

Revisions to the Retail Sales Index

The Retail Sale Index (RSI) revisions policy (<http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/economy/retail-sales-index-revisions-policy.pdf>) details why revisions to the non-seasonally adjusted and seasonally adjusted data can occur. In summary, revisions to the:

- non-seasonally adjusted estimates arise from the incorporation of late data, usually restricted to 13 months prior to the publication month unless there are exceptional circumstances to revise further back, changes to weights, methods or corrections to errors in source data
- seasonally adjusted estimates are revised as result of revisions to the non-seasonally adjusted data. However, revisions can occur when there is no change to the non-seasonally adjusted data due to changes in the parameters used as part of the seasonal adjustment process, or even from the addition to the series of the latest data point

Unlike other estimates that are used in the compilation of National Accounts, (<http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/economy/national-accounts-revisions-policy.pdf>) the RSI is not constrained or restricted, and therefore revisions can occur along the full length of each series.

Analysis of revisions

Analysis of revisions to non-seasonally adjusted and seasonally adjusted estimates provide an indication of the reliability of the key indicators. For the RSI, information on the revisions to the historical series is made available monthly in the background notes of the statistical bulletin. Revisions triangles for month-on-month and three months-on-previous three month growth rates are made available through reference tables released alongside the bulletin.

This article looks at both of these revisions triangles and provides an analysis of the revisions' performance of seasonally adjusted chained volume measure growth rates for:

- month-on-month
- three month-on-previous three months

The analysis examines the first release of a particular month, and how it was revised one month later and again 12 months later.

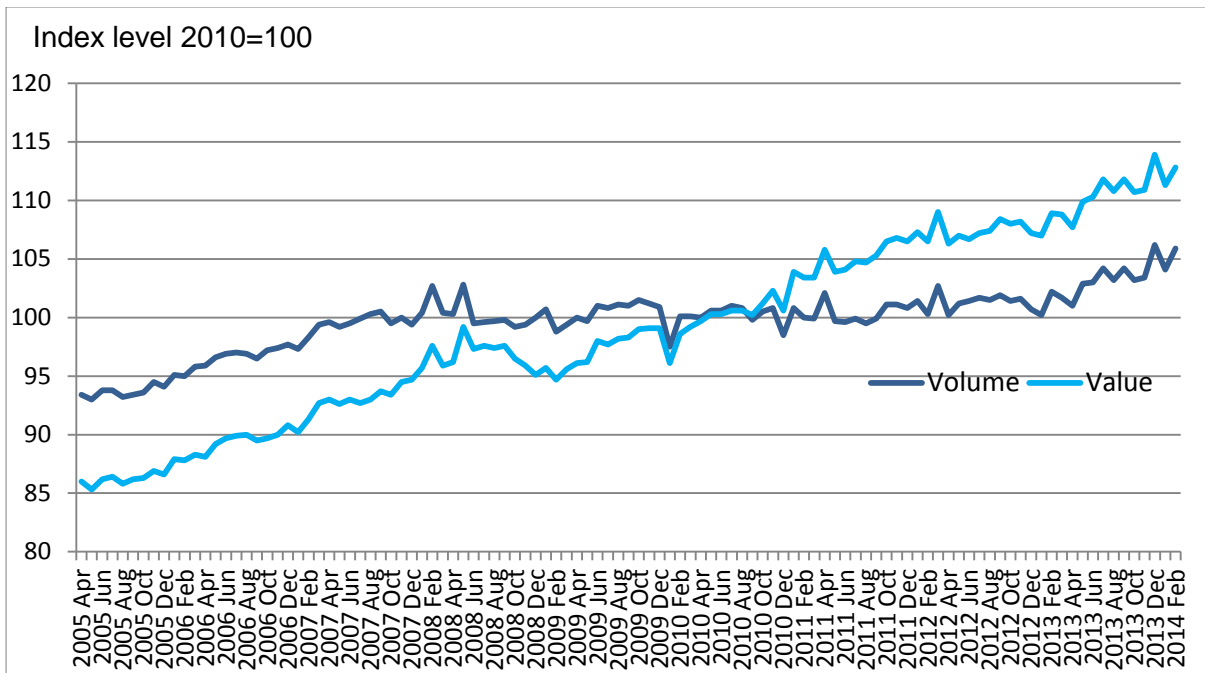
Revisions to seasonally adjusted growth rates can occur from both changes to the raw data and changes to the seasonal path. To gain an understanding of the extent of revisions to the raw data, revisions to the year-on-year growth rate of small and large stores ([table 4](#) of the main RSI data tables) has been analysed in the same way.

Background to the Retail Sales Index

The Retail Sales Index is published monthly and Figure 1 shows the path of the seasonally adjusted data since April 2005. In more recent years the data show that movements are more erratic or

volatile with sharp increases followed by sharp decreases and vice versa. But does this volatility lead to greater revisions?

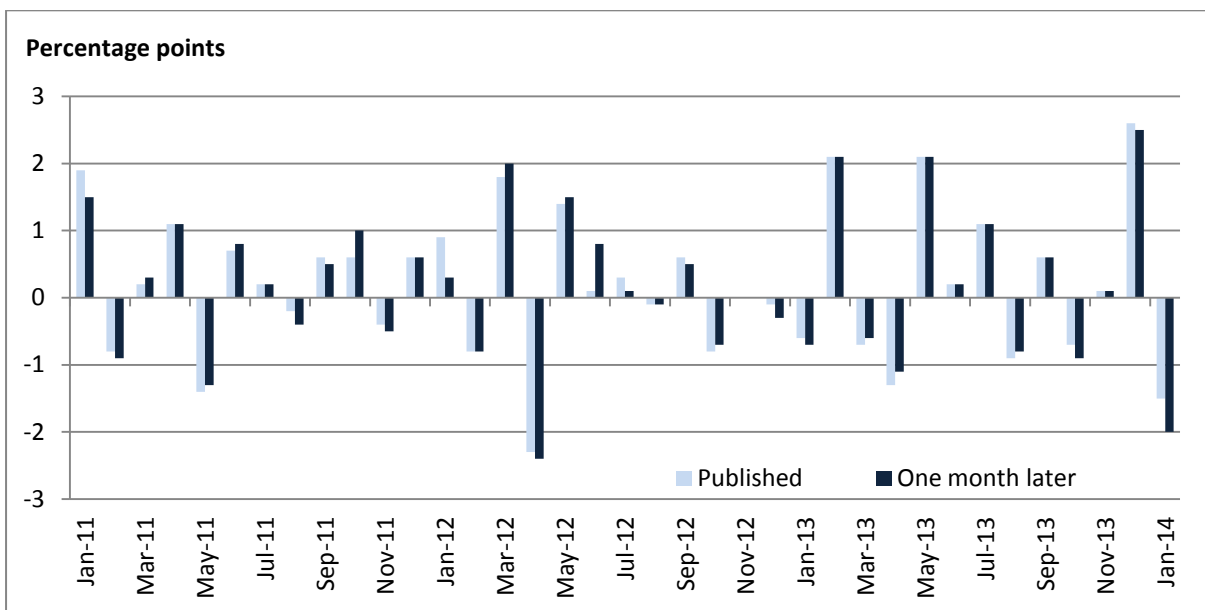
Figure 1: All retailing seasonally adjusted



Revisions to the month-on-month movements

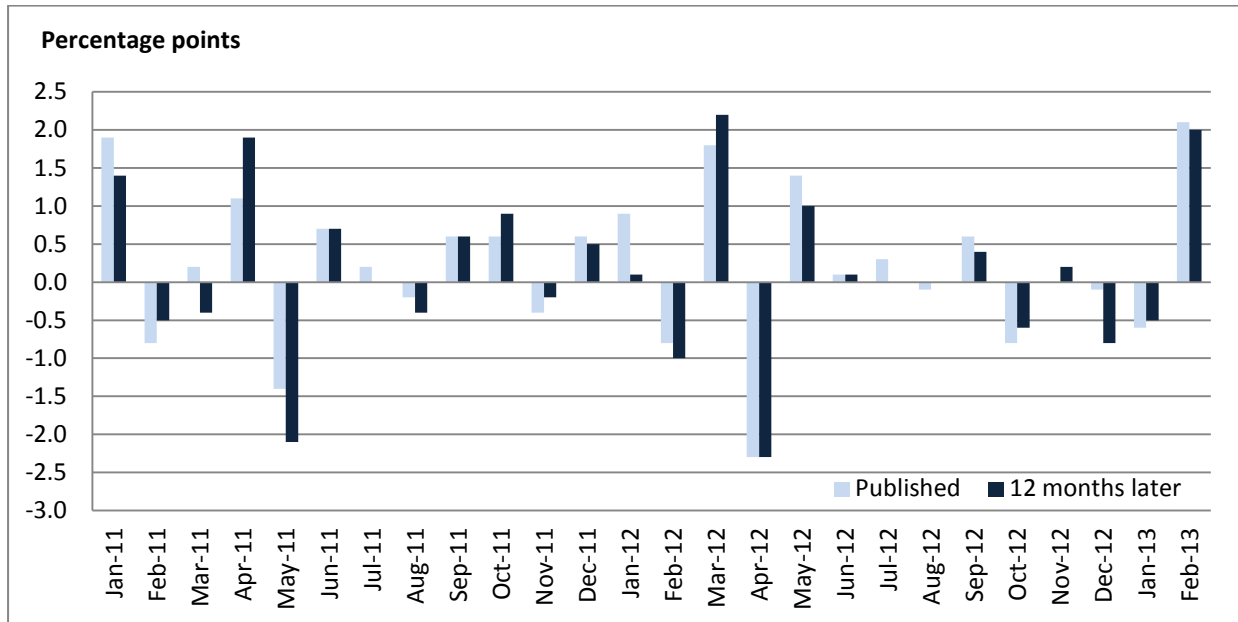
Month-on-month growth rates are calculated for both volume and value seasonally adjusted statistics. Here we will concentrate on the volume growth rates. Figure 2 compares the month-on-month growth rate to its revised value one month later.

Figure 2: Comparison of month-on-month volume growth rates



The Figure 2 shows that generally the revisions to month-on-month volume growth rates are reasonably small and the absolute average revision to the month-on-month growth rate is 0.1 percentage points. The revisions policy for RSI is open, meaning there is no defined period for when data can be taken on. A comparison of the month-on-month growth rates and what they are revised to 12 months on is shown in Figure 3.

Figure 3: Comparison of month-on-month volume growth rates 12 months after publication

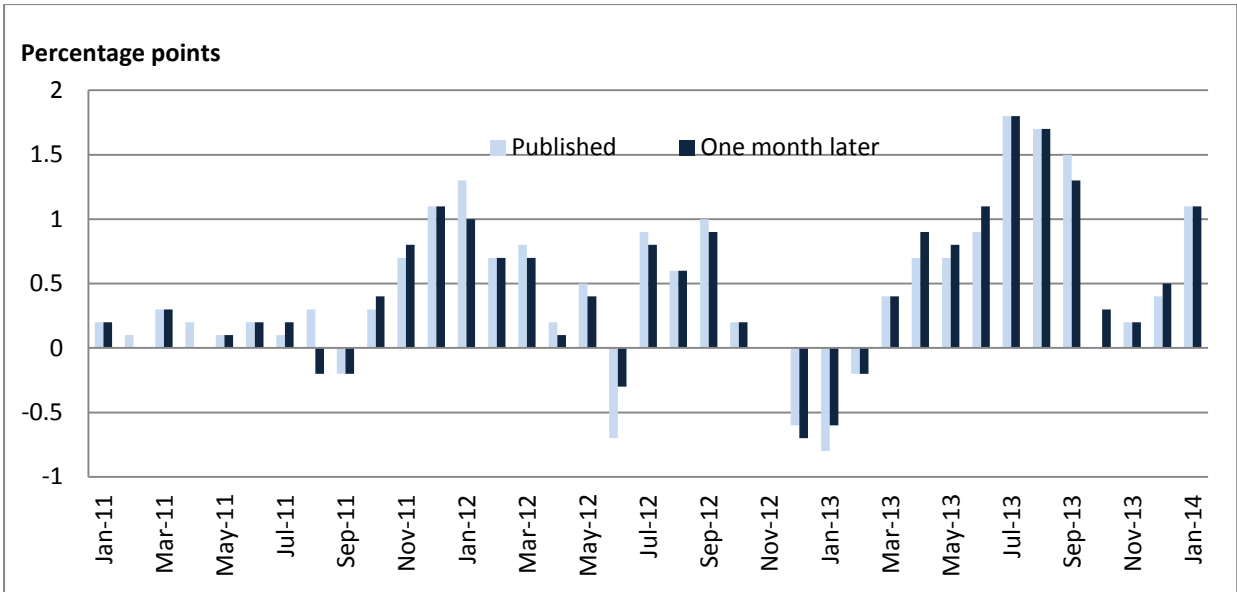


A similar pattern is seen here and even though the revision 12 months after is slightly larger than after one month, the absolute revision to the month-on-month growth rate 12 months after its first publication is 0.3 percentage points.

How do these revisions compare to revisions to the three month-on-three month growth rates?

As with the month-on-month growth rates, three month-on-three month growth rates are published for both volume and value seasonally adjusted data. Again we will concentrate on the revisions to the three month-on-three month volume growth rates. Figure 4 provides a comparison of the three month-on-three month growth rate one month after its first publication.

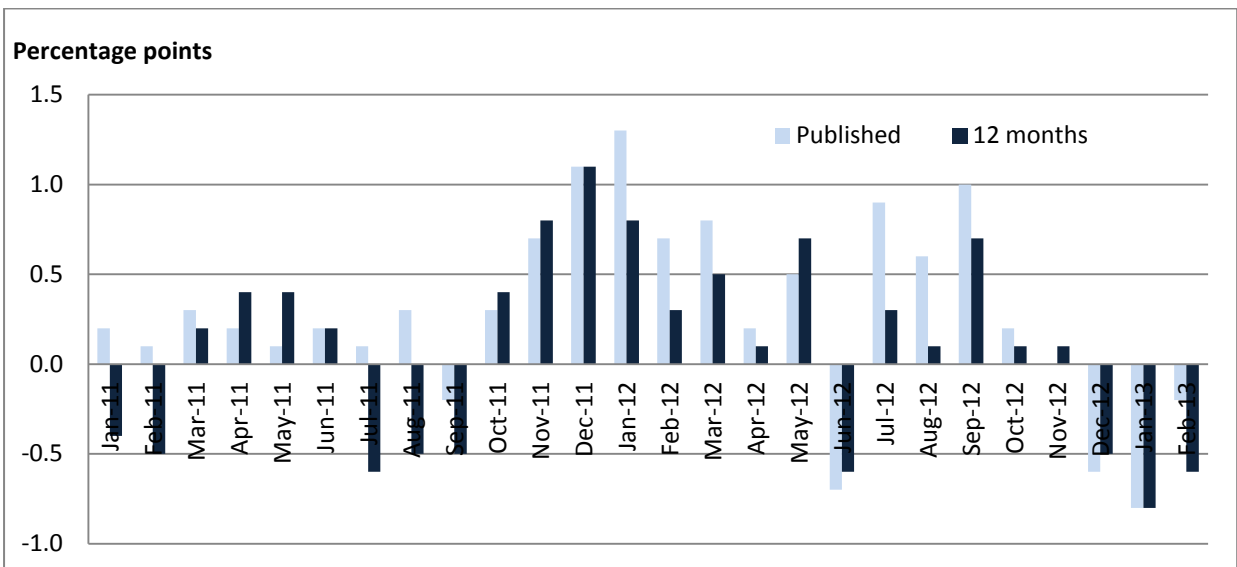
Figure 4: Comparison of three month-on-three month volume growth rates one month after publication



The chart shows that generally the revisions to three month-on-three month growth rates are generally small and as with the month-on-month revisions they have an absolute average of 0.1 percentage points.

Figure 5 compares the revision to the three month-on-three month growth rate 12 months after publication.

Figure 5: Comparison of three month-on-previous three month volume growth rates 12 months after publication



A similar pattern is seen here and even though the revision 12 months after publication is slightly larger than after one month, the absolute is 0.3 percentage points.

Revisions to raw data

Revisions to the raw data arise from the incorporation of late data or the reclassification of businesses on the Inter Departmental Business Register, inside or outside the retail industry. To understand the extent of revisions to the raw data the non-seasonally adjusted value year-on-year growth rates for small and large stores (available in Table 4 of the main RSI data tables) have been analysed.

Figure 6: Revisions to small stores one month after publication (non-seasonally adjusted year-on-year values)

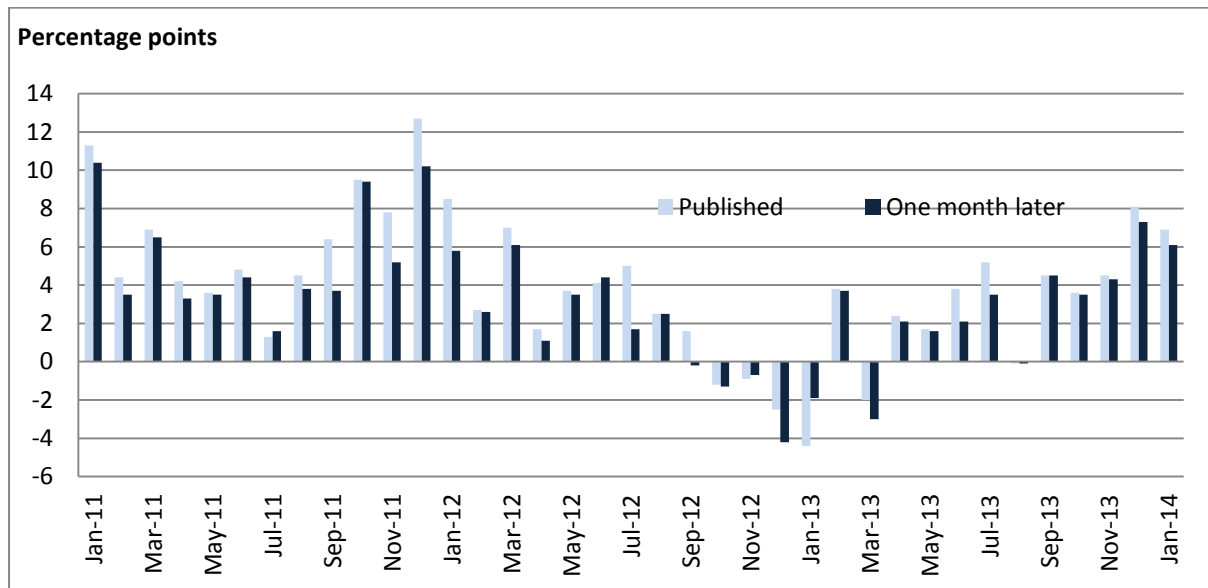
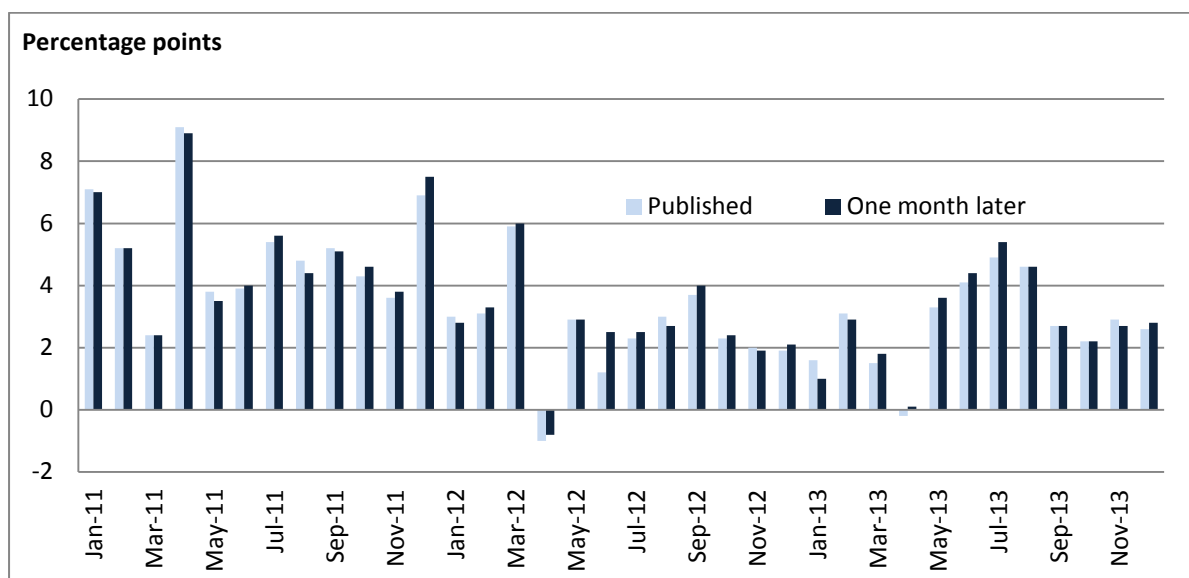


Figure 7: Revisions to large stores one month after publication (non-seasonally adjusted year-on-year values)



It is clear that revisions to the raw data are greater in small stores than in large stores. This is confirmed by the absolute average revisions which stand at 0.9 and 0.2 percentage points respectively.

It is also clear that one month after publication revisions to small stores are far greater than they are for large stores. One reason for this is the response rate for small stores is generally lower than it is for large stores. To minimise the impact of this lower response rate, a strategy is in place that targets response chasing by the variability of the responses in a particular industry. The greater the variability, the harder it is to impute a response and therefore the greater the need for high response rates. A new method of imputation will be implemented by ONS later this year which will help to minimise revisions further.

This article was produced by the Retail Sales team in the Business Indicators and Balance of Payments Division. Further enquiries should be directed to Kate Davies (kate.davies@ons.gsi.gov.uk). More information on retail sales statistics is available in the Retail Sales release.