarters in particular are likely to be revised with the addition of subsequent quarters' data. For further information and examples showing the sensitivity of trend data, refer to Trend Estimates in paragraph 34 of the Explanatory Notes.
W. McLennan

Australian Statistician

## ALL SELECTED INDUSTRIES

MINING

MANUFACTURING

After decreasing growth rates experienced through 1996-97 (from 1.1\% to -0.5\%), growth rates have been increasing for the first three quarters of 1997-98. The current estimate of $\$ 64,922 \mathrm{~m}$ is $\$ 458 \mathrm{~m}$ ( $0.7 \%$ ) higher than March 1997 and $\$ 2,181 \mathrm{~m}$ (3.5\%) higher than March 1996.


Stocks held by the Mining industry have been falling over the last four quarters. This follows seven quarters iof positive growth from September 1995 to March 1997. Growth of \$485m (14.9\%) in 1995-96 exceeds the growth for 1996-97 (\$309m, 8.3\%).


Growth rate for stocks held by Manufacturers fell for six quarters from December 1995 (2.4\%) to June $1997(-2.1 \%)$. For the three quarters since then, growth rates have been increasing. The current estimate of $\$ 24,677 \mathrm{~m}$ is $\$ 557 \mathrm{~m}(2.2 \%)$ lower than March 1997 and $\$ 381 \mathrm{~m}(1.5 \%)$ lower than March 1996.

(a) At average 1989-90 prices

## S T O C K S: Trend estimates - Constant prices(a)

WHOLESALE TRADE

## RETAIL TRADE

OTHER SELECTED INDUSTRIES (Electricity and gas supply; accommodation, cafes and restaurants)

Growth rates for stocks held by the Wholesale trade have been stable over the last three quarterss (between $1.7 \%$ and $2.0 \%$ ). The current estimate of $\$ 21,706 \mathrm{~m}$ is \$1,419m (7.0\%) higher than for March 1997.


For the past three years, growth rates for stocks held by the Retail industry have been between $-1.0 \%$ and $1.1 \%$. Level estimates have been falling since March 1997. The current estimate of $\$ 13,922 \mathrm{~m}$ is $\$ 392 \mathrm{~m}(2.7 \%)$ lower than March 1997.


Growth rates for stocks held by Other Selected Industries have been strong over the last eight quarters (since June 1996) between $3.9 \%$ and $9.6 \%$. Trend estimates have increased by $\$ 297 \mathrm{~m}$ ( $71.6 \%$ ) since March 1996.

(a) At average 1989-90 prices

## SALES: Trend estimates - Constant prices(a)

## mANUFACTURERS' SALES

Since March 1996, growth rates for manufacturers' sales have been lower than 1.0\% (between -0.4 and $0.6 \%$ ). The current estimate is $\$ 313 \mathrm{~m}(0.7 \%)$ lower than March 1997.


Growth rates have been decreasing over the last three quarters (from 2.4 to $-0.7 \%$ ). The current estimate of $\$ 41,928 \mathrm{~m}$ is $\$ 1,262 \mathrm{~m}$ (3.1\%) higher than March 1997.

(a) At average 1989-90 prices


EXPLANATION OF TIMING OF ESTIMATES used in construction of graph above COMPOSITION OF ESTIMATE. $\qquad$

Data on actual sales

Data on short term expected sales

Data on long term expected sales

## 6 months

6 months Oct-Nov, 3-4 months into period
Nil

3 months
6 months
6 months
Jan-Feb, 6-7 months into period
3 months
6 months
3 months
Apr-May, 9-10 months into period
Jul-Aug at end of period
9 months
12 months
Nil
Nil
4
Nil

|  | Mining(a) | Manufacturing | Wholesale trade | Retail trade | Other selected industries(b) | Total selected industries(b) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| At end of | \$m | \$m | \$m | \$m | \$m | \$m |
| ORIGINAL |  |  |  |  |  |  |
| June 1995 | 3455 | 26668 | 21271 | 15992 | 539 | 67926 |
| June 1996 | 4004 | 28431 | 21293 | 16146 | 495 | 70369 |
| June 1997 | 4499 | 27893 | 21173 | 17076 | 701 | 71342 |
| 1995-96 |  |  |  |  |  |  |
| March | 3882 | 28456 | 21327 | 16662 | 518 | 70845 |
| June | 4004 | 28431 | 21293 | 16146 | 495 | 70369 |
| 1996-97 |  |  |  |  |  |  |
| September | 4307 | 28584 | 21439 | 17015 | 609 | 71953 |
| December | 4502 | 28162 | 21385 | 17472 | 685 | 72207 |
| March | 4433 | 28484 | 21211 | 17016 | 617 | 71762 |
| June | 4499 | 27893 | 21173 | 17076 | 701 | 71342 |
| 1997-98 |  |  |  |  |  |  |
| September | 4441 | 27415 | 22371 | 17245 | 677 | 72149 |
| December | 4279 | 27446 | 23219 | 16985 | 949 | 72878 |
| March | 4516 | 28700 | 23712 | 17202 | 902 | 75031 |

SEASONALLY ADJUSTED

| June 1995 | 3511 | 26596 | 21615 | 16386 | 554 | 68662 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 4071 | 28347 | 21619 | 16551 | 509 | 71098 |
| June 1997 | 4576 | 27793 | 21487 | 17508 | 721 | 72086 |
| 1995-96 |  |  |  |  |  |  |
| March | 3866 | 28200 | 21241 | 16727 | 527 | 70561 |
| June | 4071 | 28347 | 21619 | 16551 | 509 | 71098 |
| 1996-97 |  |  |  |  |  |  |
| September | 4260 | 28540 | 21371 | 16876 | 619 | 71666 |
| December | 4495 | 28549 | 21207 | 17126 | 646 | 72024 |
| March | 4414 | 28228 | 21155 | 17079 | 629 | 71505 |
| June | 4576 | 27793 | 21487 | 17508 | 721 | 72086 |
| 1997-98 |  |  |  |  |  |  |
| September | 4394 | 27391 | 22294 | 17105 | 688 | 71872 |
| December | 4271 | 27838 | 23024 | 16646 | 894 | 72674 |
| March | 4496 | 28441 | 23666 | 17263 | 919 | 74786 |


| TREND ESTIMATES(c) |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1995 | 3531 | 26571 | 21574 | 16356 | 535 | 68567 |
| June 1996 | 4079 | 28483 | 21411 | 16707 | 546 | 71226 |
| June 1997 | 4476 | 27768 | 21579 | 17242 | 684 | 71749 |
| 1995-96 |  |  |  |  |  |  |
| March | 3870 | 28284 | 21416 | 16637 | 509 | 70717 |
| June | 4079 | 28483 | 21411 | 16707 | 546 | 71226 |
| 1996-97 |  |  |  |  |  |  |
| September | 4273 | 28560 | 21368 | 16835 | 591 | 71627 |
| December | 4425 | 28492 | 21215 | 17052 | 634 | 71818 |
| March | 4504 | 28171 | 21211 | 17265 | 655 | 71806 |
| June | 4476 | 27768 | 21579 | 17242 | 684 | 71749 |
| 1997-98 |  |  |  |  |  |  |
| September | 4414 | 27657 | 22249 | 17100 | 755 | 72175 |
| December | 4384 | 27856 | 22979 | 16990 | 842 | 73052 |
| March | 4377 | 28229 | 23696 | 16941 | 926 | 74169 |
|  | (a) In using the seasonally adjusted series extra care should be exercised because of the difficulties associated with reliably estimating its seasonal pattern. |  |  | (b) See | he Exp |  |
|  | (c) Revised. See paragraph 34 of the Explanatory Notes. |  |  |  |  |  |

BOOK VALUE OF STOCKS OWNED, By Industry-Constant prices(a)

| Mining $(b)$ | Manufacturing | Wholesale <br> trade |
| :--- | :--- | :--- |
| At end of | $\$ m$ | Retail trade |


| ORIGINAL |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1995 | 3178 | 23468 | 19509 | 13648 | 449 | 60252 |
| June 1996 | 3689 | 25381 | 19857 | 13480 | 404 | 62810 |
| June 1997 | 4085 | 24798 | 20137 | 14128 | 575 | 63723 |
| 1995-96 |  |  |  |  |  |  |
| March | 3531 | 25226 | 19697 | 14000 | 424 | 62879 |
| June | 3689 | 25381 | 19857 | 13480 | 404 | 62810 |
| 1996-97 |  |  |  |  |  |  |
| September | 3962 | 25618 | 20339 | 14176 | 498 | 64593 |
| December | 4095 | 25309 | 20408 | 14525 | 556 | 64892 |
| March | 4021 | 25515 | 20276 | 14097 | 505 | 64414 |
| June | 4085 | 24798 | 20137 | 14128 | 575 | 63723 |
| 1997-98 |  |  |  |  |  |  |
| September | 4009 | 24208 | 21175 | 14264 | 542 | 64198 |
| December | 3808 | 23992 | 21438 | 13988 | 745 | 63971 |
| March | 4047 | 25188 | 21777 | 14125 | 701 | 65839 |

SEASONALLY ADJUSTED

| J une 1995 | 3230 | 23408 | 19824 | 13984 | 462 | 60908 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| J une 1996 | 3751 | 25312 | 20160 | 13818 | 415 | 63456 |
| J une 1997 | 4155 | 24716 | 20436 | 14486 | 591 | 64383 |
| 1995-96 |  |  |  |  |  |  |
| March | 3517 | 25007 | 19619 | 14055 | 431 | 62628 |
| June | 3751 | 25312 | 20160 | 13818 | 415 | 63456 |
| 1996-97 |  |  |  |  |  |  |
| September | 3920 | 25574 | 20275 | 14060 | 506 | 64334 |
| December | 4088 | 25647 | 20238 | 14237 | 524 | 64735 |
| March | 4004 | 25292 | 20222 | 14149 | 514 | 64182 |
| June | 4155 | 24716 | 20436 | 14486 | 591 | 64383 |
| 1997-98 |  |  |  |  |  |  |
| September | 3967 | 24179 | 21102 | 14149 | 550 | 63947 |
| December | 3801 | 24328 | 21258 | 13710 | 702 | 63798 |
| March | 4029 | 24968 | 21735 | 14176 | 715 | 65623 |


| June 1995 | 3258 | 23505 | 19886 | 13959 | 446 | 61055 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 3743 | 25364 | 20007 | 13965 | 445 | 63524 |
| J une 1997 | 4052 | 24694 | 20539 | 14271 | 557 | 64113 |
| 1995-96 |  |  |  |  |  |  |
| March | 3537 | 25058 | 19773 | 13958 | 415 | 62741 |
| June | 3743 | 25364 | 20007 | 13965 | 445 | 63524 |
| 1996-97 |  |  |  |  |  |  |
| September | 3919 | 25566 | 20222 | 14025 | 482 | 64213 |
| December | 4039 | 25571 | 20237 | 14165 | 517 | 64529 |
| March | 4093 | 25234 | 20287 | 14314 | 536 | 64464 |
| June | 4052 | 24694 | 20539 | 14271 | 557 | 64113 |
| 1997-98 |  |  |  |  |  |  |
| September | 3976 | 24403 | 20940 | 14126 | 605 | 64050 |
| December | 3927 | 24443 | 21343 | 13999 | 663 | 64377 |
| March | 3905 | 24677 | 21706 | 13922 | 712 | 64922 |

(a) At average 1989-90 prices.
(c) See paragraph 2 of the Explanatory Notes.
(b) In using the seasonally adjusted series extra care should be exercised because of the difficulties associated with reliably estimating its seasonal pattern.
(d) Revised. See paragraph 34 of the Explanatory Notes.

|  | Mining(b) | Manufacturing | Wholesale trade | Retail trade | Other selected industries(c) | Total selected industries(c) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year to/Quarter to | \% | \% | \% | \% | \% | \% |


|  | ORIGINAL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1995 | -11.5 | 3.5 | 9.0 | 9.3 | 17.3 | 5.6 |
| June 1996 | 16.1 | 8.2 | 1.8 | -1.2 | -10.2 | 4.2 |
| June 1997 | 10.8 | -2.3 | 1.4 | 4.8 | 42.4 | 1.5 |
| 1995-96 |  |  |  |  |  |  |
| March | 4.5 | 3.2 | -0.1 | -1.9 | -0.9 | 1.0 |
| June | 4.5 | 0.6 | 0.8 | -3.7 | -4.7 | -0.1 |
| 1996-97 |  |  |  |  |  |  |
| September | 7.4 | 0.9 | 2.4 | 5.2 | 23.4 | 2.8 |
| December | 3.3 | -1.2 | 0.3 | 2.5 | 11.6 | 0.5 |
| March | -1.8 | 0.8 | -0.6 | -2.9 | -9.2 | -0.7 |
| June | 1.6 | -2.8 | -0.7 | 0.2 | 13.9 | -1.1 |
| 1997-98 |  |  |  |  |  |  |
| September | -1.9 | -2.4 | 5.2 | 1.0 | -5.7 | 0.7 |
| December | -5.0 | -0.9 | 1.2 | -1.9 | 37.4 | -0.4 |
| March | 6.3 | 5.0 | 1.6 | 1.0 | -5.8 | 2.9 |

## SEASONALLY ADJUSTED

| June 1995 | -11.4 | 3.5 | 8.8 | 9.3 | 17.6 | 5.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 16.1 | 8.1 | 1.7 | -1.2 | -10.1 | 4.2 |
| June 1997 | 10.8 | -2.4 | 1.4 | 4.8 | 42.5 | 1.5 |
| 1995-96 |  |  |  |  |  |  |
| March | 4.1 | 1.0 | 0.3 | 0.4 | 6.7 | 0.8 |
| June | 6.7 | 1.2 | 2.8 | -1.7 | -3.7 | 1.3 |
| 1996-97 |  |  |  |  |  |  |
| September | 4.5 | 1.0 | 0.6 | 1.8 | 22.0 | 1.4 |
| December | 4.3 | 0.3 | -0.2 | 1.3 | 3.7 | 0.6 |
| March | -2.1 | -1.4 | -0.1 | -0.6 | -1.9 | -0.9 |
| June | 3.8 | -2.3 | 1.1 | 2.4 | 15.0 | 0.3 |
| 1997-98 |  |  |  |  |  |  |
| September | -4.5 | -2.2 | 3.3 | -2.3 | -6.9 | -0.7 |
| December | -4.2 | 0.6 | 0.7 | -3.1 | 27.5 | -0.2 |
| March | 6.0 | 2.6 | 2.2 | 3.4 | 1.9 | 2.9 |

## TREND ESTIMATES(d)

| June 1995 | -12.0 | 3.6 | 9.6 |
| :--- | ---: | ---: | ---: |
| June 1996 | 14.9 | 7.9 | 0.6 |
| June 1997 | 8.3 | -2.6 | 2.7 |
|  |  |  |  |
| 1995-96 | 1.8 | 0.3 |  |
| March | 4.9 | 1.2 | 1.2 |
| June | 5.8 |  |  |
| 1996-97 |  | 0.8 | 1.1 |
| September | 4.7 | 0.0 | 0.1 |
| December | 3.1 | -1.3 | 0.2 |
| March | 1.3 | -2.1 | 1.2 |
| June | -1.0 | -1.2 |  |
| 1997-98 |  | 0.2 | 2.0 |
| September | -1.9 | 1.0 | 1.9 |
| December | -1.2 |  | 1.7 |
| March | -0.6 |  |  |

(a) At average 1989-90 prices.
(c) See paragraph 2 of the Explanatory Notes.
(b) In using the seasonally adjusted series extra care should be exercised because of the difficulties associated with reliably estimating its seasonal pattern.
(d) Revised. See paragraph 34 of the Explanatory Notes.

BOOK VALUE OF STOCKS OWNED, By Manufacturing industries-Current prices

|  | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper products | Printing, publishing and recorded media | Petroleum, coal, chemical and assoc. products | Non- <br> metallic mineral product | Metal product(a) | Machinery <br> and <br> equipment(a) | Other manufacturing | Total manufacturing |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| At end of | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m |


| ORIGINAL |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1995 | 5259 | 1815 | 1552 | 851 | 5564 | 1266 | 4338 | 5406 | 618 | 26668 |
| June 1996 | 5755 | 1672 | 1727 | 921 | 5821 | 1246 | 4525 | 6093 | 671 | 28431 |
| June 1997 | 5911 | 1744 | 1866 | 811 | 5594 | 1330 | 4128 | 5894 | 614 | 27893 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 5449 | 1759 | 1732 | 920 | 5880 | 1395 | 4572 | 6088 | 662 | 28456 |
| June | 5755 | 1672 | 1727 | 921 | 5821 | 1246 | 4525 | 6093 | 671 | 28431 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 5489 | 1632 | 1646 | 897 | 5866 | 1336 | 4805 | 6314 | 599 | 28584 |
| December | 5355 | 1703 | 1693 | 840 | 5820 | 1297 | 4691 | 6139 | 623 | 28162 |
| March | 5628 | 1742 | 1746 | 822 | 5898 | 1341 | 4473 | 6294 | 539 | 28484 |
| June | 5911 | 1744 | 1866 | 811 | 5594 | 1330 | 4128 | 5894 | 614 | 27893 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 5764 | 1766 | 1919 | 835 | 5497 | 1283 | 4084 | 5619 | 648 | 27415 |
| December | 5787 | 1748 | 1889 | 906 | 5535 | 1192 | 4063 | 5683 | 645 | 27446 |
| March | 6242 | 1638 | 1985 | 1045 | 5444 | 1166 | 4287 | 6165 | 727 | 28700 |

SEASONALLY ADJUSTED

| June 1995 | 5123 | 1798 | 1532 | 856 | 5590 | 1259 | 4360 | 5449 | 629 | 26596 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 5600 | 1655 | 1702 | 927 | 5847 | 1242 | 4549 | 6143 | 683 | 28347 |
| June 1997 | 5749 | 1725 | 1840 | 816 | 5619 | 1326 | 4149 | 5943 | 626 | 27793 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 5425 | 1742 | 1691 | 926 | 5827 | 1389 | 4566 | 5992 | 641 | 28200 |
| June | 5600 | 1655 | 1702 | 927 | 5847 | 1242 | 4549 | 6143 | 683 | 28347 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 5534 | 1645 | 1679 | 887 | 5787 | 1325 | 4800 | 6280 | 603 | 28540 |
| December | 5487 | 1726 | 1725 | 838 | 5929 | 1320 | 4676 | 6221 | 628 | 28549 |
| March | 5604 | 1722 | 1704 | 830 | 5846 | 1333 | 4470 | 6196 | 523 | 28228 |
| June | 5749 | 1725 | 1840 | 816 | 5619 | 1326 | 4149 | 5943 | 626 | 27793 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 5807 | 1781 | 1961 | 826 | 5423 | 1272 | 4079 | 5589 | 651 | 27391 |
| December | 5932 | 1772 | 1922 | 903 | 5640 | 1213 | 4048 | 5757 | 650 | 27838 |
| March | 6217 | 1617 | 1937 | 1056 | 5396 | 1158 | 4285 | 6069 | 706 | 28441 |

TREND ESTIMATES(b)

| June 1995 | 5160 | 1817 | 1546 | 851 | 5445 | 1276 | 4386 | 5461 | 629 | 26571 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 5519 | 1671 | 1705 | 917 | 5834 | 1367 | 4641 | 6176 | 654 | 28483 |
| June 1997 | 5704 | 1754 | 1837 | 811 | 5651 | 1315 | 4202 | 5892 | 601 | 27768 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 5436 | 1717 | 1720 | 938 | 5763 | 1388 | 4579 | 6091 | 651 | 28284 |
| June | 5519 | 1671 | 1705 | 917 | 5834 | 1367 | 4641 | 6176 | 654 | 28483 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 5542 | 1671 | 1687 | 884 | 5871 | 1341 | 4708 | 6228 | 628 | 28560 |
| December | 5542 | 1693 | 1699 | 849 | 5876 | 1328 | 4655 | 6260 | 591 | 28492 |
| March | 5601 | 1724 | 1751 | 821 | 5787 | 1328 | 4453 | 6127 | 579 | 28171 |
| June | 5704 | 1754 | 1837 | 811 | 5651 | 1315 | 4202 | 5892 | 601 | 27768 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 5831 | 1757 | 1907 | 848 | 5545 | 1272 | 4098 | 5762 | 637 | 27657 |
| December | 5979 | 1730 | 1943 | 922 | 5497 | 1216 | 4111 | 5787 | 671 | 27856 |
| March | 6152 | 1675 | 1950 | 1019 | 5463 | 1158 | 4194 | 5925 | 693 | 28229 |

(a) In using the seasonally adjusted series extra care should be exercised because of the difficulties associated with reliably estimating its seasonal pattern.
(b) Revised. See paragraph 34 of the Explanatory Notes.

|  | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper products | Printing, publishing and recorded media | Petroleum, coal, chemical and assoc. products | Non- <br> metallic mineral product | Metal product(b) | Machinery <br> and <br> equipment(b) | Other manufacturing | Total manufacturing |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| At end of | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m |


| ORIGINAL |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1995 | 4466 | 1584 | 1315 | 744 | 4854 | 1138 | 4016 | 4789 | 562 | 23468 |
| June 1996 | 4905 | 1498 | 1520 | 779 | 5160 | 1126 | 4328 | 5453 | 612 | 25381 |
| June 1997 | 4976 | 1548 | 1652 | 716 | 5004 | 1196 | 3894 | 5254 | 558 | 24798 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 4665 | 1563 | 1460 | 746 | 5186 | 1259 | 4317 | 5430 | 601 | 25226 |
| June | 4905 | 1498 | 1520 | 779 | 5160 | 1126 | 4328 | 5453 | 612 | 25381 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 4680 | 1466 | 1462 | 773 | 5176 | 1217 | 4629 | 5669 | 548 | 25618 |
| December | 4587 | 1540 | 1504 | 727 | 5068 | 1183 | 4588 | 5541 | 569 | 25309 |
| March | 4785 | 1565 | 1542 | 724 | 5223 | 1218 | 4305 | 5660 | 493 | 25515 |
| June | 4976 | 1548 | 1652 | 716 | 5004 | 1196 | 3894 | 5254 | 558 | 24798 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 4770 | 1567 | 1698 | 735 | 4896 | 1154 | 3810 | 4993 | 585 | 24208 |
| December | 4719 | 1539 | 1663 | 793 | 4855 | 1068 | 3766 | 5008 | 581 | 23992 |
| March | 5116 | 1445 | 1734 | 896 | 4919 | 1044 | 3988 | 5391 | 654 | 25188 |

SEASONALLY ADJUSTED

| June 1995 | 4350 | 1569 | 1298 | 749 | 4877 | 1132 | 4037 | 4826 | 569 | 23408 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 4773 | 1482 | 1499 | 784 | 5183 | 1122 | 4350 | 5497 | 621 | 25312 |
| June 1997 | 4839 | 1531 | 1628 | 721 | 5026 | 1193 | 3914 | 5298 | 565 | 24716 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 4645 | 1547 | 1426 | 751 | 5140 | 1253 | 4312 | 5345 | 589 | 25007 |
| June | 4773 | 1482 | 1499 | 784 | 5183 | 1122 | 4350 | 5497 | 621 | 25312 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 4718 | 1477 | 1492 | 764 | 5106 | 1207 | 4624 | 5639 | 547 | 25574 |
| December | 4701 | 1561 | 1532 | 725 | 5163 | 1204 | 4573 | 5615 | 574 | 25647 |
| March | 4765 | 1547 | 1505 | 731 | 5177 | 1210 | 4302 | 5571 | 483 | 25292 |
| June | 4839 | 1531 | 1628 | 721 | 5026 | 1193 | 3914 | 5298 | 565 | 24716 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 4806 | 1581 | 1735 | 726 | 4830 | 1145 | 3806 | 4966 | 584 | 24179 |
| December | 4838 | 1561 | 1693 | 790 | 4947 | 1087 | 3752 | 5074 | 586 | 24328 |
| March | 5095 | 1427 | 1692 | 905 | 4876 | 1037 | 3987 | 5307 | 642 | 24968 |

## TREND ESTIMATES(c)

| June 1995 | 4393 | 1601 | 1309 | 734 | 4799 | 1152 | 4093 | 4855 | 570 | 23505 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 4712 | 1495 | 1486 | 769 | 5155 | 1186 | 4436 | 5529 | 595 | 25364 |
| June 1997 | 4792 | 1563 | 1626 | 716 | 5020 | 1187 | 3980 | 5266 | 545 | 24694 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 4638 | 1526 | 1460 | 765 | 5110 | 1215 | 4318 | 5433 | 592 | 25058 |
| June | 4712 | 1495 | 1486 | 769 | 5155 | 1186 | 4436 | 5529 | 595 | 25364 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 4736 | 1505 | 1496 | 758 | 5162 | 1183 | 4555 | 5599 | 573 | 25566 |
| December | 4734 | 1526 | 1510 | 740 | 5164 | 1202 | 4517 | 5637 | 540 | 25571 |
| March | 4763 | 1547 | 1551 | 721 | 5117 | 1212 | 4287 | 5506 | 529 | 25234 |
| June | 4792 | 1563 | 1626 | 716 | 5020 | 1187 | 3980 | 5266 | 545 | 24694 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 4832 | 1557 | 1685 | 746 | 4928 | 1143 | 3827 | 5112 | 574 | 24403 |
| December | 4905 | 1528 | 1710 | 802 | 4886 | 1091 | 3818 | 5099 | 605 | 24443 |
| March | 5003 | 1478 | 1706 | 874 | 4880 | 1043 | 3884 | 5185 | 626 | 24677 |

(a) At average 1989-90 prices.
(c) Revised. See paragraph 34 of the Explanatory Notes.
(b) In using the seasonally adjusted series extra care should be exercised because of the difficulties associated with reliably estimating its seasonal pattern.

|  | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper products | Printing, <br> publishing <br> and <br> recorded <br> media | Petroleum, coal, chemical and assoc. products | Nonmetallic mineral product | Metal product(b) | Machinery <br> and <br> equipment(b) | Other manufacturing | Total manufacturing |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year to/Quarter to | \% | \% | \% | \% | \% | \% | \% | \% | \% | \% |


| ORIGINAL |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1995 | -0.5 | 2.3 | -4.6 | 6.1 | 8.9 | 4.2 | 6.2 | 3.4 | -6.5 | 3.5 |
| June 1996 | 9.8 | -5.4 | 15.6 | 4.7 | 6.3 | -1.1 | 7.7 | 13.9 | 9.0 | 8.2 |
| June 1997 | 1.4 | 3.3 | 8.7 | -8.0 | -3.0 | 6.2 | -10.0 | -3.6 | -8.9 | -2.3 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 7.1 | 2.6 | 1.1 | -1.9 | 5.5 | 3.4 | 1.4 | 0.6 | 5.3 | 3.2 |
| June | 5.1 | -4.1 | 4.1 | 4.4 | -0.5 | -10.5 | 0.2 | 0.4 | 2.0 | 0.6 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | -4.6 | -2.2 | -3.8 | -0.7 | 0.3 | 8.1 | 7.0 | 4.0 | -10.5 | 0.9 |
| December | -2.0 | 5.1 | 2.8 | -6.0 | -2.1 | -2.7 | -0.9 | -2.2 | 3.8 | -1.2 |
| March | 4.3 | 1.6 | 2.6 | -0.3 | 3.1 | 2.9 | -6.2 | 2.1 | -13.4 | 0.8 |
| June | 4.0 | -1.1 | 7.1 | -1.1 | -4.2 | -1.8 | -9.6 | -7.2 | 13.2 | -2.8 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | -4.1 | 1.3 | 2.8 | 2.6 | -2.2 | -3.5 | -2.2 | -5.0 | 4.9 | -2.4 |
| December | -1.1 | -1.8 | -2.1 | 7.9 | -0.8 | -7.5 | -1.2 | 0.3 | -0.6 | -0.9 |
| March | 8.4 | -6.1 | 4.3 | 13.0 | 1.3 | -2.3 | 5.9 | 7.7 | 12.6 | 5.0 |

## SEASONALLY ADJUSTED

| June 1995 | -0.6 | 2.0 | -4.8 | 6.0 | 8.9 | 4.4 | 6.1 | 3.6 | -6.6 | 3.5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 9.7 | -5.5 | 15.5 | 4.7 | 6.3 | -0.9 | 7.8 | 13.9 | 9.0 | 8.1 |
| June 1997 | 1.4 | 3.3 | 8.6 | -8.0 | -3.0 | 6.3 | -10.0 | -3.6 | -8.9 | -2.4 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 4.2 | 0.3 | -3.2 | -1.2 | 2.6 | 1.2 | 1.5 | -2.3 | 2.4 | 1.0 |
| June | 2.8 | -4.2 | 5.1 | 4.4 | 0.9 | -10.5 | 0.9 | 2.9 | 5.4 | 1.2 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | -1.2 | -0.4 | -0.4 | -2.5 | -1.5 | 7.5 | 6.3 | 2.6 | -11.8 | 1.0 |
| December | -0.4 | 5.7 | 2.6 | -5.1 | 1.1 | -0.2 | -1.1 | -0.4 | 4.8 | 0.3 |
| March | 1.4 | -0.9 | -1.7 | 0.8 | 0.3 | 0.5 | -5.9 | -0.8 | -15.7 | -1.4 |
| June | 1.6 | -1.0 | 8.1 | -1.4 | -2.9 | -1.4 | -9.0 | -4.9 | 16.9 | -2.3 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | -0.7 | 3.2 | 6.6 | 0.7 | -3.9 | -4.0 | -2.8 | -6.3 | 3.3 | -2.2 |
| December | 0.7 | -1.3 | -2.4 | 8.8 | 2.4 | -5.0 | -1.4 | 2.2 | 0.4 | 0.6 |
| March | 5.3 | -8.6 | 0.0 | 14.5 | -1.4 | -4.7 | 6.2 | 4.6 | 9.6 | 2.6 |

TREND ESTIMATES(c)

| June 1995 | 0.1 | 5.1 | -1.5 | 0.4 | 6.2 | 6.8 | 7.9 | 3.5 | -10.2 | 3.6 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 7.3 | -6.6 | 13.5 | 4.8 | 7.4 | 3.0 | 8.4 | 13.9 | 4.4 | 7.9 |
| June 1997 | 1.7 | 4.5 | 9.4 | -6.8 | -2.6 | 0.0 | -10.3 | -4.8 | -8.5 | -2.6 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 2.4 | -2.8 | 3.3 | 1.2 | 1.7 | -1.3 | 1.7 | 3.2 | 2.1 | 1.8 |
| June | 1.6 | -2.0 | 1.8 | 0.5 | 0.9 | -2.3 | 2.7 | 1.8 | 0.5 | 1.2 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 0.5 | 0.6 | 0.7 | -1.4 | 0.1 | -0.3 | 2.7 | 1.3 | -3.8 | 0.8 |
| December | 0.0 | 1.4 | 1.0 | -2.4 | 0.0 | 1.6 | -0.8 | 0.7 | -5.7 | 0.0 |
| March | 0.6 | 1.4 | 2.7 | -2.5 | -0.9 | 0.8 | -5.1 | -2.3 | -2.0 | -1.3 |
| June | 0.6 | 1.0 | 4.8 | -0.7 | -1.9 | -2.1 | -7.2 | -4.4 | 2.9 | -2.1 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 0.8 | -0.4 | 3.6 | 4.1 | -1.8 | -3.7 | -3.8 | -2.9 | 5.4 | -1.2 |
| December | 1.5 | -1.9 | 1.5 | 7.6 | -0.8 | -4.6 | -0.2 | -0.3 | 5.4 | 0.2 |
| March | 2.0 | -3.3 | -0.2 | 9.0 | -0.1 | -4.4 | 1.7 | 1.7 | 3.4 | 1.0 |

(a) At average 1989-90 prices.
(c) Revised. See paragraph 34 of the Explanatory Notes.
(b) In using the seasonally adjusted series extra care should be exercised because of the difficulties associated with reliably estimating its seasonal pattern.

|  | MANUFACTURING. |  |  |  |  |  |  |  |  |  | WHOLESALE TRADE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper products | Printing, publishing and recorded media | Petroleum, coal, chemical and assoc. products | Nonmetallic mineral product | Metal product | Machinery and equipment | Other manu- <br> facturing | Total manufacturing |  |
| Period | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m |

## ORIGINAL

|  |  |  |  |  |  | NAL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year to |  |  |  |  |  |  |  |  |  |  |  |
| J une 1995 | 42386 | 8830 | 11863 | 9056 | 32417 | 11259 | 30778 | 33315 | 6291 | 186194 | 164520 |
| J une 1996 | 42875 | 8796 | 12323 | 9596 | 34436 | 10114 | 32767 | 36361 | 6225 | 193494 | 167187 |
| J une 1997 | 43749 | 9128 | 13150 | 9623 | 34630 | 9718 | 31930 | 38732 | 6508 | 197168 | 167061 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 10446 | 2089 | 2961 | 2274 | 8525 | 2439 | 8044 | 8882 | 1350 | 47009 | 40493 |
| June | 9961 | 2105 | 3070 | 2355 | 9023 | 2418 | 7926 | 9528 | 1471 | 47858 | 41199 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 11055 | 2246 | 3266 | 2396 | 8371 | 2461 | 8378 | 9891 | 1799 | 49863 | 41259 |
| December | 12261 | 2297 | 3424 | 2521 | 8914 | 2495 | 8301 | 9727 | 1628 | 51568 | 43690 |
| March | 10010 | 2236 | 3180 | 2273 | 8345 | 2299 | 7379 | 9135 | 1483 | 46340 | 39057 |
| June | 10423 | 2350 | 3280 | 2432 | 8999 | 2464 | 7872 | 9979 | 1598 | 49398 | 43055 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 11727 | 2283 | 3439 | 2655 | 8948 | 2445 | 7626 | 10043 | 1776 | 50943 | 44995 |
| December | 12691 | 2277 | 3555 | 2986 | 9002 | 2372 | 7472 | 9386 | 1826 | 51567 | 47533 |
| March | 10917 | 2127 | 3149 | 2602 | 8816 | 2284 | 6982 | 8756 | 1662 | 47296 | 43159 |

SEASONALLY ADJUSTED

| Year to |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| J une 1995 | 42461 | 8852 | 11870 | 9038 | 32377 | 11249 | 30832 | 33330 | 6310 | 186319 | 164611 |
| June 1996 | 42825 | 8774 | 12301 | 9560 | 34430 | 10123 | 32719 | 36314 | 6169 | 193214 | 166817 |
| June 1997 | 43779 | 9131 | 13166 | 9639 | 34637 | 9710 | 31935 | 38756 | 6522 | 197275 | 167104 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 11108 | 2177 | 3120 | 2411 | 8802 | 2558 | 8418 | 9418 | 1480 | 49493 | 42099 |
| June | 10259 | 2114 | 3151 | 2435 | 8880 | 2469 | 7965 | 9452 | 1505 | 48231 | 41484 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 11007 | 2154 | 3161 | 2369 | 8289 | 2379 | 8124 | 9654 | 1748 | 48885 | 41184 |
| December | 11215 | 2267 | 3254 | 2345 | 8778 | 2381 | 8084 | 9426 | 1496 | 49246 | 41543 |
| March | 10818 | 2350 | 3386 | 2411 | 8715 | 2434 | 7807 | 9770 | 1644 | 49336 | 41053 |
| June | 10738 | 2360 | 3365 | 2514 | 8854 | 2516 | 7920 | 9906 | 1634 | 49808 | 43325 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 11560 | 2197 | 3331 | 2652 | 8863 | 2386 | 7388 | 9806 | 1724 | 49907 | 44925 |
| December | 11668 | 2268 | 3378 | 2719 | 8809 | 2229 | 7278 | 9099 | 1678 | 49124 | 45201 |
| March | 11737 | 2215 | 3351 | 2822 | 9266 | 2456 | 7387 | 9354 | 1843 | 50430 | 45362 |

## TREND ESTIMATES(a)

## Year to

| J une 1995 | 42478 | 8847 | 11832 | 9083 | 32288 | 11224 | 30760 | 33325 | 6320 | 186157 | 164254 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 43033 | 8776 | 12313 | 9519 | 34293 | 10108 | 32797 | 36333 | 6243 | 193413 | 167101 |
| June 1997 | 43770 | 9084 | 13168 | 9672 | 34799 | 9690 | 31750 | 38724 | 6461 | 197118 | 167399 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 10767 | 2156 | 3097 | 2420 | 8696 | 2509 | 8230 | 9295 | 1528 | 48697 | 41731 |
| June | 10761 | 2133 | 3140 | 2409 | 8698 | 2460 | 8164 | 9500 | 1558 | 48824 | 41616 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 10871 | 2174 | 3192 | 2376 | 8618 | 2405 | 8072 | 9551 | 1598 | 48856 | 41267 |
| December | 10939 | 2264 | 3269 | 2365 | 8620 | 2398 | 8019 | 9602 | 1610 | 49086 | 41163 |
| March | 10949 | 2327 | 3339 | 2414 | 8743 | 2447 | 7937 | 9762 | 1615 | 49533 | 41830 |
| June | 11011 | 2319 | 3368 | 2517 | 8818 | 2441 | 7722 | 9808 | 1639 | 49643 | 43139 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 11318 | 2271 | 3360 | 2629 | 8848 | 2387 | 7513 | 9650 | 1692 | 49668 | 44419 |
| December | 11636 | 2234 | 3355 | 2729 | 8961 | 2348 | 7357 | 9399 | 1736 | 49757 | 45240 |
| March | 11878 | 2212 | 3359 | 2822 | 9116 | 2342 | 7242 | 9172 | 1802 | 49945 | 45636 |

(a) Revised. See paragraph 34 of the Explanatory Notes.

|  | MANUFACTURING. |  |  |  |  |  |  |  |  |  | WHOLESALE TRADE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper $r$ products | Printing, publishing and recorded media | Petroleum, coal, chemical and assoc. products | Non- <br> metallic mineral product | Metal product | Machinery and equipment | Other manufacturing | Total manufacturing |  |
| Period | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m | \$m |


| ORIGINAL |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year to |  |  |  |  |  |  |  |  |  |  |  |
| June 1995 | 36731 | 8025 | 10366 | 7462 | 30223 | 9887 | 29457 | 29890 | 5606 | 167647 | 154202 |
| June 1996 | 36141 | 7870 | 10500 | 7423 | 30976 | 8777 | 30542 | 32243 | 5387 | 169858 | 158053 |
| June 1997 | 36430 | 8094 | 11552 | 7238 | 31320 | 8341 | 30321 | 34245 | 5552 | 173095 | 161814 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 8751 | 1868 | 2515 | 1742 | 7673 | 2116 | 7531 | 7875 | 1166 | 41237 | 38499 |
| June | 8409 | 1881 | 2684 | 1801 | 8151 | 2094 | 7476 | 8398 | 1264 | 42158 | 39555 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 9266 | 1998 | 2872 | 1812 | 7579 | 2125 | 7980 | 8734 | 1540 | 43905 | 39640 |
| December | 10219 | 2042 | 3011 | 1896 | 8041 | 2147 | 7964 | 8622 | 1384 | 45328 | 42281 |
| March | 8324 | 1981 | 2782 | 1707 | 7514 | 1972 | 7001 | 8068 | 1265 | 40615 | 37948 |
| June | 8621 | 2073 | 2888 | 1824 | 8186 | 2097 | 7376 | 8821 | 1363 | 43248 | 41945 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 9636 | 2006 | 3033 | 1976 | 8179 | 2077 | 7044 | 8852 | 1510 | 44313 | 42698 |
| December | 10307 | 2003 | 3150 | 2227 | 8169 | 2013 | 6914 | 8243 | 1559 | 44585 | 44036 |
| March | 8834 | 1883 | 2774 | 1920 | 8072 | 1932 | 6449 | 7766 | 1319 | 40949 | 39893 |


| SEASONALLY ADJUSTED |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year to |  |  |  |  |  |  |  |  |  |  |  |
| June 1995 | 36776 | 8044 | 10367 | 7445 | 30182 | 9876 | 29495 | 29900 | 5622 | 167708 | 154203 |
| June 1996 | 36097 | 7850 | 10485 | 7393 | 30970 | 8784 | 30502 | 32199 | 5337 | 169618 | 158108 |
| June 1997 | 36452 | 8096 | 11566 | 7250 | 31324 | 8333 | 30322 | 34265 | 5564 | 173173 | 161798 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 9306 | 1946 | 2650 | 1847 | 7922 | 2220 | 7882 | 8350 | 1279 | 43402 | 40520 |
| June | 8661 | 1890 | 2755 | 1862 | 8022 | 2138 | 7513 | 8330 | 1293 | 42463 | 39663 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 9226 | 1916 | 2780 | 1791 | 7504 | 2054 | 7737 | 8525 | 1497 | 43030 | 39760 |
| December | 9348 | 2016 | 2861 | 1764 | 7918 | 2050 | 7756 | 8355 | 1272 | 43339 | 40048 |
| March | 8996 | 2083 | 2962 | 1810 | 7847 | 2088 | 7408 | 8629 | 1403 | 43225 | 39955 |
| June | 8882 | 2082 | 2963 | 1885 | 8054 | 2141 | 7421 | 8756 | 1394 | 43578 | 42035 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 9499 | 1931 | 2938 | 1974 | 8102 | 2027 | 6824 | 8643 | 1465 | 43402 | 42844 |
| December | 9476 | 1995 | 2994 | 2027 | 7993 | 1892 | 6734 | 7991 | 1432 | 42535 | 41702 |
| March | 9497 | 1961 | 2952 | 2082 | 8483 | 2077 | 6823 | 8296 | 1462 | 43635 | 42011 |

Year to TREND ESTIMATES $(\mathrm{b})$

| J une 1995 | 36805 | 8042 | 10328 | 7478 | 30112 | 9854 | 29418 | 29905 | 5626 | 167567 | 153872 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| June 1996 | 36233 | 7851 | 10498 | 7366 | 30852 | 8773 | 30596 | 32217 | 5402 | 169788 | 158385 |
| June 1997 | 36453 | 8055 | 11569 | 7276 | 31471 | 8318 | 30123 | 34220 | 5517 | 173000 | 161944 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 9052 | 1927 | 2644 | 1856 | 7828 | 2177 | 7702 | 8235 | 1319 | 42740 | 39791 |
| June | 9039 | 1904 | 2728 | 1836 | 7855 | 2131 | 7716 | 8396 | 1339 | 42943 | 39961 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 9115 | 1937 | 2802 | 1799 | 7785 | 2077 | 7691 | 8436 | 1366 | 43007 | 39779 |
| December | 9135 | 2012 | 2874 | 1781 | 7779 | 2064 | 7662 | 8491 | 1373 | 43170 | 39838 |
| March | 9100 | 2061 | 2931 | 1811 | 7905 | 2095 | 7532 | 8636 | 1375 | 43447 | 40666 |
| June | 9103 | 2046 | 2962 | 1884 | 8003 | 2081 | 7238 | 8658 | 1402 | 43376 | 41661 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 9287 | 1999 | 2965 | 1963 | 8058 | 2028 | 6974 | 8505 | 1439 | 43219 | 42207 |
| December | 9474 | 1968 | 2965 | 2029 | 8175 | 1991 | 6798 | 8288 | 1449 | 43136 | 42228 |
| March | 9581 | 1955 | 2967 | 2081 | 8311 | 1983 | 6684 | 8112 | 1460 | 43134 | 41928 |

[^1]|  | Food, | Textiles, |  | Printing, publishing | Petroleum, coal, | Non- |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | beverage | clothing | Wood |  | chemical | metallic |  | Machinery | Other | Total |
|  | and | footwear | and paper | recorded | and assoc. | mineral | Metal |  | manu- | manu- |
| Period | tobacco | and leather | products | media | products | product | product | equipment | facturing | facturing |


| ACTUAL SALES (\$ million) |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1994-95 | 42386 | 8830 | 11863 | 9056 | 32417 | 11259 | 30778 | 33315 | 6291 | 186194 |
| 1995-96 | 42875 | 8796 | 12323 | 9596 | 34436 | 10114 | 32767 | 36361 | 6225 | 193494 |
| 1996-97 | 43749 | 9128 | 13150 | 9623 | 34630 | 9718 | 31930 | 38732 | 6508 | 197168 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |
| March | 10446 | 2089 | 2961 | 2274 | 8525 | 2439 | 8044 | 8882 | 1350 | 47009 |
| June | 9961 | 2105 | 3070 | 2355 | 9023 | 2418 | 7926 | 9528 | 1471 | 47858 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |
| September | 11055 | 2246 | 3266 | 2396 | 8371 | 2461 | 8378 | 9891 | 1799 | 49863 |
| December | 12261 | 2297 | 3424 | 2521 | 8914 | 2495 | 8301 | 9727 | 1628 | 51568 |
| March | 10010 | 2236 | 3180 | 2273 | 8345 | 2299 | 7379 | 9135 | 1483 | 46340 |
| June | 10423 | 2350 | 3280 | 2432 | 8999 | 2464 | 7872 | 9979 | 1598 | 49398 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| September | 11727 | 2283 | 3439 | 2655 | 8948 | 2445 | 7626 | 10043 | 1776 | 50943 |
| December | 12691 | 2277 | 3555 | 2986 | 9002 | 2372 | 7472 | 9386 | 1826 | 51567 |
| March | 10917 | 2127 | 3149 | 2602 | 8816 | 2284 | 6982 | 8756 | 1662 | 47296 |
| EXPECTED SALES (\$ million) |  |  |  |  |  |  |  |  |  |  |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |
| 3 mths to Jun | 11069 | 2296 | 3442 | 2982 | 9184 | 2384 | 7630 | 9714 | 1707 | 50408 |
| Total 1997-982 | 46404 | 8983 | 13585 | 11226 | 35950 | 9485 | 29710 | 37899 | 6972 | 200214 |
| 1998-99 |  |  |  |  |  |  |  |  |  |  |
| 6 mths to Dec | 24907 | 4406 | 6920 | 6135 | 18159 | 4853 | 15284 | 20450 | 3631 | 104745 | REALISATION RATIOS: 3 MONTHS TO JUNE (Actual/Mar E1)


| 1993 | 1.11 | 1.14 | 1.04 | 1.27 | 1.32 | 1.10 | 1.07 | 1.09 | 1.12 | 1.14 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 9 9 4}$ | 1.11 | 0.94 | 1.06 | 1.49 | 1.31 | 1.21 | 0.98 | 1.03 | 1.50 |  |
| 1995 | 1.03 | 1.01 | 0.98 | 1.06 | 0.97 | 0.98 | 0.99 | 1.02 | 0.99 | 1.12 |
| $\mathbf{1 9 9 6}$ | 0.97 | 0.88 | 0.88 | 1.01 | 1.03 | 1.04 | 0.91 | 0.93 | 1.12 |  |
| 1997 | 0.99 | 1.02 | 0.98 | 1.03 | 0.97 | 1.04 | 1.03 | 0.97 | 1.03 |  |
| 5 year average | 1.04 | 1.00 | 0.99 | 1.17 | 1.12 | 1.07 | 1.00 | 1.01 | 1.15 | 0.96 |

REALISATION RATIOS: 6 MONTHS TO DECEMBER (Actual/Mar E2)

| 1993 | 1.07 | 1.11 | 1.01 | 1.23 | 1.29 | 1.10 | 1.03 | 1.05 | 1.32 | 1.11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| $\mathbf{1 9 9 4}$ | 1.14 | 1.07 | 1.09 | 1.24 | 1.34 | 1.14 | 1.11 | 1.13 | 1.21 | 1.16 |
| $\mathbf{1 9 9 5}$ | 1.11 | 0.85 | 1.14 | 1.47 | 1.34 | 1.35 | 1.06 | 1.06 | 1.54 |  |
| 1996 | 1.00 | 0.98 | 1.00 | 1.05 | 0.97 | 0.90 | 1.07 | 1.03 | 1.06 |  |
| 1997 | 1.01 | 0.98 | 1.02 | 0.97 | 0.97 | 0.95 | 0.97 | 1.01 | 1.20 |  |
| 5 year average | 1.07 | 1.00 | 1.06 | 1.19 | 1.18 | 1.09 | 1.05 | 1.06 | 1.27 | 1.00 |
| 1.07 |  |  |  |  |  |  |  |  |  |  |

REALISATION RATIOS: 12 MONTHS TO JUNE (Actual/sum of Sep, Dec and Mar actual, Mar E1)

| 1993 | 1.03 | 1.03 | 1.01 | 1.06 | 1.07 | 1.03 | 1.02 | 1.02 | 1.03 | 1.03 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1994 | 1.03 | 0.98 | 1.01 | 1.09 | 1.07 | 1.05 | 1.00 | 1.01 | 1.11 | 1.03 |
| 1995 | 1.01 | 1.00 | 0.99 | 1.01 | 0.99 | 0.99 | 1.00 | 1.01 | 1.00 | 1.00 |
| 1996 | 0.99 | 0.97 | 0.97 | 1.00 | 1.01 | 1.01 | 0.98 | 0.98 | 1.03 |  |
| 1997 | 1.00 | 1.01 | 0.99 | 1.01 | 0.99 | 1.01 | 1.01 | 0.99 | 1.01 | 1.00 |
| 5 year average | 1.01 | 1.00 | 1.00 | 1.03 | 1.03 | 1.02 | 1.00 | 1.00 | 1.03 | 1.01 |

(a) See paragraphs 22 to 25 of the Explanatory Notes.
(b) Derived by adding actual sales for 9 months ending March 1998 and expected sales for 3 months ending June 1998.

MANUFACTURING AND WHOLESALE TRADE STOCKS/SALES RATIO-Current prices(a)

M ANUFACTURING
WHOLESALE

| Year to/Quarter to | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper products | Printing, publishing and recorded media | Petroleum, coal, chemical and assoc. products | Non- <br> metallic mineral product | Metal product | Machinery and equipment | Other <br> manu- <br> facturing | Total manufacturing | Total wholesale |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |  |
| June 1995 | 0.49 | 0.79 | 0.50 | 0.38 | 0.67 | 0.47 | 0.55 | 0.65 | 0.38 | 0.56 | 0.51 |
| June 1996 | 0.55 | 0.78 | 0.54 | 0.38 | 0.66 | 0.50 | 0.57 | 0.65 | 0.45 | 0.59 | 0.52 |
| June 1997 | 0.54 | 0.73 | 0.55 | 0.32 | 0.63 | 0.53 | 0.52 | 0.60 | 0.38 | 0.56 | 0.50 |
| 1995-96 |  |  |  |  |  |  |  |  |  |  |  |
| March | 0.49 | 0.80 | 0.54 | 0.38 | 0.66 | 0.54 | 0.54 | 0.64 | 0.43 | 0.57 | 0.50 |
| June | 0.55 | 0.78 | 0.54 | 0.38 | 0.66 | 0.50 | 0.57 | 0.65 | 0.45 | 0.59 | 0.52 |
| 1996-97 |  |  |  |  |  |  |  |  |  |  |  |
| September | 0.50 | 0.76 | 0.53 | 0.37 | 0.70 | 0.56 | 0.59 | 0.65 | 0.34 | 0.58 | 0.52 |
| December | 0.49 | 0.76 | 0.53 | 0.36 | 0.68 | 0.55 | 0.58 | 0.66 | 0.42 | 0.58 | 0.51 |
| March | 0.52 | 0.73 | 0.50 | 0.34 | 0.67 | 0.55 | 0.57 | 0.63 | 0.32 | 0.57 | 0.52 |
| June | 0.54 | 0.73 | 0.55 | 0.32 | 0.63 | 0.53 | 0.52 | 0.60 | 0.38 | 0.56 | 0.50 |
| 1997-98 |  |  |  |  |  |  |  |  |  |  |  |
| September | 0.50 | 0.81 | 0.59 | 0.31 | 0.61 | 0.53 | 0.55 | 0.57 | 0.38 | 0.55 | 0.50 |
| December | 0.51 | 0.78 | 0.57 | 0.33 | 0.64 | 0.54 | 0.56 | 0.63 | 0.39 | 0.57 | 0.51 |
| March | 0.53 | 0.73 | 0.58 | 0.37 | 0.58 | 0.47 | 0.58 | 0.65 | 0.38 | 0.56 | 0.52 |

(a) Seasonally adjusted series

1 This publication contains estimates of the book value of stocks owned by private businesses, estimates of sales by wholesalers and sales and expected sales of goods manufactured or assembled by manufacturers in Australia. The series have been compiled from data collected by the Australian Bureau of Statistics (ABS) in its quarterly Survey of Stocks and Sales.

2 The scope of the survey:

- includes the following industries (Australian and New Zealand Standard Industrial Classification 1993 [ANZSIC] Divisions and Subdivisions):

Mining (Division B )
Manufacturing (Division C)
Food, beverages and tobacco (21)
Textiles, clothing, footwear and leather (22)
Wood and paper products (23)
Printing, publishing and recorded media (24)
Petroleum, coal, chemical and associated products (25)
Non-metallic mineral products (26)
Metal products (27)
Machinery and equipment (28)
Other manufacturing (29)
Wholesale Trade (Division F)
Basic materials (45)
Machinery and motor vehicles (46)
Personal and household goods (47)
Retail Trade (Division G excluding 5322, 5323 and 5329)
Food (51)
Personal and household goods (52)
Motor vehicle retailing and services (53 excluding 5322, 5323 and 5329)
Other Selected Industries
Electricity and gas supply (36)
Accommodation, cafes and restaurants (Division H)

- excludes the following industries:

Agriculture, forestry and fishing
Water supply, sewerage and drainage services
Construction
Transport and storage
Communication services
Finance and insurance
Property and business services
Government administration and defence
Education, health and community services
Cultural and recreational services
Personal and other services

- in addition the scope excludes public sector business units (i.e. all departments, authorities and other organisations owned and/or controlled by Commonwealth, State and Local Governments). Primary producer marketing boards are classified as public sector and are also excluded.

3 The survey is conducted by mail on a quarterly basis. It is based on a stratified random sample of approximately 7,500 private businesses selected from the ABS register of businesses. The sample is stratified by industry, number of employees and, since September 1997, by state and territory. All business units with over 250 employees, and other statistically significant units, such as many joint venture partners, are included. The figures obtained from these businesses are also supplemented by adjustments for new businesses not yet included in the sample framework.

4 Respondents are asked to provide data on the same basis as their own management accounts. Where a selected business unit does not respond in a given survey, an estimate is substituted. Revisions may be made to these estimate adjustments if data are provided subsequently from those businesses. Aggregates are calculated from original data using the 'number raised' estimation technique. Data are edited at both individual unit level and at aggregate level.

5 Adjustments are included in the estimates to allow for lags in processing new businesses to the ABS business register, and the omission of some businesses from the business register. The majority of businesses affected and to which the adjustments apply are small in size. The adjustments contributed $4.8 \%$ to the current quarter's estimate of reported stocks and $5.0 \%$ to reported sales. These adjustments were introduced in the June quarter 1997 publication and have been made back to the June quarter 1984. For further information see the June quarter 1997 publication or an Information Paper — Improvements to ABS Economic Statistics 1997 (Cat. No. 1357.0) issued on 22 August 1997.

6 Surveys are conducted in respect of each quarter and returns are completed during the 8 or 9 week period after the end of the quarter to which survey data relate e.g. December quarter survey returns are completed during January and February.

7 In addition to data on stocks, manufacturers and wholesalers are requested to provide sales figures for actual sales made during the reference quarter.
Manufacturers are also requested to provide expected sales for future periods:

- a short term expectation (E1); and
- a longer term expectation (E2).

8 Full details of the reporting cycle are shown in the table below.

|  | Period to which reported data relates |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1996-97 | 1997-98 |  |  |  | 1998-99 |  |  |  |
| Survey quarter | Jun | Sep | Dec | Mar | Jun | Sep | Dec | Mar | Jun |
| June 1997 | Actual |  | E1 |  | E2 |  |  |  |  |
| September 1997 |  | Actual | E1 |  | E2 |  |  |  |  |
| December 1997 |  |  | Actual |  | E1 |  | E2 |  |  |
| March 1998 |  |  |  | Actua | E1 |  | E2 |  |  |
| June 1998 |  |  |  |  | Actual |  | E1 |  | E2 |

TIMING AND CONSTRUCTION OF SURVEY CYCLE continued

## SAMPLE REVISION

## CLASSIFICATION BY INDUSTRY

DESCRIPTION OF TERMS

9 For the manufacturing industry this survey cycle produces estimates of sales and expected sales for the next 9 or 12 months. Realisation ratios (actual sales divided by expected sales) are published in this issue as an aid in interpreting expectation statistics. Since realisation ratios tend to vary according to factors such as the stage of the economic cycle, caution should be used when interpreting the data on expected sales and realisation ratios.

10 Prior to the June quarter 1996 survey, the survey frames and samples were revised annually to ensure that they remained representative of the survey population. Adjustments were made to the survey estimates each quarter to reflect changes in the size of the survey frame throughout the year. From the June quarter 1996 survey, the survey frames and samples are being revised each quarter. The aim is to further improve the quality of the survey estimates by selecting a sample which will be more representative of the business population. The timing of sample selection will now be consistent with other ABS surveys. This will lead to greater consistency when comparing data across these surveys.
11 With these revisions to the sample, some of the business units are rotated out of the survey and are replaced by others to spread the reporting workload equitably. The rate of rotation under quarterly sample selection is slightly higher than one quarter of the previous annual rate of rotation.
12 When frames and samples were updated annually some data would be revised as a consequence. No data revisions of this nature will be needed given quarterly updates to frames and samples. Data may be revised however on the basis of further processing.

13 This survey uses the management unit as the statistical unit. The management unit is the highest-level accounting unit within a business, having regard to industry homogeneity, for which accounts are maintained. In nearly all cases it coincides with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc.). In the case of large diversified businesses, however, there may be more than one management unit, each coinciding with a 'division' or 'line of business'. A division or line of business is defined where separate and comprehensive accounts are compiled for it. Prior to 1989, the survey was on a different business unit basis. Further details are available on request.

14 The Australian and New Zealand Standard Industrial Classification (ANZSIC) has been developed for use in both countries for the production and analysis of industry statistics. It replaces the Australian Standard Industrial Classification (ASIC) and the New Zealand Standard Industrial Classification (NZSIC).
15 For more information, users are referred to Australian $\&$ New Zealand Standard Industrial Classification, 1993, ANZSIC, ABS (1292.0) and Statistics New Zealand (19.005.0092).
16 In order to classify stocks and sales data by industry, each statistical unit (as defined above) is classified to the Australian and New Zealand Standard Industrial Classification (ANZSIC) industry in which it mainly operates.

17 All of the stocks, sales and expected sales of each statistical unit are classified to that unit's industry even though it may have activities in other industries.

18 Manufacturers' Sales. All sales of goods manufactured by the business unit or manufactured for it on commission. Excludes commission earned by the business for manufacturing work done on customers' materials and sales of goods not manufactured (e.g. merchanted goods) by the business.

DESCRIPTION OF TERMS continued

CONSTANT PRICES

DERIVATION AND USEFULNESS OF REALISATION RATIOS

19 Wholesale trade Sales. All sales of goods by businesses classified to the Wholesale Trade Industry.
20 Stocks. All stocks of materials etc., work in progress and finished goods owned by the business, whether held at locations of the business or elsewhere.

21 The level and changes in the level of stocks and sales valued at constant prices (average 1989-90 prices) are obtained by dividing the current price values (in the case of stocks these are book values), at the most detailed industry level possible, by fixed weighted price indexes. These price indexes are compiled by combining, in fixed proportions, a wide range of price data. The composition and weighting of the indexes have been determined by estimates of the commodity composition of the value of sales or stocks owned by firms in those industries in 1989-90. A measure of the change in stocks at average 1989-90 prices is calculated by taking the difference between opening and closing stocks at constant prices.

22 Once the actual level of manufacturers' sales is known, it is useful to investigate the relationship between it and each of the previous expected estimates. The resultant realisation ratios (subsequent actual sales divided by expected sales) then indicate how the value of actual sales compared with the value of expected sales at the various times of reporting. Realisation ratios can also be formed separately for 3 or 6 month expectations as well as the 12 month estimates or combinations of estimates containing at least some expectation components (e.g. 6 months actual and 6 months expected sales).

23 Realisation ratios provide an important tool in understanding and interpreting expectations statistics for future periods. The application of realisation ratios enables the adjustment of expectations data for known under (or over) realisation patterns in the past and hence provides a valid basis for comparison with other expectations data and actual sales estimates. For example, if one wished to predict actual sales for 1997-98 based on the June 1997 survey results and compare these with 1996-97 actual sales, it is necessary to apply relevant realisation factors to the expectation to put both estimates on the same basis. Once this has been done the predictions can be validly compared with each other and with previously derived estimates of actual sales for earlier years.
24 There are many ways in which realisation ratios can be applied to make predictions of sales for a future period. For instance, the adjusted estimates could be derived using realisation ratios which are the average of the latest available five observations or any of the five could be used. Realisation ratios are provided in table 9 on page 15 .

25 In using realisation ratios to adjust expectations data, attention should be paid to the range of values that has occurred in the past. A wide range of values is indicative of volatility in the realisation patterns and hence greater caution should be exercised in the application of realisation ratios. This is particularly the case with the twelve month expectations collected in the December and June surveys.

26 Two types of error are possible in an estimate based on a sample survey: sampling error and non-sampling error. Sampling error is explained and quantified on pages 23 and 24 .

RELIABILITY OF THE ESTIMATES continued

Non-sampling error arises from inaccuracies in collecting, recording and processing the data. The major errors of concern and which may affect the data are:

- misreporting of data by respondents; and
- deficiencies in the register of economic units, particularly in respect of small units.

Every effort is made to minimise the non-sampling error by careful design of questionnaires, efficient operating procedures, and appropriate methodology.

27 The quarterly stocks and sales series in this publication are affected to some extent by seasonal influences and it is useful to recognise and take account of this element of variation.

28 Seasonal adjustment may be carried out by various methods and the results may vary slightly depending on the procedure adopted. Accordingly, seasonally adjusted statistics are only indicative and should not be regarded as in any way definitive. In interpreting seasonally adjusted data it is important therefore to bear in mind the methods by which they have been derived and the limitations to which the methods used are subject.

29 Seasonal adjustment is a means of reassessing the estimated effects of normal seasonal variations for the series so that the effects of other influences can be more clearly recognised.

30 In the seasonal adjustment of the series, account has been taken of both normal seasonal factors and 'trading' day effects (arising from the varying length of each quarter) and the varying numbers of Sundays, Mondays, Tuesdays etc in the quarter. Seasonal adjustment does not remove from the series the effect of irregular or non-seasonal influences (e.g. change in interest rates).
31 At least once each year the seasonally adjusted series are revised to take account of the latest available data. The most recent reanalysis takes into account data up to and including the June quarter 1997 survey. The nature of the seasonal adjustment is such that the magnitude of some revisions resulting from reanalysis may be quite significant especially for data for more recent quarters. Care should be exercised when interpreting quarter to quarter movements in the seasonally adjusted series in the publication, particularly for recent quarters.

32 It should be noted that the seasonally adjusted figures necessarily reflect the sampling and other errors to which the original figures are subject.

33 Details of the seasonal adjustment methods used for stocks and sales, together with selected measures of variability for these series are available on request.

34 The trend estimates are derived by applying a 7 -term Henderson moving average to the seasonally adjusted series. The 7-term Henderson average (like all Henderson averages) is 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 weights employed here have been tailored to suit the particular characteristics of individual series. 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 three quarters as additional observations become available. There may also be revisions because of changes in the original data and as a result of the re-estimation of the seasonal factors. For further information, see A Guide to Interpreting Time Series - Monitoring 'Trend' An Overview (1348.0) or contact the Assistant Director, Time Series Analysis on (02) 62526345.

COMPARISON WITH OTHER ABS STATISTICS

RELATED PUBLICATIONS

UNPUBLISHED DATA

SYMBOLS AND OTHER USAGES

35 The data collected in the Survey of Stocks and Sales are used to compile estimates of the increase in book value of non-farm stocks in the quarterly and annual national accounts. For further details see Australian National Accounts: Concepts, Sources and Methods (5216.0).

36 The statistics shown for the movement in the book value of stocks in this publication will differ from corresponding data for private non-farm stocks shown in the national accounts publications because the national accounts estimates include estimates for the construction and transport industries.

37 Users may also wish to refer to the following publications:

- Private New Capital Expenditure and Expected Expenditure, Australia (5625.0)
- State Estimates of Private New Capital Expenditure (5646.0)
- Company Profits, Australia (5651.0)
- Australian Business Expectations (5250.0)
- Australian National Accounts: National Income, Expenditure and Product (5206.0)
- Australian National Accounts: Concepts, Sources and Methods (5216.0)
- Manufacturing Production, Australia (8301.0)
- Business Operations and Industry Performance, Australia (8140.0).

38 Current publications produced by the ABS are listed in the Catalogue of Publications and Products, Australia (1101.0). The ABS also issues on Tuesdays and Fridays a Release Advice (1105.0) which lists publications to be released in the next few days. The Catalogue and Release Advice are available from any ABS office.

39 In addition to the data contained in this and related publications, more detailed industry information may be made available on request. Data are available at the ANZSIC Group (i.e. 3 digit) level for stocks and manufacturers' sales.

ANZSIC Australian and New Zealand Standard Industrial Classification (1292.0) 1993 edition

## STANDARD ERRORS

The estimates in this publication are based on information gained from a sample survey. Because the entire population of businesses is not surveyed, the published estimates are subject to sampling error and this can be quantified in a number of ways A common measure is standard error. In this publication standard errors are presented as a percentage of the estimate to which they apply (i.e. relative standard error). In the case of the relative standard errors of movement, they are expressed as a percentage of the estimate of the data level for the earlier period.

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 all businesses had been included in the survey, and there are about nineteen chances in twenty that the difference will be less than two standard errors. Put another way, this means that we can be $67 \%$ confident that the 'true' figure is within plus or minus one standard error of the sample estimate and $95 \%$ confident that the 'true' figure is within two standard errors of the sample estimate. Tables of relative standard errors are presented on the next page and examples of their application are given below.

## LEVEL ESTIMATES

To illustrate, let us say the published level estimate for manufacturers' stocks is $\$ 21,000 \mathrm{~m}$. The relative standard error for this case, obtained from the table on the next page, is $1.4 \%$. This relative standard error is then used to interpret the level estimate of $\$ 21,000 \mathrm{~m}$. For instance, the relative standard error of $1.4 \%$ indicates that:

- There are approximately two chances in three that the real value falls within the range $\$ 20,706 \mathrm{~m}$ to $\$ 21,294 \mathrm{~m}(\$ 21,000 \mathrm{~m} \pm 1.4 \% \mathrm{x} \$ 21,000 \mathrm{~m})$
- There are approximately nineteen chances in twenty that the real value falls within the range $\$ 20,412 \mathrm{~m}$ to $\$ 21,588 \mathrm{~m}(\$ 21,000 \mathrm{~m} \pm 2 \times 1.4 \% \mathrm{x} \$ 21,000 \mathrm{~m})$

The real value in this case is the result we would obtain if the total population had been enumerated.

The following tables show the relative standard errors for this quarter's level estimates.

The following example illustrates how to use the standard error to interpret a movement estimate. Suppose that for one quarter the published level estimate for manufacturers' stocks in Australia is $\$ 22,100 \mathrm{~m}$; the next quarter the published level estimate is $\$ 22,400 \mathrm{~m}$. The relative standard error for the movement estimates, obtained from the next page, is $0.4 \%$. This relative standard error is then used to interpret the published movement estimate of $+\$ 300 \mathrm{~m}$. For instance the relative standard error of $0.4 \%$ indicates that:

- There are approximately two chances in three that the real movement over the two quarters falls within the range $\$ 212 \mathrm{~m}$ to $\$ 388 \mathrm{~m}(\$ 300 \mathrm{~m} \pm 0.4 \% \mathrm{x} \$ 22,100 \mathrm{~m}$ )
- There are approximately nineteen chances in twenty that the real value falls within the range $\$ 123 \mathrm{~m}$ to $\$ 477 \mathrm{~m}(\$ 300 \mathrm{~m} \pm 2 \times 0.4 \% \mathrm{x} \$ 22,100 \mathrm{~m})$.

The following tables show the relative standard errors for this quarter's movement estimates.

## STANDARD ERRORS continued

## APPROXIMATE RELATIVE STANDARD ERRORS

STOCKS OWNED BY PRIVATE BUSINESSES(a)

|  | Mining | Manufacturing | Wholesale trade | Retail trade | Other | Total selected industries |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Estimates of | \% | \% | \% | \% | \% | \% |
| Total stocks | 2.4 | 1.4 | 6.3 | 3.6 | 11.5 | 2.3 |
| Quarter to quarter movement(a) | 0.7 | 0.4 | 0.8 | 1.1 | 2.5 | 0.4 |

STOCKS AND SALES,PRIVATE MANUFACTURING AND WHOLESALE TRADE BUSINESSES

WHOLESALE
MANUFACTURING

|  | Food, beverage and tobacco | Textiles, clothing, footwear and leather | Wood and paper products | Printing, <br> publishing <br> and <br> recorded <br> media | Petroleum, coal, chemical and assoc. products | Nonmetallic mineral product | Metal product | Machinery <br> and <br> equipment | Other manufacturing | Total manufacturing | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Estimates of | \% | \% | \% | \% | \% | \% | \% | \% | \% | \% | \% |


| Total stocks- |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Level | 3.0 | 4.6 | 5.2 | 10.3 | 3.0 | 6.5 | 1.4 | 4.4 | 8.1 | 1.4 | 6.3 |
| Movement | 0.7 | 1.6 | 1.4 | 2.3 | 0.9 | 2.8 | 0.5 | 1.4 | 2.6 | 0.4 | 0.8 |
| Total sales- |  |  |  |  |  |  |  |  |  |  |  |
| Level | 2.1 | 5.7 | 4.2 | 12.8 | 2.8 | 7.0 | 1.5 | 4.0 | 7.5 | 1.4 | 7.7 |
| Movement | 0.8 | 2.2 | 1.5 | 3.3 | 1.0 | 3.3 | 0.6 | 1.3 | 2.9 | 0.5 | 0.9 |

(a) Expressed as a percentage of total.

## EFFECT OF NEW SEASONALLY ADJUSTED ESTIMATES ON TREND ESTIMATES

Each time new seasonally adjusted estimates become available, trend estimates are revised (see paragraph 34 of Explanatory notes).

The examples in the tables below show two scenarios and the consequent revisions to previous trend estimates of stocks owned by private businesses and manufacturers' and wholesalers' sales.

1 The June quarter seasonally adjusted estimate is higher than the March quarter estimate by the percentage shown.
2 The June quarter seasonally adjusted estimate is lower than the March quarter estimate by the percentage shown.

The percentages chosen are approximately the long term average movements, without regard to sign, in the seasonally adjusted series.

## MANUFACTURERS' SALES



## STOCKS OWNED BY

PRIVATE BUSINESSES

|  |  |  |
| :--- | ---: | :---: |
|  | \$m | \% change |
| 1997 | 64113 | -0.5 |
| June | 64050 | -0.1 |
| September | 6437 | 0.5 |
| December | 64377 |  |
| 1998 | - | - |

## trend As

PUBLISHED


| $\mathbf{1}$ <br> rises by 1.0 <br> \$m Mar 1998 | $\mathbf{2}$ <br> \% change | falls by 1.0 <br> \$m | on Mar 1998 <br> \% change |
| :--- | :--- | :--- | :--- |
| 64113 | -0.5 | 64113 | -0.5 |
| 63960 | -0.2 | 64038 | -0.1 |
| 64402 | 0.7 | 64375 | 0.5 |
|  |  |  |  |
| 65223 | 1.3 | 64853 | 0.7 |
| 66217 | 1.5 | 65338 | 0.7 |

TREND AS PUBLISHED

1997
June September December 1998 March $43134 \quad 0.0$

What if next quarter's seasonally adjusted estimate:
1

| rises by 1.4 on Mar 1998 <br> \% change |  | falls by 1.4 on Mar 1998 <br> \$m |
| :--- | :--- | :--- | :--- |
| \% change |  |  |

wholesale trade sales
TREND AS PUBLISHED

What if next quarter's seasonally adjusted estimate:

June
September
December
1998
March
June

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[^0]:    Dec Mar Jun Sep Dec Mar 19961997

[^1]:    (a) At average 1989-90 prices.
    (b) Revised. See paragraph 34 of the Explanatory Notes.

