

Article

National Accounts articles: Impact on GDP Current Price and Chained Volume Measure estimates, 1997 to 2013

This article details estimates of the total impact of all the improvements to current price and chained volume measure (CVM or “real”) Gross Domestic Product (GDP) up to 2013, planned for September 2015.

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1. Executive summary

The impacts of improvements for the period 1997 to 2010 have already been announced in the article [Impact of Blue Book 2015 Changes on Chained Volume Measure Gross Domestic Product estimates, 1997 to 2010](#), published on 17 July 2015. This article focuses on the period from 2011 to 2013 and brings together both current price and CVM changes along with the quarterly path. There are also some minor changes to the figures previously announced for 1997 to 2010 following further quality assurance. All of the methodological improvements for the period 2011 to 2013 have already been described in articles covering the period 1997 to 2010, but this later period also includes the impact of new data.

The total package of current price GDP changes have the impact of increasing the level of current price GDP in 2013 by approximately £21.8 billion, around 1.3%. Although the level of current price GDP has been revised up in 2013, the average annual current price GDP growth between 1997 and 2013 remains unrevised from that published within the 30 June 2015 Quarterly National Accounts at 4.3% per year.

Most of the revisions to real GDP for the years 2011 to 2013 are upwards - average quarter on quarter real GDP growth has been revised up by 0.14 percentage points per quarter. However, over the whole period from Quarter 2 (April to June) 1997 to Quarter 4 (October to December) 2013, there is no such upward tendency. Average quarter on quarter revisions are exactly 0.00% and the average growth of real GDP remains unchanged at 2.0% per year.

Over the same period the absolute revision to quarter on quarter real GDP growth is 0.11 percentage points. The peak to trough of the 2008/09 economic downturn has been revised from 6.0% to 6.1%. Real GDP is now estimated to have returned to pre-downturn levels in Quarter 2 2013, which is 1 quarter earlier than previously estimated.

On 5 August 2015 ONS also published an [Economic Review article](#) describing the changes announced today in more detail as well as showing their impact on the estimated evolution of the UK economy.

2. Introduction

This article is part of a series describing [changes to National Accounts](#), detailing the improvements which will be made in September 2015 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.

The previous article of 12 June 2015, [Impact of Blue Book 2015 Changes on Current Price Gross Domestic Product, 1997 to 2010](#) described improvements being made to the UK National Accounts in current price terms. That article included those changes being implemented to address the remaining outstanding Gross National Income (GNI) reservations on a European System of Accounts 1995 (ESA 1995) basis, and those being made as part of the regular annual update of the UK National Accounts (Blue Book).

Current price revisions will, in most cases, feed through to impact on real GDP as well, although there are a few exceptions. The article [Impact of Blue Book 2015 Changes on Chained Volume Measure Gross Domestic Product estimates, 1997 to 2010](#), published on 17 July 2015 provided a summary of the changes being implemented in Blue Book 2015 which impact on real GDP between 1997 and 2010, and gave an estimate of the impact on the expenditure components of GDP for the main changes.

This article extends the data series from both of the previous articles to provide current price and chained volume measure (CVM) estimates, consistent with the methodological changes previously described, for all periods from 1997 to 2013. Descriptions of these methodological changes and other amendments will not be repeated here, but a link to the previous articles can be found in Section 3.

The total impacts on GDP of the ESA 1995 GNI reservations and ESA 2010 current price changes are included in Annexes A and B. Annex C provides a breakdown of revisions to current price GDP annual levels for the period 1997 to 2013 by each income component to the nearest £0.1 billion. The range of approximate impacts on annual real GDP growth rates across the years from 1998 to 2013 is provided in the summary in section 2, with the full detail for each expenditure component shown to the nearest 0.1 percentage point in Annex D.

Quarterly current price and real GDP growth rates (see Annexes E and F) are also being published in this article and these will enable users to see the impacts annual revisions have on the quarterly path of GDP including estimates during the economic downturn of 2008/09 and the strength of the subsequent recovery. The publication of both current price and real GDP allows for the calculation of the GDP implied deflator. The annual implied deflator is shown in Annex G and the quarterly implied deflator in Annex H for completeness.

These figures are still indicative at this stage as final quality assurance is currently being undertaken. A finalised version of these data will be provided in an updated article on 11 September 2015 ahead of publication in the UK Quarterly National Accounts on 30 September 2015. It is also possible that the quarterly path presented in this article will change slightly when the UK National Accounts are published, as the addition of annual levels and the quarterly path for more recent years can alter the quarterly path of earlier years through re-seasonal adjustment.

All CVM figures have also been adjusted as a result of the change of reference year and last base year from 2011 to 2012. This article therefore focuses on the revisions to growth which will not be affected by rebasing, rather than describing changes to the levels of real GDP which change when the reference year is advanced by 1 year.

On 5 August 2015 ONS also published an [Economic Review article](#) describing these changes in more detail as well as showing their impact on the estimated evolution of the UK economy.

3. Summary

Table 1: Latest estimates of the impact of the planned changes on annual UK GDP

Indicator	Impact
LEVEL OF GDP IN CURRENT PRICES	See Annex A
Near-final estimate of the impact of all changes to the level of annual GDP in current prices	Average revision to level of GDP 1997 to 2013 is +0.3% (£4.2 billion)
GROWTH OF GDP IN CURRENT PRICES	See Annex A and Annex B
Near-final estimate of the impact of all changes to the growth of annual GDP in current prices	Average revision to GDP growth in current prices 1998 to 2013 is +0.05 percentage points (ranging from -0.4 to +0.7 percentage points)
REAL MEASURE OF GDP	See Annex D
Near-final estimate of the impact on growth in annual real GDP (chained volume measure)	Average revision to annual growth 1998 to 2013 is +0.01 percentage points (ranging from -1.0 to +0.5 percentage points)
GDP IMPLIED DEFLATOR	See Annex G
Near-final estimate of the impact on growth in annual deflator	Average revision to annual growth 1998 to 2013 is +0.05 percentage points (ranging from -0.2 to +0.5 percentage points)

Annual current price GDP

The package of GDP changes in Blue Book 2015, over the period 1998 to 2013, does not change the annual growth rate of current price GDP to 1 decimal place, and this remains at 4.3% per year.

Annual real GDP

Most of the revisions to real GDP for the years 2011 to 2013 are upwards, however over the whole period from 1998 to 2013 there is no such upward tendency. The average annual growth rate of real GDP remains unrevised in Blue Book 2015 at 2.0% per year.

However, the changes do impact on the real GDP growth rates by varying amounts between years (see Annex D for more details). The main drivers of the revisions for 1997 to 2010 were described in the article Impact of Blue Book 2015 Changes on Chained Volume Measure Gross Domestic Product estimates, 1997 to 2010, published on 17 July 2015, and Section 3 in this article continues this analysis for the period 2011 to 2013 in current price terms. Work continues to decompose the overall revisions for each expenditure component into the exact contributions by revision type, and this will be published in the article accompanying the UK Quarterly National Accounts Quarter 2 (April to June) 2015 release on 30 September 2015.

Generally though the main reasons for revisions to real GDP in 2011 to 2013 are the same as the revisions described in Section 3 for current price GDP. These reasons include ESA 1995 GNI reservations for non-profit institutions serving households (NPISH) and exhaustiveness, other revisions due to the correction to the measurement of the insurance industry and for some reclassifications. However, there are a small number of changes which only impact on real GDP such as the non-monetary gold improvement and the improvements to the deflator used in the calculation of software investment.

Quarterly GDP

As a result of changes to the level of annual real GDP, the quarterly path of real GDP also needs adjusting to achieve the new annual levels. The quarterly path revisions to current price GDP are shown in Annex E and the real GDP quarterly path revisions are in Annex F.

In line with the upward revisions to annual real GDP for 2011 to 2013, the average quarter on quarter real GDP growth between Quarter 1 (January to March) 2011 and Quarter 4 (October to December) 2013 has been revised up by 0.14 percentage points per quarter. Over the whole period from Quarter 2 (April to June) 1997 to Quarter 4 (October to December) 2013 the average revision to quarter on quarter real GDP growth is 0.00 percentage points. Over the same period the absolute revision to quarter on quarter real GDP growth is 0.11 percentage points. The peak to trough of the 2008/09 economic downturn has been revised from 6.0% to 6.1%. Real GDP is estimated to have returned to pre-downturn levels in Quarter 2 2013, which is 1 quarter earlier than previously estimated.

For the period 1997 to 2013, quarterly GDP revisions are driven by changes to annual data and methodologies along with a reassessment of the seasonal adjustment of each component within GDP, with the seasonal adjustment changes being much smaller in impact than the annual changes.

4. Drivers to revisions in current price GDP, 2011 to 2013

All methods improvements and other changes referred to in this section have previously been described in the articles of 19 May, 12 June and 17 July 2015 which can be found in the [National Accounts articles section](#) of our website.

2011

In 2011 annual current price GDP has been revised up by 0.3 percentage points from 3.8% to 4.1%. The main contributions to the revisions to growth are shown in Table 2.

Table 2: Contributions to 2011 annual current price UK GDP growth

Revision	Percentage point impact on current price GDP growth
Latest available update to external data sources	0.5
Transport for London Reclassification	0.1
CPIH Alignment	0.1
Non-Profit Institutions Serving Households	-0.2
Insurance industry	-0.2
Total revision	0.3

The largest contribution to the overall current price revision is from updates to external data sources, and in particular there has been an upward revision of £3 billion in 2011 to the estimates of compensation of employees. There are 2 elements to this revision:

1. Switch from Work Force Jobs to Labour Force Survey employment

The use of Labour Force Survey employment (LFS) data to define the quarterly path of 2011 onwards was introduced in Blue Book 2014. For Blue Book 2015, LFS data have been used in preference to work force jobs (WFJ) data to transform financial year data produced by HMRC into calendar years. Different growth patterns in the LFS data to that in the WFJ data mean that new quarterly data are calculated. In turn, this changes the annual Compensation of Employees total.

2. HMRC data change

For Blue Book 2015, we have taken on revised Wages and Salaries estimates for tax years 2011-12 and 2012-13 provided by HMRC. This included the latest available Government Actuary's Department (GAD) estimates of National Insurance contributions and a re-evaluation of our treatment of missing tax data.

In 2011 annual real GDP has been revised up by 0.4 percentage points mainly for the same reasons as shown in Table 2.

2012

In 2012, annual current price GDP has been revised up by 0.5 percentage points from 2.8% to 3.3%. The main contributions to the revisions to growth are shown in Table 3.

Table 3: Contributions to 2012 annual current price UK GDP growth

Revision	Percentage point impact on current price GDP growth
Exhaustiveness - Under-coverage of unincorporated small businesses adjustment	0.4
Insurance industry	0.3
Non-Profit Institutions Serving Households	0.1
Exhaustiveness - Concealed income/activity adjustment	0.1
Latest available update to external data sources	-0.3
Gross Fixed Capital Formation	-0.1
Total revision	0.5

For years 2009 to 2011, part of the revision due to the under-coverage of small unincorporated enterprises has been offset by reducing the more general coherence adjustments applied as part of supply and use balancing, leading to a smaller impact on total GDP. Under-coverage of small unincorporated enterprises is very prevalent in the construction industries and in 2012 and 2013 the general coherence adjustments applied, especially within these industries, are in the opposite direction and therefore do not allow us to offset or absorb the under-coverage impact as much as in earlier years.

In 2012 annual real GDP has also been revised up by 0.5 percentage points almost entirely for the same reasons as shown in Table 3.

2013

In 2013, annual current price GDP has been revised up by 0.7 percentage points from 3.5% to 4.2%. The main contributions to the revisions to growth are shown in Table 4.

Table 4: Contributions to 2013 annual current price UK GDP growth

Revision	Percentage point impact on current price GDP growth
Exhaustiveness - Under-coverage of unincorporated small businesses adjustment	0.3
Latest available update to external data sources	0.2
Insurance industry	0.2
Total revision	0.7

The 0.3 percentage point contribution of the under-coverage of unincorporated small businesses adjustment is a continuation of the impact described in the heading for 2012. The updates to external data sources in 2013 relate mainly to exports of services where revisions to the International Trade In Services survey, as well as administrative data sources replacing forecast data have led to an upward revision to the total export of services of £5.7 billion.

In 2013, annual real GDP has been revised up by 0.5 percentage points mainly for the same reasons as shown in Table 4.

5. Plans for future updates

This article is the fourth in a series of impact articles ahead of the Quarterly National Accounts consistent with Blue Book 2015 publication on 30 September 2015. The focus here is on the years 1997 to 2013 for current price and real GDP changes as well as the quarterly path of GDP for the same periods.

Table 5 gives a draft schedule for the remaining articles leading up to the publication of Blue Book 2015 on 30 October 2015. These dates are provisional. Final dates will be announced at least 1 month before each publication. The outline for the full publication timetable is as follows.

Table 5: Provisional publication schedule for Blue Book and Pink Book 2015

Content of article	Provisional date of publication
Final Impact of Blue Book 2015 Changes on Gross Domestic Product and Gross National Income Estimates, 1997 to 2013	Friday 11 September 2015
Detailed assessment of changes to Sector and Financial Accounts, 1997 to 2013	Friday 11 September 2015
Detailed assessment of changes to Balance of Payments, 1997 to 2013	Friday 11 September 2015
Classification Changes to National Accounts for Blue Book 2015	Friday 11 September 2015
Methodological changes to the estimation of Capital Stocks and Consumption of Fixed Capital	Friday 11 September 2015
UK Quarterly National Accounts Quarter 2 (April to June) 2015 (consistent with Blue Book 2015)	Wednesday 30 September 2015
UK Balance of Payments Quarter 2 (April to June) 2015 (consistent with Pink Book 2015)	Wednesday 30 September 2015
Impact of changes in the National Accounts and economic commentary for Quarter 2 (Apr to June) 2015	Wednesday 30 September 2015
GDP(Output) improvement project report	Wednesday 30 September 2015
Blue Book 2015	Friday 30 October 2015
Pink Book 2015	Friday 30 October 2015

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7. References

1. [Blue Book and Pink Book 2015 Changes](#)

8. Background notes

1. A [list of those given pre-publication access](#) to the contents of this article is published as part of this release.
2. Details of the policy governing the release of new data are available by visiting the [UK Statistics Authority Code of Practice](#) or from the Media Relations Office email: media.relations@ons.gsi.gov.uk