
Historic National Accounts

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Summary

This article describes the development of a core National Accounts dataset. The main purpose is to rationalise the content and coverage of historic data so that it may be more readily maintained and updated with the aim of improving the overall quality of the series.

Introduction

The Quarterly National Accounts (QNA) consistent with the annual update to the National Accounts, Blue Book 2011 (BB11), is published on 5 October 2011, with electronic publication of the more detailed datasets released from 25 October to 23 November 2011. The currently published datasets which make up the United Kingdom National Accounts amount to some 10,000 series, covering all aspects of Production, Income and Expenditure. Data are produced on an annual, quarterly and, for some series, a monthly basis, both seasonally adjusted and non-seasonally adjusted, and in both current prices and deflated to a constant price basis.

In order to continue producing a consistent and coherent set of National Accounts which can be maintained and updated through future Blue Books, and which meets both user and legislative requirements, it has been necessary to define a 'core' National Accounts dataset which will exist for historic data.

Background

The introduction of an integrated production system on a new IT platform, combined with the revised industrial classification (SIC07) and updated Classification of Product by Activity 2008 (CPA08) have given the Office for National Statistics (ONS) the opportunity to review the range of data published across National Accounts. See Everett (2011) 'Methods Changes in the 2011 Blue book' for details of changes.

Up to now the Blue Book dataset has attempted to maintain a fully consistent time series for the full suite of variables. This is a massive task with all the necessary interdependencies and national accounts identities.

The complexity of the national accounts dataset, with many thousands of series going into great detail, is an issue. Over the years various methods changes have been applied to the historic data, such as the inclusion of the FISIM adjustments, without the required detailed rebalancing. ONS does not have the required information to implement the Standard Industrial Classification 2007 (SIC07) classification changes on the detailed historic dataset. In part this is because the link year information obtained in classification matrices (produced by ONS's Business Register) is most relevant in recent periods, and as we reclassify earlier periods so the matrices become less meaningful and the reclassification becomes more arbitrary.

The current Blue Book dataset includes a number of inconsistencies, which require manual intervention to correct prior to publication each year. As time has gone on, so the number of these inconsistencies and the resource required to fix them have both increased significantly to the extent where there is now a major exercise each year to check data in the periods which are not even open for revision.

UK Statistics Authority Assessment of National Accounts

In March 2011 the United Kingdom Statistics Authority undertook an assessment of the UK Annual and Quarterly National Accounts. This review included a detailed look at the methods of dissemination within National Accounts and, while changes in this area are limited in the short term, ONS is continuing to investigate longer term improvements to data access and handling.

The United Kingdom Statistics Authority published an assessment report on the UK Annual and Quarterly National Accounts. As part of this assessment, a wide range of users were questioned about which area of the national accounts they used most frequently and for what purposes. An extract of the outcome of the user consultation is reproduced below. The main findings from the report can be summarised as being that the most recent periods of data were valued most by users, as well as long-run consistent time series for key aggregates. These requirements have driven our plans for the historic National Accounts dataset.

United Kingdom Statistics Authority Assessment of National Accounts Extract – User Consultation

“The National Accounts provide the basis for analysing the economic performance of the country and are used throughout business, research and education communities, and by the media and the general public. The statistics make it possible to monitor the movement of major economic flows such as production, consumption and saving by individual sectors of the economy or the economy as a whole. The National Accounts are used to investigate the causal mechanisms at work within the economy through macroeconomic models. These models are used to produce economic forecasts.

Economic policy in the UK is formulated on the basis of an assessment of the recent behaviour and current state of the economy, and by forecasts of likely future trends. The Bank of England uses National Accounts in setting monetary policy and HM Treasury uses them in setting wider economic policy. The Office for Budget Responsibility (OBR) uses National Accounts to make an independent assessment of the public finances and the economy for each Budget and Pre-Budget Report.

The statistics are used by economists, journalists and a wide range of organisations and individuals to assess the performance of the UK economy. The statistics influence popular and political judgements about the success of economic policy. Private businesses use National Accounts to inform investment decisions, and banks use the statistics to inform lending and borrowing decisions.

Large parts of the accounts have a legal basis in the European Union. GNI is used as the tax base for the UK's contribution to the EU budget. The statistical office of the European Union (Eurostat) and the European Central Bank (ECB) use UK National Accounts as inputs to the aggregate EU accounts that they compile. The International Monetary Fund (IMF) uses National Accounts for the UK as part of its responsibility for monitoring the stability and sustainability of international markets.”

This article is to inform all users of National Accounts data about changes which will be made in order to:

- rationalise the content and coverage of historic datasets;
- reclassify the UK National Accounts to the Standard Industrial Classification 2007 (SIC07);
- enable access to the Blue Book 2011 (BB11) and Pink Book 2011 (PB11) datasets in the short term;
- allow users to download the PDF versions of BB11 and PB11; and
- lead to improvements in the access to and interaction with National Accounts datasets.

Historic Data Plans

When the BB11 and PB11 datasets are published, all the previously published series for the periods from 1997 Quarter one to 2011 Quarter two will be available. All GDP, Income and Capital, and Balance of Payments variables will continue to be published for these periods on the ONS website and in a PDF version of the Blue Book and Pink Book publications. Industry detail will change to reflect the SIC07 reclassification, providing an expanded coverage of the service sector; a separate article has been published to explain these changes on GDP(O), Index of Production and the Index of Services (see Duff (2011) 'Impact of Blue Book 2011 on GDP(O), IoS and IoP'). In addition, ONS published a detailed article describing the methodological impact of the industrial classification changes and its impact on main outputs (see Hughes J, James G, Evans A and Prestwood D (2009). 'Implementation of Standard Industrial Classification 2007: December 2009 update').

Prior to 1997 the core dataset for GDP will include all the key components of output, income and expenditure with data available annually back to 1948 and quarterly back to 1955. See Annex A for details of the series, including relevant CDIDs.

For the Sector and Financial Accounts all series will continue to be published back to 1987 Quarter one, as currently. Prior to 1987 all Government series and all Balance of Payments will continue to be published from 1948 annually and 1995 quarterly. Additionally some key variables will continue to be published and the ONS will look to provide these series on a consistent basis throughout the time period for the first time.

All these historic series will continue to be maintained in line with the latest data and the revisions periods of future Blue Books and Pink Books. This reduction in historic series will allow the ONS to ensure that all published series are consistent and coherent.

However, some series will only go back as far as 1997 under this proposal for GDP and back to 1987 for Sector and Financial Accounts. Examples include series that contain detailed industry or product breakdowns such as the detailed series in Business Investment and Consumer Trends.

Therefore, there may be a disconnect with supplementary publications such as those noted above. These will continue to publish back series, but users should be aware that while these will present the best indication of levels and growth for individual detailed components, the overall totals may, over time, become inconsistent with the top level aggregates in the core dataset pre 1997.

Regulations

The UK is legally required to produce a range of annual and quarterly data under the European Union transmission programme. These requirements will all continue to be met under the new approach described in this article.

The Core Dataset

Broadly the process to produce the core GDP dataset is as follows.

- 1 The existing expenditure and income current priced data is merged with the new data from 1997 onwards (as published in BB11).
- 2 At constant prices, the following expenditure series are linked to create the core GDP historic dataset with annuals from 1948 and quarters from 1955:
 - Final consumption expenditure of General Government.
 - Final consumption expenditure of Households.
 - Final consumption expenditure of NPISH.
 - Gross fixed capital formation.
 - Change in inventories.
 - Acquisition less disposal of valuables.
 - Exports of goods.
 - Exports of services.
 - Imports of goods.
 - Imports of services (as currently, exports of imports and exports will be independently linked at the goods & services level prior to 1955).
 - Taxes on products
 - Subsidies on product
 - Taxes on production
 - Subsidies on production
- 3 The output index - GVA at basic prices is linked.
- 4 From these components we will produce the new historic data for all core higher level aggregates, nsa and sa, aligned and unaligned, at market prices, basic prices and factor cost as appropriate, as well as implied deflators and indices.
- 5 To produce the Sector Accounts data we:
 - Merge the existing time series for current priced historic dataset to 1996 with the new data from 1997.
 - Similarly merge the savings ratio.
 - Recalculate real household disposable income.
 - Withdraw pre-1987 data for the Corporate sector and its components as well as the Household sector: existing data for the 'Rest of the World' and for Government sectors will be retained.
- 6 Given these two datasets we will then recalculate gross national income (GNI) as far back as possible - that is as far back as the Rest of the World components are available. The GNI series will be maintained in the same way as the GDP series noted above.

Dissemination

These data will be made available via the usual avenues. The Time Series on the ONS website will contain all the historic data – the first historic series will relate to the GDP data published 5 October. The GNI data is expected to be available at the end of October after the UK Economic accounts are published on 25 October.

Web Developments

The new ONS Website went live on 27 August 2011. When the QNA consistent with Blue Book 2011 is released on 5 October it will be the first QNA published to the new website in the new format.

The new web site offers much improved search functions which can be ordered by title, release date and type, with the ability to apply filters to narrow down the search to specific relevant content. Each output will have a publication page which will be html based rather than pdfs, but the pdf for the QNA and the UKEA will still be available to download as well. Charts and graphs will be accompanied by the data used in the production of that chart/graph so that the user can download the data and, in addition, all data tables associated with the publication will be available to download.

The new web site will also contain historical content and data, migrated from the old web site with limited metadata associated. Content which is authored directly to the new web site will contain a greater degree of metadata for improved search results.

In the future, ONS will also enable other organisations and systems to be able to re-use ONS content on their own systems for their own audiences by providing access to the 'Application Programming Interface (API)'.

Future

As the functionality available on the new ONS web site is incorporated into regular data releases users will start to see more fundamental changes in the way data is made available. The idea of a reference table will still exist; a reference table is a snapshot of data that accompany a particular release and are a record of what ONS published at a specific point in time. They will generally be the data in Excel spreadsheets accompanying a release. But future editions of Blue Book and Pink Book will look to embrace the ability to produce datasets for the web.

Datasets are larger groupings of related data into a single 'dataset'. These datasets can be multi-dimensional hence much larger than has previously been possible due to limitations in paper publishing and the use of Excel. ONS will be able to make available multi-dimensional datasets, that users will then be able to download into their own systems, or to interact with and customise through the Data Explorer tool made available on the new ONS web site. ONS would welcome comments or feedback from users on how they would be able to make best use of the wealth of data available on the UK National Accounts.

The Blue Book in 2011 will not be published by ONS as a paper publication, but will be available as a very similar looking PDF as previously published Blue Books. However, it is anticipated that the 2012 Blue Book will have a significant revamp – the details are not yet decided.

Conclusion

Blue Book 2011 and Pink Book 2011 introduce large scale change to both IT systems and classifications. ONS is going to give users of these publications a similar end product but with the additional quality improvements previously described. However, it will be necessary to withdraw some of the very detailed historic series where it has proven to be very difficult to maintain consistency. ONS will put extra efforts into implementing improvements to the more recent periods for all series, including improved analysis, more articles explaining the reasons for data movements, and better access to the data for users to be able to produce their own analyses. This access will be made possible by enhancements being made to the ONS web site.

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CORE "GDP" DATASET MAINTAINED FROM 1948 ANNUALLY AND FROM 1955Q1 QUARTERLY<1, 3>

	CDIDs		CDIDs	
	Seasonally adjusted		Not Seasonally Adjusted	
	Current prices	At 2008 prices	Current prices	At 2008 Prices
GDP at marked prices from the expenditure side				
GDP at market prices (GDP = P.3 + P.5 + P.6 - P.7 + de)	YBHA	ABMI	BKTL	BKVT
Gross final expenditure(P.3+P.5+P.6)	ABMF	ABMG	ABMD	ABME
Total domestic expenditure (P.3 + P.5)	YBIL	YBIM	YBIJ	YBIK
Final consumption expenditure (P.3)	ABKY	CAFI	ABKW	ABKX
Final consumption expenditure: households and NPISH	RPQM	NPSP	NSSG	NPSO
Final consumption expenditure: households	ABJQ	ABJR	ABPB	ABPF
Final consumption expenditure: NPISH	HAYE	HAYO	ABNV	ABNU
Final consumption expenditure: general government	NMRP	NMRY	NMRK	NMRU
Gross capital formation (P.5)	RQCM	CAGP	NQFM	NPQU
Gross fixed capital formation (P.51)	NPQS	NPQT	NPQX	NPQR
Changes in inventories (P.52)	CAEX	CAFU	ABMP	ABMQ
of which - alignment adjustment	DMUN	DMUM		
Acquisitions less disposals of valuables (P.53)	NPJQ	NPJR	NPJO	NPJP
Exports of goods and services (P.6) <2>	IKBH	IKBK	KTMW	KTMZ
Exports of goods (P.61)	BOKG	BQKQ	LQAD	BQKP
Exports of services (P.62)	IKBB	IKBE	KTMQ	KTMT
Imports of goods and services (P.7)<2>	IKBI	IKBL	KTMX	KTNB
Imports of goods (P.71)	BOKH	BQKO	LQBL	BQKN
Imports of services (P.72)	IKBC	IKBF	KTMR	KTMU
Statistical error - expenditure (de)	GIXM	GIXS	RVFD	GIXS
GDP at market prices from the income side				
GDP at market prices (GDP = D.1 + B.2g + D.2 - D.3 + di)	YBHA	ABMI	BKTL	BKVT
Compensation of employees (D.1)	DTWM		HAEA	
Gross operating surplus (B.2g)	ABNG		ABNF	
Corporate sector	CGBZ		CGBY	
Non-financial corporations	ROZQ		NQBE	
Public corporations	CAEQ		NRJT	
Private corporations	CAER		NRJK	
of which - alignment adjustment	DMUQ			
Financial corporations	NHCZ		NQNV	
Non-corporate sector	IHYF		IHYE	
Households and NPISH	CAEN		QWLS	
Households	CAEO		HABM	
NPISH	CAEP		HABV	
General government	NTAR		NMXV	
Central government	RNDB		NRLN	
Local government	RNSP		NRLT	
Mixed income (B.3g)	RNKX		HAXH	
Taxes on production less subsidies (D.2 - D.3)	CMVL		GCSC	
Statistical error - income (di)	GIXQ		RVFC	

Other GDP and GVA measures					
Basic prices adjustment (BPA = D.21 - D.31)	NTAP	NTAO			
Taxes on products (D.21)	NTAG	NTAH			
Subsidies on products (deduction for) (D.31)	RUFI	RUFG			
Factor cost adjustment (FCA = D.2 - D.3)	CMVL	CMVN			
Taxes on production (D.2)	NTAB	NTAF			
Subsidies on production (deduction for) (D.3)	AAXW	DIFV			
Gross value added at basic prices (GDP - BPA)	ABML	ABMM			
Gross value added at factor cost (GDP - FCA)	ABNB	YBHH			
Individual measures:					
Gross value added at basic prices - expenditure based estimate (GDP(E))	CAGQ	CAGR			
Gross value added at basic prices - income based estimate (GDP(I))	CAGS	CAGT			
Residual error (GDP(E) - GDP(I))					
Gross value added at basic prices - output based measure (GDP(O)): Index		YBFR			

Notes

1. The series shown are the £billion versions (except for YBFR). The maintained dataset will include value, price and volume indices, implied deflators and growth series where they can be derived from these series.
2. The series for P.6 and P.7 will be maintained back to 1948 but their components will begin at 1955.
3. Further measures covering GNI and its components will be added to this programme.