

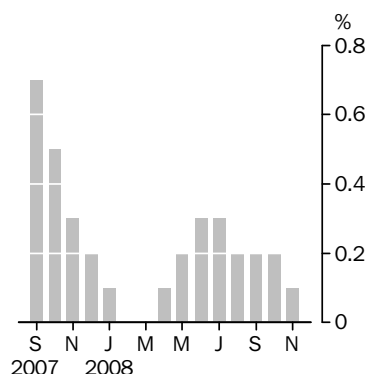
RETAIL TRADE TRENDS

AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) WED 7 JAN 2009

Monthly turnover

Trend estimates
% change



KEY FIGURES

| | Nov 08 \$m | Oct 08 to Nov 08 % change | Nov 07 to Nov 08 % change |
|-----------------------------------|---------------|------------------------------|------------------------------|
| Turnover at current prices | | | |
| Trend estimates | 18 423.1 | 0.1 | 1.9 |

KEY POINTS

- The trend estimate of turnover for the Australian Retail series increased by 0.1% in November 2008. This follows an increase of 0.2% for each of the preceding three months.
- In November 2008, Food retailing (+0.7%) and Other retailing (+0.6%) had an increase in the trend. Industries with a decrease in the trend were Department stores (−0.4%), Clothing and soft good retailing (−0.3%), Household good retailing (−1.0%) and Cafes, restaurants and takeaway food services (−0.3%).
- All States, except New South Wales (−0.2%) and Western Australia (−0.1%), had an increase in the trend estimate. Queensland, South Australia (both +0.1%) and Tasmania (+0.2%) had weak growth in the trend estimate.
- The trend estimate for the Australian retail series increased by 1.9% in November 2008 compared with November 2007.
- The trend estimate for Chains and other large retailers (which are completely enumerated) increased by 0.3% in November 2008 compared to October 2008 and 5.1% in November 2008 compared to November 2007.

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Neil Hamilton on Canberra (02) 6252 5990.

NOTES

FORTHCOMING ISSUES

| ISSUE | RELEASE DATE |
|---------------|-----------------|
| December 2008 | 4 February 2009 |
| January 2009 | 3 March 2009 |
| February 2009 | 1 April 2009 |
| March 2009 | 6 May 2009 |
| April 2009 | 1 June 2009 |
| May 2009 | 1 July 2009 |

.....

CHANGES IN THIS AND FUTURE ISSUES

Details of changes in this and future issues are described on page 3.

TIME SERIES DATA

The following trend, seasonally adjusted and original series are available from the Downloads tab of this issue:

- Retail turnover by state
- Retail turnover by industry
- Retail turnover completely enumerated sector, total level.

Also available are standard errors by state and industry.

INTERPRETING MONTHLY MOVEMENTS

Due to the smaller sample size and sampling methodology (independent samples for each month of the quarter) in effect from July to October 2008, there is increased volatility in all series. The original and seasonally adjusted series are most affected and, as a result, the original and seasonally adjusted series are considered of limited use for measuring month to month movements. The ABS recommends using the trend series for this analysis.

.....

ABBREVIATIONS

| | |
|--------|---|
| ABN | Australian Business Number |
| ABS | Australian Bureau of Statistics |
| ANZSIC | Australian and New Zealand Standard Industrial Classification |
| ARIMA | autoregressive integrated moving average |
| ATO | Australian Taxation Office |
| n.e.c. | not elsewhere classified |
| PAYGW | pay-as-you-go withholding |
| RBS | Retail Business Survey |
| RSE | relative standard error |
| TAU | type of activity unit |

Brian Pink
Australian Statistician

CHANGES IN THIS AND FUTURE ISSUES

CHANGES TO SAMPLING AND SEASONAL ADJUSTMENT

The sampling scheme used for the statistics in this publication has changed. The Australian Statistician announced on 4 November 2008 that the full monthly sample would be reinstated to the Retail Business Survey. As a result, the sample size for the November 2008 survey was increased from 900 to 2700 businesses. Obtaining turnover from businesses in the increased sample size each month will reduce the volatility in the month to month estimates.

In conjunction with the increased monthly sample size, the seasonally adjusted series were reanalysed. Industry group totals had been directly seasonally adjusted from July 2008. With the availability of the more detailed monthly data, the industry group totals are indirectly seasonally adjusted from the November 2008 issue i.e. the industry sub-groups are directly seasonally adjusted and the industry totals derived from this more detailed data. In addition, forward seasonal factors (based on the series up to June 2008) are being used instead of concurrent seasonal adjustment to avoid the seasonal factors being distorted by the increased volatility in the original estimates from July to October 2008.

Due to the use of forward factors, published seasonally adjusted series will not be revised as data for additional months become available. Published seasonally adjusted series for a particular month will only be revised if the original series for that month is revised.

Estimates for October 2008 are based on a sample size of 900 businesses and therefore movements between October and November 2008 reflect a higher level of volatility (see *Interpreting Monthly Movements* on page 2). For this reason this issue continues to focus on trend estimates.

FUTURE CHANGES

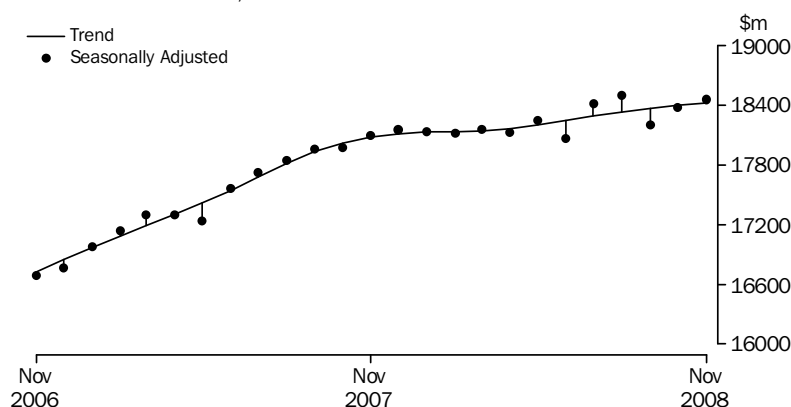
An information paper *Changes to the Dissemination of Retail Trade Statistics, January 2009* (cat. no. 8501.0.55.005) is scheduled for release on 21 January 2009. This paper will summarise changes to be made to the dissemination of Retail Trade statistics from the December 2008 issue as a result of the reinstatement of the full monthly sample. The paper will advise the timing of the proposed changes and provide access, via the ABS website, to shell records of the spreadsheets. With the changes being made to this publication, the December quarter 2008 issue of *Retail Trade Quarterly Indicators* (cat. no. 8502.0) will be the final release.

TREND ANALYSIS

TOTAL RETAIL

There have been eight months of weak trend growth. This follows a slowing in the rate of trend growth from strong growth in August 2007 to no change in the trend estimate for February and March 2008.

RETAIL TURNOVER, Australia



(a) Estimates from July to October 2008 are derived from the 'one-in, two-out' sampling scheme.

INDUSTRY TRENDS

The food retailing industry had a period of weak growth from November 2007 through to April 2008. This has been followed by seven months of moderate or strong growth. Other retailing has had four months of moderate trend growth. All other industries have had a decline in the trend estimate for at least three months with:

- Department stores and Clothing and soft good retailing, three months of decline in the trend estimate preceded by four months of either no change or weak growth in the trend estimate
- Household good retailing, six months of decline in the trend estimate preceded by three months of weak growth in the trend estimate
- Cafes, restaurants and takeaway food services, a decline in the trend estimate for 13 months.

STATE TRENDS

The trend estimate has been in decline in New South Wales for ten months. Western Australia had a decline in the trend estimate in November 2008 after no change in the trend estimate in October preceded by two months of weak trend growth. Queensland, South Australia and Tasmania have had three, two and three months of weak trend growth respectively. Victoria (five months) and the Australian Capital Territory (three months) have had moderate growth. The Northern Territory has had seven months of strong growth.

REVISIONS TO TREND

The chart above indicates the level of volatility in the seasonally adjusted series. With the 'one-in-two-out' survey design used from July to October 2008 the level of volatility has increased. This increased volatility has contributed to revisions to trend estimates that are larger on average than those produced under the previous sampling methods. The level of these revisions needs to be considered when analysing retail trends.

What-if analysis can be used to assess the reliability of the trend estimate at the end points of the series. The following what-if chart presents the possible change in the trend estimates under two different scenarios. The two scenarios for the next month's seasonally adjusted estimates have been derived from the 25th and 75th percentiles of

TREND ANALYSIS *continued*

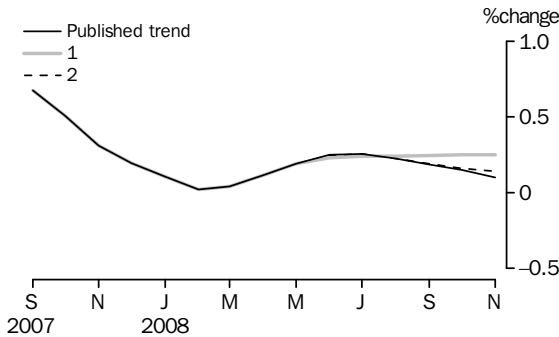
REVISIONS TO TREND
continued

the historical seasonally adjusted movement distribution. The historical seasonally adjusted movements have been adjusted to reflect the expected increase in volatility from the new survey design.

Note that the what-if analysis does not show the unknown impact of revisions to seasonal factor estimates that could arise when the original estimate for the next time period becomes available. For more information see the trend estimates section of the Explanatory Notes.

1 The December seasonally adjusted estimate of retail turnover is 0.92% higher than the November estimate.

2 The December seasonally adjusted estimate of retail turnover is 0.06% higher than the November estimate.



RETAIL TURNOVER, By Industry Group(a): Trend

| Month | Food retailing(b) | Department stores | Clothing and soft good retailing | Household good retailing | Other retailing(c) | Cafes, restaurants and takeaway food services | Total |
|--|----------------------|----------------------|---|--------------------------------|-----------------------|---|----------|
| \$ MILLION | | | | | | | |
| 2007 | | | | | | | |
| September | 7 223.8 | 1 509.0 | 1 283.8 | 3 070.1 | 2 601.4 | 2 222.0 | 17 933.4 |
| October | 7 256.8 | 1 511.0 | 1 284.0 | 3 083.0 | 2 690.4 | 2 221.6 | 18 024.0 |
| November | 7 277.3 | 1 511.7 | 1 282.4 | 3 086.8 | 2 713.6 | 2 218.3 | 18 079.9 |
| December | 7 288.4 | 1 515.9 | 1 282.7 | 3 083.0 | 2 733.1 | 2 212.9 | 18 114.9 |
| 2008 | | | | | | | |
| January | 7 296.2 | 1 519.2 | 1 284.6 | 3 074.0 | 2 748.9 | 2 208.4 | 18 134.1 |
| February | 7 300.4 | 1 519.9 | 1 283.4 | 3 067.6 | 2 764.0 | 2 199.8 | 18 137.9 |
| March | 7 309.0 | 1 517.1 | 1 280.8 | 3 070.3 | 2 776.2 | 2 190.6 | 18 145.1 |
| April | 7 329.1 | 1 514.1 | 1 279.9 | 3 078.0 | 2 778.8 | 2 186.0 | 18 165.8 |
| May | 7 361.7 | 1 513.4 | 1 281.5 | 3 083.2 | 2 776.9 | 2 183.7 | 18 200.4 |
| June | 7 409.5 | 1 514.4 | 1 283.7 | 3 079.7 | 2 776.4 | 2 182.2 | 18 245.9 |
| July | 7 468.6 | 1 515.8 | 1 285.0 | 3 062.5 | 2 782.0 | 2 178.2 | 18 292.3 |
| August | 7 532.7 | 1 515.6 | 1 284.9 | 3 033.3 | 2 794.6 | 2 171.9 | 18 333.0 |
| September | 7 596.6 | 1 512.6 | 1 282.6 | 3 000.8 | 2 811.2 | 2 163.8 | 18 367.5 |
| October | 7 658.8 | 1 507.0 | 1 278.1 | 2 969.3 | 2 830.1 | 2 155.4 | 18 398.3 |
| November | 7 713.9 | 1 501.7 | 1 274.3 | 2 939.7 | 2 846.1 | 2 147.9 | 18 423.1 |
| % CHANGE FROM PRECEDING MONTH | | | | | | | |
| 2007 | | | | | | | |
| September | 0.6 | 0.3 | 0.3 | 0.6 | 1.2 | 0.1 | 0.7 |
| October | 0.5 | 0.1 | 0.0 | 0.4 | 3.4 | 0.0 | 0.5 |
| November | 0.3 | 0.0 | -0.1 | 0.1 | 0.9 | -0.1 | 0.3 |
| December | 0.2 | 0.3 | 0.0 | -0.1 | 0.7 | -0.2 | 0.2 |
| 2008 | | | | | | | |
| January | 0.1 | 0.2 | 0.1 | -0.3 | 0.6 | -0.2 | 0.1 |
| February | 0.1 | 0.0 | -0.1 | -0.2 | 0.5 | -0.4 | 0.0 |
| March | 0.1 | -0.2 | -0.2 | 0.1 | 0.4 | -0.4 | 0.0 |
| April | 0.3 | -0.2 | -0.1 | 0.2 | 0.1 | -0.2 | 0.1 |
| May | 0.4 | 0.0 | 0.1 | 0.2 | -0.1 | -0.1 | 0.2 |
| June | 0.6 | 0.1 | 0.2 | -0.1 | 0.0 | -0.1 | 0.3 |
| July | 0.8 | 0.1 | 0.1 | -0.6 | 0.2 | -0.2 | 0.3 |
| August | 0.9 | 0.0 | 0.0 | -1.0 | 0.5 | -0.3 | 0.2 |
| September | 0.8 | -0.2 | -0.2 | -1.1 | 0.6 | -0.4 | 0.2 |
| October | 0.8 | -0.4 | -0.4 | -1.0 | 0.7 | -0.4 | 0.2 |
| November | 0.7 | -0.4 | -0.3 | -1.0 | 0.6 | -0.3 | 0.1 |
| % CHANGE FROM CORRESPONDING MONTH OF PREVIOUS YEAR | | | | | | | |
| 2007 | | | | | | | |
| September | 9.5 | 7.4 | 7.7 | 8.8 | 4.7 | 8.7 | 8.4 |
| October | 9.3 | 7.5 | 7.3 | 8.5 | 8.2 | 8.2 | 8.4 |
| November | 8.8 | 6.9 | 6.8 | 7.7 | 9.1 | 7.3 | 8.1 |
| December | 8.1 | 6.3 | 6.4 | 6.4 | 9.9 | 6.0 | 7.5 |
| 2008 | | | | | | | |
| January | 7.4 | 5.7 | 6.2 | 4.9 | 10.6 | 4.6 | 6.9 |
| February | 6.7 | 5.1 | 5.5 | 3.7 | 11.3 | 3.0 | 6.2 |
| March | 6.0 | 4.5 | 4.4 | 3.0 | 11.9 | 1.4 | 5.5 |
| April | 5.5 | 3.7 | 3.3 | 2.8 | 11.9 | 0.2 | 5.0 |
| May | 5.2 | 2.7 | 2.4 | 2.6 | 11.3 | -0.6 | 4.5 |
| June | 5.0 | 1.9 | 1.6 | 2.1 | 10.4 | -1.2 | 4.0 |
| July | 4.9 | 1.3 | 1.0 | 1.1 | 9.4 | -1.7 | 3.5 |
| August | 4.9 | 0.7 | 0.4 | -0.6 | 8.7 | -2.2 | 2.9 |
| September | 5.2 | 0.2 | -0.1 | -2.3 | 8.1 | -2.6 | 2.4 |
| October | 5.5 | -0.3 | -0.5 | -3.7 | 5.2 | -3.0 | 2.1 |
| November | 6.0 | -0.7 | -0.6 | -4.8 | 4.9 | -3.2 | 1.9 |

(a) See paragraph 6 of Explanatory Notes.

(b) From the July 2008 issue, Food retailing excludes
Takeaway food retailing for all time periods.(c) From the July 2008 issue, Other retailing includes
Recreational good retailing for all time periods.

RETAIL TURNOVER, By state: **Trend**

| Month | New South Wales | Victoria | Queensland | South Australia | Western Australia | Tasmania | Northern Territory | Australian Capital Territory | Australia |
|-------|-----------------|----------|------------|-----------------|-------------------|----------|--------------------|------------------------------|-----------|
|-------|-----------------|----------|------------|-----------------|-------------------|----------|--------------------|------------------------------|-----------|

\$ MILLION

2007

| | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|-------|-------|-------|----------|
| September | 5 686.3 | 4 422.3 | 3 680.9 | 1 218.0 | 2 005.0 | 389.1 | 180.7 | 347.3 | 17 933.4 |
| October | 5 709.1 | 4 454.4 | 3 697.6 | 1 230.0 | 2 008.7 | 389.0 | 183.0 | 347.9 | 18 024.0 |
| November | 5 718.1 | 4 478.4 | 3 705.9 | 1 242.3 | 2 008.6 | 389.0 | 185.0 | 348.8 | 18 079.9 |
| December | 5 719.3 | 4 495.0 | 3 710.1 | 1 254.3 | 2 007.2 | 389.4 | 186.7 | 350.2 | 18 114.9 |

2008

| | | | | | | | | | |
|-----------|---------|---------|---------|---------|---------|-------|-------|-------|----------|
| January | 5 717.9 | 4 501.5 | 3 711.7 | 1 264.8 | 2 006.8 | 390.2 | 187.8 | 352.2 | 18 134.1 |
| February | 5 711.7 | 4 498.7 | 3 708.5 | 1 273.8 | 2 011.4 | 391.3 | 188.6 | 353.8 | 18 137.9 |
| March | 5 704.5 | 4 491.9 | 3 710.3 | 1 282.7 | 2 019.5 | 393.4 | 189.5 | 353.8 | 18 145.1 |
| April | 5 695.2 | 4 485.8 | 3 722.2 | 1 292.3 | 2 031.1 | 396.8 | 190.8 | 352.0 | 18 165.8 |
| May | 5 681.4 | 4 485.9 | 3 741.6 | 1 303.0 | 2 045.9 | 400.8 | 192.6 | 349.3 | 18 200.4 |
| June | 5 664.6 | 4 496.9 | 3 763.7 | 1 313.8 | 2 060.5 | 404.5 | 195.0 | 346.9 | 18 245.9 |
| July | 5 646.0 | 4 517.9 | 3 783.2 | 1 323.5 | 2 071.0 | 407.3 | 197.5 | 346.0 | 18 292.3 |
| August | 5 627.5 | 4 543.9 | 3 797.9 | 1 330.7 | 2 077.0 | 409.0 | 200.0 | 346.9 | 18 333.0 |
| September | 5 611.0 | 4 572.1 | 3 807.2 | 1 335.6 | 2 080.0 | 410.3 | 202.5 | 348.9 | 18 367.5 |
| October | 5 597.6 | 4 601.2 | 3 813.0 | 1 338.9 | 2 080.1 | 411.3 | 204.9 | 351.1 | 18 398.3 |
| November | 5 586.8 | 4 629.2 | 3 815.8 | 1 340.4 | 2 077.7 | 412.3 | 207.3 | 353.6 | 18 423.1 |

% CHANGE FROM PRECEDING MONTH

2007

| | | | | | | | | | |
|-----------|-----|-----|-----|-----|------|-----|-----|-----|-----|
| September | 0.6 | 0.8 | 0.7 | 0.9 | 0.4 | 0.0 | 1.3 | 0.1 | 0.7 |
| October | 0.4 | 0.7 | 0.5 | 1.0 | 0.2 | 0.0 | 1.3 | 0.2 | 0.5 |
| November | 0.2 | 0.5 | 0.2 | 1.0 | 0.0 | 0.0 | 1.1 | 0.3 | 0.3 |
| December | 0.0 | 0.4 | 0.1 | 1.0 | -0.1 | 0.1 | 0.9 | 0.4 | 0.2 |

2008

| | | | | | | | | | |
|-----------|------|------|------|-----|------|-----|-----|------|-----|
| January | 0.0 | 0.1 | 0.0 | 0.8 | 0.0 | 0.2 | 0.6 | 0.6 | 0.1 |
| February | -0.1 | -0.1 | -0.1 | 0.7 | 0.2 | 0.3 | 0.5 | 0.5 | 0.0 |
| March | -0.1 | -0.2 | 0.0 | 0.7 | 0.4 | 0.6 | 0.5 | 0.0 | 0.0 |
| April | -0.2 | -0.1 | 0.3 | 0.7 | 0.6 | 0.9 | 0.7 | -0.5 | 0.1 |
| May | -0.2 | 0.0 | 0.5 | 0.8 | 0.7 | 1.0 | 1.0 | -0.8 | 0.2 |
| June | -0.3 | 0.2 | 0.6 | 0.8 | 0.7 | 0.9 | 1.2 | -0.7 | 0.3 |
| July | -0.3 | 0.5 | 0.5 | 0.7 | 0.5 | 0.7 | 1.3 | -0.2 | 0.3 |
| August | -0.3 | 0.6 | 0.4 | 0.5 | 0.3 | 0.4 | 1.3 | 0.3 | 0.2 |
| September | -0.3 | 0.6 | 0.2 | 0.4 | 0.1 | 0.3 | 1.2 | 0.6 | 0.2 |
| October | -0.2 | 0.6 | 0.2 | 0.3 | 0.0 | 0.3 | 1.2 | 0.6 | 0.2 |
| November | -0.2 | 0.6 | 0.1 | 0.1 | -0.1 | 0.2 | 1.2 | 0.7 | 0.1 |

% CHANGE FROM CORRESPONDING MONTH OF PREVIOUS YEAR

2007

| | | | | | | | | | |
|-----------|-----|-----|------|-----|-----|-----|------|-----|-----|
| September | 8.3 | 5.8 | 11.8 | 7.4 | 9.4 | 5.9 | 10.6 | 6.7 | 8.4 |
| October | 8.3 | 6.1 | 11.9 | 7.9 | 8.4 | 5.8 | 11.3 | 6.0 | 8.4 |
| November | 7.8 | 6.1 | 11.7 | 8.3 | 7.1 | 5.8 | 11.6 | 5.4 | 8.1 |
| December | 7.1 | 6.0 | 11.0 | 8.7 | 5.7 | 5.7 | 11.6 | 5.1 | 7.5 |

2008

| | | | | | | | | | |
|-----------|------|-----|------|------|-----|-----|------|------|-----|
| January | 6.3 | 5.8 | 10.1 | 8.9 | 4.4 | 5.4 | 11.3 | 4.9 | 6.9 |
| February | 5.4 | 5.5 | 8.8 | 8.9 | 3.7 | 4.9 | 10.9 | 4.7 | 6.2 |
| March | 4.7 | 5.1 | 7.5 | 9.0 | 3.3 | 4.4 | 10.6 | 3.9 | 5.5 |
| April | 3.9 | 4.7 | 6.5 | 9.3 | 3.4 | 4.1 | 10.6 | 2.7 | 5.0 |
| May | 2.9 | 4.3 | 5.8 | 9.7 | 3.7 | 4.2 | 10.9 | 1.4 | 4.5 |
| June | 1.8 | 4.1 | 5.1 | 10.1 | 4.1 | 4.5 | 11.4 | 0.3 | 4.0 |
| July | 0.7 | 3.8 | 4.5 | 10.4 | 4.2 | 4.9 | 11.9 | -0.1 | 3.5 |
| August | -0.4 | 3.6 | 3.9 | 10.2 | 4.0 | 5.1 | 12.1 | 0.0 | 2.9 |
| September | -1.3 | 3.4 | 3.4 | 9.7 | 3.7 | 5.4 | 12.1 | 0.5 | 2.4 |
| October | -2.0 | 3.3 | 3.1 | 8.9 | 3.6 | 5.7 | 12.0 | 0.9 | 2.1 |
| November | -2.3 | 3.4 | 3.0 | 7.9 | 3.4 | 6.0 | 12.0 | 1.4 | 1.9 |

EXPLANATORY NOTES

INTRODUCTION

1 This publication presents monthly trend estimates of the value of turnover of retail businesses classified by industry, and by state and territory. The estimates of turnover are compiled from the Retail Business Survey (RBS).

2 With a sample design introduced in the July 2008 reference month, the aim of the survey is to produce quarterly estimates at the industry group by state level and monthly estimates at a broader level. The survey includes about 3,200 retail and selected service businesses each quarter. About 500 'large' businesses are included in the survey every month. The 'large' business' contribution of approximately 62% of the total estimate ensures a highly reliable Australian total turnover estimate. A quarterly sample of about 2700 'smaller' businesses is selected, with about 900 of these smaller businesses allocated to each month of the quarter. From the November 2008 reference month, the 2700 sampled businesses will be surveyed each month.

3 Quarterly estimates are presented in *Retail Trade Quarterly Indicators, Australia* (Cat. No. 8502.0). This publication includes industry sub group by state and chain volume measures at state and industry level.

SCOPE AND COVERAGE

4 The scope of the RBS is all employing businesses with at least one retail outlet. Like most Australian Bureau of Statistics (ABS) economic surveys, the frame used for the RBS is taken from the ABS Business Register which includes registrations to the Australian Taxation Office's (ATO) pay-as-you-go withholding (PAYGW) scheme. Each statistical unit (as defined below) included on the ABS Business Register is classified to the Australian and New Zealand Standard Industrial Classification (ANZSIC) industry in which it mainly operates. The frame is supplemented with information about businesses which are classified as non-retail but which have significant retail activity.

5 The frame is updated quarterly to take account of new businesses, businesses which have ceased employing, changes in industry and other general business changes. The estimates include an allowance for the time it takes a newly registered business to get on to the survey frame. Businesses which have ceased employing are identified when the ATO cancels their Australian Business Number (ABN) and/or PAYGW registration. In addition, businesses with less than 50 employees which do not remit under the PAYGW scheme in each of the previous five quarters are removed from the frame.

6 The following industries included in the survey are as defined in ANZSIC:

- Food retailing

- Supermarkets and grocery stores (5110) and non-petrol sales of convenience stores of selected petrol stations

- Liquor retailing (5123)

- Other food retailing

- Fresh meat, fish and poultry retailing (5121)

- Fruit and vegetable retailing (5122)

- Bread and cake retailing (5124)

- Specialised food retailing n.e.c. (5129)

- Department stores (5210)

- Clothing and soft good retailing

- Clothing retailing (5221)

- Footwear, fabric and other soft good retailing

- Footwear retailing (5222)

- Fabric and other soft good retailing (5223)

EXPLANATORY NOTES *continued*

SCOPE AND COVERAGE

continued

- Household good retailing
 - Furniture and floor covering retailing
 - Furniture retailing (5231)
 - Floor covering retailing (5232)
 - Domestic hardware and houseware retailing (5233)
 - Domestic appliance and recorded music retailing
 - Domestic appliance retailing (5234)
 - Recorded music retailing (5235)
- Other retailing
 - Newspaper, book and stationery retailing (5243)
 - Other recreational goods retailing
 - Sport and camping equipment retailing (5241)
 - Toy and game retailing (5242)
 - Photographic equipment retailing (5244)
 - Pharmaceutical, cosmetic and toiletry retailing (5251)
 - Other retailing n.e.c.
 - Antique and used good retailing (5252)
 - Garden supplies retailing (5253)
 - Flower retailing (5254)
 - Watch and jewellery retailing (5255)
 - Retailing n.e.c. (5259)
- Cafes, restaurants and takeaway food services
 - Takeaway food retailing (5125)
 - Cafes and restaurants (5730).

STATISTICAL UNITS DEFINED ON THE ABS BUSINESS REGISTER

7 The ABS uses an economic statistics units model on the ABS Business Register to describe the characteristics of businesses, and the structural relationships between related businesses. The units model is also used to break groups of related businesses into relatively homogeneous components that can provide data to the ABS.

8 The units model allocates businesses to one of two sub-populations. The vast majority of businesses are in what is called the ATO Maintained Population, while the remaining businesses are in the ABS Maintained Population. Together, these two sub-populations make up the ABS Business Register population.

ATO Maintained Population

9 Most businesses and organisations in Australia need to obtain an ABN, and are then included on the ATO Australian Business Register. Most of these businesses have simple structures; therefore the unit registered for an ABN will satisfy ABS statistical requirements. The businesses with simple structures constitute the ATO Maintained Population, and the ABN unit is used as the statistical unit for all economic collections.

ABS Maintained Population

10 For the population of businesses where the ABN unit is not suitable for ABS statistical requirements, the ABS maintains its own units structure through direct contact with each business. These businesses constitute the ABS Maintained Population. This

EXPLANATORY NOTES *continued*

ABS Maintained Population *continued*

population consists typically of large, complex and diverse businesses. The statistical units model described below is used for these businesses.

Enterprise Group: This is a unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the *Corporations Legislation Amendment Act 1991*), including legal entities such as companies, trusts, and partnerships. Majority ownership is not required for control to be exercised.

Enterprise: The enterprise is an institutional unit comprising (i) a single legal entity or business entity, or (ii) more than one legal entity or business entity within the same Enterprise Group and in the same institutional subsector (i.e. they are all classified to a single Standard Institutional Sector Classification of Australia subsector).

Type of Activity Unit (TAU): The TAU is comprised of one or more business entities, sub-entities or branches of a business entity within an Enterprise Group that can report production and employment data for similar economic activities. When a minimum set of data items are available, a TAU is created which covers all the operations within an industry subdivision (and the TAU is classified to the relevant subdivision of the ANZSIC). Where a business cannot supply adequate data for each industry, a TAU is formed which contains activity in more than one industry subdivision.

SURVEY METHODOLOGY

11 The survey is conducted monthly primarily by telephone interview although a small number of questionnaires are mailed to businesses. The businesses included in the survey are selected by random sample from a frame stratified by state, industry and business size. The survey uses annualised turnover as the measure of business size. For the ATO Maintained Population, the annualised turnover is based on the ATO's Business Activity Statement item Total sales and for the ABS Maintained Population a modelled annualised turnover is used. For stratification purposes the annualised turnover allocated to each business is not updated each quarter as to do so would result in increased volatility in the estimates.

12 Generalised regression estimation methodology is used for estimation. For estimation purposes, the annualised turnover allocated to each business is updated each quarter.

13 The July 2008 issue saw the introduction of a 'one in two out' strategy for collecting data from sampled units. Businesses in the sample sector are allocated evenly across the three months of a quarter with approximately 900 sample sector businesses included each month. These businesses are required to provide a monthly estimate of turnover for the month of the quarter to which they have been allocated. They will then not be required to report data for the next two months i.e. a business allocated to the first month of a quarter will be required to report a monthly estimate for the July, October, January and April reference months. This strategy ceased in October 2008.

14 Each quarter, some businesses in the sample are replaced, at random, by other businesses so that the reporting load can be spread across smaller retailers.

15 Most businesses can provide turnover on a calendar month basis and this is how the data are presented. When businesses cannot provide turnover on a calendar month basis, the reported data and the period they relate to are used to estimate turnover for the calendar month.

EXPLANATORY NOTES *continued*

SURVEY METHODOLOGY *continued*

16 Most retailers operate in a single state/territory. For this reason, estimates of turnover by state/territory are only collected from the larger retailers which are included in the survey each month. These retailers are asked to provide turnover for sales from each state/territory in which the business operates. Turnover for the smaller businesses is allocated to the state of their head office or main outlet.

DEFINITION OF TURNOVER

17 Turnover includes retail sales; wholesale sales; takings from repairs, meals and hiring of goods (except for rent, leasing and hiring of land and buildings); commissions from agency activity (e.g. commissions received from collecting dry cleaning, selling lottery tickets, etc.). From July 2000, turnover includes the goods and services tax.

COMPARABILITY OF ESTIMATES

18 Due to the increased sampling error and rotation of the 'one in two out' sampling methodology, the original and seasonally adjusted estimates are considered of limited use for measuring month to month movements. Due to the independent sample sectors selected for each month in a quarter, the monthly estimates can differ due to the businesses included in each sample. However this methodology enables reliable quarterly estimates to be derived from a small sample while providing reliable broad level monthly trend estimates.

SEASONAL ADJUSTMENT AND TREND ESTIMATION

19 Seasonally adjusted estimates are derived by estimating and removing systematic calendar related effects from the original series. In the Retail trade series, these calendar related effects are known as seasonal (e.g. increased spending in December as a result of Christmas) and trading day influences (arising from the varying length of each month and the varying number of Sundays, Mondays, Tuesdays, etc. in each month). Each influence is estimated by separate seasonal and trading day factors which, when combined, are referred to as the combined adjustment factors.

20 The seasonally adjusted estimates also have an allowance for an Easter proximity effect, which is caused when Easter falls late in March or early in April. This effect, when present, is combined with the seasonal and trading day factors to form the combined adjustment factors. There is also a similar allowance for the variable timing of Father's Day. See the Appendix of the July 2001 and August 2002 issues, respectively, of this publication for more information.

21 From the November 2008 issue, forward factors are used to seasonally adjust the Retail series. For more information about forward factors methodology, see *Information Paper: Introduction of Concurrent Seasonal Adjustment into the Retail Trade Series* (cat. no. 8514.0).

22 Autoregressive integrated moving average (ARIMA) modelling can improve the revision properties of the seasonally adjusted and trend estimates. ARIMA modelling relies on the characteristics of the series being analysed to project future period data. The projected values are temporary, intermediate values, that are only used internally to improve the estimation of the seasonal factors. The projected data do not affect the original estimates and are discarded at the end of the seasonal adjustment process. The retail collection uses an individual ARIMA model for each of the industry totals and state totals published monthly. The ARIMA model is assessed as part of the annual reanalysis. For more information on ARIMA modelling see *Feature article: Use of ARIMA modelling to reduce revisions in the October 2004 issue of Australian Economic Indicators* (cat. no. 1350.0).

23 The seasonal and trading day factors are reviewed annually at a more detailed level than possible in the monthly processing cycle. The annual reanalysis will not normally result in significant changes. For Retail Trade, the results of the latest review are normally included in the July issue.

EXPLANATORY NOTES *continued*

SEASONAL ADJUSTMENT AND TREND ESTIMATION *continued*

24 A "two-dimensional reconciliation" methodology has been used on the seasonally adjusted time series in this publication to force additivity - that is, to force the sum of fine-level (state and industry) estimates to be equal to the Australian total.

25 In the seasonal adjustment process, both the seasonal and trading day factors evolve over time to reflect changes in spending and trading patterns. Examples of this evolution include the slow move in spending from December to January; and, increased trading activity on weekends and public holidays. The seasonally adjusted estimates still reflect the sampling and non-sampling errors to which the original estimates are subject. This is why it is recommended that trend series be used to analyse month-to-month movements.

26 The monthly trend estimates are derived by applying a 13-term Henderson moving average to the seasonally adjusted estimates (7-term for quarterly series). The Henderson moving average is symmetric, but as the end of a time series is approached, asymmetric forms of the moving average have to be applied. The asymmetric moving averages have been tailored to suit the particular characteristics of individual series and enable trend estimates for recent periods to be produced. Due to the ABS Retail survey sample decrease starting from July 2008 and to reflect the measurement volatility level increase, a standard end-weight parameter 3.5 of the asymmetric moving average is used to produce trend estimates for all monthly Retail series. Estimates of the trend will be improved at the current end of the time series as additional observations become available. This improvement is due to the combined effect of the concurrent seasonal adjustment methodology and the application of different asymmetric moving averages for the most recent six months (or three quarters). As a result of the improvement, most revisions to the trend estimates will be observed for the most recent six months (or three quarters).

27 Trend estimates are used to analyse the underlying behaviour of the series over time. As a result of the introduction of The New Tax System, a break in the monthly trend series has been inserted between June and July 2000. Care should therefore be taken if comparisons span this period. For more details refer to the Appendix in the December 2000 issue of this publication.

28 For further information on trend estimates, see *Information Paper: A Guide to Interpreting Time Series - Monitoring Trends, 2003* (cat. no. 1349.0) or contact the Assistant Director, Time Series Analysis on Canberra (02) 6252 6345 or by email at <time.series.analysis@abs.gov.au>.

ANALYSING TREND ESTIMATES

29 The following terms are used in this publication to describe month to month movements in the trend series:

- in decline – percentage change in trend estimate less than zero
- no change or flat – percentage change in the trend estimate equal to zero
- weak growth – percentage change in the trend estimate of 0.1 to 0.3%
- moderate growth – percentage change in the trend estimate of 0.4 to 0.7%
- strong growth – percentage change in the trend estimate greater than 0.7%.

RELIABILITY OF ESTIMATES

30 There are two types of error possible in estimates of retail turnover: *Sampling error* which occurs because a sample, rather than the entire population, is surveyed. One measure of the likely difference resulting from not including all establishments in the survey is given by the standard error, see below. Sampling error for each month will be influenced by the rotation effect of having a different third of the sample reporting each month and by some businesses in each month being replaced by other businesses so that the reporting load can be spread across retailers.

EXPLANATORY NOTES *continued*

RELIABILITY OF ESTIMATES

continued

Non sampling error which arises from inaccuracies in collecting, recording and processing the data. The most significant of these errors are: misreporting of data items; deficiencies in coverage; non-response; and processing errors. Every effort is made to minimise reporting error by the careful design of questionnaires, intensive training and supervision of interviewers, and efficient data processing procedures.

STANDARD ERRORS

31 Seasonally adjusted and trend estimates and chain volume measures are also subject to sampling variability. For seasonally adjusted estimates, the standard errors are approximately the same as for the original estimates. For trend estimates, the standard errors are likely to be smaller. For quarterly chain volume measures, the standard errors may be up to 10% higher than those for the corresponding current price estimates because of the sampling variability contained in the prices data used to deflate the current price estimates.

32 Estimates, in original terms, are available from the Downloads tab of this publication. Estimates that have an estimated relative standard error (RSE) between 10% and 25% are annotated with the symbol '^'. These estimates should be used with caution as they are subject to sampling variability too high for some purposes. Estimates with a RSE between 25% and 50% are annotated with the symbol '*', indicating that the estimates should be used with caution as they are subject to sampling variability too high for most practical purposes. Estimates with a RSE greater than 50% are annotated with the symbol '**' indicating that the sampling variability causes the estimates to be considered too unreliable for general use.

33 To further assist users in assessing the reliability of estimates, key data series has been given a grading of A to C. Where:

- A represents a relative standard error on level of less than 2%. The published estimates are highly reliable for movement analysis.
- B represents a relative standard error on level between 2% and 5%, meaning the estimates is reliable for movement analysis purposes.

34 The tables below provide an indicator of reliability for the estimates in original terms. The reliability indicator is based on an average RSE derived over four years.

RELATIVE STANDARD ERRORS BY INDUSTRY GROUP

| | Food retailing | Department Stores | Clothing and soft good retailing | Household good retailing | Other retailing | Cafes, restaurants and takeaway food services | Total |
|---------|-------------------|----------------------|---|--------------------------------|--------------------|---|-------|
| RSE (%) | A | A | B | A | B | B | A |

RELATIVE STANDARD ERRORS BY STATE

| | NSW | Vic. | Qld | SA | WA | Tas. | NT | ACT | Aust. |
|---------|-----|------|-----|----|----|------|----|-----|-------|
| RSE (%) | A | A | A | A | A | B | B | B | A |

RELIABILITY OF TREND ESTIMATES

35 The trending process dampens the volatility in the original and seasonally adjusted estimates. However, trend estimates are subject to revisions as future observations become available. An indication of the possible revisions to the latest month is included in a What-if chart in 'Trend Analysis'.

EXPLANATORY NOTES *continued*

ABS DATA AVAILABLE ON
REQUEST

36 As well as the statistics included in this and related publication, the ABS may have other relevant data available. Inquires should be made to the Retail Business Survey contact officer on (02) 6252 5990 or any ABS office.

RELATED PUBLICATIONS

37 Current publications and other products released by the ABS are available from the Statistics View of the ABS web site <<http://www.abs.gov.au>>. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

FOR MORE INFORMATION . . .

INTERNET **www.abs.gov.au** the ABS website is the best place for data from our publications and information about the ABS.

INFORMATION AND REFERRAL SERVICE

Our consultants can help you access the full range of information published by the ABS that is available free of charge from our website. Information tailored to your needs can also be requested as a 'user pays' service. Specialists are on hand to help you with analytical or methodological advice.

PHONE 1300 135 070

EMAIL client.services@abs.gov.au

FAX 1300 135 211

POST Client Services, ABS, GPO Box 796, Sydney NSW 2001

FREE ACCESS TO STATISTICS

All statistics on the ABS website can be downloaded free of charge.

WEB ADDRESS **www.abs.gov.au**