

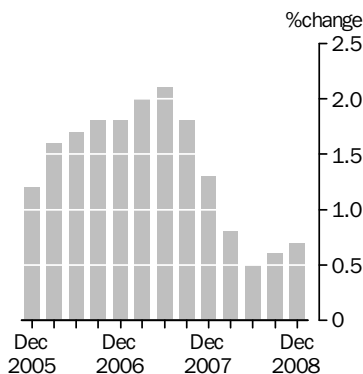
**RETAIL TRADE QUARTERLY  
INDICATORS**

AUSTRALIA

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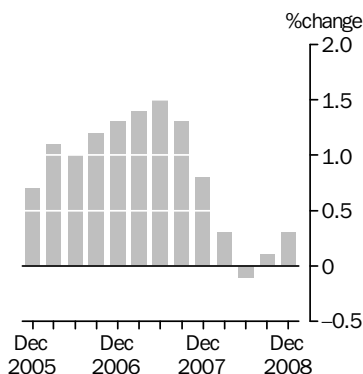
**Quarterly turnover**

Current prices  
Trend estimates



**Quarterly turnover**

in volume terms  
Trend estimates



**KEY FIGURES**

	Dec Qtr 2008 \$m	Sep Qtr 08 to Dec Qtr 08 % change
<b>Turnover at current prices</b>		
Trend estimates	55 370.5	0.7
Seasonally adjusted estimates	56 031.0	1.8

	Dec Qtr 2008 \$m	Sep Qtr 08 to Dec Qtr 08 % change
<b>Turnover, in volume terms</b>		
Trend estimates	53 355.1	0.3
Seasonally adjusted estimates	53 503.1	0.8

**KEY POINTS**

**INTERPRETING RETAIL TRADE TREND ESTIMATES**

- The trend series in this publication should be interpreted with caution as, in addition to the December quarter impact, the underlying behaviour in retail activity may have been impacted by the Federal Government Economic Security Strategy Package implemented in December 2008. The stimulus package was implemented in a period when other influences associated with global economic conditions may also have been impacting on Retail trade. See page 3 for more details.

**CURRENT PRICES**

- The trend estimate of turnover for the Australian Retail series increased by 0.7% in the December quarter 2008. This follows a revised increase of 0.6% in the September quarter and an increase 0.5% in the June quarter 2008.
- In the December quarter 2008 the Food retailing (+1.8%), Department stores (+0.3%) and Other retailing (+1.3%) industries had an increase in the trend estimate while the Clothing and soft good retailing (-0.2%), Household good retailing (-0.7%) and Cafes, restaurants and takeaway food services (-0.6%) industries declined.
- The seasonally adjusted estimate of turnover for the Australian Retail series increased by 1.8% in the December quarter 2008. This follows revised increases of 0.9% in the September quarter and 0.3% in the June quarter 2008.

**VOLUME MEASURES**

- The trend estimate of turnover for the Australian Retail series increased by 0.3% in the December quarter 2008 in volume terms.
- The 1.8% increase in the December quarter 2008 seasonally adjusted estimate in current price terms resulted from a 0.8% increase in volumes and a 1.0% increase in prices.

**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 (Quarter)

RELEASE DATE

No forthcoming issue



## FINAL ISSUE

In July 2008, the monthly retail trade sample size was reduced. However, following an announcement by the Australian Statistician on Wednesday 5 November 2008, the full monthly Retail Trade sample has been reinstated. Data from the November 2008 month onwards is being collected from the full monthly sample and the results included in *Retail Trade, Australia* (cat. no. 8501.0). With the reinstatement of the full monthly sample, this is the final issue of this quarterly publication. Quarterly chain volume measures will be included in the March, June, September and December issues of *Retail Trade, Australia*. For further details refer to the *Information paper: Changes to the Dissemination of Retail Trade Statistics, January 2009* (cat. no. 8501.0.55.005).

## TIME SERIES DATA

Data available free from the Downloads tab of this issue on the ABS website include longer time series of tables in this publication and the following additional quarterly series:

- Retail Turnover, Current Prices, State by Industry subgroup, Original
- Retail Turnover, Current Prices, State by Industry subgroup, Seasonally adjusted
- Retail Turnover, Current Prices, State by Industry subgroup, Trend
- Retail Turnover, Current Prices, Completely enumerated (large) and Sample (small), by Industry Group, Original
- Retail Turnover, Current Prices, Completely enumerated (large) and Sample (small), by State, Original.

## REVISIONS

As advised in the September quarter 2008 issue of this publication, completely enumerated and sample sector estimates have been revised to remove a break-in-series between the June and September 2008 quarters. The break-in-series resulted from changes to scope and methodology introduced to the monthly Retail Business Survey in July 2008. Estimates at the total level (including industry by state) were adjusted for these changes. The completely enumerated and sample sectors estimates have now also been revised to account for these changes.

A minor change to a deflator for Pharmaceutical, cosmetic and toiletry retailing resulted in a \$37m revision to September quarter 2008 chain volume measures in original terms. There were no other revisions to the original series. Seasonally adjusted and trend series have been revised due to this revision and incorporation of data for the latest quarter.

## RELATIONSHIP TO MONTHLY RETAIL TURNOVER

State and industry monthly retail turnover current price estimates are available from *Retail Trade, Australia* (cat. no. 8501.0). In original terms, the monthly series in *Retail Trade, Australia* sum to the quarterly series released in this issue. However, the monthly and quarterly series are seasonally adjusted independently, therefore the resulting seasonally adjusted and trend estimates may differ.

Brian Pink  
Australian Statistician

## INTERPRETING RETAIL TRADE TRENDS

### INTERPRETING RETAIL TRADE TRENDS

The trend series attempts to measure underlying behaviour in retail activity. In the short term, this measurement may be significantly affected by unusual influences affecting the original and seasonally adjusted data. The Federal Government Economic Security Strategy Package implemented in December 2008 impacted on Australian retail turnover in December quarter and may have some impact on future spending patterns (e.g. payments initially saved or used to reduce debt may influence spending patterns in future months).

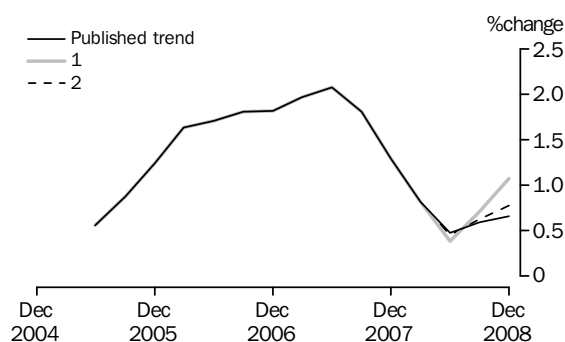
Using time series techniques, the impact of this stimulus package was assessed as statistically significant in the monthly Retail trade series. The monthly trend series was suspended at December 2008 as data for future months are required to determine the trend in monthly retail turnover through the period affected by the stimulus package. For more details, see the December 2008 issue of *Retail Trade, Australia* (cat. no. 8501.0).

Using the same time series techniques, the impact of the stimulus package was not statistically significant in the quarterly Retail trade series (i.e. it has had a smaller impact when combined with data for another two months and may be less distinguishable from other irregular influences over this period). Therefore, the quarterly trend series are being released. Despite this, the trend series should be interpreted with caution as the underlying behaviour in retail activity may be impacted by initiatives like the stimulus package and other developments associated with global economic conditions.

What-if analysis can be used to assess the reliability of the trend estimates 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 quarter's seasonally adjusted estimates have been derived from the 25th and 75th percentiles of the historical seasonally adjusted movement distribution.

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 March quarter 2009 seasonally adjusted estimate of retail turnover is 2.14% higher than the December quarter 2008 estimate.
- 2 The March quarter 2009 seasonally adjusted estimate of retail turnover is 1.02% higher than the December quarter 2008 estimate.



Due to the unknown influences of global economic conditions and the Government's

**INTERPRETING RETAIL TRADE TRENDS** *continued*

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INTERPRETING RETAIL  
TRADE TRENDS *continued*

intervention through monetary and fiscal policies, next quarter's seasonally adjusted outcome may not necessarily fall within in the range suggested by historical patterns.

## ANALYSIS

### TOTAL RETAIL

The trend estimate of turnover in current price terms for the Australian Retail series has increased in the range of 0.5% to 0.8% in each of the last four quarters. The current price trend series has grown faster than the comparable chain volume series in each of these quarters.

The seasonally adjusted estimate of turnover for the Australian Retail series increased by 1.8% in the December quarter. This follows revised increases of 0.9% in the September quarter and 0.3% in the June quarter 2008. The current price seasonally adjusted series has grown faster than the comparable chain volume series in each of these quarters.

A range of factors influence the level of Retail turnover in any particular quarter but these factors can not be separately quantified in this survey. Some of the factors likely to have influenced Retail turnover in the December quarter include:

- The impact on consumer confidence of developments in global financial markets up to the end of December 2008.
- Reductions in the official cash rate of 100 basis points effective 8 October 2008, 75 basis points effective 5 November 2008 and 100 basis points effective 3 December 2008.
- The Federal Government Economic Security Strategy Package implemented in December 2008.
- Over the quarter, the Consumer Price Index fell 0.3%. The most significant price falls were for automotive fuel (-18.2%), motor vehicles (-2.4%), deposit and loan facilities (-1.9%) and pharmaceuticals (-4.7%). Of these only pharmaceuticals is included in the Retail trade series. The most significant offsetting price increases were for rents (+1.8%), fruit (+8.0%), tobacco (+1.7%) and take away and fast foods (+1.5%). The latter three are included in the Retail trade series.

### INDUSTRY

In current price trend terms:

- Food retailing has had a decrease in the rate of trend growth in the September 2007 to March 2008 quarters. Since then, the rate of growth in the trend estimate has increased slightly each quarter.
- Department stores has had a decrease in the rate of trend growth from September quarter 2007.
- Clothing and soft good retailing has had a decrease in the rate of trend growth from September quarter 2007 with a decline or no change in the trend estimate for the latest two quarters.
- Household good retailing has had a decrease in the rate of trend growth in the December 2006 to September 2008 quarters. There has been a decline in the trend estimate in each of the last three quarters.
- Other retailing has had a decrease in the rate of trend growth from 3.8% in December quarter 2007 to growth of around 1% for each of the last three quarters.
- Cafes, restaurants and takeaway food services has had a decrease in the rate of trend growth in the June 2007 to June 2008 quarters. There has been a decline in the trend estimate in each of the last four quarters.

In trend terms, growth in the Food retailing industry over the last four quarters has been driven more by increases in prices than by increases in volumes. Over the last four quarters, the Clothing and soft good retailing and Household good retailing industries volumes have generally increased while prices have generally fallen. Growth in the Other

## ANALYSIS *continued*

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### INDUSTRY *continued*

retailing industry over the last four quarters has been driven more by increases in volumes than by increases in prices. Over the last four quarters the Cafes, restaurants and takeaway food services industry has had decreases in volumes and increases in prices.

### STATE

In current price trend terms:

- New South Wales has had a decrease in the rate of trend growth in the September 2007 to June 2008 quarters. There has been a decline in the trend estimate in each of the last three quarters.
- Victoria has had a decrease in the rate of trend growth in the December 2007 to June 2008 quarters but the rate of growth has increased in both of the last two quarters.
- Queensland has had a decrease in the rate of trend growth in the September 2007 to June 2008 quarters but the rate of growth has increased in both of the last two quarters.
- South Australia has had a rate of trend growth of 1.3% or more in each quarter since December quarter 2005.
- Western Australia has had a decrease in the rate of trend growth over the last two quarters.
- Tasmania has had an increase in the rate of trend growth in each quarter from March quarter 2008 to September quarter 2008.
- the Northern Territory has had trend growth of at least 2% a quarter for the last 12 quarters.
- the Australian Capital Territory has had a decrease in the rate of trend growth from March quarter 2007 with a decline in the trend estimate in each of the last two quarters.



RETAIL TURNOVER, Current Prices—By Industry Group(a)

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
ORIGINAL (\$ MILLION)							
<b>2006</b>							
December	21 268.1	5 579.0	4 177.0	9 665.8	8 842.6	6 518.7	56 051.3
<b>2007</b>							
March	20 205.3	3 645.8	3 300.0	8 428.4	6 908.5	6 234.7	48 722.7
June	20 359.3	4 159.2	3 683.9	8 494.0	6 898.7	6 432.3	50 027.5
September	21 165.3	4 131.0	3 648.0	8 985.2	7 446.5	6 641.3	52 017.2
December	23 148.6	5 875.6	4 472.3	10 475.3	9 595.6	7 023.4	60 590.9
<b>2008</b>							
March	21 834.6	3 890.0	3 457.1	8 633.6	7 743.0	6 425.3	51 983.6
June	21 304.9	4 219.3	3 816.1	8 817.1	7 767.1	6 436.2	52 360.6
September	22 229.1	4 234.0	3 708.8	8 954.9	8 003.4	6 515.6	53 645.7
December	24 673.7	6 014.3	4 511.8	10 450.8	10 224.5	6 853.3	62 728.5
SEASONALLY ADJUSTED (\$ MILLION)							
<b>2006</b>							
December	20 000.9	4 271.7	3 590.6	8 562.0	7 457.0	6 180.7	50 062.9
<b>2007</b>							
March	20 618.7	4 402.6	3 683.4	8 978.3	7 475.4	6 457.5	51 616.0
June	21 006.3	4 374.1	3 743.2	8 954.8	7 437.7	6 560.3	52 076.3
September	21 502.2	4 496.0	3 817.7	9 149.3	7 756.7	6 655.3	53 377.2
December	21 739.5	4 512.9	3 845.5	9 277.7	8 090.7	6 664.4	54 130.7
<b>2008</b>							
March	21 959.4	4 534.2	3 831.5	9 184.3	8 299.2	6 583.8	54 392.5
June	22 082.6	4 540.4	3 851.7	9 203.7	8 337.6	6 555.1	54 571.1
September	22 593.4	4 601.1	3 885.1	9 127.0	8 319.8	6 530.7	55 057.3
December	23 142.9	4 623.7	3 870.2	9 241.5	8 636.5	6 516.2	56 031.0
TREND (\$ MILLION)							
<b>2006</b>							
December	20 062.6	4 294.2	3 604.9	8 641.6	7 450.2	6 246.9	50 300.4
<b>2007</b>							
March	20 551.4	4 353.9	3 677.1	8 852.4	7 441.3	6 411.1	51 287.2
June	21 047.8	4 419.7	3 750.5	9 032.9	7 531.5	6 566.9	52 349.2
September	21 455.3	4 472.5	3 808.3	9 153.2	7 759.9	6 648.0	53 297.2
December	21 727.2	4 508.9	3 834.8	9 215.7	8 052.7	6 645.5	53 984.8
<b>2008</b>							
March	21 934.7	4 538.6	3 849.6	9 234.4	8 249.4	6 607.9	54 425.3
June	22 201.7	4 555.5	3 855.1	9 181.2	8 334.8	6 558.7	54 682.7
September	22 565.1	4 575.2	3 856.1	9 119.3	8 424.1	6 519.3	55 007.6
December	22 967.9	4 588.1	3 850.0	9 059.3	8 537.5	6 483.0	55 370.5

(a) See paragraph 6 of the Explanatory Notes.



## RETAIL TURNOVER, Current Prices—By Industry Group(a)

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
.....							
ORIGINAL (% CHANGE FROM PRECEDING QUARTER)							
<b>2006</b>							
December	10.1	44.1	23.3	16.9	23.6	7.0	16.6
<b>2007</b>							
March	-5.0	-34.7	-21.0	-12.8	-21.9	-4.4	-13.1
June	0.8	14.1	11.6	0.8	-0.1	3.2	2.7
September	4.0	-0.7	-1.0	5.8	7.9	3.2	4.0
December	9.4	42.2	22.6	16.6	28.9	5.8	16.5
<b>2008</b>							
March	-5.7	-33.8	-22.7	-17.6	-19.3	-8.5	-14.2
June	-2.4	8.5	10.4	2.1	0.3	0.2	0.7
September	4.3	0.3	-2.8	1.6	3.0	1.2	2.5
December	11.0	42.0	21.6	16.7	27.8	5.2	16.9
.....							
SEASONALLY ADJUSTED (% CHANGE FROM PRECEDING QUARTER)							
<b>2006</b>							
December	2.0	1.1	1.0	1.7	0.3	1.2	1.4
<b>2007</b>							
March	3.1	3.1	2.6	4.9	0.2	4.5	3.1
June	1.9	-0.6	1.6	-0.3	-0.5	1.6	0.9
September	2.4	2.8	2.0	2.2	4.3	1.4	2.5
December	1.1	0.4	0.7	1.4	4.3	0.1	1.4
<b>2008</b>							
March	1.0	0.5	-0.4	-1.0	2.6	-1.2	0.5
June	0.6	0.1	0.5	0.2	0.5	-0.4	0.3
September	2.3	1.3	0.9	-0.8	-0.2	-0.4	0.9
December	2.4	0.5	-0.4	1.3	3.8	-0.2	1.8
.....							
TREND (% CHANGE FROM PRECEDING QUARTER)							
<b>2006</b>							
December	2.1	1.0	1.9	2.8	0.0	2.4	1.8
<b>2007</b>							
March	2.4	1.4	2.0	2.4	-0.1	2.6	2.0
June	2.4	1.5	2.0	2.0	1.2	2.4	2.1
September	1.9	1.2	1.5	1.3	3.0	1.2	1.8
December	1.3	0.8	0.7	0.7	3.8	0.0	1.3
<b>2008</b>							
March	1.0	0.7	0.4	0.2	2.4	-0.6	0.8
June	1.2	0.4	0.1	-0.6	1.0	-0.7	0.5
September	1.6	0.4	0.0	-0.7	1.1	-0.6	0.6
December	1.8	0.3	-0.2	-0.7	1.3	-0.6	0.7

(a) See paragraph 6 of the Explanatory Notes.

## RETAIL TURNOVER, Current Prices—By State

Quarter	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Total
ORIGINAL (\$ MILLION)									
<b>2006</b>									
December	17 871.2	14 174.6	11 017.1	3 839.4	6 296.7	1 222.9	521.7	1 107.7	56 051.3
<b>2007</b>									
March	15 455.8	12 205.5	9 691.4	3 372.7	5 501.2	1 090.6	454.9	950.5	48 722.7
June	15 789.8	12 420.1	10 077.0	3 415.0	5 697.0	1 101.7	515.1	1 011.8	50 027.5
September	16 471.9	12 681.4	10 879.3	3 477.1	5 813.4	1 115.2	569.9	1 008.9	52 017.2
December	19 302.2	15 019.2	12 313.8	4 158.3	6 753.5	1 299.9	588.9	1 155.0	60 590.9
<b>2008</b>									
March	16 355.9	12 941.8	10 623.1	3 695.4	5 709.2	1 149.3	502.4	1 006.5	51 983.6
June	16 336.2	12 990.7	10 607.0	3 746.2	5 931.2	1 144.3	571.3	1 033.7	52 360.6
September	16 286.6	13 146.1	11 404.1	3 866.7	6 103.3	1 181.0	645.7	1 012.3	53 645.7
December	19 355.4	15 798.6	12 836.9	4 518.2	6 963.7	1 405.8	664.3	1 185.7	62 728.5
SEASONALLY ADJUSTED (\$ MILLION)									
<b>2006</b>									
December	15 894.2	12 624.6	9 920.8	3 427.0	5 608.0	1 096.2	495.9	996.2	50 062.9
<b>2007</b>									
March	16 364.8	12 878.0	10 304.9	3 549.3	5 865.0	1 125.0	513.7	1 015.2	51 616.0
June	16 443.4	12 868.4	10 602.2	3 553.9	5 899.9	1 154.0	521.5	1 033.1	52 076.3
September	16 998.3	13 176.2	10 900.4	3 593.4	5 974.7	1 163.5	531.3	1 039.4	53 377.2
December	17 146.9	13 368.1	11 107.0	3 718.5	6 025.9	1 166.1	558.6	1 039.6	54 130.7
<b>2008</b>									
March	17 121.3	13 499.3	11 156.3	3 828.1	5 997.4	1 170.1	562.3	1 057.7	54 392.5
June	17 038.2	13 470.6	11 161.6	3 909.4	6 154.7	1 199.7	577.8	1 059.1	54 571.1
September	16 833.5	13 655.5	11 428.5	3 994.2	6 267.0	1 232.6	602.3	1 043.7	55 057.3
December	17 196.0	14 056.7	11 567.0	4 043.0	6 212.8	1 260.3	628.7	1 066.4	56 031.0
TREND (\$ MILLION)									
<b>2006</b>									
December	15 960.3	12 648.2	10 001.8	3 450.0	5 640.3	1 106.4	499.5	993.9	50 300.4
<b>2007</b>									
March	16 248.7	12 793.4	10 277.7	3 510.4	5 804.7	1 126.1	509.9	1 016.3	51 287.2
June	16 596.0	12 965.1	10 604.5	3 560.8	5 922.8	1 147.4	522.4	1 030.3	52 349.2
September	16 911.5	13 158.7	10 895.8	3 620.9	5 973.7	1 161.4	536.6	1 038.6	53 297.2
December	17 112.4	13 338.8	11 062.6	3 709.2	5 998.0	1 166.3	550.7	1 046.8	53 984.8
<b>2008</b>									
March	17 136.8	13 460.3	11 161.0	3 820.0	6 060.8	1 177.3	565.3	1 052.3	54 425.3
June	17 012.6	13 540.0	11 243.1	3 910.9	6 138.6	1 200.1	581.2	1 054.1	54 682.7
September	16 898.5	13 653.3	11 347.0	3 981.6	6 206.8	1 226.6	599.4	1 053.3	55 007.6
December	16 796.9	13 789.7	11 459.0	4 039.9	6 254.1	1 251.6	619.7	1 051.9	55 370.5

## RETAIL TURNOVER, Current Prices—By State

Quarter	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Total
ORIGINAL (% CHANGE FROM PRECEDING QUARTER)									
<b>2006</b>									
December	17.4	18.4	12.4	17.7	18.8	15.4	-0.3	17.6	16.6
<b>2007</b>									
March	-13.5	-13.9	-12.0	-12.2	-12.6	-10.8	-12.8	-14.2	-13.1
June	2.2	1.8	4.0	1.3	3.6	1.0	13.2	6.4	2.7
September	4.3	2.1	8.0	1.8	2.0	1.2	10.6	-0.3	4.0
December	17.2	18.4	13.2	19.6	16.2	16.6	3.3	14.5	16.5
<b>2008</b>									
March	-15.3	-13.8	-13.7	-11.1	-15.5	-11.6	-14.7	-12.9	-14.2
June	-0.1	0.4	-0.2	1.4	3.9	-0.4	13.7	2.7	0.7
September	-0.3	1.2	7.5	3.2	2.9	3.2	13.0	-2.1	2.5
December	18.8	20.2	12.6	16.9	14.1	19.0	2.9	17.1	16.9
SEASONALLY ADJUSTED (% CHANGE FROM PRECEDING QUARTER)									
<b>2006</b>									
December	1.2	1.5	0.9	1.5	3.0	-0.9	1.8	2.9	1.4
<b>2007</b>									
March	3.0	2.0	3.9	3.6	4.6	2.6	3.6	1.9	3.1
June	0.5	-0.1	2.9	0.1	0.6	2.6	1.5	1.8	0.9
September	3.4	2.4	2.8	1.1	1.3	0.8	1.9	0.6	2.5
December	0.9	1.5	1.9	3.5	0.9	0.2	5.1	0.0	1.4
<b>2008</b>									
March	-0.1	1.0	0.4	2.9	-0.5	0.3	0.7	1.7	0.5
June	-0.5	-0.2	0.0	2.1	2.6	2.5	2.8	0.1	0.3
September	-1.2	1.4	2.4	2.2	1.8	2.7	4.2	-1.5	0.9
December	2.2	2.9	1.2	1.2	-0.9	2.2	4.4	2.2	1.8
TREND (% CHANGE FROM PRECEDING QUARTER)									
<b>2006</b>									
December	1.5	1.3	2.1	2.1	3.3	0.8	2.8	2.6	1.8
<b>2007</b>									
March	1.8	1.1	2.8	1.8	2.9	1.8	2.1	2.2	2.0
June	2.1	1.3	3.2	1.4	2.0	1.9	2.4	1.4	2.1
September	1.9	1.5	2.7	1.7	0.9	1.2	2.7	0.8	1.8
December	1.2	1.4	1.5	2.4	0.4	0.4	2.6	0.8	1.3
<b>2008</b>									
March	0.1	0.9	0.9	3.0	1.0	0.9	2.7	0.5	0.8
June	-0.7	0.6	0.7	2.4	1.3	1.9	2.8	0.2	0.5
September	-0.7	0.8	0.9	1.8	1.1	2.2	3.1	-0.1	0.6
December	-0.6	1.0	1.0	1.5	0.8	2.0	3.4	-0.1	0.7

## RETAIL TURNOVER, Chain Volume Measures(a)—By Industry Group(b)

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
ORIGINAL (\$ MILLION)							
<b>2006</b>							
December	21 302.2	5 588.3	4 185.9	9 650.9	8 848.5	6 554.9	56 187.4
<b>2007</b>							
March	20 184.4	3 671.9	3 327.2	8 482.0	6 962.7	6 204.7	48 804.0
June	20 001.4	4 129.3	3 659.4	8 500.2	6 848.4	6 346.0	49 478.0
September	20 515.8	4 091.9	3 620.4	9 029.3	7 362.4	6 492.6	51 112.6
December	22 423.7	5 802.8	4 440.0	10 536.2	9 450.8	6 774.5	59 428.1
<b>2008</b>							
March	20 790.8	3 872.9	3 518.6	8 799.4	7 680.4	6 101.7	50 764.0
June	20 222.5	4 118.7	3 769.5	8 926.8	7 588.5	6 012.3	50 638.3
September	20 773.2	4 109.0	3 680.6	9 127.8	7 785.2	6 015.2	51 490.9
December	22 645.8	5 829.5	4 482.7	10 619.1	9 901.0	6 251.9	59 730.0
SEASONALLY ADJUSTED (\$ MILLION)							
<b>2006</b>							
December	20 019.1	4 277.5	3 603.6	8 543.9	7 464.6	6 202.0	50 106.6
<b>2007</b>							
March	20 617.0	4 397.9	3 671.3	8 983.0	7 502.5	6 423.0	51 560.7
June	20 628.2	4 349.7	3 724.4	8 962.8	7 400.2	6 475.9	51 556.8
September	20 835.4	4 475.7	3 814.2	9 223.9	7 709.6	6 517.1	52 575.9
December	21 103.3	4 466.1	3 838.5	9 360.8	7 990.9	6 435.9	53 195.6
<b>2008</b>							
March	20 979.9	4 488.9	3 865.6	9 343.4	8 202.8	6 272.3	53 152.8
June	21 034.3	4 455.7	3 830.3	9 363.7	8 178.7	6 155.9	53 018.6
September	21 153.0	4 495.6	3 891.5	9 359.1	8 135.0	6 053.4	53 087.5
December	21 324.8	4 499.0	3 875.2	9 435.6	8 406.2	5 962.3	53 503.1
TREND (\$ MILLION)							
<b>2006</b>							
December	20 144.6	4 295.7	3 605.7	8 616.6	7 462.4	6 265.7	50 389.4
<b>2007</b>							
March	20 431.4	4 347.0	3 669.6	8 850.9	7 443.2	6 379.7	51 112.4
June	20 701.0	4 402.3	3 736.7	9 056.9	7 510.2	6 483.5	51 885.6
September	20 885.1	4 444.9	3 801.0	9 212.0	7 705.0	6 501.0	52 551.9
December	20 982.1	4 470.4	3 838.9	9 314.6	7 967.1	6 420.8	52 996.7
<b>2008</b>							
March	21 034.2	4 479.6	3 853.5	9 365.3	8 135.7	6 293.9	53 161.4
June	21 068.7	4 476.8	3 859.0	9 363.5	8 185.0	6 162.4	53 114.6
September	21 157.9	4 485.8	3 869.8	9 381.0	8 235.7	6 053.6	53 183.6
December	21 289.1	4 495.2	3 880.6	9 413.3	8 308.3	5 962.5	53 355.1

(a) Reference year for chain volume measures is 2006–07. See paragraph 28 of the Explanatory Notes.

(b) See paragraph 6 of the Explanatory Notes.

## RETAIL TURNOVER, Chain Volume Measures(a)—By Industry Group(b)

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
.....							
ORIGINAL (% CHANGE FROM PRECEDING QUARTER)							
<b>2006</b>							
December	8.4	44.6	24.0	17.4	23.8	6.2	16.0
<b>2007</b>							
March	-5.2	-34.3	-20.5	-12.1	-21.3	-5.3	-13.1
June	-0.9	12.5	10.0	0.2	-1.6	2.3	1.4
September	2.6	-0.9	-1.1	6.2	7.5	2.3	3.3
December	9.3	41.8	22.6	16.7	28.4	4.3	16.3
<b>2008</b>							
March	-7.3	-33.3	-20.8	-16.5	-18.7	-9.9	-14.6
June	-2.7	6.3	7.1	1.4	-1.2	-1.5	-0.2
September	2.7	-0.2	-2.4	2.3	2.6	0.0	1.7
December	9.0	41.9	21.8	16.3	27.2	3.9	16.0
.....							
SEASONALLY ADJUSTED (% CHANGE FROM PRECEDING QUARTER)							
<b>2006</b>							
December	0.7	1.1	1.5	2.1	0.3	0.4	0.9
<b>2007</b>							
March	3.0	2.8	1.9	5.1	0.5	3.6	2.9
June	0.1	-1.1	1.4	-0.2	-1.4	0.8	0.0
September	1.0	2.9	2.4	2.9	4.2	0.6	2.0
December	1.3	-0.2	0.6	1.5	3.6	-1.2	1.2
<b>2008</b>							
March	-0.6	0.5	0.7	-0.2	2.7	-2.5	-0.1
June	0.3	-0.7	-0.9	0.2	-0.3	-1.9	-0.3
September	0.6	0.9	1.6	0.0	-0.5	-1.7	0.1
December	0.8	0.1	-0.4	0.8	3.3	-1.5	0.8
.....							
TREND (% CHANGE FROM PRECEDING QUARTER)							
<b>2006</b>							
December	1.1	0.8	1.7	3.0	-0.1	1.5	1.3
<b>2007</b>							
March	1.4	1.2	1.8	2.7	-0.3	1.8	1.4
June	1.3	1.3	1.8	2.3	0.9	1.6	1.5
September	0.9	1.0	1.7	1.7	2.6	0.3	1.3
December	0.5	0.6	1.0	1.1	3.4	-1.2	0.8
<b>2008</b>							
March	0.2	0.2	0.4	0.5	2.1	-2.0	0.3
June	0.2	-0.1	0.1	0.0	0.6	-2.1	-0.1
September	0.4	0.2	0.3	0.2	0.6	-1.8	0.1
December	0.6	0.2	0.3	0.3	0.9	-1.5	0.3

(a) Reference year for chain volume measures is 2006–07. See paragraph 28 of the Explanatory Notes.

(b) See paragraph 6 of the Explanatory Notes.

## RETAIL TURNOVER, Chain Volume Measures(a)—By State

Quarter	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Total
ORIGINAL (\$ MILLION)									
<b>2006</b>									
December	17 885.7	14 219.9	11 072.7	3 848.1	6 306.8	1 224.2	521.9	1 109.0	56 187.4
<b>2007</b>									
March	15 480.3	12 209.0	9 704.9	3 384.0	5 522.7	1 092.0	455.3	955.7	48 804.0
June	15 657.6	12 270.3	9 934.6	3 386.6	5 629.6	1 089.4	509.2	1 000.8	49 478.0
September	16 245.4	12 438.3	10 637.4	3 416.4	5 715.9	1 103.7	560.7	994.8	51 112.6
December	19 001.6	14 704.0	12 021.6	4 074.4	6 638.3	1 277.3	576.7	1 134.3	59 428.1
<b>2008</b>									
March	16 007.3	12 668.8	10 337.6	3 593.3	5 566.4	1 124.5	489.1	977.0	50 764.0
June	15 844.2	12 589.5	10 195.9	3 621.4	5 724.1	1 115.5	550.4	997.3	50 638.3
September	15 688.0	12 666.5	10 863.1	3 700.4	5 851.1	1 139.0	616.8	965.9	51 490.9
December	18 503.6	15 087.8	12 125.2	4 278.9	6 642.6	1 339.7	627.7	1 124.7	59 730.0
SEASONALLY ADJUSTED (\$ MILLION)									
<b>2006</b>									
December	15 880.6	12 663.8	9 943.8	3 426.1	5 601.7	1 096.0	494.7	996.9	50 106.6
<b>2007</b>									
March	16 362.2	12 843.6	10 278.3	3 555.2	5 865.3	1 124.9	513.2	1 018.6	51 560.7
June	16 316.3	12 725.7	10 471.4	3 523.5	5 840.9	1 140.7	515.6	1 024.0	51 556.8
September	16 799.9	12 962.1	10 677.7	3 541.2	5 894.9	1 150.8	523.1	1 026.2	52 575.9
December	16 914.5	13 125.6	10 860.1	3 646.6	5 929.6	1 149.0	547.2	1 023.0	53 195.6
<b>2008</b>									
March	16 787.6	13 208.8	10 857.7	3 728.2	5 847.4	1 147.8	548.0	1 027.4	53 152.8
June	16 596.4	13 104.1	10 797.0	3 789.5	5 972.7	1 173.5	558.6	1 026.9	53 018.6
September	16 283.9	13 218.6	10 936.1	3 841.3	6 041.6	1 191.0	576.7	998.3	53 087.5
December	16 488.4	13 471.6	10 954.3	3 835.4	5 938.5	1 205.7	594.9	1 014.3	53 503.1
TREND (\$ MILLION)									
<b>2006</b>									
December	15 975.0	12 683.9	10 022.4	3 454.2	5 649.4	1 107.9	500.1	996.2	50 389.4
<b>2007</b>									
March	16 202.0	12 745.2	10 233.1	3 503.2	5 784.1	1 121.8	507.5	1 015.2	51 112.4
June	16 484.8	12 832.2	10 478.2	3 535.6	5 875.5	1 138.1	517.3	1 024.2	51 885.6
September	16 731.1	12 957.4	10 693.9	3 570.9	5 897.3	1 147.5	528.4	1 025.9	52 551.9
December	16 859.3	13 088.4	10 809.0	3 634.7	5 889.8	1 149.1	539.4	1 027.2	52 996.7
<b>2008</b>									
March	16 785.1	13 152.6	10 851.6	3 723.6	5 917.6	1 155.4	550.2	1 025.1	53 161.4
June	16 579.1	13 179.5	10 863.8	3 787.0	5 954.4	1 170.6	561.8	1 018.9	53 114.6
September	16 435.9	13 260.2	10 898.9	3 826.4	5 985.1	1 189.2	576.1	1 011.9	53 183.6
December	16 357.7	13 381.7	10 951.7	3 852.9	6 000.5	1 206.9	592.5	1 006.1	53 355.1

(a) Reference year for chain volume measures is 2006–07. See paragraph 28 of the Explanatory Notes.

## RETAIL TURNOVER, Chain Volume Measures(a)—By State

Quarter	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australian Capital Territory	Total
ORIGINAL (% CHANGE FROM PRECEDING QUARTER)									
<b>2006</b>									
December	16.7	17.8	12.1	17.6	18.2	14.5	-1.2	17.1	16.0
<b>2007</b>									
March	-13.4	-14.1	-12.4	-12.1	-12.4	-10.8	-12.8	-13.8	-13.1
June	1.1	0.5	2.4	0.1	1.9	-0.2	11.8	4.7	1.4
September	3.8	1.4	7.1	0.9	1.5	1.3	10.1	-0.6	3.3
December	17.0	18.2	13.0	19.3	16.1	15.7	2.9	14.0	16.3
<b>2008</b>									
March	-15.8	-13.8	-14.0	-11.8	-16.1	-12.0	-15.2	-13.9	-14.6
June	-1.0	-0.6	-1.4	0.8	2.8	-0.8	12.5	2.1	-0.2
September	-1.0	0.6	6.5	2.2	2.2	2.1	12.1	-3.1	1.7
December	17.9	19.1	11.6	15.6	13.5	17.6	1.8	16.4	16.0
SEASONALLY ADJUSTED (% CHANGE FROM PRECEDING QUARTER)									
<b>2006</b>									
December	0.6	1.0	0.5	1.2	2.1	-1.6	0.7	2.5	0.9
<b>2007</b>									
March	3.0	1.4	3.4	3.8	4.7	2.6	3.8	2.2	2.9
June	-0.3	-0.9	1.9	-0.9	-0.4	1.4	0.5	0.5	0.0
September	3.0	1.9	2.0	0.5	0.9	0.9	1.4	0.2	2.0
December	0.7	1.3	1.7	3.0	0.6	-0.2	4.6	-0.3	1.2
<b>2008</b>									
March	-0.8	0.6	0.0	2.2	-1.4	-0.1	0.1	0.4	-0.1
June	-1.1	-0.8	-0.6	1.6	2.1	2.2	1.9	-0.1	-0.3
September	-1.9	0.9	1.3	1.4	1.2	1.5	3.2	-2.8	0.1
December	1.3	1.9	0.2	-0.2	-1.7	1.2	3.2	1.6	0.8
TREND (% CHANGE FROM PRECEDING QUARTER)									
<b>2006</b>									
December	1.0	0.6	1.6	1.8	2.7	0.3	2.0	2.3	1.3
<b>2007</b>									
March	1.4	0.5	2.1	1.4	2.4	1.3	1.5	1.9	1.4
June	1.7	0.7	2.4	0.9	1.6	1.4	1.9	0.9	1.5
September	1.5	1.0	2.1	1.0	0.4	0.8	2.2	0.2	1.3
December	0.8	1.0	1.1	1.8	-0.1	0.1	2.1	0.1	0.8
<b>2008</b>									
March	-0.4	0.5	0.4	2.4	0.5	0.6	2.0	-0.2	0.3
June	-1.2	0.2	0.1	1.7	0.6	1.3	2.1	-0.6	-0.1
September	-0.9	0.6	0.3	1.0	0.5	1.6	2.6	-0.7	0.1
December	-0.5	0.9	0.5	0.7	0.3	1.5	2.8	-0.6	0.3

(a) Reference year for chain volume measures is 2006-07. See paragraph 28 of the Explanatory Notes.

## EXPLANATORY NOTES

### INTRODUCTION

**1** This publication presents quarterly 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. 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 November 2008 reference month, the 2700 sampled businesses are surveyed each month. The 'large' business' contribution of approximately 62% of the total estimate ensures a highly reliable Australian total turnover estimate.

**3** Monthly estimates are presented in *Retail Trade, Australia* (cat. no. 8501.0).

### 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.



## EXPLANATORY NOTES *continued*

### SCOPE AND COVERAGE

*continued*

- 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)
  - 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.

## EXPLANATORY NOTES *continued*

### 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 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 of *Retail Trade Trends, Australia* (cat. no. 8501.0) saw the introduction of a 'one in two out' strategy for collecting data from sampled units. Businesses in the sample sector were allocated evenly across the three months of a quarter with approximately 900 sample sector businesses included each month. These businesses were required to provide a monthly estimate of turnover for the month of the quarter to which they have been allocated. They were then not be required to report data for the next two months i.e. a business allocated to the first month of a quarter were required to report a monthly estimate for the July and October reference months. This strategy ceased in October 2008.

## EXPLANATORY NOTES *continued*

### SURVEY METHODOLOGY

*continued*

**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.

**16** The quarterly estimates, in original terms, are the sum of the monthly estimates for each quarter.

**17** 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

**18** 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.

### 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 the December Quarter as a result of Christmas) and trading day influences (arising from the varying length of each quarter). 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. See the Appendix of the July 2001 issue of publication *Retail Trade, Australia* (cat. no. 8501.0) for more information.

**21** The Retail series uses a concurrent seasonal adjustment methodology to derive the combined adjustment factors. This means that data from the current quarter are used in estimating seasonal and trading day factors for the current and previous quarters. For more information 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 79% of the series in this publication. 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** 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.

**24** In the seasonal adjustment process, the seasonal factors evolve over time to reflect changes in spending and trading patterns. Examples of this evolution include the slow move in spending from the December Quarter to the March Quarter. The seasonally

## EXPLANATORY NOTES *continued*

### SEASONAL ADJUSTMENT AND TREND ESTIMATION *continued*

adjusted estimates still reflect the sampling and non-sampling errors to which the original estimates are subject.

**25** The quarterly trend estimates are derived by applying a 7-term Henderson moving average to the seasonally adjusted estimates. 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. 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 three quarters. As a result of the improvement, most revisions to the trend estimates will be observed for the most recent three quarters.

**26** 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 the June and September Quarters 2000. Care should therefore be taken if comparisons span this period. For more details refer to the Appendix in the December 2000 issue of *Retail Trade, Australia* (cat. no. 8501.0).

**27** 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](mailto:time.series.analysis@abs.gov.au)>.

### CHAIN VOLUME MEASURES

**28** The chain volume measures of retail turnover appearing in this publication are annually reweighted chain Laspeyres indexes referenced to current price values in a chosen reference year. The reference year is advanced each September issue and is currently 2006–07. Each year's data in the Retail chain volume series are based on the prices of the previous year, except for the quarters of the latest incomplete year. Data for the 2007–08 financial year will initially be based upon price data for the 2006–07 financial year. Comparability with previous years is achieved by linking (or chaining) the series together to form a continuous time series. While current price estimates reflect both price and volume changes, chain volume estimates measure changes in value after the direct effects of price changes have been eliminated and hence only reflect volume changes. Further information on the nature and concepts of chain volume measures is contained in the ABS publication *Information Paper: Introduction of Chain Volume Measures in the Australian National Accounts* (cat. no. 5248.0).

### RELIABILITY OF ESTIMATES

**29** 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 quarter will be influenced by the rotation effect of having some businesses in each quarter being replaced by other businesses so that the reporting load can be spread across retailers.

*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

**30** Seasonally adjusted and trend estimates and chain volume measures are also subject to sampling variability. For seasonally adjusted estimates, the standard errors are

## EXPLANATORY NOTES *continued*

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.

**31** Estimates, in original terms, 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.

**32** To further assist users in assessing the reliability of estimates, key data series has been given a grading of A to D. 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.
- C represents a relative standard error on level between 5% and 10%, meaning users are advised to exercise some caution in interpreting movements for such series.
- D represents a relative standard error on level between 10% and 15% meaning users are advised to exercise caution in interpreting movements for such series.

**33** The tables below provide an indicator of reliability for the estimates in original terms.

	Food retailing	Depart- ment Stores	Clothing & soft good retailing	House- hold good retailing	Other retailing	Cafes, restaurants & takeaway food services	Total
NSW	A	A	C	B	C	C	A
Vic.	B	A	C	B	C	C	A
Qld	B	A	B	C	C	C	A
SA	B	A	B	C	C	C	A
WA	B	A	C	B	C	C	A
Tas.	B	np	C	C	np	D	B
NT	B	np	B	B	np	D	A
ACT	B	A	D	C	C	D	B
Aust.	A	A	B	A	B	B	A

np not available for publication but included in totals where applicable, unless otherwise indicated

### RELIABILITY OF TREND ESTIMATES

**34** 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.

### ABS DATA AVAILABLE ON REQUEST

**35** 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

**36** 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.

## EXPLANATORY NOTES *continued*

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### 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
RSE	relative standard error
TAU	type of activity unit



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