

Article

National Accounts articles: Impact of Blue Book 2017 changes on chained volume measure gross domestic product estimates, 1997 to 2012

Current price changes along with other improvements which impact only on real GDP. Also presents a first look at the quarterly path of GDP in Blue Book 2017 for 1997 to 2012.



Contact:
Andrew Walton
andrew.walton@ons.gsi.gov.uk

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1 . Authors

Andrew Walton, Matthew Hughes and Grant Whiting.

2 . Executive summary

This article details estimates of the total impact of all the improvements to chained volume measure (CVM or “real”) gross domestic product (GDP) planned for September 2017.

All of the current price impacting improvements have already been announced in the article [National Accounts articles: Impact of Blue Book 2017 changes on current price gross domestic product estimates, 1997 to 2012](#), published on 16 February 2017.

This article brings together those current price changes along with other improvements which impact only on real GDP. It also presents a first look at the quarterly path of GDP, both in current price and real terms, in Blue Book 2017 for 1997 to 2012. The improvements described in this article will also be applicable to subsequent years, but these later years are additionally subject to regular data updates and other methodological developments, which will be presented in future articles as detailed in Table 2.

The package of real GDP changes as a whole, over the period 1998 to 2012, have the combined impact of very slightly reducing the average annual growth of real GDP by around 0.04 percentage points. However, the headline average over this period remains at 1.9% per annum in Blue Book 2017, as it was in Blue Book 2016.

The average revision to quarter-on-quarter real GDP growth introduced at this Blue Book is negative 0.01 percentage points over the period from Quarter 2 (Apr to June) 1997 to Quarter 4 (Oct to Dec) 2012. Over the same period the absolute revision to quarter-on-quarter real GDP growth is 0.05 percentage points. The peak to trough of the 2008 to 2009 economic downturn has been revised from negative 6.3% to negative 6.1%.

3 . Introduction

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

The previous article of 16 February 2017, [National Accounts: Impact of Blue Book 2017 changes on current price gross domestic product estimates, 1997 to 2012](#), described improvements being made to the UK National Accounts in current price terms. This article included methodological changes such as improvements to actual and imputed rental estimates being made as part of the regular annual update of the UK National Accounts (Blue Book). Current price revisions have, in most cases, fed through to affect real gross domestic product (GDP) as well.

This article provides a summary of the changes being implemented in Blue Book 2017 which impact on real GDP between 1997 and 2012. It also provides an estimate of the impact on the expenditure components of GDP for the main changes. The total impacts on GDP of the current price changes are also included in the [Annex A: detailed table](#) and [Annex B: summary table](#).

For each expenditure component the range of approximate impacts on annual real GDP growth rates across the years from 1998 to 2012 is provided in the summary along with an explanation of the impact of the change. The full detail for each expenditure component is shown to the nearest 0.1 percentage point in [Annex C](#). The annual GDP implied deflator is shown in [Annex F](#).

Quarterly current price GDP growth rates (see [Annex D](#)) and quarterly real GDP growth rates (see [Annex E](#)) are also being published in this article. This will enable users to see the impacts that the annual revisions have on the quarterly path of GDP, including the economic downturn of 2008 to 2009. For completeness quarterly GDP implied deflators are shown in [Annex G](#).

These figures are still indicative at this stage and final quality assurance is currently being undertaken. A finalised version of these data will be provided in an updated article on 6 July 2017 ahead of publication in the UK National Accounts on 29 September 2017. 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.

Figures for 2013 and more recent years are not yet available. These will not be processed until closer to the time of publication in order to take account of the most recent available data in the usual manner. All figures will also be adjusted as a result of the change of reference year and last base year from 2013 to 2015. 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 will change when the reference year is advanced by 2 years. Plans are to publish both current price and chained volume measure (CVM) data for 2013 to 2015 on 6 July 2017 as set out in Table 2.

4 . Summary

The latest estimates of the impact of the planned changes on gross domestic product (GDP) are shown in Table 1.

Table 1: Latest estimates of the impact of the planned changes on annual 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 the level of GDP 1997 to 2012 is +0.6% (£7.7 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 2012 is -0.03 percentage points (ranging from -0.3 to +0.2 percentage points)
Real (chained volume measure) measure of GDP	See Annex C
Near-final estimate of the impact on growth in annual real GDP (chained volume measure)	Average revision to real GDP annual growth 1998 to 2012 is -0.04 percentage points (ranging from -0.3 to +0.2 percentage points)
GDP implied deflator	See Annex F
Near-final estimate of the impact on growth in annual GDP deflator	Average revision to annual growth of the GDP deflator 1998 to 2012 is +0.03 percentage points (ranging from -0.1 to +0.1 percentage points)

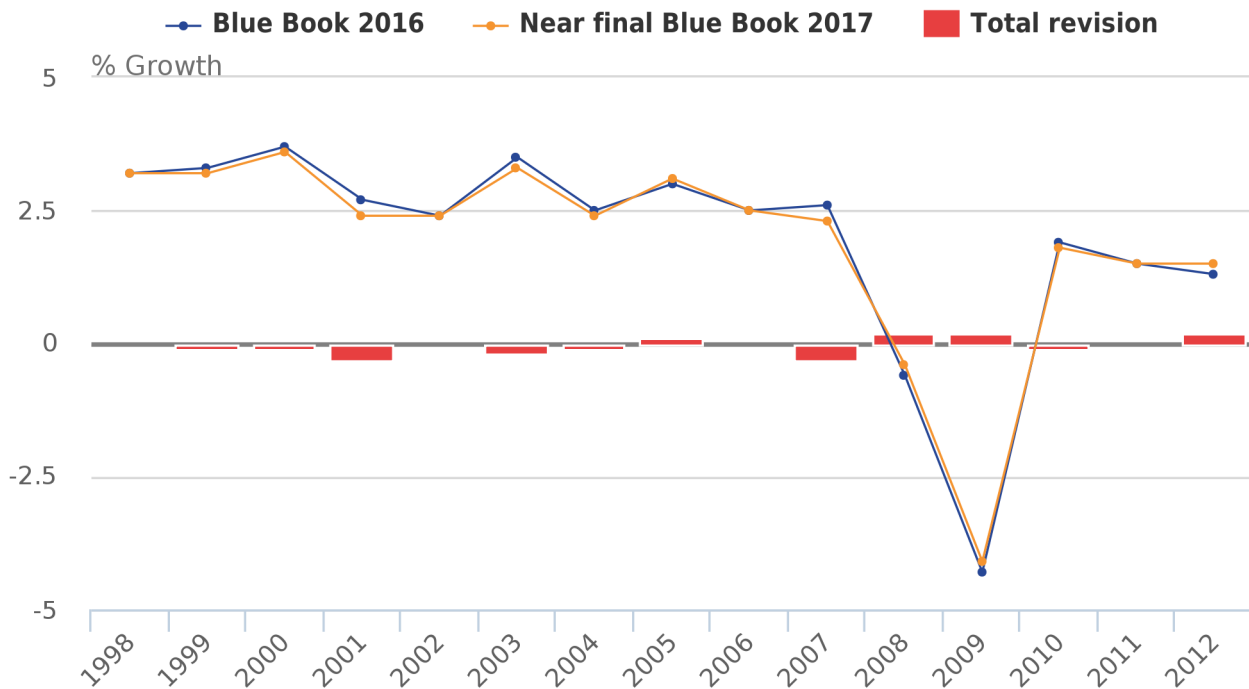
Source: Office for National Statistics

The package of real (CVM) GDP changes, over the period 1998 to 2012, have the combined impact of very slightly reducing the average annual growth of real GDP by around 0.04 percentage points. But to 1 decimal place the average growth remains at 1.9% per annum in Blue Book 2017, the same as in Blue Book 2016.

This year the changes in current price GDP growth rates do have a similar impact on the real GDP growth rates. Revisions to the growth rate of annual real GDP range from negative 0.3 percentage points in 2001 and 2007 to positive 0.2 percentage points in 2008, 2009 and 2012 (see Figure 1 and [Annex C](#) for more details).

Figure 1: Impact of Blue Book 2017 changes on annual growth rates of real GDP

(chained volume measure) (Per cent growth: 1998 to 2012)



Source: Office for National Statistics

The main drivers of these revisions for each component are summarised in Section 5. Generally the main reasons for revision to real GDP are the same as for the revisions already described for current price GDP and there are very few revisions which only impact on real 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 real GDP are shown in [Annex E](#).

The average revision to quarter-on-quarter real GDP growth introduced at this Blue Book is estimated to be negative 0.01 percentage points over the period from Quarter 2 (Apr to June) 1997 to Quarter 4 (Oct to Dec) 2012. Over the same period the absolute revision to quarter-on-quarter real GDP growth is 0.05 percentage points. The peak to trough of the 2008 to 2009 economic downturn has been revised from negative 6.3% to negative 6.1%. Until GDP for later years have been compiled it is not possible to say what this does for the shape and strength of the subsequent recovery period post-2012.

For the period 1997 to 2012 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. The quarterly path presented in [Annex E](#) is provisional at this stage and is subject to further change when annual GDP for 2013 to 2015 are added to the time series.

5 . Methodological improvements to real GDP by component

Details of changes introduced as part of Blue Book and Pink Book 2017 can be found in the [National Accounts articles: Latest developments to national accounts and balance of payments – changes to be implemented for Blue Book 2017 and Pink Book 2017](#).

5.1 Household final consumption expenditure (HHFCE)

HHFCE contributes between negative 0.2 percentage points to the overall real gross domestic product (GDP) annual growth revision in 2007 and 2011, to positive 0.1 percentage points in 6 of the years. The growth contributions are mostly due to the changes in both actual and imputed rental, as well as some further improvements to the estimates of illegal activities. Further information on the actual and imputed rental changes can be found in the [Changes to National Accounts: actual rentals and imputed rentals](#) article published on 16 February 2017.

HHFCE is also impacted to a lesser extent by other changes in Blue Book 2017; the exhaustiveness or concealed income activity adjustment, improved estimates of value-added tax fraud and survey data enhancements to securities dealers and education data.

5.2 Non-profit institutions serving households (NPISH) final consumption expenditure

The current price revisions to NPISH final consumption expenditure are entirely due to splitting the households sector from the NPISH sector, and the subsequent improvements in estimates that were made at the same time. Real final consumption expenditure revisions are very small in value terms and have no impact on the real GDP annual growth rates to 1 decimal place in any year.

5.3 Government final consumption expenditure (GGFCE)

The only current price changes impacting on GGFCE are the improvements to unfunded pension schemes and the public sector finance alignment updates. Real GGFCE revisions are very small in value terms and have no impact on the real GDP annual growth rates to 1 decimal place in any year.

5.4 Gross capital formation (GCF)

GCF is made up of the constituent parts of gross fixed capital formation (GFCF), changes in inventories and changes in valuables. These 3 elements are then “chain-linked” together to produce the real GCF totals.

The impact of GCF revisions on real annual GDP ranges from negative 0.3 percentage points in 2001 and 2010 to positive 0.3 percentage points in 2012.

There are no annual revisions in Blue Book 2017 to changes in inventories or changes in valuables due to new methods or data.

GFCF is impacted by improvements to surveys and updates to transfer costs as described in the articles [Annual improvements to gross fixed capital formation source data for Blue Book 2017](#) and [National Accounts articles: Review of costs of ownership transfer and treatment in the UK National Accounts](#), published on 16 February 2017. Additionally there are some small impacts due to tax evasion, VAT fraud and British Broadcasting Corporation data updates.

5.5 Trade in goods and services

There are revisions to current price trade estimates in this year's Blue Book. Exports of goods and services receive a small proportion of the exhaustiveness or concealed income activity adjustment, as well as survey data enhancements to securities dealers and education data. Imports are impacted by enhancements to data on drug users and illegal activities. Both imports and exports are impacted marginally by the imputed rental changes.

The overall impact of revisions to trade in goods and services as a contribution to real GDP ranges from negative 0.1 percentage points in 6 years to positive 0.2 percentage points in 2009 and 2011.

6 . Plans for future updates

This article is the second in a series of impact articles ahead of the Quarterly National Accounts consistent with Blue Book 2017 publication on 29 September 2017. The focus here is on the years 1997 to 2012 for real gross domestic product (GDP) changes and the quarterly path of both current price and real GDP for the same periods. The improvements described in this article will often also be applicable to subsequent years, but these years are additionally subject to regular data updates and other methodological changes which will be presented in future articles.

Table 2 gives a draft schedule for the remaining articles leading up to the publication of Blue Book 2017 on 31 October 2017. These dates are provisional. Final dates will be announced at least 1 month before each publication.

Table 2: Provisional publication schedule for the Blue Book and Pink Book 2017

Content of Article	Date of publication
Household and non-profit institutions serving households sectorisation split	Wednesday 19 April 2017
Improvements to the treatment of Corporate Bond Interest	Wednesday 19 April 2017
Impact of Pink Book and Sector and Financial Accounts 2017 Annual Estimates (1997-2012)	Wednesday 19 April 2017
Detailed assessment of changes to Sector and Financial Accounts annual estimates 1997-2012	Monday 5 June 2017
Detailed assessment of changes to Balance of Payments annual estimates 1997-2012	Monday 5 June 2017
Reclassification of English Housing Association and other classification decisions	Monday 5 June 2017
Financial corporations sub-sectorisation and the introduction of the new securities dealers survey data	Monday 5 June 2017
Interest on long-term debt securities issued by UK corporations	Monday 5 June 2017
Improvements for estimating the value of Land	Monday 5 June 2017
Changes to the presentation of the tables within Blue Book 2017 and Pink Book 2017 as a result of ESA10 and BPM6 changes	Mid June 2017
Impact on GDP Current Price and Chained Volume Measure quarterly and annual estimates 1997-2015	Thursday 6 July 2017
Detailed assessment of changes to Sector and Financial Accounts 1997-2015	Early August 2017
Detailed assessment of changes to Balance of Payments 1997-2015	Early August 2017
Quarterly National Accounts Quarter 2 (April to May) 2017 (consistent with Blue Book 2017)	Friday 29 September 2017
Balance of Payments Quarter 2 (April to May) 2017 (consistent with Pink Book 2017)	Friday 29 September 2017
Impact of method changes to the national accounts and sector accounts: Jan to Mar 1997 to Apr to June 2017	Friday 29 September 2017
Blue Book 2017	Tuesday 31 October 2017
Pink Book 2017	Tuesday 31 October 2017

Source: Office for National Statistics