

Article

National Accounts articles: A review of households' mixed income estimates and plans for upcoming improvements

National accounts improvements to mixed income estimates.

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1 . Executive summary

As part of the introduction of a [new framework to confront the data sources used to produce gross domestic product \(GDP\)](#) in [UK National Accounts, The Blue Book 2019](#), a number of methodological improvements, as well as updated source data for the household sector mixed income estimates were implemented.

These improvements allowed us to compile estimates at a more granular level, incorporating component source information such as self-employment income, rental income and tax evasion estimates. These improvements focused on how we calculate estimates beyond 2016, the latest year for which HM Revenue and Customs (HMRC) tax data are currently available, using a mix of forecasts and indicators at a granular level to provide estimates where structural sources are not yet available.

This article outlines the further improvements we will be introducing from the Quarter 3 (July to Sept) 2019 Quarterly national accounts (QNA), in which we have further refined our forecast models, and provides indicative estimates of these impacts on current price (or nominal) mixed income estimates.

Estimates will be open for revision from Quarter 1 (Jan to Mar) 2018, in accordance with the [published revision policy](#). Revised estimates will include the introduction of the new mixed income forecast model, in conjunction with updated source information and a reassessment of balancing. We would expect any impact on headline GDP, if any, to be small as we would have considered this as part of the balancing process in real time. This article outlines the impacts of refinements to the forecasting model only, so the data presented could be subject to further revision in the publication in December.

Indicative estimates of these changes, all else the same, show a reduction in the annual growth of mixed income between 2017 and 2018 from 7.7% to 5.4%. The lower level of mixed income from 2018 onwards feeds through to a lower household saving ratio and households being less of a net lender.

2 . Introduction

Mixed income¹ is the aggregate of a variety of flows of value and rewards accrued by unincorporated businesses owned by households, namely sole proprietors. It contains an element of remuneration for work done by the owner or other members of the household that cannot be disassociated from their profit as an entrepreneur. Mixed income excludes imputed rentals from owner-occupied housing, as this is captured elsewhere in the national accounts.

In [UK National Accounts, The Blue Book 2019](#), we made improvements to the measurement of mixed income, compiling the estimates at a more granular level to better reflect the different components such as income from self-employment, rental and income earned, which is not present in tax data because of evasion. This change particularly impacted years after 2016 – the last year for which most of the tax sources are currently available. Forecasts and indicators are used at a lower level of detail to provide estimates for years where administrative data are not yet available.

We plan to make further improvements to these estimates in the Quarter 3 (July to Sept) 2019 Quarterly national accounts release, to be published on 20 December 2019, and as part of Blue Book 2020. This article provides indicative estimates of these impacts on current price (or nominal) mixed income and how these feed into the national accounts more widely.

The remainder of this article is structured as follows:

- Section 3 outlines the forthcoming changes for the Quarter 3 2019 Quarterly national accounts
- Section 4 outlines the methods pre-Blue Book 2019
- Section 5 outlines the changes implemented for Blue Book 2019
- Section 6 outlines the expected impacts to the Quarter 3 2019 Quarterly national accounts
- Section 7 outlines the use of mixed income estimates in the [Productivity – unit labour costs](#), to be published on 3 December 2019
- Annex A describes in more detail the different mixed income components

Notes for introduction:

1. [OECD Glossary of terms - mixed income](#)

3 . Planned improvements from Quarter 3 2019 Quarterly national accounts

As part of the ongoing review of methods, we are looking to introduce changes to their forecast models at the earliest opportunity. These improvements provide a more optimal mix between the forecasts of structural sources and other indicator series. Estimates based on a revised forecast model will be introduced, for periods beyond 2017, in the Quarter 3 (July to Sept) 2019 Quarterly national accounts in line with the [published revision policy](#). The indicative impacts of this change are detailed in Section 6.

Revisions to 2017 will be reviewed as part of the Blue Book 2020 publication, in conjunction with updated source information. There are no revisions planned for earlier years, back to 1997, from these changes.

4 . Methods pre-Blue Book 2019

This section focuses on the two largest components that have the biggest impact on the mixed income estimates.

Self-employment income estimates are derived using annual self-assessment tax records provided by HM Revenue and Customs (HMRC). Data for 2016 were forecast and labour market estimates were then used to derive a quarterly path through the HMRC annual data, as referred to later in this section.

Rental income estimates were derived using historic Schedule A tax data that were extended using rental activity information from external quarterly indicators.

For periods after 2016 (referred to as the “quarterly tail”), labour market indicators were used to project forward the aggregate mixed income estimates. These were based on Office for National Statistics average weekly earnings (AWE) including bonuses multiplied by the Labour Force Survey (LFS) total employee jobs. These labour market indicators were used for the whole of mixed income, including elements for which they would likely be a suboptimal conceptual proxy such as rental income, evasion and illegal activities.

5 . Changes implemented at Blue Book 2019

Methods and source data changes

[In 2019, as part of a suite of changes across the National Accounts](#), methods and source data for mixed income were updated. These are now compiled from estimates at a more granular level, which allows the component estimates to inform the overall estimate. The supply and use balancing adjustments for this component were also reviewed, and their impact reduced, moving the headline estimate closer to that of both the underlying source data and other labour market indicators. Further details of the mixed income components are outlined in Annex A.

For Blue Book 2019, self-employment income estimates have been updated to include new HM Revenue and Customs (HMRC) source data for 2016. Periods beyond 2016 are now calculated using a revised forecast model and labour market estimates are again used to derive a quarterly path through the HMRC annual data. However, these have changed to align to a more appropriate measure for the self-employed. Labour market indicators now use average weekly earnings (AWE) excluding bonuses multiplied by the Labour Force Survey (LFS) self-employment jobs.

Rental income was previously produced from a historic measure based on Schedule A tax data. A review was undertaken that highlighted that this related to “rent” not “rental”, so was not fully in line with the concept measured. Furthermore, rental income data provided by HMRC relating to “individuals”, that is, the unincorporated sector, was being assigned to the private non-financial corporations (PNFC) incorporated sector.

From Blue Book 2019, HMRC rental data are no longer allocated to the PNFC sector and instead are used as the new source information for the household sector, replacing the Schedule A series. For periods beyond the HMRC-supplied information, data are forecast incorporating data from household final consumption expenditure actual rental information, supplied by the Valuation Office Agency.

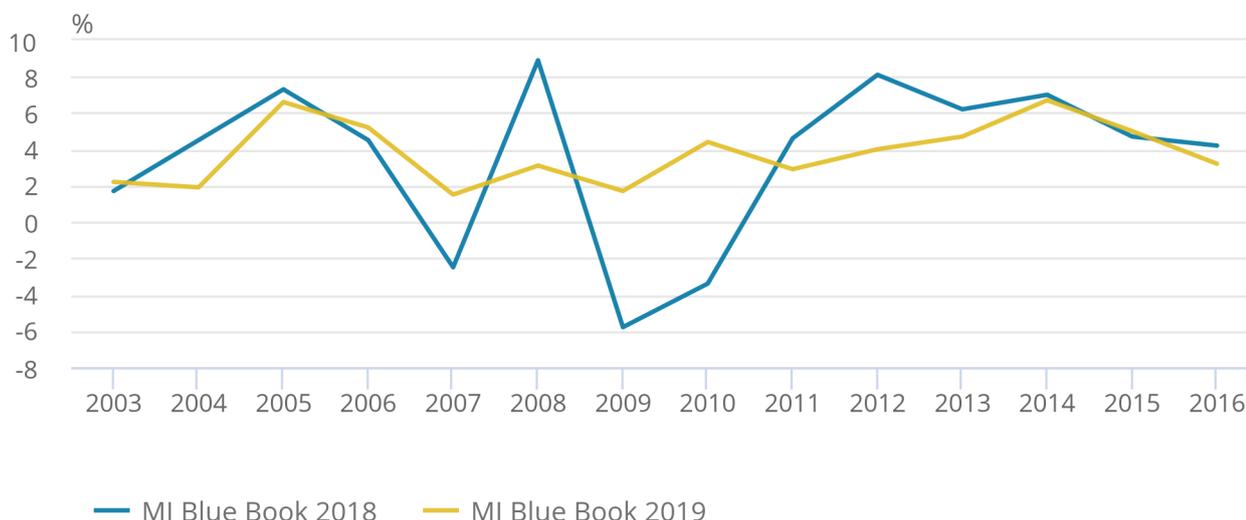
Figure 1 shows the impact of reviewing balancing adjustments in conjunction with the new, more robust source information, as published in Blue Book 2019. The impact of reviewing the balancing adjustments, following the updated source information, is particularly pronounced in the period around 2008 and 2009. These revised estimates were much closer to the underlying source information.

Figure 1: The impact of the balancing adjustment changes were particularly pronounced in 2008 and 2009

Annual mixed income balanced estimate 2003 to 2016, UK

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Annual mixed income balanced estimate 2003 to 2016, UK



Source: Office for National Statistics, UK National Accounts: The Blue Book 2019

Notes for: Changes implemented at Blue Book 2019

1. Schedule A - HMRC: [Income Tax when you Let property](#).
2. [ESA 2010 definition](#): The distinction between rent and rentals is that rent is a form of property income and rentals are payments for services. Rentals are payments made under an operating lease to use a fixed asset belonging to another unit. Rent is a payment made under a resource lease for access to a natural resource.

6 . Impacts on the quarterly national and sector accounts

As part of ongoing improvements, we will be introducing further changes in the Quarter 3 (July to Sept) 2019 Quarterly national accounts (QNA), in which we have further refined our forecast models. Indicative estimates of mixed income, all else being equal, will show a downward revision to the growth profile beyond 2017. There will also be a downward revision to the households' saving ratio and the net lending position of households in 2018, all else the same.

The national accounts will be open for revision from Quarter 1 (Jan to Mar). Revised estimates will include the introduction of the new mixed income forecast model, in conjunction with updated source information and a reassessment of balancing. As gross domestic product (GDP) is subject to the quarterly balancing process, we are unable to quantify the impact of these changes before the Quarter 3 2019 QNA.

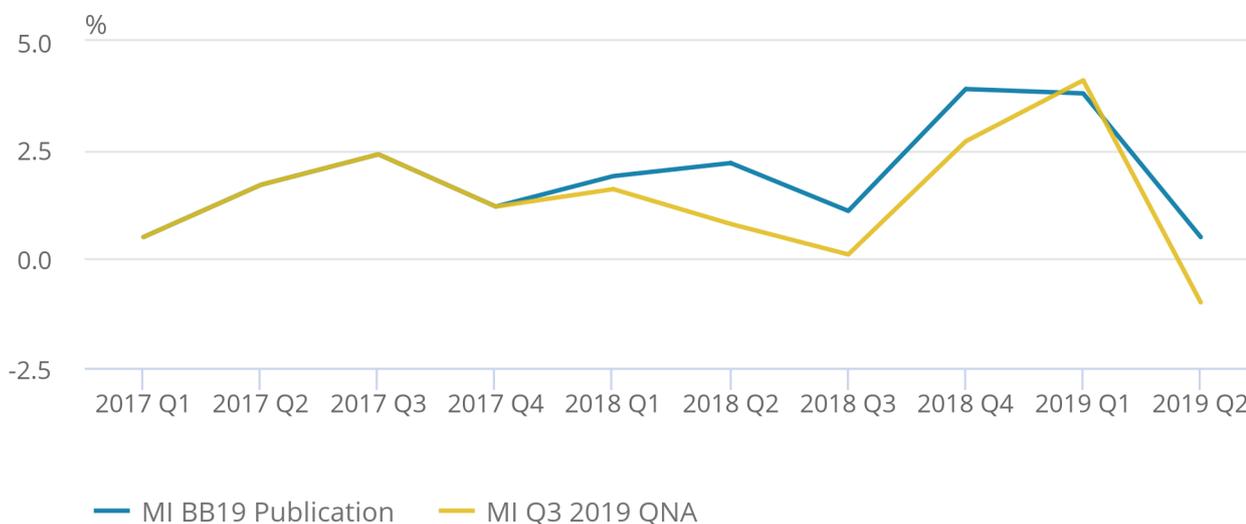
Figure 2 provides an indicative estimate of the mixed income quarterly growth, to be implemented during the Quarter 3 2019 QNA.

Figure 2: There has been an overall decrease in mixed income growth since 2018

Indicative change to mixed income quarterly growth, Q1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2019, UK

Figure 2: There has been an overall decrease in mixed income growth since 2018

Indicative change to mixed income quarterly growth, Q1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2019, UK



Source: Office for National Statistics, UK Economic Accounts

The indicative change in the mixed income level in 2018 is £3.1 billion, which is expected to feed through into a downwardly revised growth profile. The average revision over the period open for revision is 0.9 percentage points.

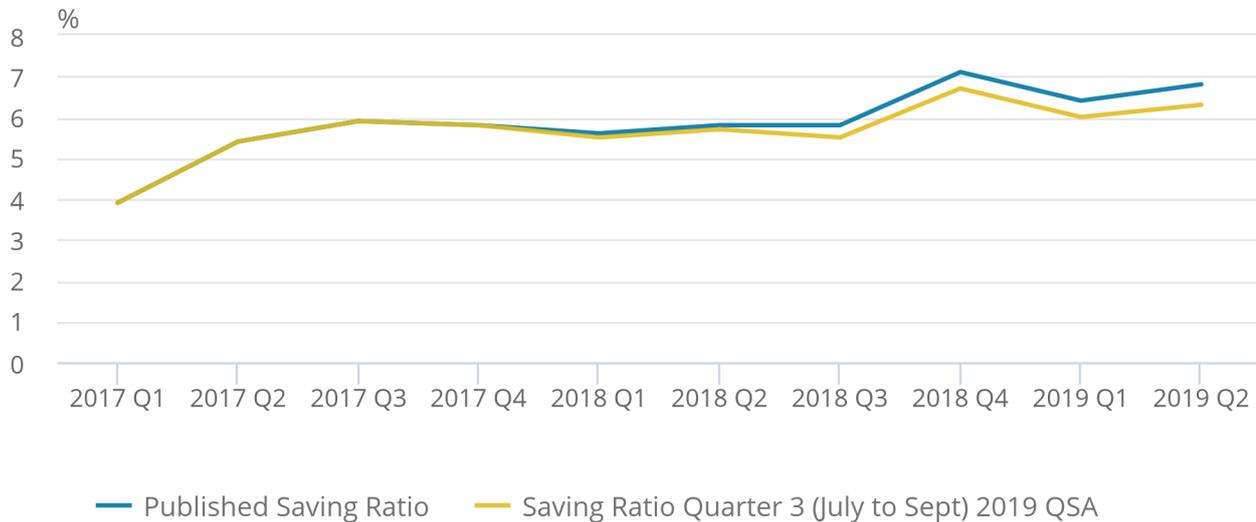
Figure 3 provides an indicative estimate, all else being equal, to the households' saving ratio, which is to be implemented during the Quarter 3 2019 Quarterly sector accounts (QSA). The expected lower level of mixed income feeds through to lower gross primary income and, all else the same, a lower saving ratio. The indicative estimates show a downward revision to the households' saving ratio from 6.1% to 5.9% in 2018.

Figure 3: There is a lower households' saving ratio from 2018

Indicative change to the households' saving ratio, Quarter 1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2019, UK

Figure 3: There is a lower households' saving ratio from 2018

Indicative change to the households' saving ratio, Quarter 1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2019, UK



Source: Office for National Statistics, UK Economic Accounts

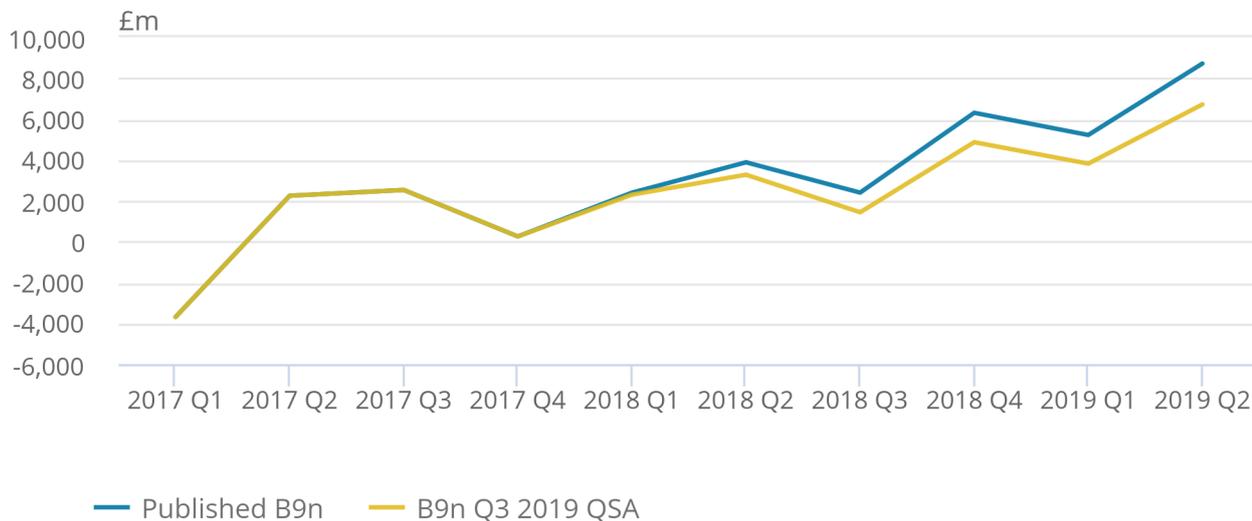
Figure 4 provides an indicative impact, all else being equal, of the expected change to (B9n) households' net lending and net borrowing, to be implemented during the Quarter 3 2019 QSA. In line with the downward revision to the saving ratio, the lower level of mixed income feeds through to households being less of a net lender. Following the revision, households still remain as lenders throughout 2018, all else the same.

Figure 4: Households has been less of a net lender

Indicative change to households' (S.14): net lending (+) / net borrowing (-) (B9n) , Quarter 1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2019 Q2, UK, (SA)

Figure 4: Households has been less of a net lender

Indicative change to households' (S.14): net lending (+) / net borrowing (-) (B9n) , Quarter 1 (Jan to Mar) 2017 to Quarter 2 (Apr to June) 2019 Q2, UK, (SA)



Source: Office for National Statistics - Blue Book

7 . Productivity – unit labour costs publication, 3 December 2019

These expected estimates of mixed income will also impact upon estimates of unit labour costs, in turn affecting Office for National Statistics estimates of labour costs. The Productivity Team has taken the opportunity to incorporate data based on the planned improvements to the mixed income forecast models within the indicative estimates of [unit labour costs](#) published in the parallel article.

The figures used in the unit labour costs estimates are calculated using indicative data from the revised mixed income forecast model. They do not include the forthcoming Quarter 3 2019 QNA results, to be published on 20 December 2019.

8 . Authors and acknowledgements

Karen Grovell, Economic Statistics, Office for National Statistics.

9 . References

OECD [glossary of terms – mixed income](#)

National Accounts articles: [Transformation of gross domestic product in Blue Book 2019](#)

[HMRC – Income Tax when you rent out a property](#)

[ESA 2010 – European System of Accounts](#)

[Productivity – unit labour costs](#)

10 . Annex A

Mixed income components

This section outlines the main components of the mixed income estimate.

Self-employment income

By far the greatest part of mixed income is self-employment income. HMRC's self-assessment tax data covers all tax records on the self-employed income of sole traders. Data are supplied to ONS as an annual estimate and are currently available up to the year 2016.

For Blue Book 2019 the labour market indicators used to drive a quarterly path through annual HMRC based data changed from using Average Weekly Earnings (AWE) total and Labour Force Survey (LFS) 'employee' jobs to AWE regular (excluding bonus) and LFS 'self-employed' jobs. This is a more appropriate measure for the self-employment estimates and revisions were calculated in the series from 1997. The HMRC annual totals were unchanged up to 2015 with new source data taken on for 2016.

Beyond the HMRC data, forecasts are now calculated at a lower level of detail and incorporate the above-mentioned labour market indicators.

Rental income

Rental Income estimates are also provided by HMRC, derived from profits data of sole-proprietors. The income estimate arises from the rental of furnished or unfurnished space in buildings. It includes payment for the use of the land on which the property stands, the dwelling occupied and certain fixtures and fittings.

A review of the method used to calculate rental income was undertaken during Blue Book 2019. As part of this work the allocation of rental income to different sectors of the economy were reviewed. Rental data provided by HMRC relating to 'individuals' is now being accurately incorporated into the household sector estimates.

Tax evasion

ONS makes an estimate of the value of concealed employment income not declared through tax returns. Estimates are calculated using a model based, in part, on HMRC tax gap analysis of missing income tax. The evasion estimates from HMRC were not updated in Blue Book 2018 therefore new source information for 2015 and 2016 were updated during Blue Book 2019. No new methods changes were introduced.

Rental evasion

From Blue Book 2019 ONS no longer makes an estimate of the value of concealed rental income not declared through tax returns as it was found that current estimates were being counted within the overarching tax evasion.

VAT fraud

ONS makes an estimate of the value of concealed operating surplus generated by activities that are not reported to the VAT authorities based on HMRC Corporation and Income Tax Gaps data. These adjustments capture non-complicit VAT Fraud, that is, VAT paid by customers but not passed on. No methods changes were introduced in Blue Book 2019.

Further mixed income components

For all other elements of mixed income, such as income earned from illegal drugs, smuggling and prostitution, methods remain unchanged and revisions were accounted for as updates to source data only.