

Article

National Accounts articles: Impact of Blue Book 2017 changes on current price gross domestic product estimates, 1997 to 2012

Analysis of the impact of Blue Book 2017 changes on GDP current price annual estimates 1997 to 2012

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1 . Executive summary

This article details estimates of the total impact of all the improvements to current price gross domestic product (GDP) planned for September 2017.

An initial summary of the changes for Blue Book 2017 has already been announced in the article [National Accounts articles: Latest developments to national accounts and balance of payments - changes to be implemented for Blue Book 2017 and Pink Book 2017](#), published on 21 September 2016. This article brings together all the methodological and data improvements that impact on current price GDP for the period 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 1.

The package of current price GDP changes being presented today (16 February 2017), over the period 1997 to 2012, have the combined impact of increasing the level of current price GDP in 2012 by approximately £10.2 billion, around 0.6%. Average annual current price GDP growth between 1997 and 2012 has been revised downwards by 0.1 percentage points from 4.0% per year to 3.9%.

The main source of revision in Blue Book 2017 is from improvements to the methods used to estimate rental (both actual and imputed).

2 . Introduction

This article is part of a series describing changes to national accounts, detailing the improvements that 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.

An initial summary of the changes for Blue Book 2017 has already been announced in the article [Latest developments to national accounts and balance of payments - changes to be implemented for Blue Book 2017 and Pink Book 2017](#), published on 21 September 2016.

This first impact article will focus on the current price gross domestic product (GDP) changes for the period 1997 to 2012. Subsequent articles, as listed in Table 1, will focus on chained volume measure (CVM) GDP estimates, sector and financial accounts estimates, balance of payments estimates and current price and CVM GDP for the more recent period from 2013 to 2015.

The UK has received notification that the last outstanding gross national income (GNI) reservation on a European System of Accounts 1995 (ESA 1995) basis has now been lifted. This reservation had no impact on data so is not discussed further in this article. The improvements being described in this article are being made as part of the regular annual update of the UK National Accounts (Blue Book). The full dataset will be published on 29 September 2017 as part of the Quarter 2 (April to June) 2017 Quarterly National Accounts update.

This article provides a summary of each of the improvements being implemented in Blue Book 2017 along with the estimated impact on annual current price GDP between 1997 and 2012. The total impacts of the changes that affect GDP are included in [Annex A](#) with full detail for each change shown to the nearest £0.1 billion. A comparison of the new and current growth rates for annual current price GDP growth are shown in [Annex B](#). For European Union (EU) budget purposes the period from 1997 to 2009 is closed to revision so changes will not affect the UK's contribution to the EU budget for that period.

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 in June 2017 ahead of publication in the UK National Accounts in September 2017.

Figures for 2013 and more recent periods, and figures on a CVM basis are not yet available. CVM data are adjusted so that the effects of price changes are removed and these data are not processed until closer to the time of publication in order to take account of new data in the usual manner. Plans are to publish CVM data for 1997 to 2012 on 13 March 2017 as set out in Table 1, with both current price and CVM data for 2013 to 2015 to be published in June 2017.

3 . Summary

The Blue Book 2017 changes being announced today (16 February 2017) have the combined impact of increasing the level of current price gross domestic product (GDP) in 2012 by approximately £10.2 billion, around 0.6%. Average annual current price GDP growth between 1997 and 2012 has been revised downwards by 0.1 percentage points from 4.0% per year to 3.9%. The impact of these changes is generally to increase the level of current price GDP, although the growth rate revisions vary for individual years ([as shown in Annex A](#)). Revisions to the growth rates of annual current price GDP range from negative 0.3 percentage points in 2001, to 0.2 percentage points in 2009 and 2012 ([as shown in Annex B](#)).

The main upward impacts on the level of GDP are from actual and imputed rental, with the main downwards impacts coming from survey improvements impacting on gross fixed capital formation. Revisions to GDP growth are, in most years a result of the actual rental change.

Section 4 provides more details on the individual improvements that impact on current price GDP in Blue Book 2017.

4 . Methodological improvements to current price GDP

Actual rental

For Blue Book 2017, there are changes to private actual rentals, which make up the bulk of total actual rentals for housing. Other actual rentals, such as rentals to housing associations and public sector bodies are not changed.

The new approach for private actual rentals will bring consistency with the [methods for imputed rentals introduced in Blue Book 2016](#). It will also allow us to remove the discontinuity in the current price data at 2010, which was due to an interim solution in place since Blue Book 2014.

The new approach uses Valuation Office Agency (VOA) data on private rental prices and similar data from the devolved administrations, instead of prices from the Living Costs and Food Survey (LCF). These administrative sources have much larger sample sizes than the LCF, which allows us to use an improved methodology using stratification. In addition, the new price data enables furnished and unfurnished properties to be separately identified.

There will also be changes to the estimation methods for the chained volume measures for private actual rentals. Instead of being based on numbers of privately rented dwellings, with an assumed constant rate of quality improvement, they will be derived by deflating the new current price data. Deflation will be done using a variant of the Consumer Prices Index including owner occupiers' housing costs (CPIH) private actual rental component, created specifically for the purpose.

The impact on current price GDP levels ranges from £5.1 billion in 2004 to £9.0 billion in 2009. The largest impact on current price GDP growth is in 2003 where growth is reduced by 0.2 percentage points.

Imputed rental

As part of the process of bringing the sources and methods for private actual rentals into line with imputed rentals, we identified some further improvements to imputed rentals. These are being implemented in Blue Book 2017. They include improvements to the way that non-calendar year data for housing stocks and rental prices are mapped to calendar years.

The impact on current price GDP levels ranges from £2.1 billion in 1997 to £5.3 billion in 2006. The impact on current price GDP growth is relatively small. Both 2001 and 2012 are revised up by 0.1 percentage points and 2007 is revised down by 0.1 percentage points. All other imputed rental revisions to GDP current price growth are less than positive or negative 0.1 percentage points.

Further details on the actual and imputed rental changes are being published on 16 February 2017 in the article [Changes to National Accounts: actual and imputed rental \(Blue Book 2017\)](#).

GFCF survey improvements

Following a quality review of software in gross fixed capital formation (GFCF), analysis has shown that elements in the estimates of purchased software – a component of intellectual property products (IPP) – have been double-counted from 2001. In 2001, purchased software data from the Quarterly Survey of Capital Expenditure was included in the UK National Accounts, but the previous modeled data used in estimates of purchased software was not discontinued. This case of double-counting also uncovered a discrepancy in the modeled data prior to 2001, so both will be amended for Blue Book 2017.

The IPP asset will also be impacted as a result of updated data for entertainment, literary or artistic originals. Revised data are available between 2007 and 2009 and new estimates have been sourced for 2010 and 2011, which replace current forecasted data.

The combined impact of these changes is to lower the level of current price GDP in all years from 1997 to 2012. The impact ranges from negative £0.6 billion in 1997 to negative £4.1 billion in 2001. The largest impact on current price GDP growth is in 2001 where growth is reduced by 0.2 percentage points. This is mainly a result of removing the double-counting of IPP from 2001 onwards. The only other year with a growth impact of positive or negative 0.1 percentage points or more with a negative 0.1 percentage point impact was 1998.

Further details on the GFCF survey improvements are being published on 16 February 2017 in the article [Annual improvements to gross fixed capital formation source data for Blue Book 2017](#).

GFCF transfer costs

GFCF transfer costs have been affected by an update to the ONS's House Price Index (HPI). GFCF uses the HPI as part of the calculation of current price transfer costs data. A new HPI (with an associated back series) was introduced in 2016 and data based on this new methodology will be used in the compilation of GFCF for Blue Book 2017.

There will be a small upward impact from including an additional element of transfer costs in the UK National Accounts from Blue Book 2017; transfer costs associated with the buying and selling of players in the sports industries. This includes agent's fees and any taxes associated with the buying and selling of players from one sports club to another (not the transfer fee itself).

The impact of the transfer cost changes range from negative £0.4 billion in 1998 and 2000 to negative £1.4 billion in 2004. The change has a minimal impact on GDP current price growth, with only 2004 showing a 0.1 percentage points impact.

Further details on the GFCF transfer costs improvements are being published on 16 February 2017 in the article [Annual improvements to gross fixed capital formation source data for Blue Book 2017](#).

Separating estimates for the household and non-profit institutions serving households sectors

The European System of Accounts (ESA) 2010 requires the presentation of separate estimates for the household sector and non-profit institutions serving households (NPISH) sector. Currently these 2 sectors are combined for most processing and presentation in the UK National Accounts.

While carrying out the review of data and methods to produce this split some improvements have been made to certain elements of one or both sectors that have impacted on GDP. One example of this was the estimates for motor vehicle duty. This tax was split on historic fixed proportions between a tax on production for private producers and a tax on income from household consumers. This method has been replaced with estimates from the Annual Business Survey for all producing sectors. Another example is measurement of consumption of fixed capital. As part of measuring the household and NPISH sectors separately with regards to non-financial assets, certain assets were found to be owned by NPISH units. Consumption of fixed capital on those assets was calculated and this increased the NPISH measure of operating surplus.

The impact on current price GDP levels ranges from £0.5 billion in 1997, 1998 and 1999 to £1.1 billion in 2006 and 2007. There is little impact on current price GDP growth with all years being revised by less than 0.1 percentage points.

Unfunded public sector pensions

There are different types of voluntary occupational pensions available to general government employees. The majority of public sector schemes in the UK are defined benefit and unfunded, where government has full responsibility for the deficit of the pension scheme. Following the transition to ESA 2010, the methodology applied to these schemes has been reviewed.

The term “imputed contributions” has been defined specifically as, “the increase in benefit due to current period of employment less the sum of the employer's actual contribution, less the sum of any contribution by the employee, plus the costs of operating the scheme.” (ESA 2010 paragraph 4.10). Most unfunded schemes for government employees regularly review and amend contribution rates with the view of ensuring both the sustainability of the schemes in the long-term and their affordability to the taxpayer. In accordance with the new definition, it has therefore been decided to remove an element of imputation related to the net cost of benefits payable to the existing retired members and treat the contributions set to meet the cost of accruing benefits as actual. This change will be included from 2006 as the pension reforms of that year provide the required data. Alongside, a smaller scale review of the data sources and processing has taken place.

As a result of this change, the estimate of compensation of employees (D.1), which had previously included the net cost of providing benefits to the retired members of some unfunded government schemes, has been reduced. This change affects the current price value of government output, of which compensation of employees (D.1) is a component. The majority of government output is provided free of charge or sold at economically insignificant prices and is therefore valued by summing the costs of production.

The changes have a current price GDP impact range from negative £0.3 billion in 2006 to negative £1.6 billion in 2012. There is little impact of current price GDP growth with all years being revised by less than 0.1 percentage points.

Improvement to illegal activities

New data for the number of users for individual drugs from the Crime Survey for England and Wales (CSEW) has been incorporated into our estimates of illegal activities. The data mainly replaces modeled data between 2000 and 2005. As 2003 is used as a reference year, all years though, are impacted by this change.

The impact on current price GDP levels ranges from negative £1.0 billion in 2007 to £0.8 billion in 1997. There is little impact on current price GDP growth, with all years being revised by less than 0.1 percentage points apart from 2007, which has a negative 0.1 percentage points impact.

Exhaustiveness and concealed income adjustment

Revisions in Blue Book 2017 are a result of the annual reassessment of the tax gaps analysis by Her Majesty's Revenue and Customs (HMRC), which in turn leads to revisions in our estimates of concealed income.

The annual reassessment by HMRC and the rebalancing of supply and use tables has had very little impact on pre-2011 current price GDP levels. In more recent years there was an impact of £0.9 billion and £2.0 billion on current price GDP levels in 2011 and 2012 respectively. The impact on annual current price GDP growth in both 2011 and 2012 is 0.1 percentage points.

Estimates of Value Added Tax fraud

As with the estimates for exhaustiveness and concealed income, the Blue Book 2017 revisions are primarily as a result of the annual reassessment of tax gaps analysis by HMRC. All years from 1997 to 2011 have a rounded impact of less than positive or negative £0.1 billion on current price GDP levels, with 2012 having an impact of £0.3 billion.

BBC data update

An update of data for BBC subsidiaries, which replaces forecast data. The impact on current price GDP levels data is from 2008 onwards and, in rounded terms, is no more than £0.2 billion in each year. There is little impact of current price GDP growth, with all years being revised by less than 0.1 percentage points.

PSF alignment

There are some small changes to bring national accounts into line with the Public Sector Finances (PSF) publication. This includes the incorporation of taxes that have not yet been recorded, or have been incorrectly recorded in the UK National Accounts. The impact on current price GDP levels ranges from negative £0.1 billion to £0.2 billion. There is little impact on current price GDP growth, with all years being revised by less than 0.1 percentage points.

5 . Plans for future updates

This article is the first 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 current price GDP changes. 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.

As well as the first impact article for Blue Book 2017, 2 detailed methodological articles were also published on 16 February 2017. Links to these articles can be found in Section 6. Table 1 gives a draft schedule for the remaining articles leading up to the publication of Blue Book 2017 in October 2017. Final dates will be announced at least one month before each publication.

Table 1: Article publication dates

Content of Article	Date of Publication
Methodological improvements to National accounts for Blue Book 2017 and Pink Book 2017:	
- actual and imputed rental	Thursday 16 Feb 2017
- GFCF improvements	Thursday 16 Feb 2017
- review of costs of ownership transfer and treatment in the UK National Accounts	Thursday 16 Feb 2017
Impact of Blue Book 2017 changes on GDP current prices annual estimates, 1997 to 2012	Thursday 16 Feb 2017
Impact on Blue Book 2017 GDP chained volume measures (CVM) annual estimates, 1997 to 2012	Monday 13 Mar 2017
Detailed assessment of changes to Balance of payment annual estimates 1997 to 2012	Monday 5 June 2017
Detailed assessment of changes to sector and financial accounts 1997 to 2012	Monday 5 June 2017
Methodological improvements to National accounts for Blue Book 2017 and Pink Book 2017:	
- financial corporations sub-sectorisation and the introduction of the new securities dealers survey data	Monday 5 June 2017
- household and non-profit institutions serving households sectorisation split	Monday 5 June 2017
- interest on long-term debt securities issued by UK corporations	Monday 5 June 2017
Methods article on implementation of reclassification of English Housing Associations and other classification decisions	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
Impact on GDP Current Price and Chained Volume Measure annual and quarterly estimates 1997-2015	Mid June
Detailed assessment of changes to Balance of payment annual estimates 1997 to 2015	Early Aug
Detailed assessment of changes to sector and financial accounts 1997 to 2015	Early Aug
Impact of changes in the national accounts and economic commentary for Quarter 2 (April to June) 2017	Friday 29 Sept 2017
Alignment between public sector finances and national accounts	Monday 02 Oct 2017
Blue Book 2017 / Pink Book 2017	Friday 27 Oct 2017

Source: Office for National Statistics

6 . References

[Latest developments to national accounts and balance of payments - changes to be implemented for Blue Book 2017 and Pink Book 2017](#)

[Changes to National Accounts: actual and imputed rental \(Blue Book 2017\)](#)

[Annual improvements to gross fixed capital formation source data for Blue Book 2017](#)

[Changes to National Accounts: Imputed Rental – Blue Book 2016](#)

7 . Authors

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