

Article

National Accounts articles: Impact on GDP current price and chained volume measure annual and quarterly estimates: 1997 to 2016

Estimates of the total impact of all the improvements to current price and chained volume measure gross domestic product (GDP) from 1997 to 2016, planned for publication in June 2018.

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1 . Main points

- This article details provisional estimates of the total impact of all the improvements to current price (or nominal) and chained volume measure (CVM or real) gross domestic product (GDP) up to 2016, in the Blue Book 2018 – consistent with the Quarterly national accounts (QNA) due to be published on 29 June 2018.
- This article focuses on the period from 1997 to 2016 and brings together both current price and CVM revisions along with the quarterly path.
- All of the methodological improvements for the period 1997 to 2016 have already been described in other articles (see [National Accounts articles](#) for related articles).
- The total package of current price GDP changes increases the size of the economy in 2016 by approximately £6.2 billion, which was 0.3% of GDP.
- There are downward revisions to real GDP growth for the years 2014 and 2016, of 0.2 and 0.1 percentage points respectively, while real GDP growth in 2015 is unrevised.
- Average growth of real GDP over the period from 1998 to 2016 remains unchanged at 2.0% per year.
- Quarter-on-quarter real GDP growth between 2014 and 2016 has been revised down by 0.04 percentage points per quarter on average; however, over the whole period from Quarter 2 (Apr to June) 1997 to Quarter 4 (Oct to Dec) 2016, there is no revision to two decimal places to the average growth per quarter.
- Over the same period, from Quarter 2 1997 to Quarter 4 2016, the average absolute revision to quarter-on-quarter real GDP growth is 0.05 percentage points.
- The peak to trough change in real GDP of the 2008 to 2009 economic downturn has been revised from negative 6.1% to negative 6.3%; GDP returned to pre-economic downturn levels in Quarter 2 2013, which is unrevised.

2 . Introduction

This article is part of a series describing [changes to national accounts](#), detailing the improvements that will be made in June 2018 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 article published on 13 April 2018, [National Accounts articles – Impact of Blue Book 2018 changes on current price gross domestic product estimates, 1997 to 2016](#), described improvements being made to the gross domestic product (GDP) in current price terms. This article detailed methodological changes such as:

- net spread earnings
- gross fixed capital formation (GFCF)-purchased software
- pensions
- trade in goods processing systems, as outlined in the [UK trade development plan: 2017](#)
- Motor Vehicle Duty
- Rail for London
- government alignment

These changes are being made as part of the regular annual update of the UK National Accounts: The Blue Book. Current price revisions will have a similar impact feeding through to affect real GDP.

Descriptions of these methodological changes and other improvements will not be repeated in this article, but more information can be found in the [National Accounts articles](#).

The impacts on GDP of the current price changes are included in [Annex A: Detailed table](#) and [Annex B: Summary table](#), but explanations of the changes to 1997 to 2016 will not be repeated in this article as these data have not been revised since the 13 April 2018 article. These annexes show that the main contributors to changes in current price GDP are net spread earnings and GFCF-purchased software.

Full details of the annual contributions to real GDP by each chained volume measure (CVM) expenditure component (shown to the nearest 0.1 percentage point) are available in [Annex C](#).

Quarterly current price and real GDP growth rates (see [Annex D](#) and [Annex E](#) respectively) will enable you to see the impacts that the annual revisions have had on the quarterly path of GDP during this period. 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 F](#), where it can be seen that the annual implied deflator has only been revised by between negative 0.1 and positive 0.1 percentage points in the years 1998 to 2016. The quarterly implied deflator is shown in [Annex G](#) for completeness.

It is possible that the quarterly path presented in this article will change slightly when the UK Quarterly National Accounts are published on 29 June 2018, as the addition of the annual level for 2017 and the resultant quarterly path in 2017 can alter the quarterly path of earlier years through re-seasonal adjustment.

All chained volume measure (CVM) figures have also been revised as a result of the change of reference year and last base year from 2015 to 2016. This article therefore focuses on the revisions to growth that will not be affected by rebasing before 2016, rather than describing changes to the levels of real GDP that will change when the reference year is advanced by one year.

Gross national income (GNI) is defined as GDP plus net property income received from abroad. So revisions to current price GDP presented in this article would, all else equal, therefore feed directly into GNI. Articles detailing revisions to the sector and financial accounts, including net property income, and revisions to balance of payments will be published on 1 June 2018 and will provide the overall impact on UK GNI up to 2016 due to changes in Blue Book and Pink Book 2018. Estimates of GNI for the UK and other member states in the European Union (EU) form the basis for calculating part of the contributions to the EU Budget by member states.

3 . Summary of changes

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 gross domestic product, UK

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 2016 is +0.3% (£4.9 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 2016 is 0.00 percentage points to 2 decimal places (ranging from -0.2 to +0.3 percentage points)
Real 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 2016 is 0.01 percentage points (ranging from -0.2 to +0.3 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 2016 is -0.03 percentage points (ranging from -0.1 to +0.1 percentage points)

Source: Office for National Statistics

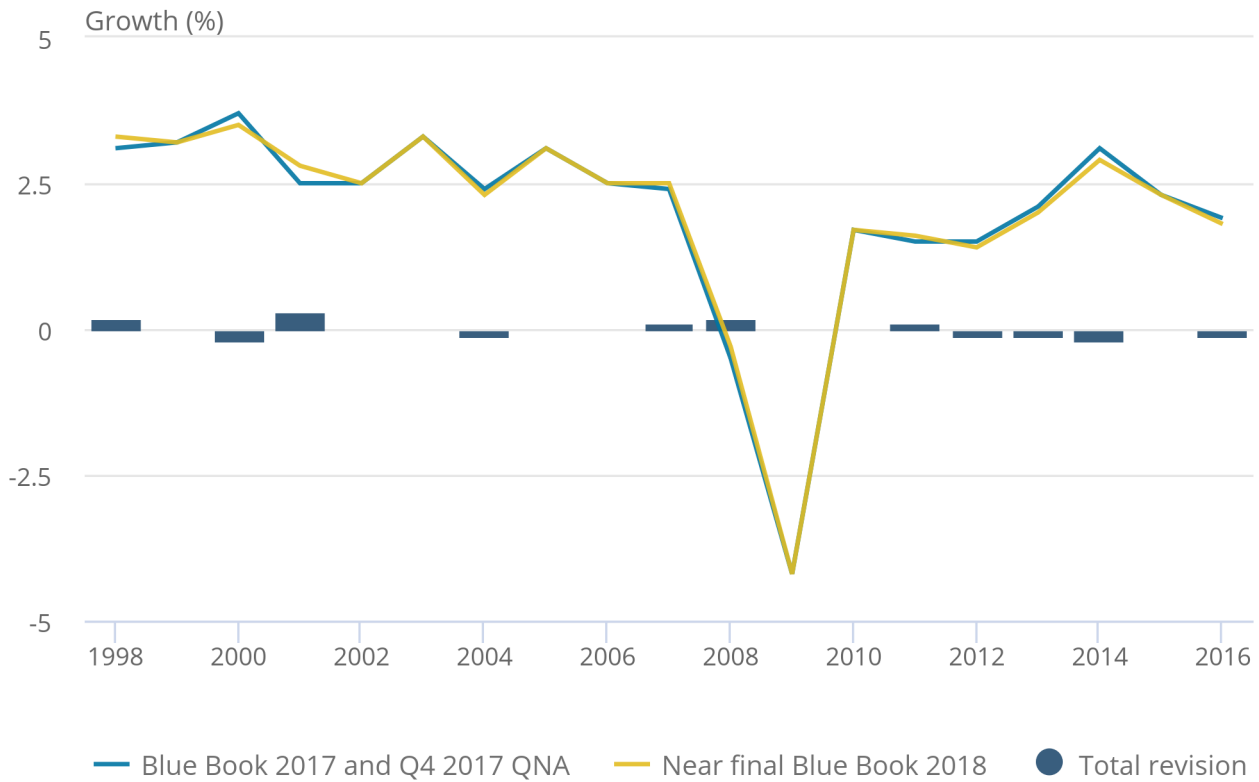
This year the changes in current price GDP growth rates have a similar impact on the real GDP growth rates. Revisions to the growth rates of annual real GDP range from negative 0.2 percentage points to positive 0.3 percentage points (see Figure 1 and [Annex C](#) for more details).

Figure 1: Impact of Blue Book 2018 changes on annual growth rates of real gross domestic product

Chained volume measure, 1998 to 2016, UK

Figure 1: Impact of Blue Book 2018 changes on annual growth rates of real gross domestic product

Chained volume measure, 1998 to 2016, UK



Source: Office for National Statistics

Annual current price GDP

The package of GDP changes in Blue Book 2018, over the period from 1998 to 2016, have resulted in the average annual growth in current price GDP remaining unchanged at 3.9% per year.

Annual real GDP

The package of real GDP changes being presented in this article, over the period 1998 to 2016, have the combined impact of leaving the average growth of real GDP unchanged at 2.0% per year.

The changes do impact significantly on real GDP growth rates between years (see [Annex C](#) for more details). Revisions to the growth rates of annual real GDP range from negative 0.2 percentage points to positive 0.3 percentage points. The main reasons for the revisions in 1997 to 2016 were described in the article, [National Accounts articles – Impact of Blue Book 2018 changes on current price gross domestic product estimates, 1997 to 2016](#), published on 13 April 2018. Approximate impacts on annual real GDP growth rates for the years 2014 to 2016 are provided in section 4.

In general, the main reasons for revisions to real GDP in 2014 to 2016 are the same as the revisions described in section 4 for current price GDP.

Quarterly GDP

As a result of changes to the level of annual GDP, the GDP quarterly path is also revised. The quarterly path revisions to current price GDP are shown in [Annex D](#) and the real GDP quarterly path revisions are in [Annex E](#).

The average quarter-on-quarter real GDP growth at Blue Book 2018 is unchanged to two decimal places over the period from Quarter 2 (Apr to June) 1997 to Quarter 4 (Oct to Dec) 2016. Over the same period, the absolute revision to quarter-on-quarter real GDP growth is 0.05 percentage points. The peak to trough change in real GDP of the 2008 to 2009 economic downturn has been provisionally revised from negative 6.1% to negative 6.3%. GDP returned to pre-economic downturn levels in Quarter 2 2013, as previously announced.

For the period 1997 to 2016, quarterly GDP revisions reflect new annual data and improved methods 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 2017 is added to the time series.

4 . Revisions in current price and real gross domestic product, 2014 to 2016

All methods improvements and other changes referred to in this section have previously been published in the article, [National Accounts articles – Impact of Blue Book 2018 changes on current price gross domestic product estimates, 1997 to 2016](#), published on 13 April 2018.

In the period 2014 to 2016, there have also been updates to annual data sources, in addition to the improvements to methods. These include:

- Annual Business Survey (ABS) data
- HM Revenue and Customs (HMRC) data for compensation of employees and gross operating surplus (2015 to 2016 financial year)
- Manufacturers' Sales by Product (PRODCOM) survey data
- International Trade in Services (ITIS) survey data
- Department for Environment, Food and Rural Affairs (Defra) agriculture data
- Ministry of Housing, Communities and Local Government (MHCLG) – previously known as the Department for Communities and Local Government (DCLG) – pensions data

2014

In 2014, annual current price gross domestic product (GDP) growth has been revised down by 0.1 percentage points from 4.8% to 4.7%. Annual real GDP growth has been revised down by 0.2 percentage points from 3.1% to 2.9%.

2015

In 2015, annual current price GDP growth was unrevised at 2.8%. Annual real GDP growth was unrevised at 2.3%.

2016

In 2016, annual current price GDP growth was unrevised at 3.9%. Annual real GDP growth has been revised down by 0.1 percentage points from 1.9% to 1.8%.

5 . Plans for future updates

This article is part of a series of impact articles ahead of the Quarterly National Accounts (consistent with Blue Book 2018) publication on 29 June 2018. The focus here is on the years 1997 to 2016 for current price and real gross domestic product (GDP) changes and the quarterly path of GDP for the same periods.

Table 2 gives a schedule for the remaining articles leading up to the publication of Blue Book 2018 on 31 July 2018.

Table 2: Publication schedule for Blue Book 2018 and Pink Book 2018, UK

Content of Article	Date of publication
UK Trade data impact assessment from new developments 1997-2016	Tuesday 8 May 2018
Detailed assessment of changes to sector and financial accounts 1997-2016	Friday 1 June 2018
Detailed assessment of changes to Balance of payment annual estimates 1997-2016	Friday 1 June 2018
Quarterly National Accounts Quarter 1 (Jan to Mar) 2018 (consistent with Blue Book 2018)	Friday 29 June 2018
Balance of Payments Quarter 1 (Jan to Mar) 2018 (consistent with Pink Book 2018)	Friday 29 June 2018
UK quarterly sector accounts: Jan to Mar 2018 (consistent with Blue Book 2018)	Friday 29 June 2018
Alignment between public sector finances and national accounts article: June 2018	Friday 29 June 2018
Blue Book 2018	Tuesday 31 July 2018
Pink Book 2018	Tuesday 31 July 2018
Input-Output supply and use tables, 2018 edition	Tuesday 31 July 2018

Source: Office for National Statistics

6 . Authors

Andrew Walton, Rob Doody and Grant Whiting.

7 . Exceptional pre-release access

The Bank of England was granted exceptional pre-release access ([letter exchange between Jonathan Athow and Ben Broadbent](#)) to this article at 12pm on 3 May 2018, so that they could consider this article at the Monetary Policy Committee meeting ending on 9 May 2018.