Modifications to the seasonally adjusted measures of M4 and M4 lending excluding intermediate OFCs

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This article presents the results of a review of the seasonally adjusted measures of M4 and M4 lending excluding intermediate OFCs now that longer runs of monthly data are available. These results have indicated a change to temporary seasonal adjustment methods adopted currently. The changes will take effect from the next edition of Bankstats, published on 29th November 2013.

Introduction

In September 2009, the Bank of England introduced modified measures of broad money and credit in the United Kingdom, which excluded the money holdings of, and money lent to, intermediate other financial corporations (IOFCs).\(^1\)\(^2\) The resultant quarterly measures of M4\(^{ex}\) and M4L\(^{ex}\) were published with data available from 1997 Q4. Monthly data for these series are available from June 2009.

Following the introduction of these measures, the seasonal adjustment of the new series was reviewed in 2010.\(^3\)\(^4\) At that stage, the Bank concluded that the new broad money (M4\(^{ex}\)) and credit (M4L\(^{ex}\)) measures should be the sum of the sectoral components: households, private non-financial corporations (PNFCs) and other financial corporations (OFCs) excluding IOFCs, also known as non-intermediate OFCs (NIOFCs). As monthly data for NIOFCs were available only from June 2009, the series was too short to be seasonally adjusted using standard methodology. To overcome this issue, a temporary method of seasonally adjusting the short monthly NIOFCs’ series was adopted, which was to apply seasonal factors from other associated series to the non-seasonal series:

- For end-quarter months, the quarterly NIOFC factors were applied; and
- For within-quarter months, historic monthly OFC seasonal factors were applied.

The longer quarterly NIOFCs’ series was adjusted directly, rather than being derived from a sum of the monthly data.

Current review

As discussed in Gilhooly and Hussain (2010), the Bank planned to review this temporary method and consider standard seasonal adjustment methods when an adequate length of data series became available.

As four years of monthly data are now available for the NIOFCs’ measures of M4 and M4 lending, it is possible to carry out a standard seasonal adjustment. A recent review considered whether to change from the current method to the Bank’s standard method of seasonal adjustment.


\(^2\) IOFCs are defined as: non-bank credit grantors; mortgage and housing credit corporations; bank holding companies; securitisation special purpose vehicles and other activities auxiliary to financial intermediation. Excluding these gives a better measure of lending to the real economy and a measure of money that relates to nominal spending.


(seasonally adjusting the monthly series and deriving the quarterly series from the monthly data). This was carried out by assessing standard diagnostics including analysis of revisions and examination of residual seasonality.

**Seasonal adjustment of NIOFCs’ M4**

The Bank has concluded that the standard methodology is now preferred to the temporary measure used to date. By seasonally adjusting monthly NIOFCs’ M4, the seasonal adjustment is determined by the characteristics of the actual time series, including trading day effects (which are not distinguished within quarterly data) and outliers.

It is recognised that seasonal adjustment of series with less than five years of data are subject to greater volatility. These series will therefore be monitored closely over the next year.

The three-month annualised growth rate of NIOFCs’ M4 for the current seasonally adjusted series and the proposed version are shown in Chart A. Since monthly M4\textsuperscript{ex} is seasonally adjusted indirectly from its sectoral components, there will also be revisions to M4\textsuperscript{ex}, shown in Chart B. Revisions to the twelve-month growth rate of M4\textsuperscript{ex} are small and are shown in Chart C.\(^7\)

Annex 1 provides a list of all series affected by the change of seasonally adjusting NIOFCs’ M4 to the standard method.

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\(^6\) Volatility refers to greater potential for revisions within successive vintages of data.

\(^7\) Revisions are not zero because the Bank does not constrain seasonal adjustment to zero over the financial year (or any 12-month period).
Seasonal adjustment of M4 lending to NIOFCs

The seasonal adjustment of the corresponding credit data series, M4Lx (M4 lending to NIOFCs, excluding the effects of securitisations and loan transfers), was also considered, both at monthly and quarterly data frequencies.

The results suggested that neither monthly or quarterly NIOFCs’ M4 lending series demonstrated significant seasonality in recent years. For this reason it was concluded that the seasonal adjustment of these series should cease from the next edition of Bankstats, published on 29th November 2013. The series will continue to be monitored for seasonality on a regular basis.

The three-month annualised growth rate of NIOFCs’ M4 lending (excluding the effects of securitisations and loan transfers) for the current seasonally adjusted series and the non-seasonally adjusted version are shown in Chart D. Since monthly M4Lx is seasonally adjusted indirectly from its sectoral components, there will also be revisions to M4Lx, shown in Chart E. Revisions to the twelve-month growth rate of M4Lx are small and are shown in Chart F.

Annex 2 provides a list of all series affected by this change.

Chart D: 3-month annualised growth rates for NIOFCs’ M4 lending (M4Lx), seasonally adjusted

Chart E: 3-month annualised growth rates for M4Lx, seasonally adjusted

Chart F: 12-month growth rates for M4Lx, seasonally adjusted

Annex 2 provides a list of all series affected by this change.

These modifications to M4 and M4Lx and related series (including M4 and M4 lending) will take effect from the next edition of Bankstats, published on 29th November 2013.
Annex 1: M4 series affected by the changes to seasonally adjusted NIOFCs’ M4, to be published on 29th November 2013

<table>
<thead>
<tr>
<th>Series</th>
<th>Amounts Outstanding</th>
<th>Changes</th>
<th>Growth rates</th>
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<tr>
<td>M4 excluding intermediate OFCs (M₄ex)</td>
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<td>B68P</td>
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<td>AUZJ</td>
<td>VQJS</td>
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<tr>
<td>OFCs’ M₄ excluding IOFCs (NIOFCs’ M₄)</td>
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<td>B64Q</td>
<td>B67P</td>
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<td>OFCs’ M₄</td>
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<td>VVHH</td>
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Annex 2: M4 lending series affected by the changes to seasonally adjusted NIOFCs’ M4 lending, to be published on 29th November 2013

<table>
<thead>
<tr>
<th>Series</th>
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<td>M4 lending to OFCs</td>
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