

Article

National Accounts articles: Impact of method changes to the national accounts and sector accounts: Quarter 1 1997 to Quarter 2 2017

A summary of the effects of methodological, classification and other changes of BB17 on GDP, SFA, and BoP, and extends previous analysis to cover the period to Quarter 2 2017.

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Release date:
29 September 2017

Next release:
To be announced

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1 . Executive summary

We have published a [series of articles](#) over the last few months describing the improvements being made to national accounts in Blue Book 2017 and Pink Book 2017 and their impact on gross domestic product (GDP), the sector and financial accounts (SFA), and balance of payments (BoP) from 1997 to 2015. This article summarises the effects of methodological, classification and other changes and extends previously published analysis to cover the period to Quarter 2 (Apr to June) 2017 and current price GDP historical data (pre-1997). The full dataset is published today in the Blue Book consistent [Quarterly National Accounts](#) and associated releases. These datasets are consistent with the UK National Accounts Blue Book 2017 edition, to be published on 31 October 2017.

Main points

- This article extends previous analysis of impacts of changes implemented as part of the Blue Book 2017 and Pink Book 2017 cycle.
- GDP growth is little impacted by the total package of changes.
- Real GDP growth for 2016 remained unchanged at 1.8%; however, quarterly growth for Quarter 2 (Apr to June), Quarter 3 (July to Sept), and Quarter 4 (Oct to Dec) of 2016 were all revised down by 0.1 percentage points.
- Significant methodological improvements have been made to the sector accounts, increasing households sector income and decreasing corporations' sector surplus.
- For the first time, the households account has also been split from the non-profit institutions serving households (NPISH) accounts, which were previously combined.
- The household-only saving ratio was 7.0% in 2016, revised up from the households and NPISH saving ratio of 5.2% previously published, reflecting improvements to the measurement of dividend income of self-employed.
- The total revisions to the primary income account are the main contributor to the revisions to the current account.
- From 2009 onwards, the total revisions to the international investment position (IIP) are negative with the largest revision occurring in 2016.

2 . Changes introduced in Blue Book 2017

This article is the final in a series that have described [changes to national accounts](#), detailing the improvements that were made in [Blue Book 2017](#) to ensure that the UK national accounts continue to provide the best possible framework for analysing the UK economy, and for comparing it with those of other countries. This article sets out the impact of methodological improvements and new data to be introduced in Blue Book 2017 and Pink Book 2017 on the main national accounts aggregates, covering gross domestic product (GDP), sector financial accounts (SFA), and balance of payments (BoP).

The article of 6 July 2017, [Impact on GDP current price and chained volume measure annual and quarterly estimates: 1997 to 2015](#) described improvements being made to GDP in current price and real terms. That article included methodological changes, such as improvements to estimates of rental (both actual and imputed) being made as part of the regular annual update of the UK National Accounts (Blue Book).

The articles of 21 August 2017, [Detailed assessment of changes to sector and financial accounts: 1997 to 2015](#) and [Detailed assessment of changes to balance of payment annual estimates: 1997 to 2015](#) described the impact of improvements to the institutional sector accounts and balance of payments. That article included methodological changes, such as improvements to the treatment of corporate bonds interest and the measurement of the households and non-profit institutions serving households sectors. An [update to the sector and financial accounts article](#) was published on 22 September 2017.

We have published details of the full range of improvements – including the specific data impacts involved and methodologies used – in a range of articles over recent months. Appendix A gives a list of relevant articles published previously that provide further information.

In addition to changes to methodologies and data sources, the annual Blue Book is also an opportunity for us to introduce a range of regular annual improvements, these include:

- updating the last base and reference years used in chain linking, on this occasion from 2013 to 2015
- the first supply and use balancing process for 2015
- incorporation of newly available survey data – reflecting the long time-lags associated with some datasets, these data have an impact on estimates from 2013 onwards

3 . Impact of Blue Book 2017 on GDP

3.1 Current price GDP

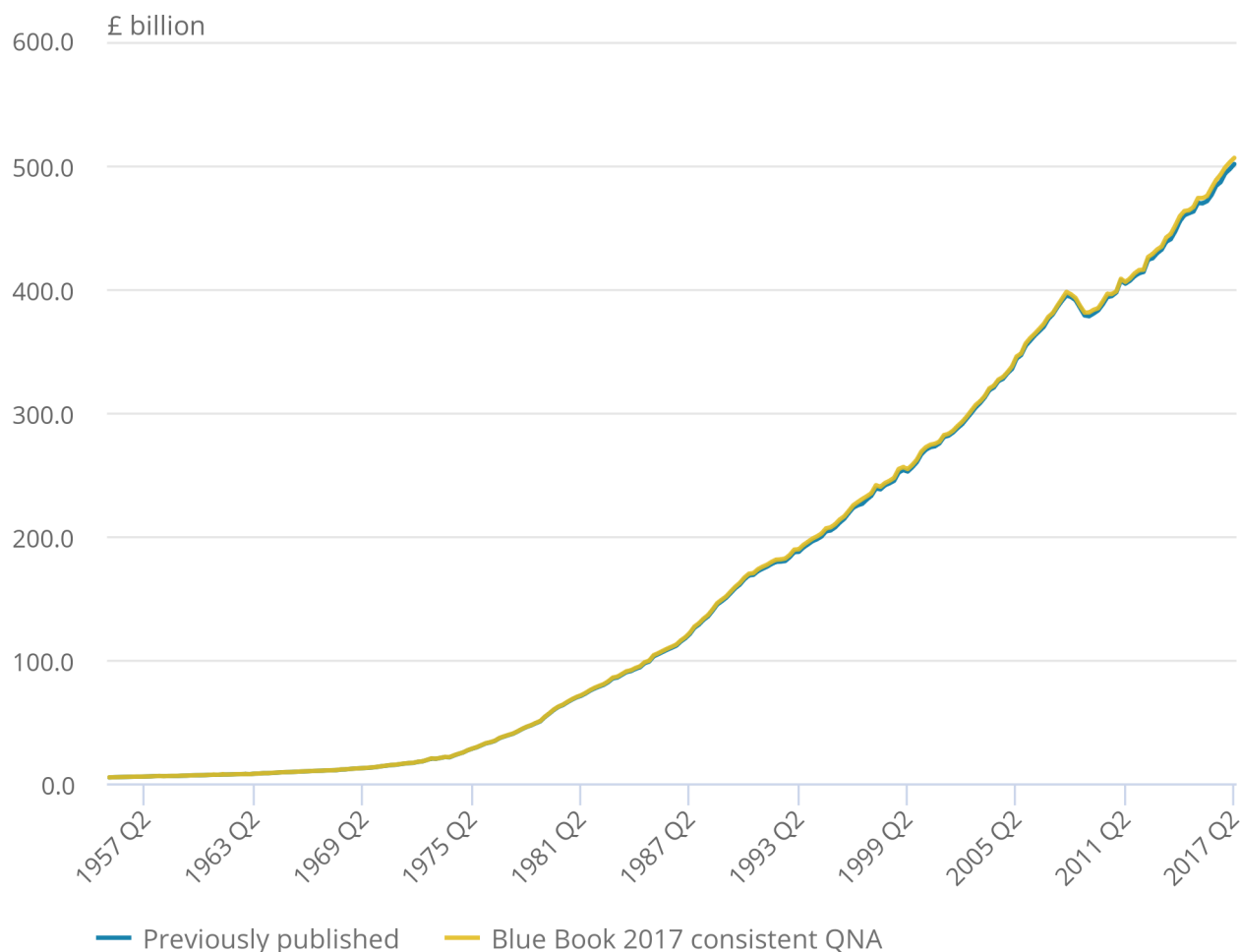
The total impacts on gross domestic product (GDP) of the current price changes are considerably smaller than those from Blue Book 2016. Figure 1 presents the previously published quarterly level of nominal GDP (consistent with the [second estimate of Quarter 2 \(April to June\) 2017 GDP](#) published on 24 August 2017), compared with estimates consistent with the Blue Book 2017 consistent Quarterly National Accounts. It shows that changes to the national accounts had a modest impact through the time series.

Average annual current price GDP growth is unrevised between 1997 and 2016 at 4.0%.

Figure 1: Current price gross domestic product levels: previously published compared with Blue Book 2017 consistent Quarterly National Accounts, current price, seasonally adjusted

UK

Figure 1: Current price gross domestic product levels: previously published compared with Blue Book 2017 consistent Quarterly National Accounts, current price, seasonally adjusted



Source: Office for National Statistics

Source: Office for National Statistics

Notes:

1. Q1 refers Jan to Mar, Q2 refers Apr to June, Q3 refers July to Sept, Q4 refers to Oct to Dec.

Nominal GDP growth for 2016 was revised from 3.6% to 3.8%. There is an upward revision of £21.5 billion to current price GDP in 2016, although this year has not yet been subject to supply and use balancing.

On average, however, the revision in quarter-on-quarter growth from Quarter 1 (Jan to Mar) 1997 to Quarter 2 (Apr to Jun) 2017 is zero percentage points to one decimal place.

Details of all methodological improvements were published in the article of 16 February 2016, [National Accounts: Impact of Blue Book 2017, changes on GDP current prices annual estimates 1997 to 2012](#).

Details of changes from the supply and use balancing of main components are available in [Annex A: Supply and use balanced main components](#), change 2016 supply and use tables (SUTs) versus 2017 SUTs by methodological change.

3.2 Real GDP (chained volume measure)

The impact article, [National Accounts: Impact on GDP current price and chained volume measure annual and quarterly estimates: 1997 to 2015](#), published on 6 July 2017, provided a summary of the changes being implemented in Blue Book 2017 that affect real gross domestic product (GDP) between 1997 and 2015.

The changes introduced in Blue Book 2017 have a relatively modest impact on the growth of the chained volume measure (CVM) of GDP from 1997 onwards.

The average revision to quarter-on-quarter real GDP growth introduced at this Blue Book is zero percentage points to two decimal places over the period from Quarter 1 (Jan to Mar) 1997 to Quarter 2 (Apr to June) 2017. Over the same period the average absolute revision to quarter-on-quarter real GDP growth is 0.06 percentage points. The peak to trough of the downturn has been revised from negative 6.3% to negative 6.1%, the start (Quarter 2 2008) and end quarter (Quarter 2 2009) of the downturn are unchanged. The growth between Quarter 1 2017 and Quarter 2 2017 is the 18th consecutive quarterly increase and continues the UK's period of growth since Quarter 1 2013. The pre-downturn peak was reached in Quarter 2 2013 instead of Quarter 3 (July to Sept) 2013, a quarter earlier than previously estimated. GDP is now 9.3% above the pre-downturn peak instead of 9.0% above as previously published.

Figure 2 shows the quarter-on-quarter growth rates for real GDP on a previously published and Blue Book 2017 consistent Quarterly National Accounts basis.

Quarter-on-quarter growth for Quarter 2 2017 is unrevised at 0.3%. The quarter-on-quarter growth for Quarter 1 (Jan to Mar) 2017 has been revised up 0.1 percentage points from 0.2% to 0.3%, reflecting an increase in the contribution of net trade in the expenditure measure.

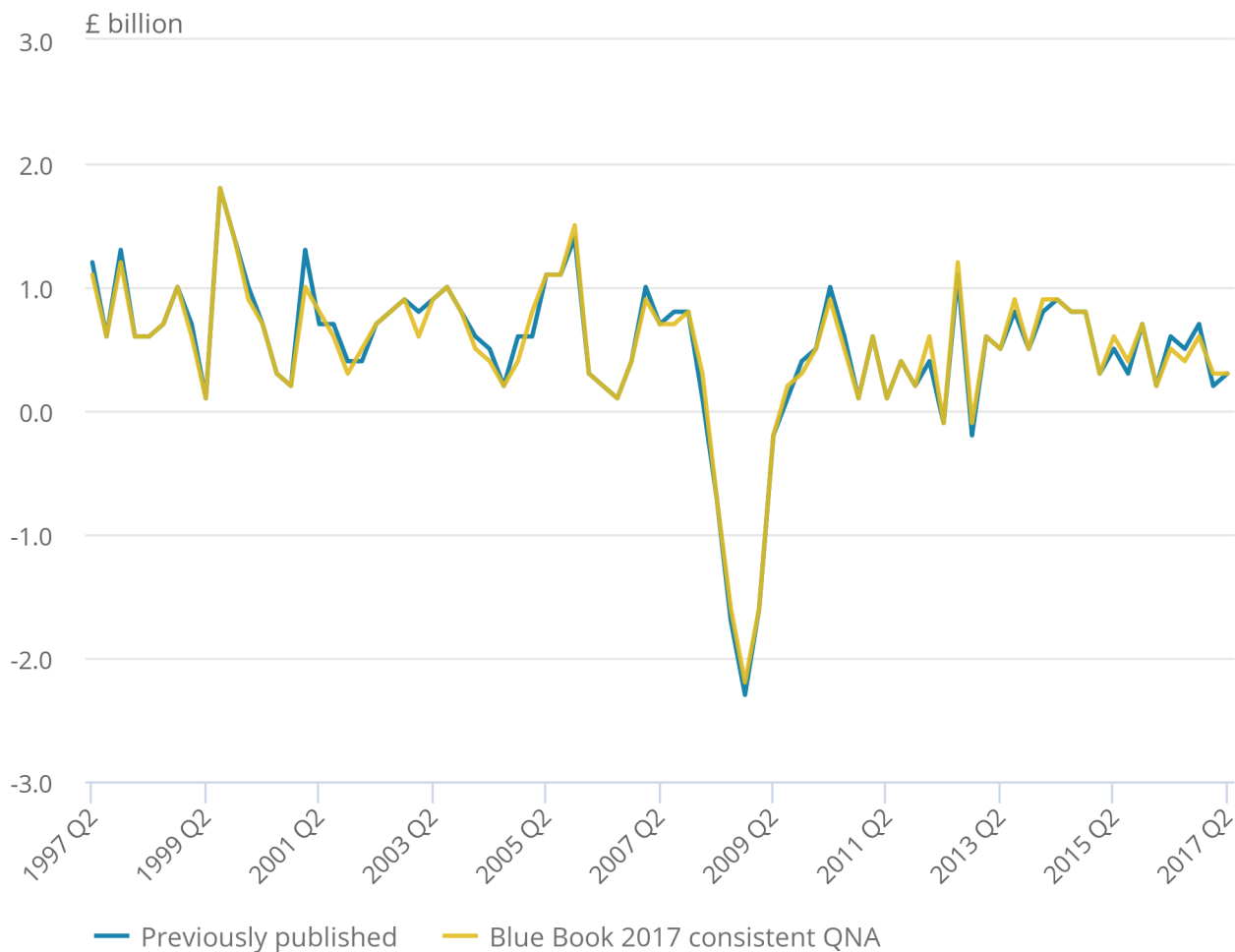
Three out of the four quarters for 2016 (Quarter 2, Quarter 3 and Quarter 4 (Oct to Dec)) have been revised down by 0.1 percentage points to 0.5%, 0.4% and 0.6% respectively. Revisions in Quarter 2 and Quarter 3 reflect downward revisions to all three approaches to GDP, while revisions in Quarter 4 reflect downward revisions to the expenditure and income approaches to GDP. These revisions primarily reflect new data in the estimation of GDP in the quarterly tail (post the last supply and use balanced year: 2015), rather than being as a result of improvements to methodology and data sources introduced as part of the annual Blue Book process.

The downward revisions to quarter-on-quarter GDP growth in 2016 did not affect annual real GDP growth for the 2016 calendar year, which remained unchanged at 1.8%. It is possible for the annual figure to be unrevised despite revisions to three quarters within the year. Annual growth compares the GDP level through the whole of 2016 with the whole of 2015, while quarterly growths only make comparison with the previous quarter. Furthermore, as growth rates are presented to one decimal place they are sensitive to revision from small changes where they are close to rounding points.

Figure 2: Real gross domestic product quarter-on-quarter growth rates, previously published compared with Blue Book 2017, chained volume measure, seasonally adjusted

UK

Figure 2: Real gross domestic product quarter-on-quarter growth rates, previously published compared with Blue Book 2017, chained volume measure, seasonally adjusted



Source: Office for National Statistics

Source: Office for National Statistics

Notes:

1. Q1 refers Jan to Mar, Q2 refers Apr to June, Q3 refers July to Sept, Q4 refers to Oct to Dec.

4 . Sector accounts

Details of sector accounts are published today in the [UK quarterly sector accounts: Apr to June 2017](#) bulletin. Figure 3 shows the sector net lending and borrowing positions for the UK. The government budget deficit is represented as government sector net borrowing. Figure 3 shows the UK current account deficit as rest of world sector net lending to the UK, as the current account is funded by net borrowing from or net selling of assets to the rest of the world.

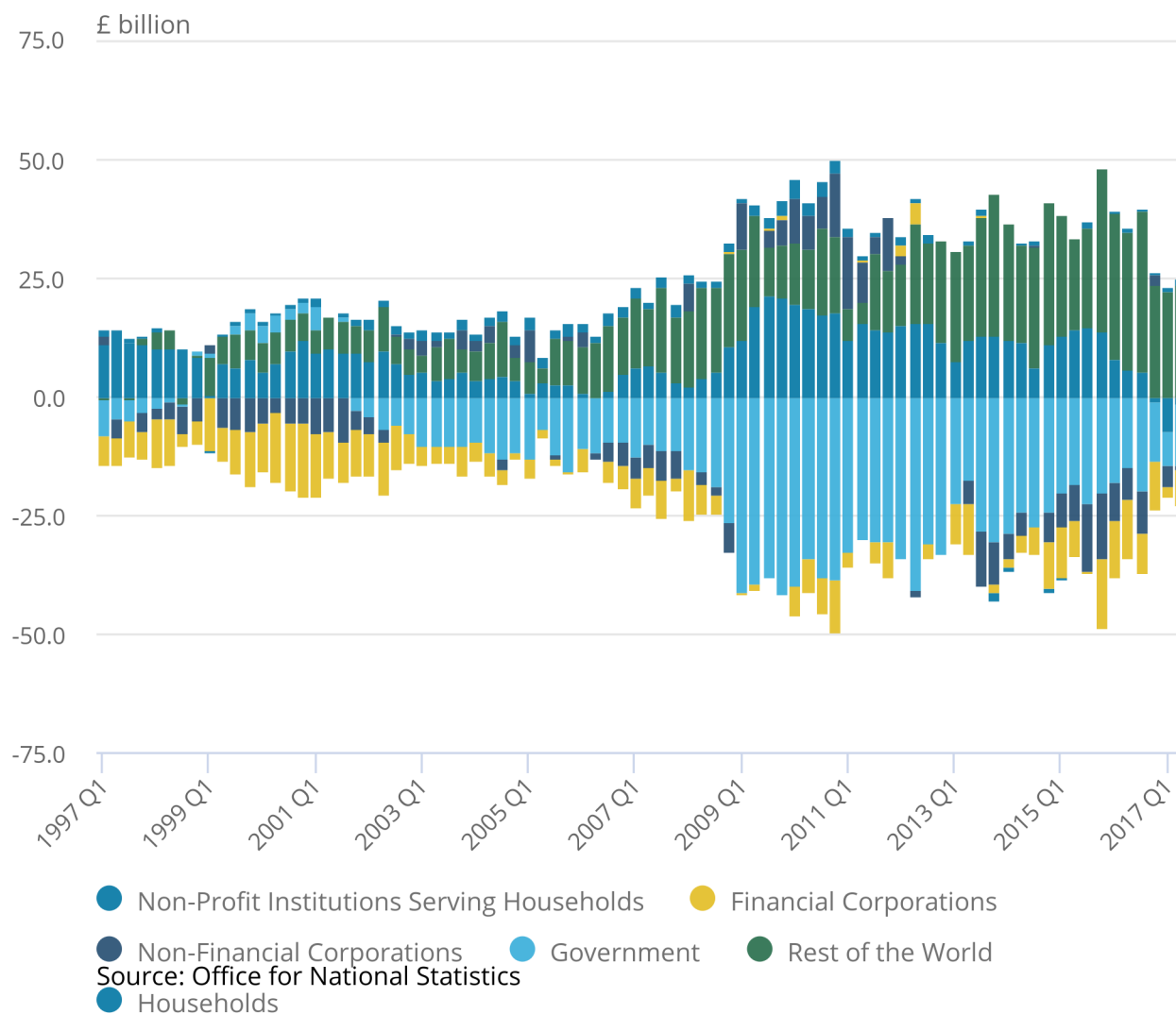
For the last decade and a half, the households sector was a net lender. Households sector surplus income increased after 2008 as households consumption did not rise as quickly as households income. However, since Quarter 3 (July to Sept) 2015, households net lending has fallen and households are net borrowers from Quarter 4 (Oct to Dec) 2016, as expenditure increased and became larger than income.

Compared with previously published data, households sector and rest of world sector net lending have been revised up, and net lending of corporations has been revised down.

Figure 3: Net lending and borrowing by UK sector, current prices, £ billion, seasonally adjusted, Quarter 1 (Jan to Mar) 1997 to Quarter 2 (Apr to June) 2017

UK

Figure 3: Net lending and borrowing by UK sector, current prices, £ billion, seasonally adjusted, Quarter 1 (Jan to Mar) 1997 to Quarter 2 (Apr to June) 2017



Source: Office for National Statistics

Notes:

1. Q1 refers Jan to Mar, Q2 refers Apr to June, Q3 refers July to Sept, Q4 refers to Oct to Dec.

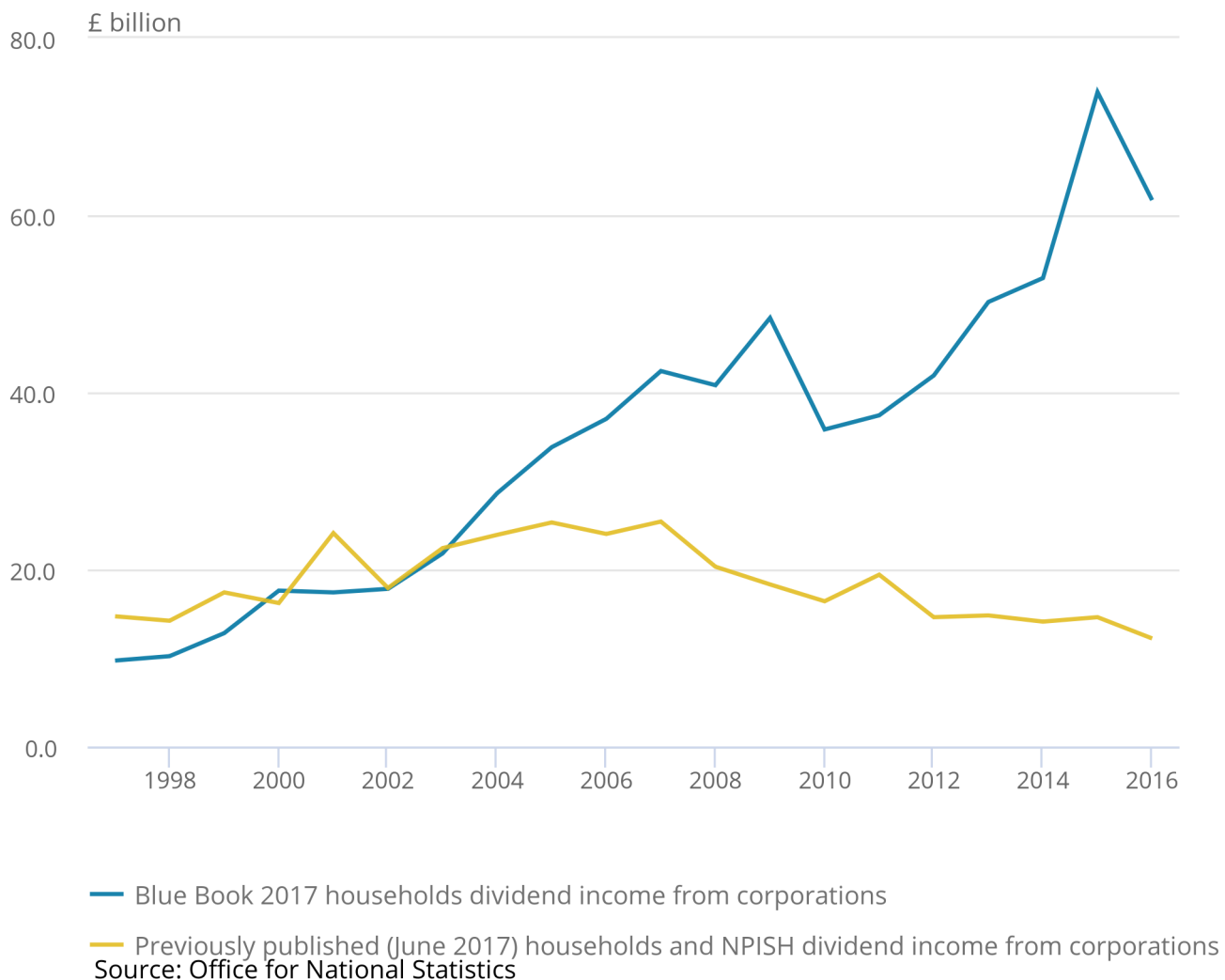
4.1 Dividend income from corporations

An important feature of the updated sector accounts is that there have been large revisions to the households and private non-financial corporation sector accounts, primarily due to new data sources for dividend income from corporations. The improved methods that led to these revisions include the collection of dividends data not previously captured and some double-counting being eliminated. The overall impact of this is a rise in dividend payments being paid to households as the new data reflected that an increasing number of owner-managers of businesses chose to be remunerated by dividends rather than traditional wages. A detailed description of the improvements is included in [Detailed assessment of changes to sector and financial accounts: 1997 to 2015](#) and [National Accounts articles: an update to assessment of changes to sector and financial accounts, 1997 to 2015](#). Figure 4a shows revisions to households' dividends income from corporations in Blue Book 2017 compared with previously published data. In 2016, the Blue Book 2017 dividends income from corporations is £61.7 billion, compared with £12.2 billion for households and NPISH as previously published. As a result, households income has increased.

Figure 4a: Dividend income from corporations, previously published compared with Blue Book 2017, current prices, £ billion, seasonally adjusted, 1997 to 2016

UK

Figure 4a: Dividend income from corporations, previously published compared with Blue Book 2017, current prices, £ billion, seasonally adjusted, 1997 to 2016



Source: Office for National Statistics

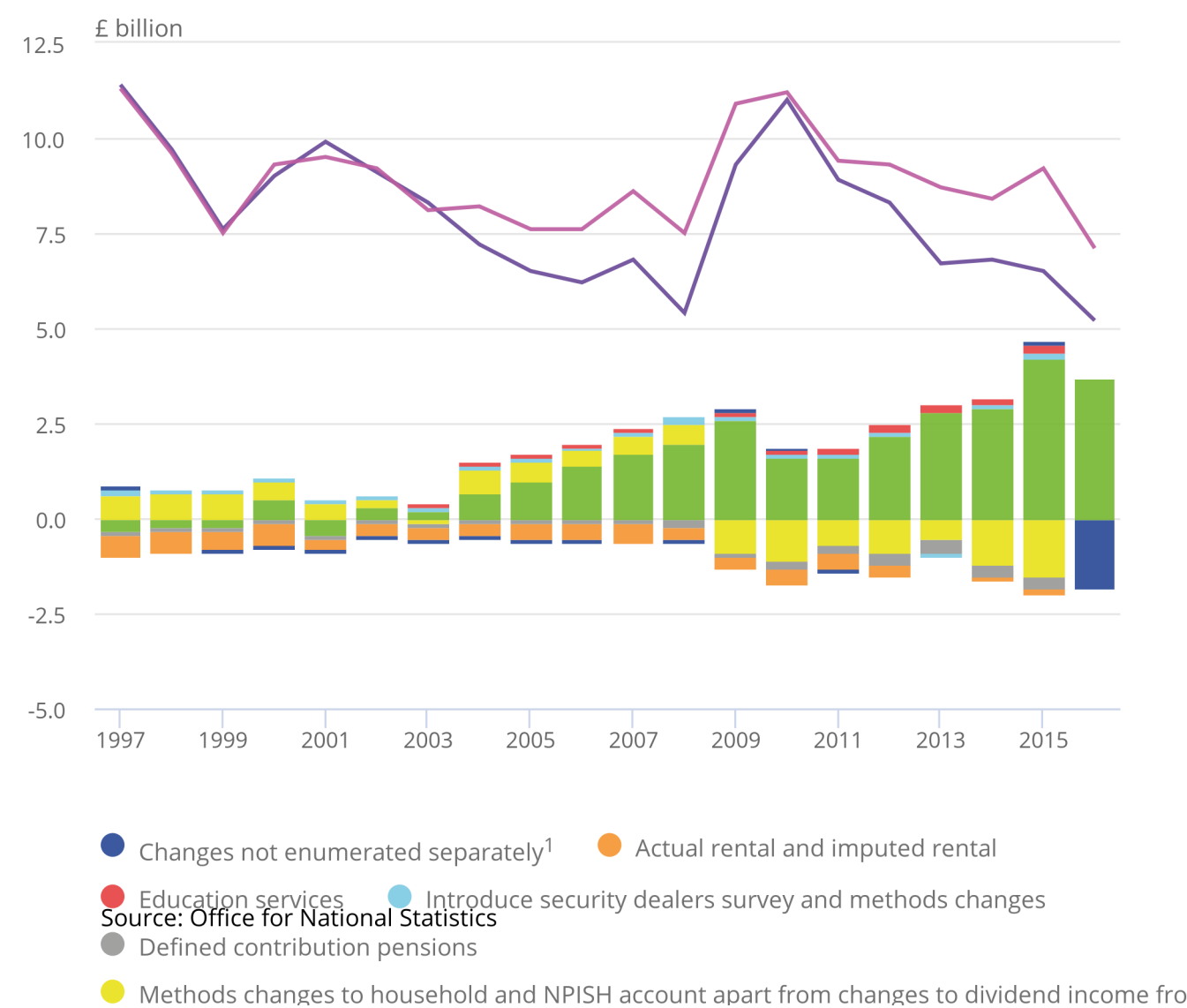
4.2 Household and NPISH saving ratio

As a result of the increase in household income, household gross saving has also increased. The households and non-profit institutions serving households (NPISH) saving ratio has been revised upwards from 2003 onwards. Figure 4b shows the contributions from methods changes as part of Blue Book 2017 to the revision of the households and NPISH saving ratio. As stated earlier, the main contributor to the upward shift is the new dividends income data, and it has had an increasing positive contribution since 2010.

Figure 4b: Revision to the households and non-profit institutions serving households (NPISH) saving ratio (right-hand side) and contributions to the revision to households and NPISH gross saving (left-hand side), annually 1997 to 2016

UK

Figure 4b: Revision to the households and non-profit institutions serving households (NPISH) saving ratio (right-hand side) and contributions to the revision to households and NPISH gross saving (left-hand side), annually 1997 to 2016



Source: Office for National Statistics

4.3 Households and NPISH split

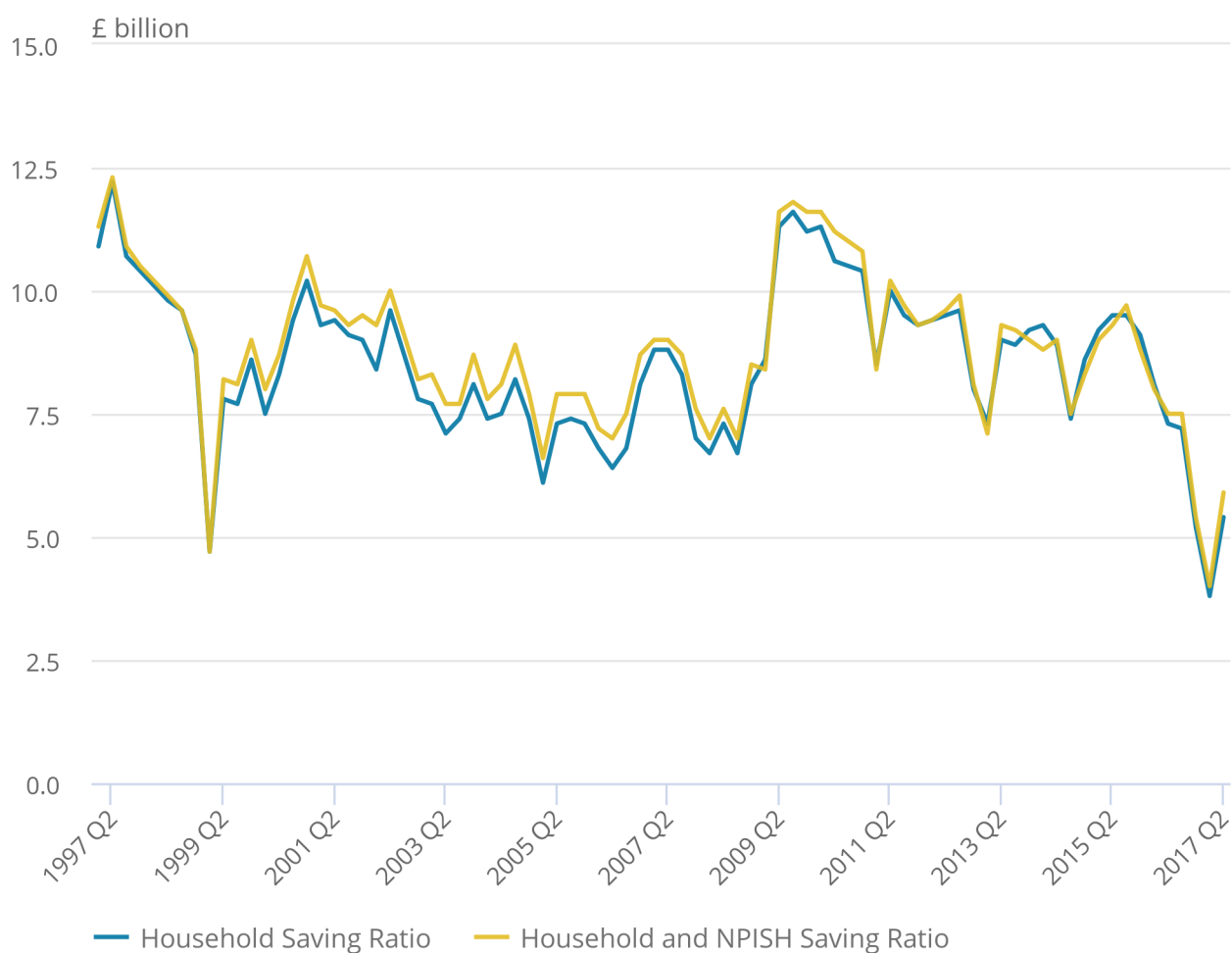
Previously, we published the non-profit institutions serving households (NPISH) with the households account in a combined households and NPISH sector account. As of Blue Book 2017, we are publishing the households and NPISH accounts separately.

Figure 5 shows the combined households and NPISH saving ratio after methods changes and new data sources, compared with the households sector saving ratio. The effect from removing the NPISH account itself is negligible in the latest years as the NPISH sector is small relative to households.

Figure 5: New household only saving ratio and household and NPISH saving ratio, 1997 Q1 to 2017 Q2, Percentage, Seasonally adjusted

UK

Figure 5: New household only saving ratio and household and NPISH saving ratio, 1997 Q1 to 2017 Q2, Percentage, Seasonally adjusted



Source: Office for National Statistics

Source: Office for National Statistics

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5 . Balance of payments

Detailed information on changes to the balance of payments annual estimates were published in an earlier release, [Detailed assessment of changes to balance of payment annual estimates: 1997 to 2015](#). Here we focus on total revisions for some of the main components of the current account; the primary income and secondary income accounts as well as the trade balance.

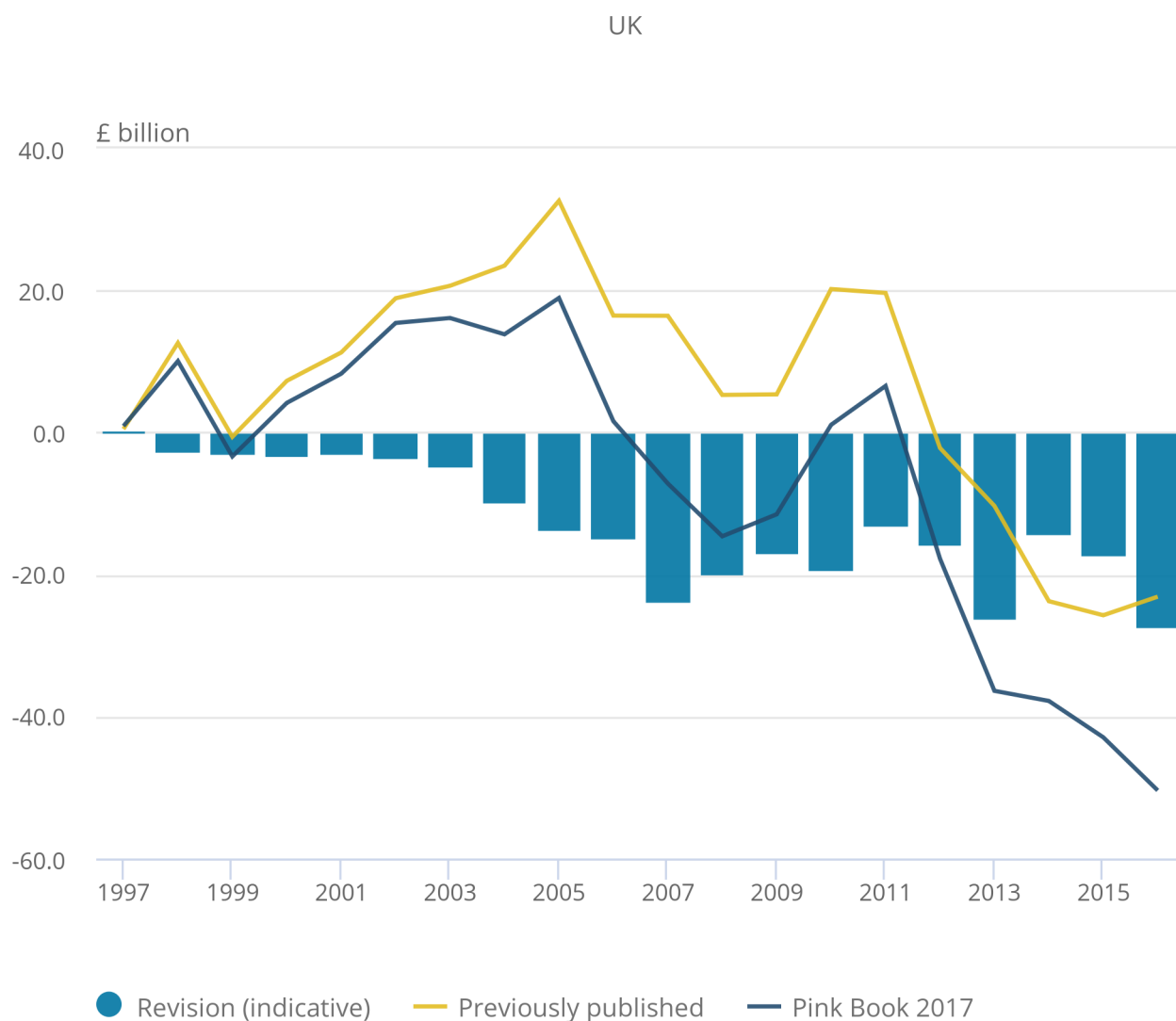
5.1 Primary income account

Figure 6 shows revisions to the primary income balance using [previously published](#) data compared with Blue and Pink Book 2017 consistent data. Revisions to the primary income balance are negative in most years, except 1997, which sees a slight increase. [Previous analysis](#) shows that the main cause of the negative revisions from 1998 to 2015 is improvements made to the corporate bonds interest, which has led to an increase in the amount of income earned on foreign investment in the UK (liabilities). The largest negative revision occurs in 2016 (£27.3 billion) and includes improvements to corporate bond interest and late and revised survey data.

Figure 6: Primary income balance revision, UK, 1997 to 2016 (£ billion)

UK

Figure 6: Primary income balance revision, UK, 1997 to 2016 (£ billion)



Source: Office for National Statistics

Source: Office for National Statistics

5.2 Secondary income account

Revisions to the secondary income balance throughout 1997 to 2016 have been positive, albeit relatively small with the highest revision reaching £2.3 billion in 2016. [Previous analysis](#) shows that, the positive revisions are mainly driven by the new source data added to miscellaneous current transfers.

5.3 Trade balance

Revisions to trade are relatively small with the revisions generally positive throughout 1997 to 2013. The largest positive revision occurs in 2012 with the inclusion of tuition fees having the greatest impact, followed by the inclusion of drugs data into the estimates of illegal activities. Detailed information on these changes is available at [Detailed assessment of changes to balance of payment annual estimates: 1997 to 2015](#). Meanwhile, the total revisions for 2014 onwards are negative, with 2016 indicating the largest negative revision.

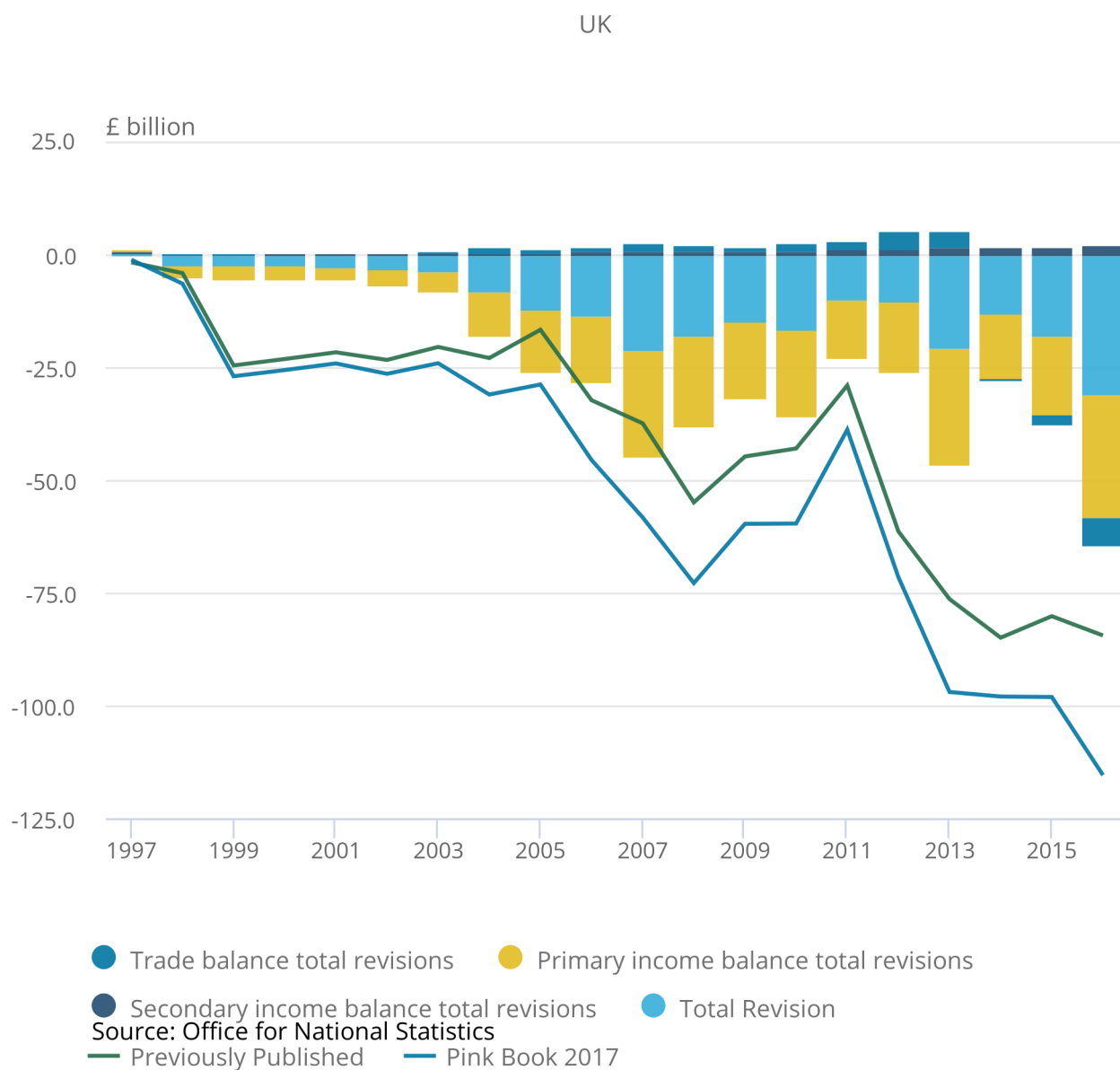
5.4 Current account

Figure 7 shows revisions for the current account balance between [previously published](#) data compared with Blue and Pink Book 2017 consistent data. With the exception of 1997, revisions to the current account are negative, with revisions to the primary income balance the main contributor. The largest total downward revision occurred in 2016 (negative £31.0 billion), caused primarily by the large negative revision in the primary income account. The revisions have contributed to a widening in the current account deficit.

Figure 7: Current account balance revision, UK, 1997 to 2016 (£ billion)

UK

Figure 7: Current account balance revision, UK, 1997 to 2016 (£ billion)



Source: Office for National Statistics

5.5 International investment position

The lines in Figure 8 show the net international investment position using [previously published](#) data compared with Blue and Pink Book 2017 consistent data, while the bars show the total difference between the two lines (that is, the revision).

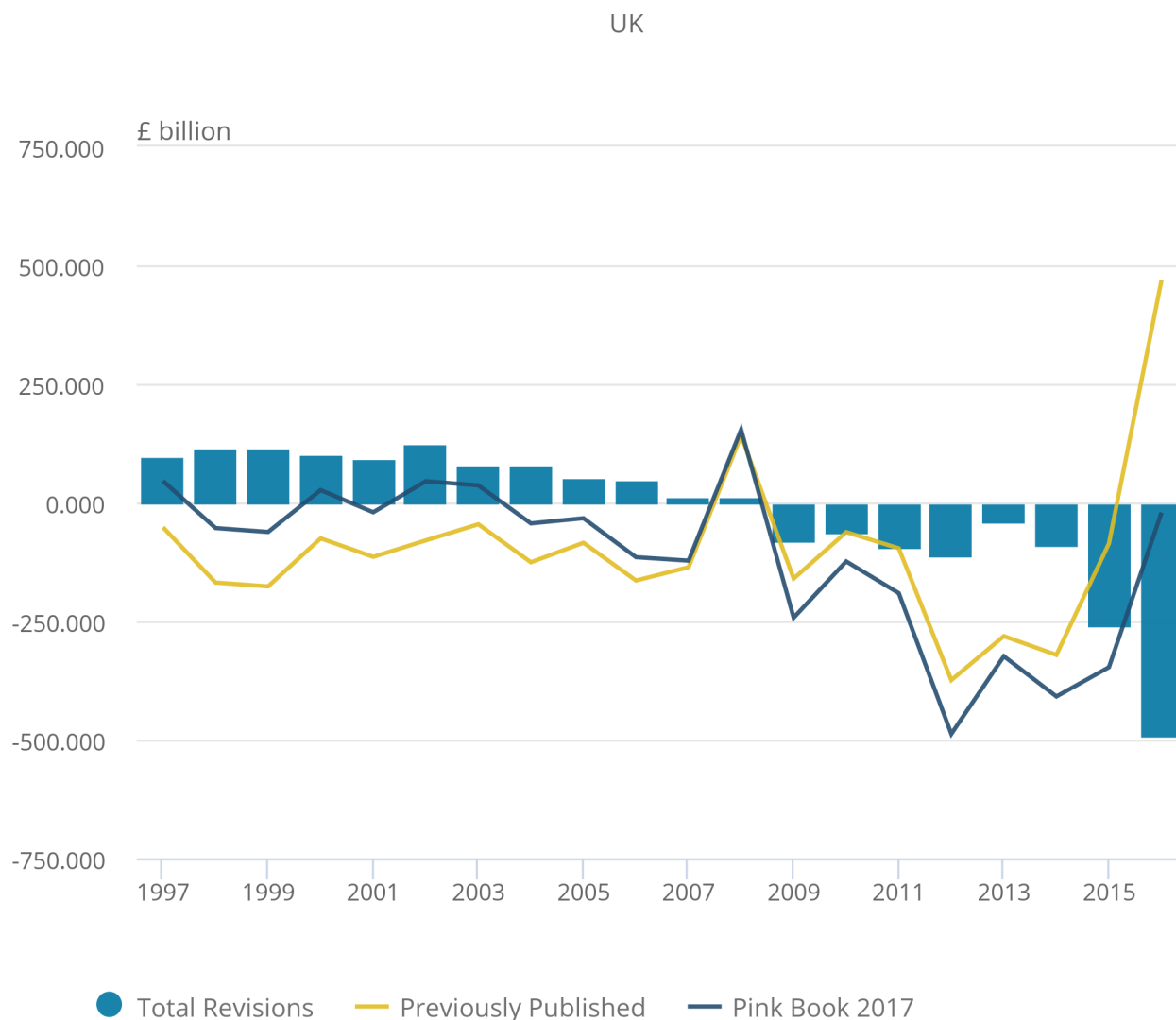
The revisions up to 2008 are positive, with the largest positive revision occurring in 2002 (£124.7 billion). The new data sources incorporated due to the separating of the households and non-profit institutions serving households (NPISH) sectors have led to a positive impact throughout 1997 to 2015, by increasing the number of assets held abroad. From 1997 to 2006 the incorporation of new source data for securities dealers has also had a positive impact, again leading to larger UK assets.

Since 2009, the revisions have been negative and caused mainly by the share ownership benchmarking that has led to a greater allocation of investment in UK equities to the rest of the world. The largest downward revision is in 2016 (negative £489.8 billion) and includes these improvements, as well as the inclusion of revised data that could not be processed in the [Quarter 1 \(Jan to Mar\) 2017 statistical bulletin](#) when the accounts were closed to revisions.

Figure 8: Revisions to net international investment position, UK, 1997 to 2016 (£ billion)

UK

Figure 8: Revisions to net international investment position, UK, 1997 to 2016 (£ billion)



Source: Office for National Statistics

Source: Office for National Statistics

6 . Impact on GNI

Table 1 shows the impact of Blue Book 2017 changes on gross national income (GNI) from 2010 to 2016. GNI is equal to GDP plus net property income from abroad. This figure is important because it is used in the calculation of the UK's contributions to the EU budget. In Blue Book 2017, GNI for 2015 has been revised upwards compared with Blue Book 2016. The primary driver of these revisions are data changes in quarterly GDP publications prior to Blue Book 2017, which led to an increase in GNI of £13.2 billion, there is a smaller offsetting revision of negative £1.2 billion which is related to methodological changes and updated data taken on as part of the Blue Book 2017 process.

Table 1: Revisions analysis on the impact of Blue Book 2017 changes on Gross National Income (2010 to 2016), UK²

	Current Prices, £ billions to the nearest £0.1 billion						
	2010	2011	2012	2013	2014	2015	2016
Gross National Income (ESA2010) Blue Book 2017 estimates	1581.0	1641.6	1667.5	1716.2	1799.2	1845.8	1910.7
Revision to Gross National Income at Blue Book 2017	-11.7	-6.3	-5.4	-13.1	0.5	-1.2	-5.8
Gross National Income estimate from Quarterly National Accounts: Quarter 1 (Jan to Mar) 2017	1592.6	1647.9	1672.9	1729.2	1798.7	1847.0	1916.5
Revision to Gross National Income from latest Quarterly National Accounts	0.0	0.0	0.0	0.0	0.0	13.2	-
Gross National Income (ESA2010) Blue Book 2016 estimates	1592.6	1647.9	1672.9	1729.2	1798.7	1833.8	-

Source: Office for National Statistics

Notes:

1. Components may not sum to totals due to rounding.
2. EU budget contributions are calculated on GNI figures from 2010 to 2013 on an ESA 1995 basis.

7 . Authors

Robert Kent-Smith, Amina Syed, Russell Black and Amy Brownbill.

8. Appendix A: List of relevant published articles

[National Accounts articles: Latest developments to national accounts and balance of payments - changes to be implemented for Blue Book 2017 and Pink Book 2017](#) - 21 September 2016

[Changes to National Accounts: actual rentals and imputed rentals](#) - 16 February 2017

[National Accounts: Impact of Blue Book 2017, changes on GDP current prices annual estimates 1997 to 2012](#) - 16 February 2017

[National Accounts articles: Impact of Blue Book 2017 changes on chained volume measure gross domestic product estimates, 1997 to 2012](#) - 13 March 2017

[National Accounts articles: Improving the household, private non-financial corporations and non-profits institutions serving households sectors' non-financial accounts](#) - 19 April 2017

[National Accounts articles: Impact of Blue Book 2017 changes on the Sector and Financial Accounts, 1997 to 2012](#) - 19 April 2017

[National Accounts: Detailed assessment of changes to Balance of payment annual estimates 1997 to 2012](#) - 5 June 2017

[National Accounts: Detailed assessment of changes to sector and financial accounts 1997 to 2012](#) - 5 June 2017

[National Accounts: Impact on GDP current price and chained volume measure annual and quarterly estimates: 1997 to 2015](#) - 6 July 2017

[Detailed assessment of changes to balance of payment annual estimates: 1997 to 2015](#) - 21 August 2017

[Detailed assessment of changes to sector and financial accounts: 1997 to 2015](#) - 21 August 2017

[National Accounts articles: an update to assessment of changes to sector and financial accounts, 1997 to 2015](#) - 22 September 2017