

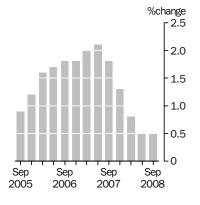
# RETAIL TRADE QUARTERLY INDICATORS

AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) MON 17 NOV 2008

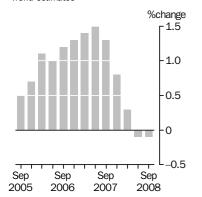
#### **Quarterly turnover**

Current prices
Trend estimates



#### **Quarterly turnover**

in volume terms Trend estimates



### 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.

# KEY FIGURES

Turnover at current prices	Sep Qtr 2008 \$m	Jun Qtr 08 to Sep Qtr 08 % change
Trend estimates Seasonally adjusted estimates	54 967.1 55 037.6	0.5 0.8

	Sep Qtr 2008 \$m	Jun Qtr 08 to Sep Qtr 08 % change
Turnover, in volume terms		
Trend estimates	53 060.9	-0.1
Seasonally adjusted estimates	53 104.0	0.1

# KEY POINTS

#### **CURRENT PRICES**

- The trend estimate of turnover for the Australian Retail series increased by 0.5% in the September quarter 2008. This follows increases of 0.5% in the June quarter and 0.8% in the March quarter 2008.
- The rate of trend growth has been slowing since June quarter 2007.
- In the September quarter 2008, all industries except Household good retailing (-0.4%) and Cafes, restaurants and takeaway food services (-0.6%) had an increase in the trend. The Food retailing (+1.2%) and Department stores (+0.8%) industries had the largest increases.
- All States, except New South Wales (-0.8%) and the Australian Capital Territory (-0.3%), had an increase in the trend estimate. States with the largest increase were the Northern Territory (+2.5%), South Australia (+2.1%) and Tasmania (+2.0%).
- The seasonally adjusted estimate of turnover for the Australia retail series increased by 0.8% in the September quarter 2008. This follows increases of 0.4% in the June quarter and 0.5% in the March quarter 2008.

#### **VOLUME MEASURES**

- The 0.5% increase in the September quarter 2008 trend estimate in current price terms resulted from a 0.1% decline in volumes and a 0.6% increase in prices.
- The trend volume measure of turnover declined by 0.1% in both the September and June 2008 quarters following a 0.3% increase in the March quarter 2008. In seasonally adjusted terms, the volume measure increased by 0.1% in the September quarter 2008 after declining in the previous two quarters.

## NOTES

FORTHCOMING ISSUES

ISSUE (Quarter) RELEASE DATE

December 2008 18 February 2009

FIRST ISSUE

This is a new publication resulting from changes introduced in July 2008 to the *Retail Business Survey* (RBS). For more information about the changes to the RBS see the July issue of *Retail Trade Trends*, *Australia* (cat. no. 8501.0).

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, Original
- Retail Turnover, Current Prices, State by Industry, Seasonally adjusted
- Retail Turnover, Current Prices, State by Industry, 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

COMPLETELY
ENUMERATED SECTOR
ESTIMATES

For details of a break-in-series in estimates for the completely enumerated and sample sectors between the June and September 2008 quarters, refer to the Analysis section on page 3.

RELATIONSHIP TO MONTHLY RETAIL TURNOVER State and Industry monthly retail turnover current price estimates are available from *Retail Trade Trends*, *Australia* (cat. no. 8501.0). In original terms, the monthly series released with the September 2008 issue of 8501.0 sum to the quarterly series released in this issue. However, the monthly and quarterly series are seasonally adjusted independently of each other and therefore the resulting seasonally adjusted and trend estimates will differ.

FUTURE CHANGES

As announced by the Australian Statistician on Wednesday 4 November 2008 the full monthly Retail Trade sample will be reinstated. It is planned that data for the November 2008 month will be collected from the reinstated sample and the results included in 8501.0. The format of 8501.0 however, will not change until early 2009. Therefore, the November issue will continue to present data at the industry and state level only.

With the reinstatement of the full monthly sample, this quarterly release will not be published after the December quarter 2008 issue.

Brian Pink

Australian Statistician

### ANALYSIS CURRENT PRICE TERMS

TOTAL RETAIL

The trend estimate of turnover for the Australian Retail series increased by 0.5% in the September quarter 2008. This follows increases of 0.5% in the June quarter and 0.8% in the March quarter 2008. The rate of trend growth has been slowing since the June quarter 2007.

The seasonally adjusted estimate of turnover for the Australian Retail series increased by 0.8% in the September quarter 2008. This follows increases of 0.4% in the June quarter and 0.5% in the March quarter 2008. The rate of growth in each of these three quarters is lower than any quarterly growth throughout 2006 and 2007.

A range of factors influence the level of Retail turnover in any particular quarter but these factors cannot be separately quantified in this survey. Some of the factors likely to have influenced Retail turnover in the September quarter include reductions in personal tax rates from July, the 25 basis point reduction in the official cash rate effective 3 September 2008 and, more generally, the impact on consumer confidence of developments in global financial markets up to the end of September.

COMPLETELY
ENUMERATED SECTOR
ESTIMATES

The historical Retail turnover series was revised in the July 2008 issue of *Retail Trade Trends*, *Australia* (cat. no. 8501.0) to account for the level shift resulting from the introduction of changes to scope and methodology to the series. Historical estimates for the completely enumerated sector were revised to account for the scope change but not for the methodological change. The completely enumerated sector comprises 'large' businesses that are in the survey each month. This grouping is not fixed and can change over time, however it tends to remain relatively constant from month to month. Analysis of the quarterly series indicates that the methodological change resulted in a greater than normal change in the size of the completely enumerated sector between June and July 2008.

Based on the currently available monthly estimates, the completely enumerated sector, in original current price terms, increased by 2.8% between the June and September quarters 2008 (compared to total turnover which increased by 2.5%). The analysis indicates that if the estimates are adjusted for the methodological change, the completely enumerated sector, in original current price terms, increased by 3.8% between the June and September quarters 2008 (compared to total turnover which increased by 2.5%). This means the rate of growth for the sample sector for the September quarter 2008 is overstated. The analysis indicates that if the estimates are adjusted for the methodological change, the sample sector increased by 0.3% rather than 1.9%.

A break-in-series between the June and September quarters 2008 is footnoted in the two spreadsheets presenting estimates for the completely enumerated and sample sectors. The comparable monthly series will be revised with the October 2008 issue of *Retail Trade Trends, Australia* (cat. no. 8501.0).

INDUSTRY

In the September quarter 2008, all industries except Household good retailing and Cafes, restaurants and takeaway food services had an increase in the trend.

In trend terms:

INDUSTRY continued

- Food retailing increased by 1.2% in the September quarter 2008 following three quarters of similar growth. The rate of growth in these quarters is lower than it has been since the March quarter 2005.
- Department stores increased by 0.8% in the September quarter 2008 following three quarters of similar growth. The rate of growth decreased from 1.6% in June quarter 2007 to 0.6% in both the March and June quarters 2008 before increasing slightly.
- Clothing and soft good retailing increased by 0.5% in the September quarter 2008.
  The rate of growth decreased from 2.0% in June quarter 2007 to 0.3% in the March quarter 2008 before increasing slightly in the last two quarters.
- Household good retailing declined by 0.4% in the September quarter 2008, the second consecutive quarterly decline. The rate of growth in this industry has slowed each quarter since December quarter 2006.
- Other retailing increased by 0.3% in the September quarter 2008. The rate of growth has decreased from 3.8% in the December quarter 2007.
- In the September quarter 2008, Cafes, restaurants and takeaway food services declined by 0.6%, the third consecutive decline by this amount.

STATE

All states, except New South Wales (-0.8%) and the Australian Capital Territory (-0.3%), had an increase in the trend estimate. New South Wales is in decline for the second consecutive quarter after no growth in the March quarter 2008. The rate of trend growth for the Australian Capital Territory has been slowing since the December quarter 2006.

The rate of trend growth for Victoria slowed from the September quarter 2007 to June quarter 2008 with 0.5% growth for each of the last two quarters. Retail turnover for Queensland has continued to grow in 2008 although at a slower rate than in 2007.

South Australia, from the December quarter 2007, and the Northern Territory, from the March quarter 2006, have grown by 2.1% or more in each quarter.

The rate of growth for both Western Australia and Tasmania has been increasing since December quarter 2007 with growth of 1.7% and 2.0%, respectively, in the September quarter 2008.

### ANALYSIS VOLUME TERMS

REVISIONS

Historical series for the chain volume measures have been revised as a result of the scope and methodological changes introduced into the current price series from the September quarter 2008.

A new base year, 2006–07, has been introduced into the chain volume estimates which has resulted in minor revisions to growth rates in subsequent periods. In addition, the chain volume estimates have been re-referenced to 2006–07. Additivity is preserved in the quarters of the reference year and subsequent quarters. Re-referencing affects the level of, but not the movements in, chain volume estimates.

TOTAL RETAIL

The trend volume estimate of turnover for the Australian Retail series declined by 0.1% in both the September and June quarters 2008 following an increase of 0.3% in the March quarter. In seasonally adjusted terms, the volume measure increased by 0.1% in the September quarter 2008 after declining in the previous two quarters.

INDUSTRY

In trend volume terms, retail turnover increased in the Food retailing (+0.1%), Department stores (+0.3%), Clothing and soft good retailing (+0.4%) and Household good retailing (+0.1%) industries in the September quarter 2008. There was no growth in volumes in the Other retailing industry after strong growth in three of the previous four quarters. Trend volume growth has been in decline in the Cafes, restaurants and takeaway food services industry for four consecutive quarters.

STATE

In trend volume terms, retail turnover declined in both New South Wales and the Australian Capital Territory for the third consecutive quarter. There was no growth in volumes in Victoria in the September quarter 2008 while volumes in Queensland grew by 0.2% for the second consecutive quarter. Volumes in the other three states and the Northern Territory increased by at least 1.1% in the September quarter 2008. The rate of volume growth in South Australia and the Northern Territory has decreased over recent quarters while the rate of growth has increased in Western Australia and Tasmania.

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
Quarter	retaiing	310/03	retuiirig	retaining	retaining	1000 30111003	rotar
• • • • • • • • • •	• • • • • • •	OR	IGINAL (S	MILLION)	)	• • • • • • • •	• • • • • • • •
2006							
September	19 314.8	3 870.3	3 388.5	8 266.5	7 156.2	6 093.7	48 090.0
December	21 268.1	5 579.0	4 177.0	9 665.8	8 842.6	6 518.7	56 051.3
2007							
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
2008							
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
		SEASONAL	LY ADJUS	STED (\$ M	IILLION)		
				(,	,		
2006							
September	19 612.6	4 234.4	3 555.9	8 427.3	7 426.9	6 113.2	49 370.2
December	20 011.2	4 265.3	3 586.0	8 551.0	7 465.2	6 178.7	50 057.3
2007							
March	20 617.4	4 401.3	3 685.3	8 973.3	7 474.0	6 453.1	51 604.4
June	21 000.1	4 377.2	3 745.0	8 961.5	7 438.8	6 564.9	52 087.3
September	21 484.0	4 507.9	3 821.0	9 166.1	7 740.2	6 660.4	53 379.7
December	21 770.3	4 500.1	3 838.6	9 258.8	8 103.2	6 658.0	54 129.0
2008							
March	21 952.5	4 535.0	3 834.4	9 180.1	8 298.3	6 579.7	54 379.9
June	22 074.1	4 545.4	3 854.4	9 215.2	8 339.6	6 562.7	54 591.5
September	22 562.9	4 614.8	3 887.8	9 143.0	8 297.4	6 531.7	55 037.6
		Т	REND (\$	MILLION)			
2006							
September	19 658.0	4 251.4	3 537.7	8 412.1	7 445.2	6 103.0	49 407.4
December	20 065.7	4 293.0	3 604.2	8 638.8	7 451.7	6 245.9	50 299.4
2007							
March	20 549.4	4 354.2	3 677.7	8 851.6	7 441.2	6 410.7	51 284.7
June	21 042.5	4 422.4	3 751.8	9 036.9	7 528.5	6 568.5	52 350.7
September	21 454.4	4 474.6	3 808.5	9 156.0	7 756.4	6 648.8	53 298.6
December	21 733.5	4 507.1	3 833.7	9 212.0	8 054.3	6 644.1	53 984.8
2008							
March	21 950.4	4 534.1	3 844.7	9 219.3	8 250.3	6 603.0	54 400.4
June	22 184.4	4 560.9	3 858.5	9 189.6	8 328.8	6 560.5	54 682.4
September	22 457.3	4 596.6	3 878.0	9 157.0	8 349.9	6 523.8	54 967.1

<sup>(</sup>a) See paragraph 6 of the Explanatory Notes.

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total			
• • • • • • • • •	ORIGIN	AL (% CH	ANGE FRO		DING QU	ARTER)	•••••			
2006										
September	2.7	-4.3	-0.9	5.9	4.1	3.3	2.6			
December	10.1	44.1	23.3	16.9	23.6	7.0	16.6			
2007										
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			
2008										
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			
SEASONALLY ADJUSTED (% CHANGE FROM PRECEDING QUARTER)										
2006										
September	1.3	-0.2	2.5	2.3	0.3	1.5	1.3			
December	2.0	0.7	0.8	1.5	0.5	1.1	1.4			
2007										
March	3.0	3.2	2.8	4.9	0.1	4.4	3.1			
June	1.9	-0.5	1.6	-0.1	-0.5	1.7	0.9			
September	2.3	3.0	2.0	2.3	4.1	1.5	2.5			
December	1.3	-0.2	0.5	1.0	4.7	0.0	1.4			
2008										
March	0.8	0.8	-0.1	-0.9	2.4	-1.2	0.5			
June	0.6	0.2	0.5	0.4	0.5	-0.3	0.4			
September	2.2	1.5	0.9	-0.8	-0.5	-0.5	0.8			
	TREN	D (% CHAI	NGE FROM	1 PRECED	ING QUAF	RTER)				
2006										
September	1.8	1.0	1.7	2.5	1.4	1.9	1.8			
December	2.1	1.0	1.9	2.7	0.1	2.3	1.8			
2007										
March	2.4	1.4	2.0	2.5	-0.1	2.6	2.0			
June	2.4	1.6	2.0	2.1	1.2	2.5	2.1			
September	2.0	1.2	1.5	1.3	3.0	1.2	1.8			
December	1.3	0.7	0.7	0.6	3.8	-0.1	1.3			
2008										
March	1.0	0.6	0.3	0.1	2.4	-0.6	0.8			
June	1.1	0.6	0.4	-0.3	1.0	-0.6	0.5			
September	1.2	0.8	0.5	-0.4	0.3	-0.6	0.5			

<sup>(</sup>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
• • • • • • • • • •	• • • • • • • •		ORIGI	NAL (\$ N	ЛILLION)			• • • • • • • •	• • • • • • •
2006									
September	15 227.9	11 971.9	9 803.7	3 262.5	5 299.3	1 059.5	523.1	941.9	48 090.0
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
2007									
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
2008									
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
		SE	EASONALLY	ADJUST	ED (\$ MI	LLION)			
2006									
September	15 711.5	12 428.0	9 842.1	3 376.3	5 452.0	1 105.8	486.4	968.1	49 370.2
December	15 890.2	12 638.5	9 911.8	3 426.2	5 600.4	1 097.5	496.4	996.3	50 057.3
2007									
March	16 363.3	12 873.1	10 303.7	3 546.8	5 864.0	1 124.6	513.8	1 015.2	51 604.4
June	16 439.1	12 865.3	10 612.1	3 557.0	5 904.4	1 153.6	521.9	1 033.9	52 087.3
September	17 003.4	13 164.8	10 905.1	3 594.7	5 981.6	1 161.9	530.1	1 038.1	53 379.7
December	17 155.4	13 385.1	11 091.6	3 715.8	6 013.8	1 168.0	559.5	1 039.7	54 129.0
2008									
March	17 116.1	13 494.8	11 156.9	3 825.6	5 996.8	1 169.7	562.4	1 057.7	54 379.9
June	17 030.1	13 469.4	11 176.2	3 914.2	6 163.1	1 199.7	578.4	1 060.4	54 591.5
September	16 836.4	13 634.4	11 426.8	3 995.3	6 272.5	1 230.0	600.2	1 042.1	55 037.6
• • • • • • • • • •	• • • • • • • •			• • • • • • •		• • • • • • •		• • • • • • • •	• • • • • • •
			TRE	ND (\$ MI	LLION)				
2006									
September	15 730.5	12 488.4	9 799.2	3 378.3	5 459.1	1 097.1	486.0	968.8	49 407.4
December	15 959.9	12 651.3	9 999.9	3 449.6	5 638.4	1 106.7	499.7	994.0	50 299.4
2007 March	16 246.2	12 792.6	10 278.5	3 510.2	5 804.7	1 126.0	510.0	1 016.4	51 284.7
June	16 595.4	12 792.6	10 278.5	3 510.2 3 561.5	5 804.7 5 924.9	1 146.9	522.3	1 010.4	51 284.7
September	16 915.2	13 156.9	10 895.7	3 621.0	5 974.1	1 161.1	536.4	1 030.3	53 298.6
December	17 115.1	13 342.5	11 059.4	3 708.3	5 995.3	1 166.6	550.4	1 036.3	53 984.8
			300						
2008 March	17 118.2	13 461.9	11 153.2	3 816.4	6 054.4	1 178.5	566.0	1 052.5	54 400.4
June	17 118.2	13 532.3	11 153.2	3 913.5	6 144.2	1 178.5	580.9	1 052.5	54 400.4 54 682.4
September	16 880.4	13 599.3	11 361.7	3 995.9	6 249.9	1 223.3	595.7	1 054.1	54 967.1
Ochtember	10 000.4	10 000.0	11 301.1	5 555.5	0 240.0	1 220.0	555.1	1 001.4	J- JUI.1



# 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)											
2006											
September	1.7	0.3	6.6	2.0	3.4	2.0	11.7	2.0	2.6		
December	17.4	18.4	12.4	17.7	18.8	15.4	-0.3	17.6	16.6		
2007											
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		
2008											
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		
	SFAS	CONALLY	ADJUSTED								
	OLAG	, O 11, (LL )	710300120	(70 0117111	az mom	T KLOLDII	, a Q0/	211)			
2006											
September	0.9	0.5	1.8	1.5	2.6	1.8	2.4	2.4	1.3		
December	1.1	1.7	0.7	1.5	2.7	-0.7	2.1	2.9	1.4		
2007											
March	3.0	1.9	4.0	3.5	4.7	2.5	3.5	1.9	3.1		
June	0.5	-0.1	3.0	0.3	0.7	2.6	1.6	1.8	0.9		
September	3.4	2.3	2.8	1.1	1.3	0.7	1.6	0.4	2.5		
December	0.9	1.7	1.7	3.4	0.5	0.5	5.6	0.2	1.4		
2008											
March	-0.2	0.8	0.6	3.0	-0.3	0.1	0.5	1.7	0.5		
June	-0.5	-0.2	0.2	2.3	2.8	2.6	2.9	0.3	0.4		
September	-1.1	1.2	2.2	2.1	1.8	2.5	3.8	-1.7	0.8		
			ID (% CHA								
			70 01171	Mac I Man	·······································	ma qom	,				
2006											
September	1.4	2.0	1.5	2.2	3.0	0.1	3.6	2.2	1.8		
December	1.5	1.3	2.0	2.1	3.3	0.9	2.8	2.6	1.8		
2007											
March	1.8	1.1	2.8	1.8	2.9	1.7	2.1	2.3	2.0		
June	2.1	1.3	3.2	1.5	2.1	1.9	2.4	1.4	2.1		
September	1.9	1.5	2.7	1.7	0.8	1.2	2.7	0.8	1.8		
December	1.2	1.4	1.5	2.4	0.4	0.5	2.7	0.8	1.3		
2008											
March	0.0	0.9	0.8	2.9	1.0	1.0	2.7	0.6	0.8		
June	-0.6	0.5	0.9	2.5	1.5	1.8	2.6	0.2	0.5		
September	-0.8	0.5	1.0	2.1	1.7	2.0	2.5	-0.3	0.5		

Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
• • • • • • • • • •	• • • • • • •	• • • • • • • • •		• • • • • • • •	• • • • • • •	• • • • • • • •	• • • • • • • •
		OR	IGINAL (\$	MILLION	)		
2006							
September December	19 659.5 21 302.2	3 864.8 5 588.3	3 377.0 4 185.9	8 221.6 9 650.9	7 146.4 8 848.5	6 173.6 6 554.9	48 421.7 56 187.5
2007							
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
2008							
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	4 118.6	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	7 821.8	6 015.2	51 527.5
				• • • • • • • •			
		SEASONAL	LY ADJUS	STED (\$ N	(ILLION		
2006							
September	19 879.4	4 235.9	3 552.2	8 376.0	7 430.1	6 181.0	49 677.7
December	20 029.7	4 270.6	3 598.6	8 532.5	7 473.0	6 199.7	50 099.6
2007							
March	20 616.0	4 395.9	3 672.9	8 977.4	7 501.3	6 418.4	51 547.8
June	20 622.4	4 351.9	3 725.6	8 968.9	7 401.6	6 480.2	51 566.0
September	20 818.2	4 486.4	3 817.0	9 239.7	7 693.6	6 521.7	52 576.5
December	21 134.1	4 452.3	3 831.3	9 340.7	8 004.2	6 429.3	53 191.9
2008							
March	20 973.9	4 488.4	3 868.1	9 337.6	8 202.6	6 267.8	53 138.3
June	21 026.7	4 459.2	3 832.3	9 373.9	8 181.5	6 162.5	53 036.2
September	21 125.0	4 507.6	3 893.5	9 373.5	8 150.6	6 053.8	53 104.0
• • • • • • • • • •	• • • • • • •	• • • • • • • • •	• • • • • • •	• • • • • • • • •	• • • • • • •	• • • • • • • •	• • • • • • • •
		T	REND (\$	MILLION)			
0000							
2006	10 000 0	4.000.7	2.540.0	0.270.0	7 474 5	0.470.7	40.754.7
September December	19 920.6 20 147.9	4 260.7 4 293.9	3 546.2 3 604.6	8 370.9	7 471.5 7 464.1	6 176.7 6 264.4	49 751.7 50 387.1
	20 147.9	4 293.9	3 004.0	8 613.3	7 404.1	0 204.4	30 387.1
2007							
March	20 429.8	4 346.6	3 669.8	8 849.6	7 443.3	6 379.1	51 108.5
June	20 696.3	4 404.3	3 737.5	9 060.3	7 507.5	6 484.8	51 885.4
September December	20 884.8 20 988.8	4 446.0 4 467.5	3 800.8 3 837.4	9 213.8 9 309.6	7 702.0 7 967.2	6 501.4 6 419.0	52 551.5 52 992.5
	20 300.0	4 407.5	J 031.4	9 309.0	1 301.2	0.419.0	32 332.3
2008	04.044.5	4 4=0 0	0.050.5	0.0==.0	0.400.5	0.000.5	E0 150 =
March	21 041.2	4 476.2	3 850.7	9 357.2	8 136.8	6 290.4	53 150.5
June September	21 055.8	4 479.7	3 860.8	9 367.4	8 190.8	6 162.8	53 117.1 53 060.9
Septernuer	21 070.7	4 493.1	3 876.0	9 376.7	8 192.3	6 052.0	9.000 cc

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

<sup>(</sup>b) See paragraph 6 of the Explanatory Notes.



Quarter	Food retailing	Department stores	Clothing and soft good retailing	Household good retailing	Other retailing	Cafes, restaurants and takeaway food services	Total
• • • • • • • • • •	001010				DING OII	• • • • • • • • • • • • • • • • • • •	• • • • • • •
	ORIGIN	IAL (% CH	ANGE FRO	IM PRECE	DING QUA	ARIER)	
2006	4.0	4.0	4 =	<b>5</b> 0	0.0	0.0	0.0
September December	1.9 8.4	-4.8 44.6	−1.5 24.0	5.9 17.4	3.0 23.8	2.3 6.2	2.0 16.0
	0.4	44.0	24.0	17.4	25.0	0.2	10.0
2007 March	-5.2	-34.3	-20.5	-12.1	-21.3	-5.3	-13.1
June	-0.9	-34.3 12.5	10.0	0.2	-21.3 -1.6	-5.3 2.3	-13.1 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
2008							
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	3.1	0.0	1.8
SEASO	NALLY	ADJUSTED					
02/100			(70 0117111	G		Q0/	,
2006							
September	0.2	-0.6	2.0	2.3	-0.5	0.4	0.6
December	0.8	0.8	1.3	1.9	0.6	0.3	0.8
2007							
March	2.9	2.9	2.1	5.2	0.4	3.5	2.9
June	0.0	-1.0	1.4	-0.1	-1.3	1.0	0.0
September	0.9	3.1	2.5	3.0	3.9	0.6	2.0
December	1.5	-0.8	0.4	1.1	4.0	-1.4	1.2
2008							
March	-0.8	0.8	1.0	0.0	2.5	-2.5	-0.1
June	0.3	-0.6	-0.9	0.4	-0.3	-1.7	-0.2
September	0.5	1.1	1.6	0.0	-0.4	-1.8	0.1
• • • • • • • • • •	• • • • • •	• • • • • • • •	• • • • • • • •	• • • • • • • •	• • • • • • •	• • • • • • • • •	• • • • • • •
	TREN	D (% CHAI	NGE FROM	1 PRECED	ING QUAF	RTER)	
2006							
September	0.6	0.9	1.8	2.6	1.1	0.9	1.2
December	1.1	0.9	1.6	2.9	-0.1	1.4	1.3
		0.0	1.0	2.0	0.1		2.0
2007 March	1.4	1.2	1.8	2.7	-0.3	1.8	1.4
June	1.3	1.3	1.8	2.4	0.9	1.7	1.4
September	0.9	0.9	1.7	1.7	2.6	0.3	1.3
December	0.5	0.5	1.0	1.0	3.4	-1.3	0.8
2008							
March	0.2	0.2	0.3	0.5	2.1	-2.0	0.3
June	0.1	0.1	0.3	0.1	0.7	-2.0	-0.1
September	0.1	0.3	0.4	0.1	0.0	-1.8	-0.1

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

<sup>(</sup>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)											
2006												
September	15 321.5	12 073.4	9 877.2	3 270.9	5 335.3	1 069.3	528.4	946.8	48 421.7			
December	17 885.7	14 219.9	11 072.7	3 848.1	6 306.8	1 224.2	521.9	1 109.0	56 187.5			
2007												
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			
2008												
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	15 698.4	12 676.5	10 870.6	3 703.5	5 855.2	1 139.8	617.1	966.4	51 527.5			
	• • • • • • • •			• • • • • • • •								
		SE	ASONALLY	ADJUST	ED (\$ MI	LLION)						
2006												
September	15 794.5	12 533.3	9 899.8	3 385.8	5 491.6	1 112.6	490.5	972.2	49 677.7			
December	15 877.1	12 677.8	9 933.6	3 425.1	5 593.9	1 097.3	495.1	996.9	50 099.6			
2007												
March	16 361.1	12 838.7	10 275.9	3 552.4	5 863.9	1 124.6	513.2	1 018.5	51 547.8			
June	16 312.3	12 722.7	10 480.0	3 526.3	5 845.0	1 140.4	515.9	1 024.7	51 566.0			
September	16 805.0	12 951.0	10 681.2	3 542.2	5 901.2	1 149.3	521.8	1 024.9	52 576.5			
December	16 922.8	13 142.3	10 843.9	3 643.7	5 917.1	1 150.9	547.9	1 023.0	53 191.9			
2008												
March	16 782.3	13 204.4	10 857.2	3 725.6	5 846.1	1 147.4	548.0	1 027.4	53 138.3			
June	16 588.3	13 102.9	10 810.1	3 794.0	5 980.2	1 173.5	559.1	1 028.1	53 036.2			
September	16 297.2	13 208.6	10 941.0	3 845.4	6 050.4	1 189.3	574.9	997.3	53 104.0			
			TRE	ND (\$ MI	LLION)							
				•								
2006												
September	15 821.2	12 604.1	9 865.7	3 393.4	5 499.9	1 105.0	490.3	973.4	49 751.7			
December	15 975.1	12 687.0	10 019.4	3 453.6	5 647.3	1 108.2	500.2	996.1	50 387.1			
2007												
March	16 199.8	12 744.5	10 232.7	3 502.8	5 783.8	1 121.8	507.5	1 015.2	51 108.5			
June	16 484.5	12 828.7	10 480.4	3 536.2	5 877.2	1 137.7	517.1	1 024.1	51 885.4			
September	16 734.7	12 955.5	10 692.8	3 570.8	5 897.3	1 147.2	528.2	1 025.5	52 551.5			
December	16 861.2	13 091.3	10 804.3	3 633.4	5 886.3	1 149.4	539.5	1 027.0	52 992.5			
2008												
March	16 781.6	13 161.9	10 846.0	3 718.4	5 910.3	1 156.6	551.0	1 025.7	53 150.5			
June	16 574.2	13 172.3	10 869.2	3 790.7	5 960.4	1 170.0	561.3	1 019.0	53 117.1			
September	16 350.2	13 174.2	10 895.4	3 849.1	6 028.5	1 186.1	570.8	1 008.3	53 060.9			

<sup>(</sup>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
	• • • • • • •	ORIGI	NAL (% CH				RTER)		
2006									
September	1.1	-0.6	6.2	1.1	2.6	1.5	10.5	1.8	2.0
December	16.7	17.8	12.1	17.6	18.2	14.5	-1.2	17.1	16.0
2007									
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
2008									
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	8.0	2.8	-0.8	12.5	2.1	-0.2
September	-0.9	0.7	6.6	2.3	2.3	2.2	12.1	-3.1	1.8
	SEAS	SONALLY	ADJUSTED	(% CHAN	GE FROM	PRECEDII	NG QUART	ER)	
2006									
September	0.2	-0.2	1.2	0.7	1.8	1.0	1.2	2.0	0.6
December	0.5	1.2	0.3	1.2	1.9	-1.4	0.9	2.5	0.8
	0.0		0.0		2.0		0.0	2.0	0.0
2007 March	3.0	1.3	3.4	3.7	4.8	2.5	3.7	2.2	2.9
June	-0.3	-0.9	2.0	-0.7	-0.3	2.5 1.4	0.5	0.6	0.0
September	3.0	1.8	1.9	-0.7 0.5	-0.3 1.0	0.8	1.1	0.0	2.0
December	0.7	1.5	1.5	2.9	0.3	0.1	5.0	-0.2	1.2
2008 March	-0.8	0.5	0.1	2.2	-1.2	-0.3	0.0	0.4	-0.1
June	-0.8 -1.2	-0.8	-0.4	1.8	2.3	-0.3 2.3	2.0	0.4	-0.1 -0.2
September	-1.2 -1.8	0.8	1.2	1.6	2.3 1.2	2.3 1.4	2.0	-3.0	-0.2 0.1
Ocptember	1.0	0.0	1.2	1.7	1.2	1.7	2.0	0.0	0.1
• • • • • • • • • •	• • • • • •	* * * * * * * * * * * * * * * * * * *		NOE EDON	• • • • • • • • • • • • • • • • • • •		* * * * * * * * * * * * * * * * * * *	• • • • • • • • •	• • • • • •
		IKEN	ID (% CHA	NGE FROM	I PRECED	ING QUAR	IER)		
2006									
September	0.8	1.3	1.0	1.6	2.4	-0.5	2.6	1.8	1.2
December	1.0	0.7	1.6	1.8	2.7	0.3	2.0	2.3	1.3
2007									
March	1.4	0.5	2.1	1.4	2.4	1.2	1.5	1.9	1.4
June	1.8	0.7	2.4	1.0	1.6	1.4	1.9	0.9	1.5
September	1.5	1.0	2.0	1.0	0.3	0.8	2.1	0.1	1.3
December	8.0	1.0	1.0	1.8	-0.2	0.2	2.1	0.1	0.8
2008									
March	-0.5	0.5	0.4	2.3	0.4	0.6	2.1	-0.1	0.3
June	-1.2	0.1	0.2	1.9	0.8	1.2	1.9	-0.6	-0.1
September	-1.4	0.0	0.2	1.5	1.1	1.4	1.7	-1.1	-0.1

<sup>(</sup>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. 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 Trends*, *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.

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.

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 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.

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 Trends, 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

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.
- 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 Trends*, *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 <ti>etime.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 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		Cafes, restaurants & takeaway food services	Total
NSW	Α	Α	С	В	С	С	Α
Vic.	В	Α	С	В	С	С	Α
Qld	В	Α	В	С	С	С	Α
SA	В	Α	В	С	С	С	Α
WA	В	Α	С	В	С	С	Α
Tas.	В	np	С	С	np	D	В
NT	В	np	В	В	np	D	Α
ACT	В	Α	D	С	С	D	В
Aust.	Α	Α	В	Α	В	В	Α

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 <a href="http://www.abs.gov.au">http://www.abs.gov.au</a>. The ABS also issues a daily *Release Advice* on the web site which details products to be released in the week ahead.

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

# 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