

Assessment of compliance with the Code of Practice for Official Statistics

The UK Annual and Quarterly National Accounts

(produced by the Office for National Statistics)

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About the UK Statistics Authority

The UK Statistics Authority is an independent body operating at arm's length from government as a non-ministerial department, directly accountable to Parliament. It was established on 1 April 2008 by the *Statistics and Registration Service Act 2007*.

The Authority's overall objective is to promote and safeguard the production and publication of official statistics that serve the public good. It is also required to promote and safeguard the quality and comprehensiveness of official statistics, and good practice in relation to official statistics.

The Statistics Authority has two main functions:

1. oversight of the Office for National Statistics (ONS) – the executive office of the Authority;
2. independent scrutiny (monitoring and assessment) of all official statistics produced in the UK.

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ASSESSMENT AND DESIGNATION

The *Statistics and Registration Service Act 2007* gives the UK Statistics Authority a statutory power to assess sets of statistics against the *Code of Practice for Official Statistics*. Assessment will determine whether it is appropriate for the statistics to be designated as National Statistics.

Designation as National Statistics means that the statistics comply with the *Code of Practice*. The *Code* is wide-ranging. Designation can be interpreted to mean that the statistics: meet identified user needs; are produced, managed and disseminated to high standards; and are explained well.

Designation as National Statistics should not be interpreted to mean that the statistics are always correct. For example, whilst the *Code* requires statistics to be produced to a level of accuracy that meets users' needs, it also recognises that errors can occur – in which case it requires them to be corrected and publicised.

Assessment reports will not normally comment further on a set of statistics, for example on their validity as social or economic measures. However, reports may point to such questions if the Authority believes that further research would be desirable.

Assessment reports typically provide an overview of any noteworthy features of the methods used to produce the statistics, and will highlight substantial concerns about quality. Assessment reports also describe aspects of the ways in which the producer addresses the 'sound methods and assured quality' principle of the *Code*, but do not themselves constitute a review of the methods used to produce the statistics. However the *Code* requires producers to "seek to achieve continuous improvement in statistical processes by, for example, undertaking regular reviews".

The Authority may grant designation on condition that the producer body takes steps, within a stated timeframe, to fully meet the *Code's* requirements. This is to avoid public confusion and does not reduce the obligation to comply with the *Code*.

The Authority grants designation on the basis of three main sources of information:

- i. factual evidence and assurances by senior statisticians in the producer body;
- ii. the views of users who we contact, or who contact us, and;
- iii. our own review activity.

Should further information come to light subsequently which changes the Authority's analysis, it may withdraw the Assessment report and revise it as necessary.

It is a statutory requirement on the producer body to ensure that it continues to produce the set of statistics designated as National Statistics in compliance with the *Code of Practice*.

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Foreword

This re-assessment of the Annual and Quarterly National Accounts has found that ONS has made much progress since the first assessment which reported in 2011. Some notable developments have been in improving its engagement with users of the National Accounts, implementing updated international standards and in presenting the statistics in more easily digestible ways for users. A National Statistics Quality Review (NSQR), conducted by ONS at the same time as this re-assessment, found that the National Accounts are of a good standard. The Authority's findings are broadly similar.

In 2014, ONS produced the National Accounts using new European standards as well as making further enhancements against existing standards. Implementing these involved delivering a substantial communications plan to prepare users for the changes. At the same time, ONS continued to publish the suite of National Accounts statistics, meeting demanding publication schedules as well as introducing additional minor improvements. The implementation of the new standards was a huge project, one of the most demanding that ONS has faced in recent years, and that it was implemented successfully reflects great credit on ONS.

The National Accounts are probably the most challenging sets of statistics which any National Statistical Institute has to produce. Not only do they have to conform to various international – specifically in the UK's case, European – standards, they draw data from many sources and quickly turn around estimates of crucial significance to a wide range of users. It is analogous to a giant multinational conglomerate trying to consolidate the accounts of hundreds of subsidiaries in a very short timescale.

We have identified, both in this report and in our assessment of the Supply and Use Tables (Assessment Report 300), that the lack of contemporary data on purchases by businesses has impaired the use of the supply and use tables at a detailed level. We are assured, however, by the range of measures that ONS has taken, that the data are robust at a broad level of aggregation. As a consequence, the estimates of GDP continue to comply with the Code of Practice for Official Statistics, subject to meeting the Requirements in this Assessment Report.

The economies of many countries, including the UK, are undergoing some of the most significant structural shifts for more than a generation. Thus, the challenges of producing the National Accounts in 2015 are different from when we assessed them previously. The principles of the Code of Practice remain relevant, however, and our assessment has identified some areas where the National Accounts can improve compliance with the Code. There is some overlap in the findings of this re-assessment and our first assessment. Neither this overlap, nor the number of Requirements, is indicative of a failure or lack of action by ONS – it is more that the world has changed since the initial assessment, and we expect a continual evolution and improvement of these enormously high-profile statistics. We are encouraged by ONS's commitment to continuous improvement, and are confident that it can implement our Requirements and continue to produce statistics that fully merit the National Statistics status.

Ed Humpherson
Director General for Regulation, UK Statistics Authority

1 Summary of findings

1.1 Introduction

1.1.1 This is one of a series of reports¹ prepared under the provisions of the *Statistics and Registration Service Act 2007*². The Act gives the Statistics Authority power to re-assess whether the *Code of Practice for Official Statistics*³ continues to be complied with in relation to official statistics already designated as National Statistics. The report covers the sets of statistics related to the UK's Annual and Quarterly National Accounts, produced by the Office for National Statistics (ONS) and reported in:

- *Second Estimate of GDP*⁴ (M2:GDP)
- *Quarterly National Accounts*⁵ (QNA)
- *United Kingdom Economic Accounts*⁶ (UKEA)
- *United Kingdom National Accounts – the Blue Book*⁷ (Blue Book)

1.1.2 This report forms part of a broader assessment of the Annual and Quarterly National Accounts produced by ONS. Assessment report 300 examines the statistics in Supply and Use Tables and Input-Output Tables.

1.1.3 The previous assessment of all these statistics was reported in Assessment report 100⁸, published in March 2011. These statistics have been re-assessed because they are amongst the UK's most prominent macro-economic statistics and have been the subject of significant changes since the previous assessment.

1.1.4 This report was prepared by the Authority's Assessment team, and approved by the Regulation Committee on behalf of the Board of the Statistics Authority, based on the advice of the Director General for Regulation.

1.2 Decision concerning designation as National Statistics

1.2.1 The Statistics Authority judges that the statistics covered by this report are readily accessible, produced according to sound methods and managed impartially and objectively in the public interest, subject to any points for action in this report. The Statistics Authority confirms that the statistics detailed in paragraph 1.1.1 are designated as National Statistics, subject to ONS implementing the Requirements listed in section 1.5 and reporting them to the Authority by May 2015.

¹ <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html>

² http://www.opsi.gov.uk/Acts/acts2007/pdf/ukpga_20070018_en.pdf

³ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html>

⁴ <http://www.ons.gov.uk/ons/rel/naa2/second-estimate-of-gdp/q3-2014/index.html>

⁵ <http://www.ons.gov.uk/ons/rel/naa2/quarterly-national-accounts/q2-2014/stb-quarterly-national-accounts--q2-2014.html>

⁶ <http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-economic-accounts/q2-2014/index.html>

⁷ <http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2014-edition/index.html>

⁸ <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/assessment-report-100---uk-annual-and-quarterly-national-accounts.pdf>

1.2.2 ONS has informed the Assessment team that it has started to implement the Requirements listed in section 1.5. The Statistics Authority welcomes this.

1.3 Summary of strengths and weaknesses

1.3.1 ONS has improved its engagement with its key stakeholders publishing the proceedings of its meetings, along with agreed actions, to its website. These minutes show a detailed exchange of information to help these users make better use of the statistics. When problems have arisen with particular statistics, ONS has worked with stakeholders to resolve their concerns. Generally, users praised the responsiveness of the statistics teams to their queries and appreciated their advice.

1.3.2 Over the past three years, ONS has worked to adopt international National Accounts standards such as the 2010 European System of National and Regional Accounts standards (ESA 2010)⁹ and those required to produce estimates of Gross National Income (GNI). This was a great challenge to ONS, and one which the statistics teams have implemented well.

1.3.3 Users told us that they generally accept ONS's priorities of developing the National Accounts against international standards over other potential enhancements. However, users also commented to us that ONS seems slow to modify methods used to compile the National Accounts in response to changes in the structure of the UK economy, citing the lack of up-to-date purchases data and the method of allocating balancing adjustments as examples.

1.3.4 ONS continues to improve the sources of data used in the compilation of the National Accounts, and is looking to use additional administrative data sources. New sources of administrative data have the potential to reduce the burden on businesses responding to ONS's surveys. The long-term ambition to make use of VAT returns would appear to have made good progress recently and offer particular opportunities to replace a proportion of survey data. We encourage ONS's current endeavours in this field.

1.3.5 ONS commissioned a National Statistics Quality Review (NSQR) of the National Accounts and Balance of Payments in 2013¹⁰. The NSQR reported in July 2014, and made several recommendations for the improvement of the processes used to compile the National Accounts and to develop them to reflect better the structure of the UK's economy today.

1.4 Detailed recommendations

1.4.1 The Assessment team identified some areas where it felt that ONS should improve the production and presentation of statistics in the Annual and Quarterly National Accounts. Those which the Assessment team considers essential to enable designation as National Statistics are listed in section 1.5,

⁹ ESA 2010 is the new international standard for the national accounts of EU Member States used to compile the UK's National Accounts since the end of September 2014

¹⁰ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-reviews/list-of-current-national-statistics-quality-reviews/nsqr-series--2--report-no--2--review-of-national-accounts-and-balance-of-payments.pdf>

alongside a short summary of the key findings that led to each Requirement being made. Other recommended changes, which the Assessment team considers would improve the statistics and the service provided to users but which are not formally required for their designation as National Statistics, are listed – as Suggestions – in section 1.6.

1.5 Requirements for designation as National Statistics

1.5.1 This section includes those improvements that ONS is required to make in respect of the Annual and Quarterly National Accounts in order to fully comply with the *Code of Practice for Official Statistics*, and to enable designation as National Statistics.

Finding	Requirement	
<p>ONS either has not published information about users' experiences of using these statistics (<i>Blue Book</i> and <i>UKEA</i>) or the information is out of date (<i>M2:GDP</i> and <i>QNA</i>). It is not clear how ONS has taken users' experiences into account in developing these statistics. ONS should:</p>	1	<p>Update its published information about:</p> <ul style="list-style-type: none"> a) users' experiences of these statistics; b) how it will take account of users' views in the presentation of the National Accounts, and associated commentary, datasets and metadata (para 3.3)
<p>ONS does not engage proactively enough with expert users in validating and sense-checking National Accounts data. ONS should:</p>	2	<p>Investigate ways of enhancing user validation initiatives to encourage more engagement with the purpose of improving data, their usability and user guidance (para 3.18)</p>
<p>There is scope to provide better information about the degrees of uncertainty in these statistics which may lead to significant revisions. ONS should:</p>	3	<ul style="list-style-type: none"> a) Improve explanations about the degrees of uncertainty in these statistics; b) consider applying the Guidance for Official Statistics Producers on Communicating Uncertainty and Change in implementing part (a) (para 3.21)
<p>The GDP Quality and Methods Information document does not discuss the likely effects on the quality of the GDP statistics caused by the lack of an up-to-</p>	4	<ul style="list-style-type: none"> a) Publish its development plans for resuming the Purchases Survey b) update the <i>GDP Quality and Methodology Information</i> to discuss the likely effects on the quality of GDP statistics caused by the lack of an up-to-date PI (para 3.26)

date Purchases Inquiry (PI). ONS should:		
ONS does not always make clear when its methods of linking data to make long-term time series produce inconsistencies. ONS should:	5	Improve its signposting, drawing users' attention to data issues which give rise to inconsistencies in backcast historical data (para 3.27)
ONS does not always apply its third party data access arrangements to National Accounts data with sufficient flexibility. ONS should:	6	Publish details of its process for balancing the protection of the privacy of confidential information in the National Accounts, while not unduly limiting the practical utility of the statistics to third parties (para 3.29)
ONS has not made clear its plans to develop new administrative sources for these statistics. ONS should:	7	Investigate opportunities to maximise the use of administrative data for these statistics, particularly the more-intensive use of VAT returns data, and publish its plans (para 3.31)
ONS does not provide an adequate narrative to inform users fully about what the statistics mean (<i>Blue Book</i>); the context in which it publishes these statistics (all outputs); or about their strengths and limitations, particularly uncertainty in the estimates (all outputs). ONS should:	8	<p>a) Further improve the clarity of the commentary in <i>Blue Book</i> to aid user interpretation of the statistics;</p> <p>b) provide more information in the Annual and Quarterly National Accounts publications about why monitoring GDP is important and to whom, what the purposes of the statistical reports are and who the main users are;</p> <p>c) Provide more information or links to information about the strengths and limitations, particularly about the uncertainty of estimates, of both the Annual and the Quarterly National Accounts.</p> <p>As part of meeting this Requirement, ONS should consider the points detailed in annex 1 and annex 2 (para 3.39)</p>
<i>United Kingdom Economic Accounts (UKEA)</i> does not currently meet the standards for statistical reports. ONS should:	9	a) Ensure that there are adequate metadata accompanying <i>UKEA</i> to guide users about where they can find commentary regarding the main messages from the statistics, information about the context in which the statistics are produced, the likely uses of the statistics, the strengths and limitations of the statistics in relation to their potential

		<p>use, and information about the quality of the statistics, along with other key metadata;</p> <p>b) make clear to users of <i>UKEA</i>, at least in broad terms, what plans it has for its further development (para 3.40)</p>
<p>ONS does not have adequate procedures in place to assure itself of the quality of administrative data used in compiling the National Accounts. ONS should:</p>	10	<p>Clarify its arrangements for auditing the quality of administrative data used to compile the National Accounts by:</p> <p>a) publishing information about the quality audit arrangements for all the external sources of administrative data used to produce the National Accounts;</p> <p>b) considering the Authority's Report <i>Quality Assurance and Audit Arrangements for Administrative Data</i> and the National Statistician's <i>Interim Guidance</i> in implementing this Requirement (para 3.47)</p>

1.6 Suggestions for extracting maximum value from the statistics

1.6.1 This section includes some suggestions for improvement to the statistics in the Annual and Quarterly National Accounts in the interest of the public good. These are not formally required for designation, but the Assessment team considers that their implementation will improve public confidence in the production, management and dissemination of official statistics.

We suggest that ONS:

1	<p>Enhance <i>UK National Accounts – a short guide</i> by providing examples of usage; improving the standards of presentation and including visual aids; and referring to the generic classes of use put forward in the Monitoring Brief: The Use Made of Official Statistics (para 3.5)</p>
2	<p>Publish:</p> <p>a) the terms of reference and the proceedings of the Financial Statistics Expert Group, and links to these from the National Accounts web pages</p> <p>b) the timetable for its consultation on Flow of Funds Accounts beyond its key stakeholders (para 3.8)</p>
3	<p>Publish its corrections policy for National Accounts in order to make clear to users of these statistics its policy on classifying errors and handling corrections (para 3.12)</p>

4	<p>a) Publish descriptions of the actions that have been taken to implement each of the recommendations in its internal review [of systems and quality assurance of Gross Fixed Capital Formation statistics]</p> <p>b) Publish information about the extent to which the National Accounts have been improved by these actions</p> <p>c) Take steps to share with wider users of the GFCF statistics the experiences of the key stakeholders so they can also benefit (para 3.19)</p>
5	<p>Pending the introduction of double deflation, explain the current limitations of the statistics due to not using double deflation in <i>GDP Quality and Methodology Information</i> (para 3.24)</p>
6	<p>Continue to communicate with users its progress with this work [of investigating replacing survey data with administrative data] and its potential to reduce the costs burden on data suppliers (para 3.30)</p>

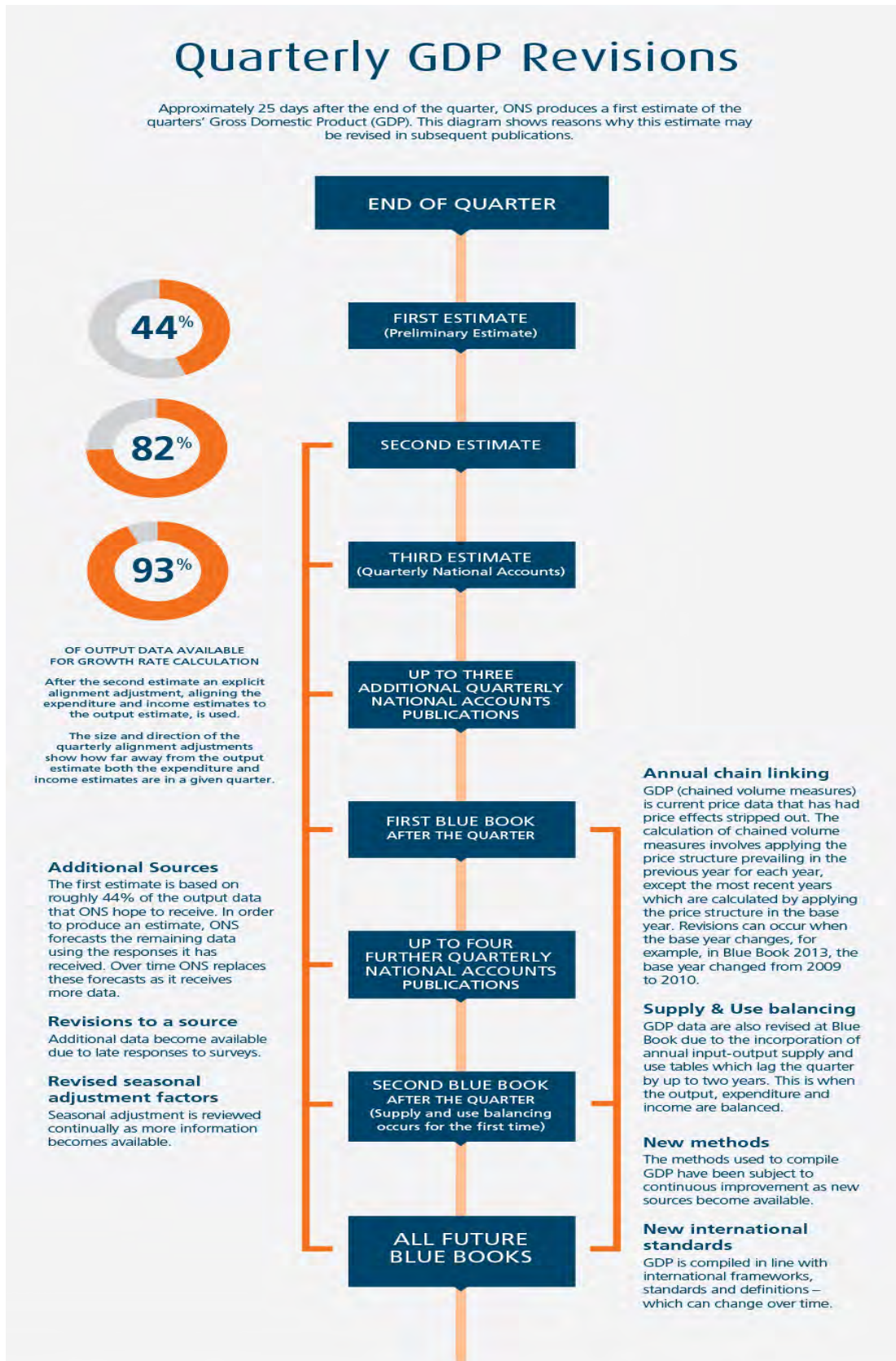
2 Subject of the assessment

- 2.1 ONS produces the UK Annual and Quarterly National Accounts (the National Accounts) using an accounting framework that provides a systematic and detailed statistical description of the UK economy. From September 2014, the accounting framework adopts the concepts and definitions in the European System of National and Regional Accounts 2010¹¹ (ESA 2010). ESA 2010 is consistent with the United Nations' System of National Accounts 2008¹² (2008 SNA) but includes some differences, making it more suitable for implementation within the EU where it is a legal requirement for countries to base the compilation of their national accounts on ESA 2010.
- 2.2 The first UK official national accounts were developed during the Second World War and the UN introduced international guidelines shortly thereafter in 1947 to promote better comparisons of economic indicators. By agreeing on the definition of different monetary transactions, such as what counts as investment by businesses, National Accounts figures became broadly comparable between countries. The annual National Accounts (Blue Book) was first published in 1952 and during the late 1980s the compilation of the National Accounts was centralised in the Central Statistical Office (the predecessor to the ONS).
- 2.3 The National Accounts describe the complex transactions in the economy among four main participants: individual households, government, legal entities (such as companies) and institutions outside the UK border (known as the rest of the world). ONS groups participants into sectors, for example, the government sector and the household sector, and the National Accounts include grouped economic transactions between these sectors. Examples of transactions include government expenditure, interest payments, capital expenditure and a company issuing shares. The National Accounts framework, covering the UK economy as a whole, as well as individual sectors, brings these sectors and transactions together to provide a coherent and consistent description of output, income, consumption and wealth.
- 2.4 The National Accounts contain the components required to compile aggregate measures of economic activity, such as gross domestic product (GDP). GDP is a measure of the value of all the economic activity in the UK in a particular period. ONS estimates GDP in three different ways, based on the availability of different data sources, and it gives priority to presenting a single estimate. All three approaches should, in theory, produce the same estimate of GDP. Different data sources are used for each approach, which leads to the estimates containing errors and omissions. There are therefore a number of revisions to the estimate of GDP and its components as more data sources become available, leading to a more reliable estimate. ONS has published an infographic about quarterly GDP revisions, explaining this process as in Figure 2.1 below:

¹¹ <http://ec.europa.eu/eurostat/web/esa-2010/overview>

¹² <http://unstats.un.org/unsd/nationalaccount/sna.asp>

Figure 2.1: ONS Infographic about Quarterly GDP revisions



- 2.5 The headline statistics in the National Accounts statistical reports are:
- annual and quarterly GDP estimates of levels and growth
 - annual and quarterly sector and financial accounts
 - financial and non-financial balance sheet
- 2.6 ONS publishes its first (or preliminary) estimate of GDP using the production approach¹³ around 25 days after the reference quarter in *Gross Domestic Product: Preliminary Estimate*¹⁴. This estimate incorporates only 44 per cent of the output data that ONS expects to receive in total. ONS forecasts the remaining 56 per cent of data based on the data received up to that point. The *Second Estimate of GDP* improves on the preliminary estimate, using around 80 per cent actual output data. ONS publishes the *Second Estimate of GDP* around 55 days after the end of the quarter to which the estimate relates. Actual data in the *Second Estimate of GDP* replaces much of the forecast data used in producing the preliminary estimate. The *Quarterly National Accounts (QNA)* presents a third estimate of GDP (Month 3 estimates) for the quarter and includes, for the first time, information on the expenditure¹⁵ and income¹⁶ approaches to GDP for the quarter. Also included in *QNA* are data on the institutional sector accounts, including the household savings ratio and real household disposable income. ONS updates its third estimates in subsequent releases of *QNA* leading eventually to the first annual estimate of GDP in *Blue Book*, normally around six months after the end of the calendar year.
- 2.7 ONS publishes *United Kingdom Economic Accounts* on the same day as *Quarterly National Accounts* and the report provides detailed quarterly estimates of national output, income and expenditure for the UK and contains much of the information in the *Quarterly National Accounts* and the *Balance of Payments*¹⁷, as well as significant amounts of data not elsewhere available. This extra content includes non-seasonally adjusted components of GDP, detailed quarterly sector accounts and detailed quarterly balance of payments data. It contains tables showing the main aggregates of GDP and balance of payments, plus income and capital accounts, financial accounts and financial balance sheets by sector.
- 2.8 *Blue Book* is the flagship annual publication for the UK National Accounts. *Blue Book* includes supply and use tables for all but the most recent year and annual versions of the key national accounts aggregates in the *UK Economic Accounts*. Included in *Blue Book* is a special chapter devoted to extra public sector data and a chapter devoted to the environmental accounts. The annual *Blue Book* production process also provides the opportunity for ONS to introduce major methodological or conceptual changes. The *Blue Book* estimate of GDP takes account of new and more comprehensive annual data sources than those used to produce the preliminary, the second and the

¹³ The production approach measures the sum of value added through the production of goods and services within the economy

¹⁴ <http://www.ons.gov.uk/ons/rel/gva/gross-domestic-product--preliminary-estimate/q3-2014/index.html>

¹⁵ The expenditure approach measures the total final expenditure on all finished goods and services produced within the economy

¹⁶ The income approach measures the total income generated by the production of goods and services within the economy. This includes income earned by companies, employees and the self-employed

¹⁷ <http://ons.gov.uk/ons/taxonomy/index.html?nscl=Balance+of+Payments>

quarterly estimates of GDP. *Blue Book* provides detailed annual estimates of national output, income and expenditure for the UK for the most recent nine years. It provides full accounts by sector, including financial and non-financial corporations, central and local government and households.

- 2.9 Even with the adjustments to the quarterly estimates, there remain ‘statistical discrepancies’ between the headline GDP figure and each of the estimates using the income approach and the expenditure approach. After a lag of around one to two years, more data are available and the statistics team removes these discrepancies through a process known as supply and use balancing. ONS uses the supply and use framework to investigate the differences between the estimates of supply and use of different products to, and by, different industries. This balancing process results in a single, reconciled estimate of GDP which the output, income and expenditure data inform. ONS publishes the annual estimates from supply and use balancing in *Blue Book* around 18 months after the end of the year¹⁸.
- 2.10 The Supply and Use Tables (SUTs) provide the main macro-economic aggregates such as GDP, components of value added and output by industry, imports, final consumption, gross capital formation and exports. The supply table describes the goods and services either supplied by domestic industry or imported. The use table shows whether businesses consume goods and services as part of making something else or consumed without further processing. The use tables also tell users whether businesses use the goods and services to form capital or to export them. Furthermore, the use table shows the income generated in the production process.
- 2.11 Integrated within the system of National Accounts are many other sets of statistics not in the scope of this assessment, all of which have been the subject of assessments by the UK Statistics Authority. These are the Balance of Payments¹⁹; Retail Sales²⁰; Short-Term Economic Output Indicators²¹; Prodcom²²; International Transactions²³; Public Sector Finance statistics²⁴ and UK Environmental Accounts²⁵.
- 2.12 Business, research and education communities, the media and the public use the National Accounts to provide a basis for analysing the UK’s economic performance. The statistics make it possible to monitor the major economic flows such as output, consumption and saving by individual sectors of the economy or the economy as a whole. The National Accounts aid the

¹⁸ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/a-guide-to-supply-and-use-process/index.html>

¹⁹ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-45---balance-of-payments-statistics.pdf>

²⁰ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-279---statistics-on-retail-sales.pdf>

²¹ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-278---statistics-on-gdp--iop-and-ios.pdf>

²² <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-233---statistics-on-uk-manufacturers--sales-by-product--prodcom-.pdf>

²³ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-164---statistics-on-international-transactions.pdf>

²⁴ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-144---statistics-on-public-sector-finances.pdf>

²⁵ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/assessment-report-118---environmental-accounts.pdf>

investigation of the causal mechanisms at work within the economy through macro-economic models and can lead to economic forecasts. Assessments of the recent behaviour and current state of the economy and forecasts of likely future trends help in the formulation of the UK's economic policy. The Bank of England uses the National Accounts in setting monetary policy and HM Treasury uses them in setting wider economic policy. The Office for Budget Responsibility (OBR) uses the National Accounts to make independent assessments of the public finances and the economy for each Budget and Autumn Statement.

- 2.13 Economists, journalists and a wide range of organisations and individuals use the statistics to assess the performance of the UK economy. The statistics influence popular and political judgements about the success of economic policy. Private businesses use statistics from the National Accounts in deciding between alternative investment options, and banks use the statistics when making decisions about lending and borrowing and when advising clients.
- 2.14 Large parts of the National Accounts have legal standing in the European Union (EU). Gross National Income (GNI) forms part of the National Accounts and the EU uses the GNI as the basis for assessing how much the UK should contribute to the EU's budget. The statistical office of the EU (Eurostat) and the European Central Bank (ECB) use UK National Accounts as data sources for the consolidated EU accounts that they compile. The International Monetary Fund (IMF) uses the UK's National Accounts as part of its monitoring of the stability and sustainability of international markets.
- 2.15 In order to supplement the core National Accounts, ONS also compiles satellite accounts to cover activities linked to the economy, but separate from the core accounts. Satellite accounts analyse specific types of activity or the impact of certain activities in a wider, not necessarily purely economic, context. In the UK National Accounts framework, the only satellite accounts currently produced are the environmental accounts²⁶ (which ONS publishes separately, in addition to the summary form in *Blue Book*); the experimental tourism satellite account²⁷ and the household satellite account²⁸.
- 2.16 ONS draws together data from many different sources to compile the National Accounts. These different sources not only help to ensure that the National Accounts are comprehensive, but they provide different perspectives on the economy, for example, sales by retailers and purchases by households. By comparing and contrasting these different sources, the National Accounts present a view of the economy which is consistent and coherent.
- 2.17 ONS itself produces many of the data sources for the National Accounts, including the following:
- The Inter-Departmental Business Register (IDBR)²⁹, which holds information on over two million enterprises, and is used as a sampling frame and source of general information for ONS's business surveys
 - The Monthly Business Survey³⁰, which is the primary data source for the output measure of GDP

²⁶ <http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/index.html>

²⁷ <http://www.ons.gov.uk/ons/rel/tourism/tourism-satellite-account/index.html>

²⁸ <http://www.ons.gov.uk/ons/rel/wellbeing/household-satellite-accounts/index.html>

²⁹ <http://www.ons.gov.uk/ons/about-ons/products-and-services/idbr/index.html>

- The two primary sources of data for Household Final Consumption Expenditure, which are the Retail Sales Inquiry³¹ and the Living Costs and Food Survey³²

The main sources of prices data are the Consumer Prices Index³³, the Producer Price Indices³⁴ and the Services Producer Price Indices³⁵.

- 2.18 Other important sources of data for the National Accounts include the Annual Survey of Hours and Earnings³⁶ (ASHE), the Annual Business Survey³⁷ (ABS) and the International Passenger Survey³⁸ (IPS). External suppliers of data include HM Revenue & Customs (which provides ONS with data on wages and salaries) and the Bank of England (which provides ONS with a range of financial data).
- 2.19 The move from the 1995 version of ESA to ESA 2010 reflects significant changes to the international standards adopted by all EU Member States. National Statistical Institutes such as ONS for the UK have introduced these new standards, along with other improvements, to ensure that the UK National Accounts produce consistent, comparable and reliable economic statistics. ESA 2010 introduces a number of new concepts including reclassifying, for example, research and development and weapons systems expenditure as investments rather than expenditure. EU Member States are also required to produce data on the treatment of pension entitlement which under the new standards they now recognise as liabilities. The new standards also result in changes to table layouts, the addition of new time series and the removal of others. The scale of the developments brought about by the adoption of these new standards made the programme of changes one of the most demanding that ONS has faced in recent years.
- 2.20 ONS publishes the Annual and Quarterly National Accounts in HTML and PDF forms, with time series data tables published in Excel and CSV formats. This equates to a level of three stars under the Five Star Scheme that forms part of the Open Standards Principles proposed in the Open Data White Paper: *Unleashing the Potential*³⁹ and adopted as UK government policy in November 2012⁴⁰. Five stars represent the highest star rating within the Scheme.

³⁰ <http://www.ons.gov.uk/ons/about-ons/get-involved/taking-part-in-a-survey/information-for-businesses/a-to-z-of-business-surveys/monthly-business-survey--production-and-services-/index.html>

³¹ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/retail-sales/index.html>

³² <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/social-and-welfare-methodology/living-costs-and-food-survey/index.html>

³³ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/consumer-price-indices/index.html>

³⁴ <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Producer+Price+Indices>

³⁵ <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Services+Producer+Price+Indices>

³⁶ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/labour-market/annual-survey-of-hours-and-earnings/index.html>

³⁷ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/business-and-energy/annual-business-survey/index.html>

³⁸ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/travel-and-transport-methodology/international-passenger-survey-methodology/index.html>

³⁹ http://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf

⁴⁰ <https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles>

2.21 The total staff working on National Accounts, including compilation areas and all the development areas for ESA 2010 methods and systems changes, is 238 (this excludes regional accounts, public sector finances and balance of payments).

3 Assessment findings

Principle 1: Meeting user needs

The production, management and dissemination of official statistics should meet the requirements of informed decision-making by government, public services, business, researchers and the public.

Requirements from previous Assessment report 100 (March 2011):

- Document the wider uses of the National Accounts, and take steps to engage further with a broader range of users
- Publish information about users' experiences of the National Accounts, including details of whether the data quality and the format and timing of reports meet their needs

Suggestions from previous Assessment report 100 (March 2011):

- Refer to the generic classes of use put forward in the Monitoring Brief: The Use Made of Official Statistics, as part of implementing Requirement 1

- 3.1 After the previous assessment of these statistics, ONS demonstrated to us that it had engaged further with a broad range of users and, as a result, developed a better appreciation of users' needs. ONS now runs economic fora for city analysts, business economists, media and academic users to discuss issues relating to measuring the economy. These have proved very popular and ONS told us that there were over 80 attendees at each of the first events held in July and October 2014. ONS told us that its intended audiences have commended these fora. After the previous assessment, ONS published to its National Accounts webpages further information about its user engagement, such as minutes of meetings, presentation slides and Frequently Asked Questions. ONS also publishes slides from presentations given at various events and seminars. Bilateral meetings, for example between ONS and each of the House of Commons Library, the Department for International Development and the BBC, supplement the economic forum meetings. We commend the introduction of the economic fora, which the Assessment team views as allowing new avenues of engagement between ONS and the wider National Accounts user community.
- 3.2 ONS plays an active part in European and other international task forces focused on improving countries' National Accounts, as well as in domestic fora. Having a voice internationally helps ONS to shape future improvements to the National Accounts as well as better preparing the UK for such improvements. Representation in domestic meetings helps ONS to improve its understanding of the context in which its statistics are used and to meet and engage directly with users. Users who attend different groups, run either by ONS or by others at which members of the statistics teams are present, told us that they welcome these opportunities for a dialogue with ONS statisticians.

- 3.3 ONS includes links in its *Quality and Methods Information (QMI) for Gross Domestic Product*⁴¹ to the outcomes of feedback surveys from users of the *M2:GDP* and the *QNA* statistics. ONS states in the published feedback that it plans to run these surveys every one to two years. However, the information is out of date as the feedback relates to the first quarter of 2011. Additionally, there is no published information about the recent experiences of the users of the statistics in *Blue Book*. Due to the lack of information about recent users' experiences, it is not possible to see how ONS has taken account of their views in improving *Blue Book*. As part of the designation as National Statistics, ONS should update its published information about: a) users' experiences of these statistics; b) how it will take account of users' views in the presentation of the National Accounts, and associated commentary, datasets and metadata⁴² (Requirement 1).
- 3.4 ONS continues to engage closely with its key National Accounts stakeholders – the Bank of England, Department for Business Innovation and Skills (BIS), HM Treasury, and OBR. The Quarterly Review of [National] Accounts Stakeholder Group⁴³ is one means of collective engagement. Bilateral meetings between ONS and each of these stakeholders supplement Group meetings. ONS publishes the minutes of the meetings of the Group⁴⁴, which are accessible from the National Accounts landing page of its website. Making the proceedings of the key Stakeholders Group transparent has opened up the detailed discussions, which take place between ONS and the key stakeholders providing another source of commentary about movements in the statistics. We commend ONS for making these proceedings more transparent.
- 3.5 After the previous assessment and following a Requirement about publishing information about users' experiences (see above), ONS told us that it planned to expand its *National Accounts Introduction and Guide*. In August 2012, ONS published *UK National Accounts – a short guide*⁴⁵ (*Short Guide*), which replaced the *National Accounts Introduction and Guide*, and subsequently updated it in September 2014. We welcome the publication of *Short Guide* and the information that it offers to those interested in the National Accounts. The format of the presentation is less engaging than the infographics that ONS has developed to help inform people about the National Accounts, and there is scope to make *Short Guide* more user friendly. The section in *Short Guide* which should explain how people use the National Accounts presents very little information. We suggest that ONS enhance *UK National Accounts – a short guide* by providing examples of usage; improving the standards of presentation and including visual aids; and referring to the generic classes of use put forward in the Monitoring Brief: The Use Made of Official Statistics.

⁴¹ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/economic-statistics/gross-domestic-product--gdp-.pdf>

⁴² In relation to Principle 1, Practice 5 of the *Code of Practice*

⁴³ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/presentations-and-meeting-papers/review-of-quarterly-national-accounts/quarterly-review-of-accounts---terms-of-reference.pdf>

⁴⁴ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/presentations-and-meeting-papers/index.html>

⁴⁵ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/articles/2011-present/uk-national-accounts---a-short-guide--2014.pdf>

- 3.6 In September 2013, ONS began a National Statistics Quality Review (NSQR)⁴⁶ of the National Accounts and the Balance of Payments. The NSQR team reviewed National Accounts methods, processes, and communications and engagement with users. The overall judgement of the NSQR is that UK National Accounts are of a good standard. The reviewers said that: ‘While compared with other countries overall, UK National Accounts may not be the leading edge, there are elements which are, for example with regard to the measurement of the services sector’⁴⁷. ONS published the NSQR findings in early July 2014, and published its response⁴⁸ to the review on 15 January 2015. ONS told us that it plans for a period of consultation with users about the National Accounts forward work plan to take place early in 2015.
- 3.7 The Bank of England has identified that it needs improved data in the National Accounts in the form of better Flow of Funds Accounts⁴⁹. These will help the Bank of England to analyse the finances of the UK non-bank financial and private non-financial sectors including information about how robust firms are and how dependent they are on other parties. The development of such flow accounts recognises the increasing importance of the globalisation and the connectivity of the international financial system; the information that they contain could help mitigate the severity of any future financial shocks.
- 3.8 ONS has engaged with users of Flow of Funds Accounts via a Financial Statistics Expert Group comprising HM Treasury, BIS, the Bank of England and OBR. The first meeting of this group, chaired by ONS in October 2014 focused on Flow of Funds Accounts. There is a Flow of Funds Working Group jointly attended by ONS and the Bank of England. ONS has not yet engaged with a wider group of users and potential users, but told the Assessment team that it planned to do so early in 2015. The Assessment team could find no information about the Financial Statistics Expert Group or about ONS’s plans to consult more widely about the development of Flow of Funds Accounts through a search of ONS’s website. Users beyond the key stakeholders for the National Accounts indicated to us that they were interested in the Flow of Funds Accounts, and expressed some of their needs from such Accounts to the Statistics Authority, which it articulated in its Monitoring Review on Financial Services and Official Statistics⁵⁰. We suggest that ONS publish: a) the terms of reference and the proceedings of the Financial Statistics Expert Group, and links to these, from the National Accounts web pages; b) the timetable for its consultation on Flow of Funds Accounts beyond its key stakeholders.

⁴⁶ See footnote 10

⁴⁷ Page 8 of the NSQR

⁴⁸ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-reviews/list-of-current-national-statistics-quality-reviews/ons-response-to-national-statistics-quality-review-of-national-accounts-and-balance-of-payments.pdf>

⁴⁹ For more information about Flow of Funds Account see <http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2014-edition/rpt---chapter-14.html#tab-What-is-Flow-of-Funds>

⁵⁰ <http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-reviews/monitoring-review-3-2014---financial-services-and-official-statistics.pdf>

Principle 2: Impartiality and objectivity

Official statistics, and information about statistical processes, should be managed impartially and objectively.

Requirements from previous Assessment report 100 (March 2011):

- Announce planned changes to methods or classifications for National Accounts more prominently

Suggestions from previous Assessment report 100 (March 2011):

- Provide a clear link from National Accounts releases to ONS's revisions policy

- 3.9 ONS publishes the statistics in the Annual and Quarterly National Accounts in an orderly and timely manner on its website, free of charge to users and presents these statistics impartially and objectively.
- 3.10 After the previous assessment, ONS made changes to the way that it decides which sector an institutional unit should go into, around three broad themes:
- the membership of the National Accounts Classification Committee (NACC)
 - the process for making classification decisions
 - the way in which decisions are publicised and explained
- 3.11 Since the previous assessment, the NACC now makes available decisions on National Accounts classifications via monthly updates of the Sector Classification Guide⁵¹. ONS issues news releases and articles to explain decisions about politically sensitive cases or those likely to be of public interest. ONS's website provides a summary of the classification process⁵² and information about individual decisions.
- 3.12 Some users expressed concerns to the Assessment team about the extent and frequency of corrections to detailed component parts of the National Accounts. The statistics teams told us that when users report very significant errors, ONS updates its website with a revised version of the statistical report and issues a statement that explains the reason for the amendment. Users told us of some occasions when they reported errors or anomalies and felt that ONS was slow to accept that the concerns expressed were sufficiently significant to alert other stakeholders. The NSQR identified that ONS has a corrections policy document which sets out its processes for handling errors and communicating corrections, including a typology for classifying errors as major or minor. In the interests of transparency, we suggest that ONS publish its corrections policy for National Accounts in order to make clear to users of these statistics its policy on classifying errors and handling corrections.

⁵¹ <http://www.ons.gov.uk/ons/rel/na-classification/national-accounts-sector-classification/classification-update--october-2014/index.html>

⁵² <http://www.ons.gov.uk/ons/guide-method/classifications/na-classifications/the-ons-classification-process/index.html>

3.13 One aspect of quality that is of particular concern to users is the extent of and frequency of revisions and the period over which ONS revises the GDP estimates. ONS updated its National Accounts revisions policy in March 2014 and then again in December 2014⁵³. The new policy sets out the process for taking on revisions to the data underlying the National Accounts and gives users a clear understanding of which periods are open for revisions at each data release as well as an assurance that account is taken of whether changes are economically significant. ONS has recently enhanced the range of revisions information available by producing a nominal GDP (that is, GDP at current prices) real-time database and the associated 'revisions triangle'⁵⁴, which shows how estimates have evolved over time. These analyses enable users of the GDP data to see the time series of nominal GDP back to 1955. ONS has extended these databases to all the main components of the expenditure and income components of GDP. ONS is improving the information about how to interpret these different analyses (which in the past have not always been clear), as well as improving some of the metadata in the Excel spreadsheets.

⁵³ <http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/economy/national-accounts-revisions-policy.pdf>

⁵⁴ Revisions triangles track revisions over time

Principle 3: Integrity

At all stages in the production, management and dissemination of official statistics, the public interest should prevail over organisational, political or personal interests.

- 3.14 No incidents of political pressures, abuses of trust or complaints relating to professional integrity, quality or standards were reported to, or identified by, the Assessment team.
- 3.15 In November 2014, the First Minister of Scotland spoke in the Scottish Parliament about changes to the UK National Accounts⁵⁵ suggesting that the Chancellor of the Exchequer instructed ONS to revise the UK National Accounts, resulting in the statistics inflating the UK's growth figures. The Chair of the UK Statistics Authority wrote⁵⁶ to the ex-First Minister of Scotland robustly asserting the integrity and independence of these official statistics, asking him whether he would reconsider these comments, and suggesting that he might wish to take advice on whether it is necessary to add a note of correction to the official parliamentary record. At the time of writing this report, we are awaiting the ex-First Minister's response to the Chair's letter.

⁵⁵ <http://www.scottish.parliament.uk/parliamentarybusiness/28862.aspx?r=9622&i=87419&c=1758462>

⁵⁶ <http://www.statisticsauthority.gov.uk/reports---correspondence/correspondence/letter-from-sir-andrew-dilnot-to-rt-hon--alex-salmond-msp-271114.pdf>

Principle 4: Sound methods and assured quality

Statistical methods should be consistent with scientific principles and internationally recognised best practices, and be fully documented. Quality should be monitored and assured taking account of internationally agreed practices.

Requirements from previous Assessment report 100 (March 2011):

- Publish a plan to improve the accessibility and timeliness of the information that is provided to users about the methods used to produce the National Accounts
- Publish plans to provide more detailed information and explanation about the quality, including strengths and limitations, of the National Accounts, and invite feedback from users about whether this meets their needs
- Publish information about outstanding reservations that have been placed on the UK's GNI data, and agree to publish information about the outcome of future GNI audit reports alongside its planned response to these audits

Suggestions from previous Assessment report 100 (March 2011):

- Produce a more concise and less technical guide to the National Accounts to complement *United Kingdom National Accounts concepts, sources and methods*
- Produce a report that describes progress against each of the recommendations of the 2004 review of methods and approaches, and the implications this has for the processing risks and the quality of the National Accounts
- Publish a resourced plan for implementing ESA 2010, including a risk management strategy and a communication strategy for consulting users and suppliers on relevant issues
- Consult users about the relative priority of producing consistent historical datasets

3.16 In response to the Requirements and suggestions for improving the statistical methods and quality assurance in the National Accounts in the previous assessment, ONS produced and published a high-level plan for the implementation of ESA 2010⁵⁷ setting out the key changes to each upcoming *Blue Book* as a forward work programme. The scale of the changes to the National Accounts resulting from ESA 2010 implementation was substantial and ONS fully informed users in advance about the likely impacts. During the run up to the implementation of ESA 2010, ONS published around 70 articles

⁵⁷ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/articles/2011-present/national-accounts-and-related-outputs-work-plan-2013-14---2017-18/index.html>

and ran events to inform users. ONS published articles about, for example, impact analyses, details of changes to sector and financial accounts, changes to the treatment of pensions, how the Balance of Payments is measured, and the updating of data sources. ONS drew the attention of a wide group of users to the publication of these articles. We commend ONS for its proactive approach to communicating with users about the ESA 2010 changes.

- 3.17 ONS adjusts estimates of GDP(O) in *Blue Book* annually for those years where the latest data allow supply and use balancing, that is for those years up to the year ending approximately 18 months prior to the publication of *Blue Book*. ONS allocates adjustments to estimates of output to the services sector not to production or other sectors. ONS said in its response to the NSQR⁵⁸, that this practice reflected a position where the service sector was a smaller part of the UK economy and there was smaller coverage by ONS surveys. Some users suggested to us that the present approach leads to significant anomalies in the measured growth rates for different industries. Some users told the Assessment team that the adjusted estimates were significantly different from the unadjusted measures, particularly in certain sectors such as the health sector. The NSQR judged that, since the measurement of the service sector is now much better, the present approach is outdated and made a high priority recommendation for a change in the process. ONS, in its response to the NSQR, has undertaken to change this process. ONS will implement these changes as part of its programme to prepare Supply and Use Tables in previous year's prices that it intends should be in time for the publication of *Blue Book 2018*.
- 3.18 Detailed comments to the Assessment team and to the NSQR review team from users about anomalies or implausible National Accounts data suggests that experienced users might offer the statistics teams a valuable resource to validate review and check the sense of the data. Users also told us that ONS encourages them to query with the statistics teams data that appear to contain anomalies. As part of the designation as National Statistics, ONS should investigate ways of enhancing user validation initiatives to encourage more engagement with the purpose of improving data, their usability and user guidance⁵⁹ (Requirement 2).
- 3.19 In *Blue Book 2013*, ONS made significant changes to the methodology and systems used to produce estimates of Gross Fixed Capital Formation (GFCF). The initial release of these data, in July 2013, contained errors that affected the sectoral split of investment between, for example, government and business. Following corrections, the data continued to puzzle some users. In particular, the quarterly movements of the investment data were considerably more volatile than the previous releases of the data, and the long-run trend in the business investment deflator changed markedly. Subsequent to the publication of *Blue Book 2013*, ONS conducted a review of the issues with the GFCF data and the procedures used to produce the statistics, and has been working to embed new quality assurance processes and procedures into everyday working and has established a regular user group and work programme related to the particular concerns. Key stakeholders now maintain an active 'issues log' with ONS that lists their concerns and interests and the status of ONS responses.

⁵⁸ See footnote 48

⁵⁹ In relation to Principle 4, Practice 3 of the *Code of Practice*

ONS continues to engage with all key stakeholders about their issues log. ONS plans to comment publicly on the actions taken following its internal review in its GDP quality report early in 2015, a considerable period after the review reported. We commend ONS for conducting and acting upon its review and its approach to mutual problem resolution with users. However, ONS could have shared with all users the review's recommendations, and its actions to implement them, more quickly. We suggest that ONS: a) publish descriptions of the actions that have been taken to implement each of the recommendations in its internal review; b) publish information about the extent to which the National Accounts have been improved by these actions; and c) take steps to share with wider users of the GFCF statistics the experiences of the key stakeholders so they can also benefit.

- 3.20 Users told us that they broadly support and appreciate ONS's prioritising of its work to effect the changes to meet ESA 2010 for *Blue Book 2014* over other development work. Users also told us that they value the progress towards greater coherence between the National Accounts and the Public Sector Finances. Some users told us about their previous frustration with the slow progress towards such coherence. We commend ONS's efforts to enhance the consistency of the Public Sector Finances and the National Accounts.
- 3.21 Users told us that they want better explanations about the degrees of uncertainty in the estimates. In November 2014, the Government Statistical Service published guidance for official statistics producers on Communicating Uncertainty and Change⁶⁰, which provides some principles for producers of official statistics to follow. There is also academic research in this field⁶¹. As part of the designation as National Statistics, ONS should: a) improve explanations about the degrees of uncertainty in these statistics; b) consider applying the Guidance for Official Statistics Producers on Communicating Uncertainty and Change in implementing part (a)⁶² (Requirement 3).
- 3.22 Despite some issues with the quality of the National Accounts, we have found that ONS continually seeks to resolve issues and improve the National Accounts. However, there are two important areas where the Assessment team considered that ONS could go further to enhance its methods to meet the highest aspirations of its users:
- improving methods to the ideal of using double deflation to estimate value added
 - use data sources such as a Purchases Inquiry to update in its Supply and Use Tables where the frequency of refreshing data is dependent on the pace of change in industry.

Double deflation

- 3.23 In respect of double deflation, the production approach for estimating GDP calculates the difference between total sales and total input costs for each industry. ONS currently deflates each of the 114 industry current price GDP estimates using a single deflator for each industry. ONS describes the better

⁶⁰ <https://gss.civilservice.gov.uk/statistics/presentation-and-dissemination/communicating-uncertainty-change/>

⁶¹ <https://gss.civilservice.gov.uk/wp-content/uploads/2014/11/Communicating-uncertainty-and-change-v1.pdf>

⁶² In relation to Principle 4, Practice 2 of the *Code of Practice*

method of double deflation as ‘the ideal method’ for determining constant price GDP which applies separate deflators to input costs and to sales. The current process of single deflation gives rise to potential issues estimating the value of constant price GDP and the relative contribution of each industry to the UK total. When using a single deflator (the output deflator), the change in total sales is measured for each industry. ONS assumes that input prices change by the same percentage. In other words, GDP grows or declines in line with sales growth. However, input prices may not change by the same rate as total industry sales, and so should be deflated at a different rate.

- 3.24 ONS told us that it has already built flexibility into the National Accounts model to accommodate double deflation should suitable deflators become available⁶³. Developing input price deflators to use in double deflation could improve the measurement of constant price GDP as a whole and present statistics about the relative contribution of component industries to the UK total, which are more consistent with other data. The NSQR included a high-priority recommendation to develop double deflation estimates, and ONS has said in its response to the NSQR that it will introduce double deflation on an annual basis starting in *Blue Book 2018*. When ONS introduces double deflation, it is likely to be one of the few National Statistics Institutes to have done so. We suggest that, pending the introduction of double deflation, ONS explains the current limitations of the statistics due to not using double deflation in *GDP Quality and Methodology Information*.

Purchases Inquiry (PI)

- 3.25 In 2007, ONS suspended the PI⁶⁴ on what it planned to be a temporary basis. However, this suspension became permanent and the ONS has used the results of the 2004 survey to populate its Supply and Use Tables since then. ONS could significantly improve its supply and use balancing process by using more contemporary purchases data, especially as since 2004, there has been a UK and worldwide recession, and there has been a significant change in the structure of the economy, with organisations purchasing many new products. The NSQR recommended that ONS make it a high priority to either urgently reinstate the PI or use some alternate data source that provides input data with a frequency dependent on the pace of change in industry. ONS has mitigated the effects of not having comprehensive contemporary industry purchases information to some extent by adjusting its modelled estimates of intermediate consumption based on additional data from the Annual Business Survey, HM Treasury and the Department for Communities and Local Government. In addition, ONS has significantly boosted the resources dedicated to manual balancing using staff members’ specific knowledge and broad economic experience. The Assessment team is satisfied that the measures that ONS has taken to mitigate not being able to use detailed information from a contemporary Purchases Inquiry in the Supply and Use Tables have protected the integrity of the balanced estimates of the main aggregates of GVA and GDP. The Assessment team bases its judgement on:

⁶³ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/regional-accounts/regional-gva-p--development-project---note-on-progress---april-2013.pdf>

⁶⁴ ONS’s Purchases Inquiry used to sample approximately 28,000 production, construction and distribution and sales businesses about their purchasing behaviour

- ONS's efforts to maintain the principal utility of the Supply and Use Tables – to provide a framework in the production of the National Accounts to confront and balance estimates of supply and demand at a broad level of aggregation
 - ONS's public statements⁶⁵ that, based on the measures it has taken, it is confident that the broad industry and product level aggregate estimates it publishes are robust
 - users' feedback during the course of this assessment that the main effects of the lack of a contemporary PI have been for some users of the modelled estimates at levels below the broadest level of aggregation, matters that relate to the detailed statistics in the Supply and Use Tables. We report the findings of the Assessment team regarding the compliance of the statistics from the Supply and Use Tables and Input-Output Tables with the *Code of Practice for Official Statistics* in Assessment report 300.
- 3.26 ONS has allocated extra resource to set up a new annual Purchases Survey, which it intends to implement in 2017, and to investigate interim improvements to measures of industry intermediate consumption by product. ONS told us that the use of new purchases data would take some time to implement in full. ONS has not updated the GDP Quality and Methods Information to discuss the effects on the quality of the statistics from not using contemporary purchases data. As part of the designation as National Statistics, ONS should: a) publish its development plans for resuming the Purchases Survey; b) update the GDP Quality and Methodology Information to discuss the likely effects on the quality of GDP statistics caused by the lack of an up-to-date PI⁶⁶ (Requirement 4).
- 3.27 In order to construct long time series of economic statistics, it is often necessary to piece together several different shorter series. Big shifts in the time series data arise due to methodological changes and improvements to the quality of the primary data sources and to estimation methods. Sometimes detailed reconstructions are not possible and the only feasible strategy involves the use of simple splicing or a linking technique for pasting together a set of series. Some users reported their concerns about the quality of some of ONS's backcast or linked National Accounts data for periods prior to the introduction of certain conceptual or methodological changes. The NSQR drew attention to this concern and recognised that the 'challenge is to provide value added by developing the long time series but not to distort the economic record of the UK'. The NSQR suggested that ONS adopt due caution when producing long time series and that users should have their attention drawn to any particular data issues related to a series. ONS adopts the policy of setting out quality issues for time series and the decisions made in methodology papers published in advance of publication of the statistical reports. Given the increasing library of methodological papers, ONS should do more to help signpost users to particular explanatory notes both in the statistical reports and in the relevant tables of accompanying data series. As part of the designation as National Statistics, ONS should improve its signposting drawing users' attention to data issues which give rise to inconsistencies in backcast historical data⁶⁷ (Requirement 5).

⁶⁵ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/input-output/articles-and-analyses/commentary-on-supply-and-use-balanced-estimates-of-annual-gdp--1997-2011.pdf>

⁶⁶ In relation to Principle 4, Practice 2 and Principle 8, Practice 1 of the *Code of Practice*

⁶⁷ In relation to Principle 4, Practice 7 of the *Code of Practice*

Principle 5: Confidentiality

Private information about individual persons (including bodies corporate) compiled in the production of official statistics is confidential, and should be used for statistical purposes only.

- 3.28 The statistics teams do not collect any of the data used to compile the National Accounts; other ONS areas or external suppliers provide the data. Suppliers provide the ONS statistics teams with the data at an aggregated level which means that data remain confidential. ONS has assured us that it takes all necessary steps to protect the confidentiality of the data that it collects.
- 3.29 One government department, which is a frequent user of National Accounts statistics, told the Assessment team that some ONS staff within the statistics teams seemed unaware of the usual data sharing arrangements between the two organisations that had existed for some time. ONS changed the pre-existing access arrangements without an adequate explanation. The department involved believed the new arrangements lacked the flexibility that it had previously enjoyed and were unduly limiting. As part of the designation as National Statistics, ONS should publish details of its process for balancing the protection of the privacy of confidential information in National Accounts statistics while not unduly limiting the practical utility of the statistics to third parties⁶⁸ (Requirement 6).

⁶⁸ In relation to Principle 5, Practice 4 of the *Code of Practice*

Principle 6: Proportionate burden

The cost burden on data suppliers should not be excessive and should be assessed relative to the benefits arising from the use of the statistics.

Requirements from previous Assessment report 100 (March 2011):

- Produce a plan for regular communication and consultation with suppliers of data for the National Accounts, which addresses the burden placed on suppliers and the availability of alternative data sources

- 3.30 After the previous assessment, ONS investigated with HMRC the feasibility of using further administrative data in place of survey data. In June 2014, ONS conducted parallel runs, with VAT turnover data alongside data from the Monthly Business Survey (MBS). For Quarter 4 of 2013 the VAT returns covered some 50 per cent, 75 per cent and 90 per cent of turnover for the preliminary, revised and final estimates. ONS has not clarified either what these results indicate about the potential to replace survey data with this administrative data or whether it intends to use this administrative data to supplement survey data. We suggest that ONS continue to communicate with users its progress with this work and its potential to reduce the burden on data suppliers.
- 3.31 The administrative data for the corporate sector, based on corporate income tax returns received from HMRC, are aggregate data only. The NSQR highlighted that aggregated data does not allow ONS to cross-reference the basic data with other data sets in its possession and thus limits the quality assurance that can be undertaken. The NSQR gave some examples of further administrative data which may provide sufficiently good information on some economic aspects so that ONS can reduce the burden on business by greatly reducing or eliminating surveys. The NSQR recommended that ONS pursue opportunities for expanded access to administrative data in general. We concur with this recommendation. There appear to be a number of potential administrative sources to reduce the burden on business but ONS has not made clear its plans to develop new administrative sources for these statistics. As part of the designation as National Statistics, ONS should investigate opportunities to maximise the use of administrative data for these statistics, particularly the more-intensive use of VAT returns data, and publish its plans⁶⁹ (Requirement 7).
- 3.32 ONS estimated and reported the costs of responding to statistical surveys used as data sources for the National Accounts in its annual compliance plans in 2011/12 at under £3.6 million for the MBS and approximately £1.4 million for the ABS. The MBS and ABS are the principal business data sources for the statistics in *Blue Book*. ONS is introducing a new programme of Electronic Data Collection⁷⁰, which it expects will increase online data collection for both business and social surveys.

⁶⁹ In relation to Principle 6, Practice 5 and Protocol 3, Practice 3 of the *Code of Practice*

⁷⁰ <http://www.ons.gov.uk/ons/media-centre/statements/government-major-projects-portfolio-data-for-ons--2014/office-for-national-statistics-data---xls-format.xls>

Principle 7: Resources

The resources made available for statistical activities should be sufficient to meet the requirements of this Code and should be used efficiently and effectively.

Suggestions from previous Assessment report 100 (March 2011):

- Review the level of resources required to ensure that *Blue Book 2011* will be produced to the standards of the *Code*
- Publish plans for further developing the National Accounts team as the centre of excellence in National Accounts

3.33 The retention of statistical and technical skills is a significant challenge for many National Statistical Institutes. Users expressed some concerns to the Assessment team and to the NSQR team about the levels of technical expertise and the recruitment and retention of experienced staff. The re-assessment of the Short-term Economic Output Indicators (STEOI)⁷¹ required ONS to present evidence that its recruitment and retention arrangements:

- ensure that appropriately skilled people are employed and retained in the production of the short-term economic output indicators
- are based on an appropriate competence framework.

3.34 ONS told us that, following the STEOI assessment, it now targets recruitment of appropriately skilled candidates through relevant social media, is increasing the number of economists in ONS, and developing a strategic workforce plan. ONS has identified an additional need to develop increasing numbers of specialist roles and move away from generalist and administrative roles while it transforms its data collection operation. ONS also told us that in order to resolve resource issues within National Accounts, a National Accounts Resources Working Group has initiated activities aimed at addressing matters such as recruitment, retention and capability. National Accounts senior managers monitor resources at weekly meetings and at the National Accounts Management Board, and take action as required. We welcome the measures that ONS has been taking following the re-assessment of the Short Term Economic Output Indicators and see these as positive steps in conserving and developing the necessary skills to produce the National Accounts to a high standard.

⁷¹ See footnote 22

Principle 8: Frankness and accessibility

Official statistics, accompanied by full and frank commentary, should be readily accessible to all users.

Requirements from previous Assessment report 100 (March 2011):

- Review the options for improving the way in which the National Accounts are disseminated on its website to provide easier access for users
- Improve the commentary and analysis in the statistical releases for National Accounts to aid user interpretation and understanding
- Review the content of the statistical bulletins to enhance their clarity and consistency (did not refer to the Blue Book)

Suggestions from previous Assessment report 100 (March 2011):

- Make the ELMR [Economic and Labour Market Review] article which follows *Quarterly National Accounts* more prominent by advertising it via the Statistical Bulletin, as part of implementing Requirement 9
- Review the formats in which data are released to ensure that they are convenient to users and encourage analysis and re-use of the data

3.35 Following the previous assessment and based on user feedback, ONS has tailored its National Accounts statistical reports based on users' preferences. Users told ONS that they use the statistics in one or more of three different ways, they go:

- straight to the reference tables at the back of the statistical report or the Excel version online
- when using the statistics in *M2:GDP* and *QNA*, first to the front page of the statistical report and then to the reference tables
- to the commentary in the statistical reports to help decide what to look at in the reference tables or time series data.

3.36 ONS publishes a comprehensive library of information about methods and quality on its website and each of the National Accounts statistical reports has its own product page. These product pages – along with infographics, revisions triangles and videos – are helpful but they are located on different web pages. ONS could enhance the user experience by improving the signposting between documents related to the use, the compilation methods, and the quality and reliability of *Blue Book* statistics and statistics in other relevant publications in the National Accounts framework. However, we welcome the noticeable improvements in the way that ONS presents information about the methods, procedures and classifications, for instance about how ONS calculates GDP (see Annex 4) and the process of quarterly revisions to GDP (see Figure 2.1).

3.37 Some users expressed a frustration that they could not find information relating to the National Accounts. However, there were also users who told us that they consider the web page to be easy to find and well laid out and that ONS staff helped them to navigate the site. ONS has implemented some positive developments in making the National Accounts more accessible by:

- providing a fully interactive National Accounts landing page to gather National Accounts summaries and links together on one page
 - promoting the changes to ESA 2010 and Balance of Payment Manual 6 through rotating headlines on the landing page to link users to articles
- 3.38 Some users told us that they found commentary about any unusual features of the latest statistics more valuable than economic commentary, and others chose to ignore ONS's commentary preferring instead to rely on their own judgement and expertise. It is clearly a challenge to meet the different users' and potential users' needs. Despite improvements to the presentation of the Annual and Quarterly National Accounts, as well as to ancillary documents and graphics, ONS does not always make it simple for users to understand the statistics or make the uncertainty in the statistics sufficiently explicit. ONS focuses commentary in *Blue Book* more on what can easily be determined from a quick glance at the statistics and less on any more incisive analysis, or about the limitations of the statistics. There is scope to improve users' understanding of the statistics in *Blue Book* by:
- pitching the 'National Accounts at a Glance' at a lay audience and making it more of an 'at a glance' document
 - improving the layout of the 'Introduction to the National Accounts'
 - expanding the accompanying narrative
 - using consistent language, for instance use either the term 'the production approach' or the term 'the output approach' (or explain why they might be different) and being clear for instance, when figures are derived from the production approach, the expenditure approach and the income approach
 - providing one whole easily searchable version of *Blue Book*, in addition to publishing the separate chapters
 - making a link or reference in *Blue Book* to information about the uses made of the statistics
- 3.39 In *Blue Book* there is no clear, logical and understandable 'story' of the National Accounts for 'UK plc'; no overarching commentary on whether the latest National Accounts suggest any changes to the key macro-economic risks, or whether newly published statistics pose questions about previous assumptions. ONS publishes a monthly Economic Review⁷² which presents the key economic stories from monthly National Statistics, and portrays a coherent picture of the UK economic performance using contemporary economic data. However, the monthly Economic Review is not published to coincide with the publication of *Blue Book* and does not take the same year as the latest *Blue Book* as its principal reference period. Less-expert users may therefore be unaware that the Economic Review provides a narrative about statistics from the *Blue Book*. The statistics teams told the Assessment team that they intended to improve the commentary accompanying *Blue Book*, *M2:GDP* and *QNA* but, due to resource constraints, it is likely that this would take place over time and in the case of *Blue Book* over two further issues. ONS is also considering changes to the contents of *QNA* about which it would like to consult users. Consequently, enhancements to commentary in *Blue Book*, *M2:GDP* and *QNA* will evolve over time. As part of the designation as National Statistics,

⁷² <http://www.ons.gov.uk/ons/rel/elmr/economic-review/october-2014/art-oct-er.html>

ONS should: a) further improve the clarity of the commentary in *Blue Book* to aid user interpretation of the statistics; b) provide more information in the Annual and Quarterly National Accounts publications about why monitoring GDP is important and to whom, what the purposes of the statistical reports are and who the main users are; and c) improve the information, or links to information, about the strengths and limitations, particularly about the uncertainty of estimates, of both the Annual and the Quarterly National Accounts. As part of meeting this Requirement, ONS should consider the points detailed in annex 1 and annex 2⁷³ (Requirement 8).

- 3.40 Reflecting its purpose as a repository of significant amounts of data not elsewhere available in *QNA* or the Balance of Payments, *UKEA* does not include many of the features of a standard statistical report, such as commentary about the statistics, with visual aids such as graphs and charts. ONS told us that it had plans to improve *UKEA* in the short term and then make further changes in the medium term. As part of the designation as National Statistics, ONS should: a) ensure that there are adequate metadata accompanying *UKEA* to guide users about where they can find commentary regarding the main messages from the statistics, information about the context in which the statistics are produced, the likely uses of the statistics, the strengths and limitations of the statistics in relation to their potential use, and information about the quality of the statistics, along with other key metadata; b) make clear to users of *UKEA*, at least in broad terms, what plans it has for its further development⁷⁴ (Requirement 9).

⁷³ In relation to Principle 8, Practice 2 of the *Code of Practice*

⁷⁴ In relation to Principle 8, Practices 1 and 2 of the *Code of Practice*

Protocol 1: User engagement

Effective user engagement is fundamental both to trust in statistics and securing maximum public value. This Protocol draws together the relevant practices set out elsewhere in the Code and expands on the requirements in relation to consultation.

3.41 The requirements for this Protocol are covered elsewhere in this report.

Protocol 2: Release practices

Statistical reports should be released into the public domain in an orderly manner that promotes public confidence and gives equal access to all, subject to relevant legislation.

Requirements from previous Assessment report 100 (March 2011):

- Publish the actions that will be taken to prevent the recurrence of the problems that affected the release of the national accounts for the first quarter of 2010

- 3.42 ONS publishes all National Accounts statistical reports according to a timetable published on www.gov.uk⁷⁵. The release dates for all National Accounts and related publications are set out on this page.
- 3.43 ONS does not give pre-release access to *Blue Book* and to *UKEA* and the Authority strongly endorses the decision not to grant pre-release access to these statistics in line with its publicly stated policy⁷⁶.
- 3.44 With respect to *M2:GDP* and *QNA*, ONS has published lists to its website of those to whom it grants early access. ONS told us that during 2013 it re-examined the lists of those people given restricted access prior to release as part of a wider review by the National Statistician of pre-release access to its statistics but that it did not reduce the lists for early access to *M2:GDP* or to *QNA*. ONS told us that the current pre-release access list for *M2:GDP* is 45 (except the release prior to the Chancellor's Autumn Statement where release is granted to staff of the Office for Budget Responsibility when the total increases to 51) and for *QNA* it is 44 individuals. The Authority's view is that the existence of pre-release access can undermine public confidence both in the statistical evidence and in the policies to which official statistics relate. Equality of access is a fundamental principle of statistical good practice, both in the UK and internationally. All the parties to public debate should, as far as possible, have the same information at the same time, and only the absolute minimum number of people should see official statistics in their final form before they are published.

⁷⁵ https://www.gov.uk/government/statistics/announcements?utf8=%E2%9C%93&keywords=national+%2B+accounts&topics%5B%5D=&organisations%5B%5D=office-for-national-statistics&from_date=&to_date=&commit=Refresh+results

⁷⁶ <http://www.statisticsauthority.gov.uk/reports---correspondence/correspondence/letter-from-sir-andrew-dilnot-to-bernard-jenkin-mp---10032014.pdf>.

Protocol 3: The use of administrative sources for statistical purposes

Administrative sources should be fully exploited for statistical purposes, subject to adherence to appropriate safeguards.

- 3.45 ONS provided the Assessment team with an example of where it had extended its use of administrative data with the purpose of helping it calculate the extent to which the IDBR does not cover the whole economy. There has been a well-publicised increase in self-employment, which could materially affect the calculation of the under-coverage in the IDBR. Administrative data from HMRC can help to estimate that under-coverage.
- 3.46 ONS's Statement of Administrative Sources⁷⁷ lists more than 50 sources of administrative data from outside ONS that it uses in compiling the National Accounts including other government departments, trade associations and private companies. Responsibility for arranging the quality assurance of these externally sourced data rests with individual teams within ONS, with little overall co-ordination. There is a risk that without clarification there will be confusion about who is responsible for arranging the quality assurance of the different external sources.
- 3.47 The Assessment team views the Annual and Quarterly National Accounts statistics as attracting high public interest with multiple and varied sources and that the risk to data quality might be also assessed as high. Where the statistics teams within ONS receive data from other statistics producers they should expect to receive information from whomever is the prime recipient from the original data suppliers about:
- any potential or actual risks to the data from the collection or recording of information
 - the nature of any checks or safeguards of the data built into the collection and supply process
 - any specific data issues that have implications for the statistics

As part of the designation as National Statistics, ONS should clarify its arrangements for auditing the quality of administrative data used to compile the National Accounts by: a) publishing information about the quality audit arrangements for all the external sources of administrative data used to produce the National Accounts; b) considering the Authority's Report *Quality Assurance and Audit Arrangements for Administrative Data*⁷⁸ and the National Statistician's *Interim Guidance*⁷⁹ in implementing this Requirement⁸⁰ (Requirement 10).

⁷⁷ <http://www.ons.gov.uk/ons/guide-method/the-national-statistics-standard/code-of-practice/statement-of-administrative-sources/statistical-usage-of-administrative-or-management-sources/statement-of-administrative-sources.xls>

⁷⁸ <http://www.statisticsauthority.gov.uk/assessment/monitoring/administrative-data-and-official-statistics/quality-assurance-and-audit-arrangements-for-administrative-data---exposure-draft.pdf>

⁷⁹ <https://gss.civilservice.gov.uk/wp-content/uploads/2012/12/Interim-Admin-Data-guidance.pdf>

⁸⁰ In relation to Protocol 3, Practice 5 of the *Code of Practice*

Annex 1: Compliance with Standards for Statistical Reports

- A1.1 In November 2012, the Statistics Authority issued a statement on *Standards for Statistical Reports*⁸¹. While this is not part of the *Code of Practice for Official Statistics*, the Authority regards it as advice that will promote both understanding and compliance with the *Code*. In relation to *Blue Book*, this annex comments on compliance with the statement on standards. The comments included in this annex are based on a review of *Blue Book 2014*⁸² and the Second Estimate of GDP, the Quarterly National Accounts and the UK Economic Accounts for Quarter 2, 2014⁸³.
- A1.2 In implementing any Requirements of this report (at paragraph 1.5) which relate to the content of statistical reports, we encourage ONS to apply the standards as fully as possible.

Include an impartial narrative in plain English that draws out the main messages from the statistics

- A1.3 The main messages from the statistics in *Blue Book* are summarised in Chapter 01 'National Accounts at a Glance'. This section of *Blue Book* at 27 pages is quite lengthy, which some users suggest contradicts the title. Government deficit and debt is set out in *Blue Book* in a section called 'Statistics for European Union Purposes', which is not an obvious location where users would seek such information. The 'At a Glance' document mentions the statistical discrepancy⁸⁴ and users might gain a better understanding of the scale of this discrepancy if there was a chart of its proportions over 10 years. The section on spurious accuracy and rounding to the nearest £ million in 'At a Glance' is very useful and aids better understanding of the National Accounts.
- A1.4 As *Blue Book* is no longer one integrated document, there is no contents page – instead there are separate downloadable documents for each part of *Blue Book* listed on the relevant webpage. This makes the particular sections commendably easy to find, but overall it impedes the easy location of particular items of interest within *Blue Book* as a whole.
- A1.5 Each *Blue Book* chapter presents an explanation of what the statistics cover and usually sets out a ten-year series. There are good descriptions of the concepts measured and why they are measured. Information about the policy or the operational context tends to be included in ancillary documents such as ONS's Economic Review⁸⁵. Exceptionally there is an explanation about what the statistics show and accompanying commentary goes beyond just the rises and falls in the statistics since the year before. Whilst the latest figures are the focus of *Blue Book*, it is often in the context of 'the highest since....' or 'the lowest since....' and whether a trend has been continued or reversed. ONS overloads the narrative with numbers that users can easily find in the summary

⁸¹ <http://www.statisticsauthority.gov.uk/news/standards-for-statistical-reports.html>

⁸² see footnote 7

⁸³ See footnotes 4, 5 and 6

⁸⁴ A statistical discrepancy in the context of the National Accounts occurs where there is a difference between statistics, which conceptually in a balanced set of accounts should be equal. The statistical discrepancy allows the statistics to balance

⁸⁵ See footnote 75

tables. ONS does not make clear the nature and implications of the uncertainty associated with the estimates.

- A1.6 One of the chapters is about the UK Environmental Accounts⁸⁶ which are satellite accounts to the main National Accounts. There is no explanation in the chapter or in the Introduction to the UK National Accounts⁸⁷ that ONS has already published these statistics in a separate statistical report, *UK Environmental Accounts*⁸⁸, some months before *Blue Book*. *UK Environmental Accounts* is a lengthy and detailed statistical report, whereas the chapter in *Blue Book* is a very short summary with some commentary. The chapter in *Blue Book* explains that these Accounts measure the impact of the economy on the environment and how the environment contributes to the economy by using the accounting framework and concepts of the National Accounts. The only chart in the chapter shows Mean Air Temperature 1990 to 2013 but does not make clear the relationship between air temperature and economic activity as suggested by the *UK Environmental Accounts*. The *UK Environmental Accounts* statistical report presents the same chart followed by a chart showing GDP over the same period with appropriate narrative about plausible links between mean air temperature and GDP. The statistics team does not make clear that the statistics in the chapter do not include those for the reference year of *Blue Book*, giving data only for the years up to the year before the reference year. The summary form of the chapter in *Blue Book* loses some of the context presented in the full *UK Environmental Accounts* statistical report. For example, the chapter in *Blue Book* mentions that there was an increase in greenhouse gas emissions between 2011 and 2012 of 2.2 per cent, whereas in *UK Environmental Accounts* ONS contextualises this by stating that greenhouse gas emissions have generally decreased since the mid-1990s.
- A1.7 The section called 'An Introduction to National Accounts' includes some technical terms such as 'chained volume measures' and 'these accounts are fully integrated' however there is a good glossary which defines the technical terms used. The 'Introduction to the National Accounts' is entirely a narrative document with no illustrations to aid interpretation.
- A1.8 Some figures relate to people such as GDP per head. However, the statistics team does not make clear the uncertainty in these statistics due to the numerator (the estimation of GDP) and the denominator (estimates of the population).
- A1.9 ONS presents the statistics in *Blue Book*, *M2:GDP and QNA* impartially and objectively and in plain English. Both *M2:GDP* and *QNA* include key points which summarise the main findings, followed by relevant and valuable analysis, such as the description of the components contributing to GDP change. *QNA* includes an analysis of trends, for example, GDP and its main components since 2001, and levels of GDP and quarter-on-quarter growth from 2003. *QNA* includes annual levels of GDP back to 1948.

⁸⁶ <http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2014-edition/rpt---chapter-13.html>

⁸⁷ <http://www.ons.gov.uk/ons/rel/naa1-rd/united-kingdom-national-accounts/the-blue-book--2014-edition/rpt-1---an-introduction-to-the-united-kingdom-national-accounts.html>

⁸⁸ <http://www.ons.gov.uk/ons/rel/environmental/uk-environmental-accounts/2014/stb-stat-bulletin.html>

A1.10 *UKEA*, by contrast, is designed more as a statistical repository consisting of tables, providing extra content to *QNA* and the Balance of Payments quarterly reports, all of which ONS currently releases simultaneously. *UKEA* does not include a summary of the main messages, although it has a detailed contents page as well as an introductory section. *UKEA* would benefit by providing a sense of the link between it and affiliated National Accounts outputs.

Include information about the context and likely uses of the statistics

A1.11 ONS publishes documents, related to the statistical reports, which provide descriptive information about what the statistics are measuring and why. Such information in the statistical reports is very limited. For example, ONS does not expand upon the concept of ‘deflator growth’ and the ‘contributions to deflator growth’. Some of the National Accounts statistics are used by European and global authorities, for example the IMF, the European Union, and the European Central Bank, to calculate monetary and economic stability metrics. One of the metrics used is a three-year moving average of the current account balance as a proportion of GDP, with a threshold of +6 per cent and -4 per cent. This and similar metrics identify if countries exceed the threshold values which sets off an alert and may point to a risk of imbalances requiring further in-depth analysis. *Blue Book* does not include information about which National Accounts statistics are used in this context and, if so, which statistics are used to produce which metrics.

A1.12 *M2:GDP* and *QNA* include sections near the beginning of each report neatly setting out the historical context of GDP. A useful summary statistics page with headline quarter-on-quarter changes, prior to the annexes is also included. A short statement in both reports discusses limitations of survey estimates in general, but these are quite vague.

A1.13 *M2:GDP* and *QNA* present explanations and descriptions of concepts backed up by ancillary documents. In *M2:GDP* there is a link through to the *UK National Accounts – a short guide*⁸⁹ as well as narrative in the report entitled ‘a short guide to GDP’. With respect to the latter, it restates a definition of GDP and explains that there are three ways to estimate it. While *M2:GDP* and *QNA* answer the question ‘What is GDP?’ adequately, there is far less information about why monitoring GDP is important and to whom, and what the purpose of the statistical reports are. *Blue Book* includes some basic information about the likely uses of the National Accounts, which accompanies the key statistical reports. There are no appropriate cautious, speculative comments about the uses that people are likely to make of the statistics in any of the statistical reports.

Include information about the strengths and limitations of the statistics in relation to their potential use

A1.14 Information about the strengths and limitations of the National Accounts is distributed between different publications, which ONS could link together better. The central abstract of most of the National Accounts quality information is ONS’s Quality and Methods Information document about GDP. Narrative in *M2:GDP* and *QNA* about the strengths and limitations of the statistics in relation

⁸⁹ See footnote 45

to their potential uses is general and brief. ONS refers to this as 'Basic Quality Information' in *M2:GDP* and in *QNA*.

A1.15 Good descriptions of the main likely errors and their potential impact on the statistics is included in *M2:GDP* and *QNA*. *M2:GDP* and *QNA* provide clear explanations that the statistics are normally subject to revisions and that they are initial estimates with information about when ONS is likely to revise them. ONS gives appropriate emphasis in the statistical reports that the statistics are estimates.

A1.16 Almost all of the statistics presented in *M2:GDP* and in *QNA* are seasonally-adjusted. There is scope for the statistics teams to improve their explanations of seasonal adjustment as the adjustment process has important consequences. There are no signposts between either *M2:GDP* or *QNA* to *UKEA* which includes the non-seasonally-adjusted series.

A1.17 In all the statistical reports covered by this re-assessment there is scope to make the statistics more accessible by:

- explaining some of the technical terms and the reasons for their use in statistical calculations
- providing more information about the uncertainty in these statistics and the strengths and limitations
- making the differences between the three estimates of GDP clearer. It is not possible to estimate the scale of the adjustments which ONS makes to derive a single estimate of GDP
- making clearer the large uncertainty in the trade statistics which continue to be revised many years (even decades) after they were first published.

Be professionally sound

A1.18 The descriptive statements in *Blue Book* are demonstrably consistent with the statistics, charts, tables conform to good practice standards, and descriptions of proportions and trends are professionally sound. *Blue Book* explains the terms used in neutral language.

A1.19 The commentary in *M2:GDP* and in *QNA* is consistent with the statistics. There is no commentary in *UKEA*. Descriptions are professionally sound, but do not take account of uncertainty in the estimates. Graphs and tables are of good quality in all the statistical reports. The statistics teams report all narratives impartially with no statements of opinion and the narratives are demonstrably evidence based.

Include, or link to, appropriate metadata

A1.20 ONS gives exact contacts in *Blue Book* for queries about particular topics. ONS's webpage for *Blue Book* states the year of the edition, and the hard copies of the combined tables also state the edition year. *Blue Book* does not explicitly state that ONS issues it annually.

A1.21 *Blue Book* includes links to the methodological, classification and other changes documents in a section called 'Useful Links'. ONS makes good links to the supplementary tables, datasets, and to earlier time series. For international

comparisons, ONS published an article in July 2014⁹⁰ about the difficulties of making comparisons of National Accounts, as each country has different publication schedules, and different revisions policies.

A1.22 The method used to derive the implied deflators and the uses for the implied deflator are not sufficiently clear.

A1.23 Both *M2:GDP* and *QNA* include special event sections. The statistical reports provide a definition of GDP (and there is also a useful supplementary infographic), but do not tell users why many of the statistics presented are seasonally adjusted and none are not seasonally adjusted. ONS has not expanded on the reasons why it chooses to adjust some statistics for inflation and not others.

⁹⁰ <http://www.ons.gov.uk/ons/rel/naa1-rd/national-accounts-articles/impact-of-national-accounts-improvements--international-comparisons/index.html>

Annex 2: Summary of assessment process and users' views

- A2.1 This assessment was conducted from December 2013 to January 2015.
- A2.2 The Assessment team – Donna Hosie, Iain Russell and Sandy Stewart, and previous members of the team (Neil Wilson, Russell Whyte and Gary Gant) – agreed the scope of and timetable for this assessment with representatives of ONS in December 2013. The Written Evidence for Assessment was provided on 24 February 2014. The Assessment team subsequently met ONS during April and again in November 2014, following the publication of the NSQR and *Blue Book 2014*⁹¹, which incorporated ESA 2010 changes, to review compliance with the *Code of Practice*, taking account of the written evidence provided and other relevant sources of evidence. There was a hiatus during this re-assessment as the statistics teams were focusing their efforts on implementing the changes to the National Accounts as part of ESA 2010 implementation as well as other changes. This resulted in the re-assessment pausing in early May 2014 and re-starting in early November 2014.

Summary of users contacted, and issues raised

- A2.3 Part of the assessment process involves our consideration of the views of users. We approach some known and potential users of the set of statistics, and we invite comments via an open note on the Authority's website. This process is not a statistical survey, but it enables us to gain some insights about the extent to which the statistics meet users' needs and the extent to which users feel that the producers of those statistics engage with them. We are aware that responses from users may not be representative of wider views, and we take account of this in the way that we prepare Assessment reports.
- A2.4 The Assessment team received 41 responses from two user consultations, one in relation to the Short-term Economic Output Indicators where users also commented more widely about these statistics and one conducted as part of this re-assessment dedicated to these statistics. The responses to these consultations were supplemented by a further 19 responses to the NSQR, which ONS shared with the Assessment team in order to avoid overburdening users. The total respondents from all the consultations relating to these statistics came from bodies grouped as follows:

Academic & Research	9
Business	12
Prime Stakeholders (e.g. Bank of England)	5
Trade, employer and lobby groups	8
Other Government Departments, NDPBs and Parliaments	8
Consultants	9
Local Authorities	1
Data Suppliers	6
Media	2

⁹¹ see footnote 10

- A2.5 Most respondents used the statistics in all the National Accounts statistical reports in the scope of this assessment. Users told us that some of their uses included:
- providing commentary and analysis on the latest figures to traders, clients, media etc, to form a view on the performance of the economy and the industrial sectors
 - to inform the advice that Bank of England officials give to the Bank's Monetary Policy and Financial Policy Committees⁹²
 - analysing historic trends and links between ONS data and other sources to take a view on the future prospects for the economy, and building cases for policy and assessing the impact of policy
 - informing forecasts of GDP and consumer spending, including OBR's 5-year economic forecast, and gauging the degree of short-term momentum in the economy
 - by the House of Commons Library to support Parliamentarians and their researchers to, for example, to prepare questions, speeches, responses to constituents
- A2.6 Users offered different views in relation to the utility of the associated commentaries. Some found these helpful, others chose to ignore them preferring their own judgement and expertise; some could not locate them. Users appreciated the responsiveness of ONS to ad hoc queries when they could not find supporting information. Users commended ONS for articles and analysis that explained the differences between sources in an easily understandable way citing *Annual Business Survey – a Comparison between ABS and National Accounts Measures of Value Added*⁹³ as an example.
- A2.7 Some users commented favourably on ONS's approach to publishing *Blue Book* chapters separately and that they could easily access the areas in which they are interested. They commented positively about the standard template adopted by ONS in presenting *Blue Book* chapters of the headline statistics, a short description with a few charts is very accessible and helps with interpreting the statistics.
- A2.8 Users related their concerns about errors, revisions and corrections. They expressed a range of views about the presence or absence of information on the quality and reliability of the statistics including:
- considering that more-detailed explanations are needed about reasons for errors and that ONS should not overwrite previous data, in order to be completely transparent with changes
 - frustration about the nature and extent of what were considered obvious errors in statistical reports and where data exhibited implausible trends or other features which were subsequently revised
 - being given more advance notice and briefing, particularly about the volatility of GDP estimates
 - deflators (investment, GDP, government consumption and trade) are extremely important but not easy to understand.

⁹² <http://www.bankofengland.co.uk/Pages/home.aspx>

⁹³ <http://www.ons.gov.uk/ons/rel/abs/annual-business-survey/a-comparison-between-abs-and-national-accounts-measures-of-value-added/index.html>

A2.9 Users reported that the developments to the National Accounts were slow to reflect changes in the structure of the UK economy, for example, adjusting GDP estimates by making changes to production estimate for the service industries only, using out-of-date purchases data and not using specific service industry deflators, which are included in the Services Producers Prices Indices⁹⁴.

A2.10 Of the data suppliers who responded to us:

- some complimented ONS on its understanding of the issues faced by data suppliers and its flexibility
- one told us that the provision of data was a straightforward exercise, but it was onerous for another
- some had no awareness of what ONS did with their data

A2.11 In general, suppliers told us that they supply data in the most efficient way possible, based on their databases and spreadsheets. One noted that ONS table headings were ambiguous and needed to be consistent with the data actually supplied. Most suppliers said they would still need to collect data for other activities in the future, even if not required by ONS.

Key documents / links provided

Written Evidence for Assessment document

⁹⁴ See footnote 36

Annex 3: Glossary

Final consumption expenditure

The expenditure on those goods and services used for the direct satisfaction of individual needs or the collective needs of members of the community, as distinct from their purchase for use in the productive process.

Gross domestic product (GDP)

The total value of output in the economic territory.

Gross fixed capital formation (GFCF)

Acquisitions less disposals of fixed assets and the improvement of land.

Gross national income (GNI)

GNI is gross domestic product less net taxes on production and imports, less compensation of employees and property income payable to the rest of the world plus the corresponding items receivable from the rest of the world.

Gross and net savings ratio

The saving ratio estimates the amounts of money households have available to save (known as gross saving) as a percentage of their total disposable income (known as total available households' resources). Gross saving estimates the difference between households' total available resources (mainly wages received, revenue of the self-employed, social benefits and net income such as interest on savings and dividends from shares but excluding taxes on income and wealth) and their current consumption (expenditure on goods and services). The "net" approach deducts households' consumption of fixed capital (CFC) from both savings denoted and also from the disposable income.

Gross Value Added (GVA) (value added)

The value generated by any unit engaged in production and the contributions of individual sectors or industries to gross domestic product. It is measured at basic prices, excluding taxes less subsidies on products.

Households

Individuals or small groups of individuals as consumers and in some cases as entrepreneurs producing goods and market services (where it would not be

appropriate to hive-off such activities and treated them as those of a quasi-corporation).

Institutional unit

Institutional units are the individual bodies that form the building blocks of economic sectors. An institutional unit has decision-making autonomy in respect of its principal function and either keeps a complete set of accounts or is in a position to compile, if required, a complete set of accounts which would be meaningful from both an economic and a legal viewpoint.

Satellite accounts

Satellite accounts describe areas or activities not dealt with by core economic accounts. These areas/activities typically require too much detail for inclusion in the core accounts or they operate with a different conceptual framework. Internal satellite accounts re-present information within the production boundary. External satellite accounts present new information not covered by the core accounts.

Supply tables

In broad terms, the Supply Table allows the user an appreciation of the absolute monetary values of each industry's output for a given calendar year. Additionally, and possibly more importantly, this table also presents the relationships between the output of products and the output of industries, for example, key statistics are produced on the extent of diversification within industries and the extent of competition between industries producing the same product.

Use Table

The combined Use Table shows the consumption of products (goods and services) and primary inputs, in terms of combined domestic and imported goods and services, used in each industry's production process and, in doing so, presents a comprehensive description of the production of domestic industries.

Annex 4: Infographic – How is GDP calculated?

