FEATURE ARTICLE: CHANGES TO MONTHLY RETAIL TRADE STATISTICS

INTRODUCTION

Notes in the April to June 2008 issues of **Retail Trade, Australia** (cat. no. 8501.0) advised of forthcoming changes to the Retail Business Survey (RBS).

This article provides consolidated information about those changes. From the July 2008 survey month there has been a 59% reduction in the monthly RBS sample relative to the June 2008 sample size.

Clients should understand the changes and their impact on time series when analysing the information in this publication and related time series spreadsheets.

REASON FOR 2008-09 SAMPLE REDUCTION

The ABS is facing a tight budget situation in 2008-09. As a result, the ABS has identified a number of savings initiatives for 2008-09 to ensure it can deliver its work program within its allocated budget. One of the initiatives is to reduce the RBS sample size in 2008-09. The ABS has implemented this sample reduction in such a way that the sample can be increased again in the future should the ABS funding position change.

OBJECTIVE OF SURVEY REDESIGN

The principal objective of the sample design up to June 2008 was to show month to month movement of retail turnover and provide corresponding quarterly movements used in the compilation of household final consumption expenditure in the quarterly national accounts. This objective has changed with the survey redesign. The emphasis has moved to producing a quarterly series with similar detail to that released in the June 2008 monthly publication whilst maintaining a broad level monthly trend series.

IMPLEMENTATION

The ABS implemented the full sample reduction in July 2008 in order to maximise savings in 2008-09. The Hotels and licensed clubs and Selected service industries are now excluded from the RBS as these industries have a relatively lower priority given broad user interests and an alternative quarterly data source.

In order to produce both quarterly estimates and broad level monthly trend estimates within the available resources, a 'one-in, two-out' strategy has been adopted 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 will be 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.

SAMPLE SIZE

Table 1 shows the actual number of businesses selected in the RBS sample for June 2008 under the 2007 sample redesign; the number in the June 2008 sample with Hotels and licensed clubs and selected services excluded; and the number in July 2008, following the sample reduction.

1. Comparison of pre and post June 2008 sample sizes

	June 2008 sample		July 2008 sample	September quarter 2008 sample
	Total per month	Reduced scope per month	Total per month	Total per quarter
	No.	No.	No.	No.
Completely enumerated sector	730	640	500	(a)500
Sample sector	3 214	2 775	901	(b)2 702
Total	3 944	3 415	1 401	3 202

(a) Reporting each month in the quarter
(b) Reporting for one month in the quarter

MONTHLY PUBLICATION

Only trend data (level, percentage change from previous month and percentage change from same month in the previous year) for Australia, states and industry groups are presented in the tables included in this publication. State by industry estimates and detailed industry estimates are not included in the publication. This is because the sampling error and rotation patterns of the one-in, two-out sampling methodology, which do not reflect real economic behaviour, could dominate the monthly estimates. However, these factors have less impact on broader level industry groups and state estimates.

The monthly publication has been renamed **Retail Trade Trends, Australia** but has retained catalogue number 8501.0 and includes:
§   commentary focussing on the trend series
§   trend estimates at broader level industry groups:
•   a new industry group, Cafes, restaurants and takeaway food services, has been introduced
•   the industry group, Recreational good retailing, has been combined with Other retailing
§   trend estimates for state totals.

For analytical purposes, seasonally adjusted and original estimates are available in the time series spreadsheets from the Downloads tab of this publication. However, these series are considered of limited use for measuring month-to-month estimates because of the increased volatility in these series due to the smaller sample size and the rotation effect of having a different third of the sample reporting each month.

IMPACT ON THE ESTIMATES

The introduction of survey scope changes and a new sampling methodology, including a reduction in the number of completely enumerated and sampled businesses and changes to the industry groupings, has resulted in a shift in the level of a series. Because these changes are measurement changes rather than reflecting real economic events, it is necessary to minimise the impact of the changes on time series. This has been achieved by measuring the impact of the change and revising (backcasting) the time series to maintain the continuity of the time series.

The size of the level shift induced by the measurement change was assessed using regression analysis techniques on the ratios between the published estimates produced by the existing sampling methodology and simulated estimates produced by the new sampling methodology over the period from July 2007 to June 2008. The level shift was found to be significant with a decrease of 0.3% in the seasonally adjusted level for the Australian total for June 2008. Differences at the lower levels vary. As a result, the historical series have been backcast to make the time series of estimates as continuous as possible while maintaining, as far as possible, the integrity of the month to month seasonally adjusted movements.

The following tables compare estimates for June 2008 as published in the June 2008 issue (with the reduced scope) and the estimates as published in the July 2008 issue.

2. Differences between industry totals for June 2008: Original

Industry group	June 2008 estimate published in June 2008 issue $m	June 2008 estimate published in July 2008 issue $m	Difference %
Food retailing	6 940.9	6 921.7	-0.3
Department stores	1 401.6	1 401.6	0.0
Clothing and soft good retailing	1 209.7	1 206.0	-0.3
Household good retailing	3 063.5	3 052.6	-0.4
Other retailing	2 525.8	2 510.8	-0.6
Cafes, restaurants and takeaway food services	2 102.8	2 098.0	-0.2
Australia	**17 244.1**	**17 190.7**	**-0.3**

3. Differences between state totals for June 2008: Original

States and territories	June 2008 estimate published in June 2008 issue $m	June 2008 estimate published in July 2008 issue $m	Difference %
New South Wales	5 366.2	5 358.6	-0.1
Victoria	4 255.4	4 239.6	-0.4
Queensland	3 519.5	3 511.0	-0.2
South Australia	1 238.9	1 234.9	-0.3
Western Australia	1 951.0	1 940.9	-0.5
Tasmania	372.1	370.9	-0.3
Northern Territory	198.2	196.3	-0.9
Australian Capital Territory	342.9	338.5	-1.3
Australia	**17 244.1**	**17 190.7**	**-0.3**

To facilitate comparisons over time, the level shifts have been smoothed into the series from June 2008 back to January 2003. The level shifts were estimated and applied at the lowest possible level, the state by industry sub-group level, even though monthly series are not published at this level. This approach maintains the additivity of time series at all levels in original terms as higher level aggregate time series are derived from the more detailed backcast series. This approach also ensures that the state and industry group totals in the monthly series will sum to the comparable quarterly series.

The revisions to the historical series in original terms, and the annual seasonal reanalysis have resulted in revisions to the trend series. The following table compares the trend estimate for recent months as published in the June 2008 issue with data for the same period with the reduced scope. The table also shows the trend for the same period after the incorporation of data for July 2008. The table shows that at the total level the introduction of the new survey design did not change the trend as at June 2008 (i.e. before data for July 2008 were incorporated).

4. Retail Turnover, Australia: Trend

Month	June 2008 survey design As published in June 2008 %	July 2008 survey design As at June 2008 %	As published in July 2008 %
2008			
January	0.1	0.1	0.1
February	0.1	0.1	0.0
March	0.0	0.0	0.0
April	0.0	0.0	0.1
May	0.0	0.0	0.1
June	0.0	0.0	0.1

IMPACT ON THE QUALITY OF ESTIMATES

The most common way to quantify the volatility in the original series is to examine the relative standard errors (RSEs). Tables 5 and 6 compare RSEs for June 2008 based on the previous sample design and for July 2008 under the new sample methodology.

5. Monthly RSE, By Industry group

Industry group	June 2008(a) %	July 2008 %
Food retailing	1.0	2.1
Department stores	. .	. .
Clothing and soft good retailing	2.3	4.3
Household good retailing	2.0	3.4
Other retailing	3.5	4.7
Cafes, restaurants and takeaway food services	2.5	5.0
Australia	0.8	1.1

. . not applicable
(a) The June 2008 RSEs have not been adjusted for the reduced scope.

6. Monthly RSE, By State

States and territories	June 2008(a) %	July 2008 %
New South Wales	1.5	2.1
Victoria	1.6	2.3
Queensland	1.8	2.5
South Australia	1.7	2.3
Western Australia	1.7	2.6
Tasmania	2.0	2.9
Northern Territory	1.6	2.4
Australian Capital Territory	2.0	2.8
Australia	0.8	1.1

(a) The June 2008 RSEs have not been adjusted for the reduced scope.

INCREASED VOLATILITY IN SEASONALLY ADJUSTED ESTIMATES

While the historical series have been adjusted for the one-off level shift caused by the introduction of the new methodology, the reliability of the past estimates have not been affected. However, the new methodology will result in increased volatility in the Retail trade series from July 2008.

As a result of this increased volatility, this publication focuses on the trend series.

It is also possible that having each third of the sample report one month each quarter may change the currently observed seasonal patterns. This may result in increased revisions to the seasonally adjusted series as any changes to seasonal patterns are reflected in seasonal factors. The impact of the increased volatility will not be significant in the quarterly series.

QUARTERLY OUTPUT

A new, separate quarterly publication will be introduced which will include seasonally adjusted and original estimates and more detailed state by industry estimates. The quarterly publication will be titled **Retail Trade Quarterly Indicators, Australia** (cat. no. 8502.0) and will be released about two weeks after the last monthly publication for the quarter e.g. the September quarter 2008 issue is scheduled for release on 17 November 2008.

It is likely that the quarterly output will include:
§ the same six industry groups as in the monthly publication described above but at the state level - original, seasonally adjusted and trend

- § 15 more detailed industry sub-groups at the state level - original, seasonally adjusted and trend
- § retail turnover percentage change from previous quarter by state by industry sub-group - original, seasonally adjusted and trend
- § retail turnover percentage change from same quarter in the previous year by state by industry sub-group - original, seasonally adjusted and trend
- § retail turnover relative standard errors by industry group and industry sub-group - original
- § retail turnover relative standard errors by state - original
- § retail turnover completely enumerated sector total level - original, seasonally adjusted and trend
- § chain volume measures estimates at a similar level of detail as currently provided quarterly but estimates will be directly seasonally adjusted rather than aggregated from monthly seasonally adjusted estimates (as is currently done).