

Assessment of compliance with the Code of Practice for Official Statistics

Short-Term Economic Output Indicators: Construction Output and New Orders

(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, while 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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Statement by the Head of Assessment on the Short-Term Economic Output Indicators Re-assessments

The short-term economic output indicators are among the most important, high profile statistics produced by the Office for National Statistics (ONS), providing some of the earliest signals about the health and momentum of the UK economy, including consumer and business confidence. They inform decisions that affect the daily lives of everyone in the UK, such as interest rates. They are used by a wide range of organisations and people for making and monitoring economic policy, and for informing day-to-day and strategic decisions. This Assessment report is one of a suite of three reports covering five different, related indicators.

Overall, the report finds that ONS complies with much of the Code of Practice for Official Statistics. Users who engaged with the Assessment team as part of this assessment reported that the statistics largely meet their needs. ONS produces and publishes the statistics in a timely way, to a pre-announced timetable, and engages effectively with the key institutional users of the statistics. But it is wrong to focus just on these well-known institutions, like the Bank of England and the Office for Budget Responsibility. More than most sets of statistics, this package of outputs speaks to a very wide range of audiences for a wide range of uses, from guiding business decisions to acting as a general barometer of the economy.

In light of this enormous public significance, the range of Requirements included within this report reflects the fact that ONS is not doing all that it can to extract maximum value from the statistics. Many of the requirements relate to ONS communicating more effectively about some aspect of the statistics, or the processes involved in producing them. ONS does not consistently produce an adequate narrative to explain what the statistics mean, and could enhance their utility by giving more prominent reference to the material in the separate analytical documents that it produces, which draw together overall messages from a range of economic statistics (including those on the labour market). And while ONS has undertaken work to understand and measure the quality of the statistics, we agree with users that ONS needs to present information about uncertainty more clearly and more prominently.

Overall, these issues might reflect a situation within this pressurised area of ONS where the scope for highly skilled professional analysts to be able to stand back from the detail of the production process could be improved. Being able to step back would allow those experts to be able to undertake more activities that have potential to add significant public value to these statistics.

Ed Humpherson
Head of Assessment, 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 reported in *Construction Output and New Orders*⁴ (*Construction*), produced by the Office for National Statistics (ONS).
- 1.1.2 This report forms part of a broader assessment of short-term economic output indicators produced by ONS. Assessment reports 278 and 279 examine GDP: Preliminary Estimate and Indices of Production and Services; and Retail Sales statistics.
- 1.1.3 The previous assessment of these sets of statistics was reported in Assessment report 170⁵, published in February 2012. The report covered two separate statistical reports – *Output in the Construction Industry*⁶ and *New Orders in the Construction Industry*⁷. Before designation as National Statistics was confirmed, ONS moved to publishing the combined *Construction Output and New Orders* covered by this re-assessment. Noting that the statistics ceased to be published in their previous form from September 2013, the Assessment Committee decided that the Authority would formally close the earlier Assessment and await the outcome of the current re-assessment of all ONS's short-term economic output indicators before making any further judgment about *Code* compliance.
- 1.1.4 This report was prepared by the Authority's Assessment team, and approved by the Assessment Committee on behalf of the Board of the Statistics Authority, based on the advice of the Head of Assessment.

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 listed 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 June 2014.
- 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 <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/construction/output-in-the-construction-industry/index.html>

⁵ <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/index.html>

⁶ <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-211472>

⁷ <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-21530>

1.3 Summary of strengths and weaknesses

- 1.3.1 ONS engages well with a core set of users of the construction output and new orders statistics, including industry users, but it might do more to establish a dialogue with users outside that established group. Users told us that they were generally satisfied with the quality of the statistics and the decisions made by ONS on the trade-off between accuracy and timeliness.
- 1.3.2 ONS has undertaken a significant programme of development since the statistics transferred from Department for Business, Innovation and Skills. Early criticisms about the accuracy of the construction output statistics have been largely addressed. It has improved the documentation of methods used to produce the construction output and new order statistics. However, information about the strengths and limitations of the statistics has not kept pace with development and ONS has not always anticipated the impact for users of changes in methods, and in particular, has not given enough attention to explaining the rationale for methodological choices or providing users with consistent time series. However, ONS's continuous improvement programme provides a good framework for improving all aspects of these statistics, and in particular, for sharing good practice.
- 1.3.3 Some common themes have emerged from assessing all of the short-term economic output indicators at the same time. These include the need to communicate better the uncertainty associated with early estimates to avoid inadvertent misuse of the statistics; the need to present the short-term economic output indicators more coherently on ONS's website to aid interpretation; and the need to improve the way that data are made available to better support analysis and re-use. At the same time, it is clear that ONS is making continuing efforts to engage more effectively with users and to provide a better narrative around the statistics.

1.4 Detailed recommendations

- 1.4.1 The Assessment team identified some areas where it felt that ONS could improve the production and presentation of statistics on construction output and new orders. Those which are essential for ONS to address in order to strengthen its compliance with the *Code* and to enable designation as National Statistics are listed – as Requirements – in section 1.5, 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 its statistics on construction output and new orders in order to fully comply with the *Code of Practice for Official Statistics*, and to enable designation as National Statistics.

Finding	Requirement	
<p>ONS has made a series of changes to the content and presentation of <i>Construction</i> and a review of users' needs, and of their experiences of using the statistics, would be timely. ONS should:</p>	1	<p>(a) Take further steps to develop a greater understanding of the use made of these statistics and document more fully the types of decision they inform; and (b) review users' experiences of <i>Construction</i> and publish the outcomes, including information about how those outcomes will inform the development of the statistics. This would be particularly valuable for the new order statistics. (para 3.3).</p>
<p>Revisions are of crucial interest to users and we welcome additional information ONS has started to publish. Yet the reasons for revisions are not always well communicated. ONS should:</p>	2	<p>Improve the explanation of the nature of revisions alongside the construction statistics (para 3.7).</p>
<p>In recent years there has been public criticism of errors in the construction statistics. While ONS has acted to issue corrections and, in line with previous Assessment reports, has improved its quality assurance, it could do more to reassure users about quality and quality assurance. ONS should:</p>	3	<p>(a) Provide users with sufficient information about corrections resulting from identified errors in order to aid their understanding of impact on the statistics; and (b) publish details of the quality assurance arrangements for <i>Construction</i>, including information about how these procedures have been strengthened to minimise the risk of errors (para 3.9).</p>
<p>It is essential that users are confident that these statistics are produced with integrity. The purpose and content of ONS's regular meetings with</p>	4	<p>(a) Publish terms of reference for the short-term economic output indicators and quarterly National Accounts review meetings; (b) make the date of publication of any minutes transparent; and (c) document how those who produce the statistics are protected from any political pressures that might influence the</p>

HMT, the Bank of England, OBR and BIS are unclear. ONS should:		production or presentation of the statistics (para 3.11).
<p>ONS has a good understanding of the limitations of the methods it uses and has provided some good material in the public domain. However, it has not drawn this material on limitations and uncertainties together in a coherent and accessible way, and some aspects are out of date. ONS should:</p>	5	Update the published information about methods and quality to reflect the latest developments in the construction output statistics, and provide better information about the strengths and limitations of the statistics (para 3.14); and
	6	(a) Publish information about the strengths and limitations of the new orders statistics in relation to their use, including information about the steps ONS has taken to assure itself of the validity of the data; (b) ensure that users are informed of all main sources of error and bias; and (c) present any breaks in the time series clearly and publish plans for providing users with a consistent historic time series (para 3.16).
	7	Discuss with users the type of information they require about the quality and uncertainty of the estimates and use the feedback to inform the continuous improvement plans for <i>Construction</i> and the suite of short-term economic output indicators (para 3.17).
Every third month, the ONS includes additional employment questions in its survey, and this reduces response rates marginally. ONS should:	8	Investigate the impact of lower response rates on the short-term economic output indicators and if significant, establish whether there are any improvements that ONS might introduce to improve the response rates in those months when employment questions are asked, and publish its plans (para 3.23).
These are among the most important statistics that ONS produces. But there is a risk that staff turnover affects ONS's ability to produce high quality outputs. ONS should:	9	Present evidence that ONS's recruitment and retention arrangements ensure that appropriately skilled people are employed and retained in the production of the short-term economic output indicators, and are based on an appropriate competence framework (para 3.25).
Despite improvements to the presentation of	10	Improve the commentary in <i>Construction</i> to aid user interpretation of the statistics, drawing on

these statistical outputs, ONS does not provide an adequate narrative to draw out the key messages for the user. ONS should:		information gathered about users' experiences of these statistics. As part of meeting this Requirement ONS should consider the points detailed in annex 1 and annex 2 (para 3.28).
ONS has long recognised the need to improve its website. In the particular context of the construction statistics, ONS should:	11	Improve the accessibility of <i>Construction</i> through ONS's website, including: moving away from having separate web pages for construction output and new orders; and making it clear to users how the statistical report relates to the other short-term economic output indicators(para 3.29).
For many users, ready access to data is an essential part of their use of the statistics. ONS does not make the construction statistics available in an open, non-proprietary format and the design of the data tables could better support re-use. ONS should:	12	Ensure that construction output and new orders statistics and associated supplementary tables are disseminated in forms that encourage analysis and re-use (para 3.30).
ONS's Statement of Administrative Sources is not complete. ONS should:	13	Ensure that all the administrative data sources used in the production of <i>Construction</i> are listed in ONS's Statement of Administrative Sources and publish information about the quality audit arrangements for these sources (para 3.34).

1.6 Suggestions for extracting maximum value from the statistics

1.6.1 This section includes some suggestions for improvement to ONS's statistics on construction output and new orders, 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.

1	ONS might usefully consider a range of means of identifying and engaging with users, drawing on examples of good practice from within ONS and the wider Government Statistical Service; and it could also explore taking advantage of the StatsUserNet facility to promote ongoing discussions with the user community (para 3.3).
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2	ONS could help users of <i>Construction</i> by making the <i>National Accounts Five-Year Plan</i> , and any updates on progress against that plan that impact their use of the statistics, more easily accessible (para 3.4).
3	ONS might consider developing revisions triangles for the new orders statistics (para 3.7).
4	ONS might aid users' interpretation of the construction output and new orders statistics by providing information about the comparability of the GB statistics with those produced for Northern Ireland, and internationally, noting that any analysis might need to be presented with a time lag (para 3.19).
5	ONS could aid users' understanding of any limitations on the utility of the statistics by publishing clear links in <i>Construction</i> to ONS's disclosure control policy and by clarifying which data are potentially most affected by the need to protect confidentiality (para 3.20).
6	ONS might find the Authority's Statement <i>Administrative Data and Official Statistics</i> useful in establishing appropriate quality audit arrangements (para 3.34).

2 Subject of the assessment

2.1 The UK Annual and Quarterly National Accounts (National Accounts) are produced using an accounting framework that provides a systematic and detailed statistical description of the UK economy. The Accounts contain the elements required to compile aggregate measures, such as gross domestic product (GDP). ONS's short-term economic output indicators are a suite of statistics published in five statistical reports as indicators of short-term changes in economic activity:

- *Gross Domestic Product: Preliminary Estimate (GDP)*
- *Index of Production (IoP)*
- *Index of Services (IoS)*
- *Retail Sales*
- *Construction Output and New Orders (Construction)*

The subject of this report is *Construction*. Assessment reports 278 and 279 review *GDP*, *IoP* and *IoS*; and *Retail Sales* respectively. The National Accounts⁸ are currently being re-assessed separately.

2.2 *Construction* presents estimates of construction output by the private sector and public corporations in Great Britain at current prices and as chained volume estimates⁹. Estimates of construction contracts for new construction work awarded to main contractors by clients in the UK are presented at current and constant prices (with inflationary effects removed). Seasonally and non-seasonally adjusted estimates of construction output and new orders are presented, as are breakdowns by sector, type of work and region. The report presents the construction output statistics every month, and every third month includes the latest quarterly new orders statistics. ONS publishes *Construction* each month around 26 working days after the end of the reference month.

2.3 Construction output accounts for around six per cent of GDP¹⁰ and the construction output and new orders statistics are used by a range of organisations to monitor the health of the industry and the wider economy. Users include the Bank of England, the Office for Budget Responsibility (OBR), macro-economists and financial consultants, employer organisations and the industry's own trade associations, companies and suppliers. The statistics can be helpful in gauging the degree of short-term momentum in the economy and informing short-term forecasts of GDP. The construction industry and its trade associations use the statistics to develop their own forecasts of industry growth to try to understand future pressures and demands. The Construction Products Association, for example, produces regular industry forecasts for its members¹¹. Industry users, and those with an interest in the industry including policy makers, also use the statistics in combination with other data sources to

⁸ The first assessment of the UK Annual and Quarterly National Accounts was published in Assessment report100: <http://www.statisticsauthority.gov.uk/assessment/assessment/assessment-reports/index.html>

⁹ Chained volume measures are time series that have the effects of inflation removed by considering changes in quantity between consecutive periods, while holding prices from previous periods constant

¹⁰ <http://www.ons.gov.uk/ons/rel/gva/gross-domestic-product--preliminary-estimate/q4-2013/info-gdp-q4-2013.html>

¹¹ <http://www.constructionproducts.org.uk/economics/construction-industry-forecasts/>

learn from long term trends retrospectively – for example, workforce trends and capacity (including skills) and levels of investment. These analyses of official statistics inform companies' own business decisions, are used to advise clients directly, or are made available for wider public consumption. The statistics are also used for a wide range of other important purposes including: informing tender prices; estimating market values; benchmarking industry performance with the UK economy and internationally; examining the relative importance of different industries over time and across regions; briefing the media; and supporting education and training.

- 2.4 ONS took over responsibility for producing the construction output and new orders statistics from the Department of Business, Innovation and Skills (BIS) in March 2008. In the first instance, ONS published statistics about construction output each quarter and new orders statistics every month. ONS then established a project to develop new methods and processes for producing the transferred statistics and consulted users on proposals for change in 2009¹². In March 2010, ONS announced¹³ that in future it would publish monthly construction activity statistics in *Output in the Construction Industry*¹⁴ (*Output*) and quarterly statistics about the value of new orders in *New Orders in the Construction Industry*¹⁵ (*New Orders*). This model continued until September 2013 when ONS published the combined report, *Construction*¹⁶, for the first time. ONS pre-announced this change in June 2013¹⁷, along with information about changes to the data source for the new orders statistics.
- 2.5 The Monthly Business Survey for Construction¹⁸ measures output from the construction industry in GB. It samples 8,000 businesses, with all businesses employing over 100 people or with an annual turnover of more than £60m receiving a questionnaire by post every month. The results of the survey are deflated using price indices from the Building Cost Information Service¹⁹ of the Royal Institution of Chartered Surveyors and then chain linked²⁰ and seasonally adjusted to derive the published estimates.
- 2.6 New orders in construction data have been collected from a sample survey of businesses since the 1950s. In 2013 ONS identified issues with the quality of the Quarterly Survey of Contracts and New Orders, where the coverage was unknown and where the allocations of new orders to regions were not always recorded accurately. The new orders data are now supplied under contract to ONS by Barbour ABI²¹ based on a range of administrative data sources complemented by telephone surveys of building contractors; ONS told us that

¹² <http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/archived-consultations/2009/construction-statistics-publications/index.html>

¹³ <http://www.ons.gov.uk/ons/rel/elmr/economic-and-labour-market-review/no--3--march-2010/development-of-construction-statistics.pdf>

¹⁴ <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-211472>

¹⁵ <http://www.ons.gov.uk/ons/publications/all-releases.html?definition=tcm%3A77-21530>

¹⁶ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/july-2013/index.html>

¹⁷ <http://www.ons.gov.uk/ons/media-centre/statements/announcement-of-changes-to-new-orders-in-the-construction-industry/index.html>

¹⁸ <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--construction-and-allied-trades-/index.html>

¹⁹ <http://www.rics.org/uk/about-rics/>

²⁰ See footnote 9

²¹ <http://www.barbour-abi.com/home.php>

this provides it with improved coverage and regional splits of new orders in construction data.

- 2.7 European Regulation (EC) 1165/98 and subsequent amendments²² require the collection of short-term statistics (STS) by EU Member States. ONS told us that it complies fully with this STS regulation in respect of indices of production in construction²³ (IPC) statistics. The UK national accounting framework currently adopts the concepts and definitions in the *European system of national and regional accounts 1995*²⁴ (ESA95), which is the European Union equivalent of the United Nations' *System of National Accounts 1993*²⁵ (1993 SNA). From September 2014, the UK has to produce its National Accounts according to the concepts and definitions of the *European System of Accounts 2010*²⁶ (ESA 2010). ESA 2010 is equivalent to the *System of National Accounts 2008*²⁷ (2008 SNA). Eurostat is also leading on implementing the *Framework Regulation Integrating Business Statistics*²⁸ that aims to streamline and rationalise the reference framework for European business statistics and reduce unnecessary statistical burden on respondents. The resulting changes to regulations will impact on the short-term economic output indicators no earlier than 2016.
- 2.8 ONS consulted²⁹ on its *National Accounts and Related Statistics Work Plan for 2013/14 to 2017/18*³⁰ (*National Accounts Five-Year Plan*) from 31 May to 31 July 2013. The *National Accounts Five-Year Plan* includes in its scope all of the short-term economic output indicators and outlines the work programme to be able to deliver on related European Regulations, including providing details of derogations³¹ that it has sought from Eurostat. ONS also began a National Statistics Quality Review³² of the National Accounts and related products in September 2013. The review is due to report in Spring 2014. ONS advised us that the short-term economic output indicators are not the central focus of this review, and so we have not delayed this Assessment to consider its outcomes. However, the assessment of the National Accounts will consider the outcomes of the review and this may lead to requirements that impact upon the short-term economic output indicators, either directly or indirectly.
- 2.9 ONS publishes *Construction* in HTML and PDF with supplementary tables and charts in Excel. This equates to a level of two stars under the Five Star Scheme that forms part of the Open Standards Principles proposed in the Open Data

²² http://epp.eurostat.ec.europa.eu/portal/page/portal/short_term_business_statistics/legislation

²³ http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-RA-11-018

²⁴ http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:ESA95

²⁵ <http://unstats.un.org/unsd/nationalaccount/sna1993.asp>

²⁶ http://epp.eurostat.ec.europa.eu/portal/page/portal/esa_2010/introduction

²⁷ <http://unstats.un.org/unsd/nationalaccount/sna2008.asp>

²⁸ http://ec.europa.eu/governance/impact/planned_ia/docs/2012_estat_011_business_statistics_en.pdf

²⁹ <http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/consultations/national-accounts-and-related-statistics-work-plan/index.html>

³⁰ <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>

³¹ Derogations are formal permissions to delay producing some of the detail required by ESA 2010 regulation

³² <http://www.ons.gov.uk/ons/media-centre/statements/announcement-of-the-nsqr-on-the-national-accounts/index.html>

White Paper: Unleashing the Potential³³ and adopted as government policy in November 2012³⁴. Five stars represents the highest star rating within the Scheme.

- 2.10 ONS told us that the annual cost of producing *Construction* (including the new orders contract) is £940,000.

³³ http://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf

³⁴ <https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles>

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.

- 3.1 ONS has identified a core set of users that it works with regularly to understand their needs. ONS engages with users of the construction output and new orders statistics at twice-yearly meetings of the Consultative Committee on Construction Industry Statistics³⁵ (CCCIS) hosted by BIS and attended by government users, the construction industry, and analysts. The Committee offers a forum to discuss official construction statistics and share plans for development. ONS provides a link to the meeting papers in the construction output quality report³⁶. ONS also engages regularly with the Bank of England, BIS, HM Treasury, and OBR about their use of these statistics – for example, through meetings of the Short-term Output Indicators Stakeholder Group³⁷ and regular Reviews of Quarterly National Accounts³⁸. As part of its key accounts strategy, ONS also invites these users (and other government departments) to comment on its performance at the end of each year. As part of this Assessment, users who are members of these different groups told us that they welcome these opportunities for a regular dialogue with ONS.
- 3.2 ONS makes further attempts to consult users more widely but its practices are less consistently applied, and rely mainly on notices published on its website or included in the notes to the statistical reports. ONS consulted users of *Construction* in March 2013 about their data needs with a view to ceasing publication of some of the new orders data tables. The consultation ran for approximately three months and ONS received 17 responses from a range of users, predominantly private sector organisations. ONS published the outcomes of the consultation and details of the resulting decisions taken³⁹. ONS pre-announced its intention to present the construction output and new orders statistics together as a single statistical report for the first time in September 2013⁴⁰ but while ONS told us that it has already received some positive feedback, it has not yet actively sought views from users about the resulting changes to *Construction*, other than through a brief statement at the end of the report. The move to a combined statistical report is one of several developments to the construction output and new orders statistics during 2013 and 2014 and we consider that some form of user engagement to capture

³⁵ <https://www.gov.uk/government/publications/cccis>

³⁶ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/business-statistics/output-in-the-construction-industry.pdf>

³⁷ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/presentations-and-meeting-papers/short-term-output-indicators-stakeholder-group/index.html>

³⁸ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/presentations-and-meeting-papers/meeting-papers/index.html>

³⁹ <http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/consultations/publication-of-new-orders-in-the-construction-industry-data/index.html>

⁴⁰ <http://www.ons.gov.uk/ons/media-centre/statements/announcement-of-changes-to-new-orders-in-the-construction-industry/index.html>

users' experiences of the statistics would be timely. User surveys were last carried out during 2011⁴¹.

- 3.3 *Construction* and the construction output quality report present some brief summary information about the users and uses of the construction output statistics but this could be helpfully expanded. No information is provided about the uses of the new orders statistics. As part of the designation as National Statistics, ONS should (a) take further steps to develop a greater understanding of the use made of these statistics and document more fully the types of decision they inform; and (b) review users' experiences of *Construction* and publish the outcomes, including information about how those outcomes will inform the development of the statistics⁴² (Requirement 1). We suggest that in meeting this requirement, ONS might like to consider a range of means of identifying and engaging with users, drawing on examples of good practice from within ONS and the wider Government Statistical Service; and it could also explore taking advantage of the StatsUserNet facility to promote ongoing discussions with the user community.
- 3.4 ONS has introduced systematic planning arrangements for these statistics. The *National Accounts Five-Year Plan* encompasses a wide range of statistical outputs, including the short-term economic output indicators, and sets out the priorities for delivering and developing these statistics. ONS has published the plan on its website and has committed to preparing six-monthly progress reports and consulting users on annual updates to priorities. Given the strategic importance of the *National Accounts Five-Year Plan* to users, we found it was difficult to locate on ONS's website. *Construction* does not include a link to the plan and ONS has not outlined what the plans mean for users of these statistics. However, ONS also publishes related six-monthly articles about activities planned in the context of continuous improvement to GDP sources, methods and communication⁴³. Again, the scope of these reports includes *Construction* and the statistical report includes a regular section to update users about continuous improvement. We suggest that ONS could help users of *Construction* by making the *National Accounts Five-Year Plan*, and any updates on progress against that plan that impact their use of the statistics, more easily accessible.

⁴¹ <http://www.ons.gov.uk/ons/about-ons/get-involved/consultations/user-surveys/index.html>

⁴² In relation to Principle 1, Practices 1, 2 and 5 of the *Code of Practice*

⁴³ <http://www.ons.gov.uk/ons/guide-method/method-quality/ons-statistical-continuous-improvement/index.html>

Principle 2: Impartiality and objectivity

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

Requirements from previous Assessment report 170 (February 2012):

- Ensure that errors discovered in statistical reports are addressed, and stakeholders alerted, promptly.

- 3.5 ONS publishes these statistics in an orderly and timely manner on its website, free of charge to users. The statistics are presented impartially and objectively.
- 3.6 ONS alerts users to any planned changes to methods or classifications in the 'What's new' section of the background notes to its statistical reports, at least one period in advance of publishing the changed statistics and uses the same vehicle for keeping users abreast of any changes to planned schedules. For example, *Construction* pre-announced in December 2013 that ONS would be publishing construction output statistics produced using ONS's CORD⁴⁴ system for the first time in early 2014 to ensure consistency with associated National Accounts datasets and reduce the risk of processing errors. The announcement was accompanied by an article explaining in broad terms the impact on the statistics of the change in production system⁴⁵. ONS has kept users updated on changes to this timetable, as it investigates differences between the estimates produced by the old and new systems, and has assured the Assessment team that it will quantify the impact of the change for users prior to publication on the new basis. ONS also informs users of *Construction* about developments where there has been little or no impact – for example, in December 2012 ONS published a review confirming that the sample design and estimation methods for the construction output statistics are performing well, and recommending only minor changes⁴⁶.
- 3.7 While users responding to this Assessment voiced some frustration with the number of revisions to published statistics, and some wanted more information about the nature of the revisions, the overall view was that ONS strikes an appropriate balance between timeliness and accuracy. ONS manages revisions to the construction output statistics in line with the National Accounts revisions policy⁴⁷. *Construction* aligned with the National Accounts policy from September 2013, reflecting ONS's view that 'as a key component of the production approach to measuring GDP it should be subject to the same data

⁴⁴ Central ONS Repository for Data (CORD) is ONS's IT platform for integrating the systems supporting the National Accounts

⁴⁵ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/business-and-energy/output-in-the-construction-industry/production-of-construction-output-estimates-using-the-central-ons-repository-for-data--cord--platform.pdf>

⁴⁶ <http://www.ons.gov.uk/ons/guide-method/method-quality/ons-statistical-continuous-improvement/reviewing-the-sample-design-and-estimation-methodology-for-output-in-the-construction-industry/index.html>

⁴⁷ <http://www.ons.gov.uk/ons/guide-method/revisions/revisions-policies-by-theme/economy/national-accounts-revisions-policy.pdf>

policies that govern the accounts⁴⁸. ONS publishes summary information about the scale of revisions in the statistical reports, and provides some information about the nature of those revisions, though users told us they would welcome more detail. As an indicator of reliability, the report also provides some information about the general level of revisions that can be expected. In February 2014, for the first time, ONS published revisions triangles⁴⁹ for total construction output in Excel tables alongside *Construction*. The Authority welcomes this development: The user response to this assessment conveyed the importance of having this information alongside any data available for download. As part of the designation as National Statistics, ONS should improve the explanation of the nature of revisions alongside the construction statistics⁵⁰ (Requirement 2). We suggest that in meeting this requirement, ONS might consider developing revisions triangles for the new orders statistics.

- 3.8 In recent years, there has been public criticism of errors in the construction output and new orders statistics, most notably in August 2011 when ONS withdrew *Output in the Construction Industry*, the predecessor to *Construction*, on the day of release. ONS published some additional information to address user concerns⁵¹ and the Authority carried out an independent review of the incident⁵², making a number of observations about weaknesses in ONS's resourcing, systems and processes that led to the error. Since *Construction* was first published in September 2013, ONS has issued two corrections to the Excel data tables. In both instances ONS provided a clear correction notice but only presented the original and revised statistics in the first case⁵³. In the second instance, ONS presented insufficient information to aid user interpretation of the impact of the error⁵⁴.
- 3.9 ONS last reported to the Board of the UK Statistics Authority on progress to address observed weaknesses⁵⁵ in January 2014 and advised that most of the points have been addressed. ONS said that the outstanding points were to move away from high risk Excel-based production systems and to strengthen quality assurance processes. ONS has published its plans to begin producing the published statistics from its CORD system, following a period of parallel running of the old and new systems (see paragraph 3.6). The statistics team producing *Construction* told us that it is currently taking part in an ONS pilot project to implement stronger quality assurance plans for all its outputs and ONS has published some information about how it assures the quality of the construction output statistics⁵⁶. However, it has not presented the equivalent

⁴⁸ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/september-and-q3-2013/stb-construction-sept-2013.html#tab-background-notes>

⁴⁹ Revisions triangles track revisions over time

⁵⁰ In relation to Principle 2, Practice 6 of the *Code of Practice*

⁵¹ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/june-and-q2-2011/index.html>

⁵² <http://www.statisticsauthority.gov.uk/news/statement---authority-s-review---construction-statistics.pdf>

⁵³ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/july-2013/rft-table-1-jul-2013.xls>

⁵⁴ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/november-2013/rft-table-2-kp-tables-nov-2013.xls>

⁵⁵ <http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-reviews/monitoring-review-3-2014---financial-services-and-official-statistics.pdf>

⁵⁶ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/business-statistics/output-in-the-construction-industry.pdf>

information for the new orders statistics. As part of the designation as National Statistics, ONS should (a) provide users with sufficient information about corrections resulting from identified errors in order to aid their understanding of impact on the statistics; and (b) publish details of the quality assurance arrangements for *Construction*, including information about how these procedures have been strengthened to minimise the risk of errors⁵⁷ (Requirement 3).

⁵⁷ In relation to Principle 2, Practice 7 and Principle 4 Practice 3 of the *Code of Practice*

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.

- 3.10 No incidents of political pressures or abuses of trust were reported to or identified by the Assessment team.
- 3.11 As noted in paragraph 3.1, ONS holds two quarterly meetings with HM Treasury, Bank of England, OBR and BIS – one about the short-term economic output indicators and one to review the quarterly National Accounts. ONS has published the minutes⁵⁸ for the meetings held in 2013 on its website. However, ONS does not publish any terms of reference for the groups and as the minutes are not dated, it is difficult to establish how quickly they are made available. Also, while the quarterly National Accounts review meetings are always held after the release of those statistics, there are no such restrictions on the timing of the short-term economic output indicators meetings. For example, the group met on 4 June to discuss Q1 2013, after the release of the second estimate of GDP on 23 May 2013 but before the quarterly National Accounts on 27 June 2013. The minutes of the short-term economic output indicators meetings illustrate that discussions do sometimes extend to the National Accounts. ONS assured us that there has never been political interference during those meetings. However, given the potential risk of the appearance of inappropriate influence by the key stakeholders on the estimates, ONS could do more to increase the transparency of the discussions and protect the independence of the statistics. As part of the designation as National Statistics, ONS should (a) publish terms of reference for the short-term economic output indicators and quarterly National Accounts review meetings; (b) make the date of publication of any minutes transparent; and (c) document how those who produce the statistics are protected from any political pressures that might influence the production or presentation of the statistics⁵⁹ (Requirement 4).
- 3.12 As a result of the user engagement conducted as part of this assessment, the Assessment team established that ONS had received a series of correspondence in relation to the new orders statistics, but did not judge it to be a formal complaint. While this is not relevant to the extent to which the new orders statistics comply with the *Code*, there may be merit in ONS satisfying itself that its procedures for identifying and managing complaints remains appropriate.

⁵⁸ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/presentations-and-meeting-papers/index.html>

⁵⁹ In relation to Principle 3, Practice 2 of the *Code of Practice*

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 170 (February 2012):

- Provide more information about the methods used to produce the construction statistics, and make this information accessible.
- Publish more information to explain the quality measures and the quality of the regional construction output statistics, in relation to use.
- Improve quality assurance procedures, ensure that staff are suitably trained in quality management, and publish information about the improved arrangements.

3.13 ONS has improved the documentation of the methods used to produce the construction output and new orders statistics. *Construction* presents some summary information about the methods used to produce the statistics and more detail is published in two quality reports – one for construction output⁶⁰ and one for new orders statistics⁶¹.

3.14 The construction output quality report was last updated in 2012 and now includes information about the quality measures published for construction output, and about how the regional estimates are modelled. However, the report does not reflect the latest developments in the statistics, including the introduction of chained-volume measures, and very little information is presented about the strengths and limitations of the methods employed – for example, for seasonal adjustment and deflation. The Authority has launched a Monitoring Review⁶² to address the concern that the rationale for the choice of deflators in official statistics publications is often unclear, and more advice to users is needed. ONS told us that it is in the process of updating the report. Summary quality information including survey response rates, sampling and non-sampling errors are published in the Excel data tables published for the construction output statistics, though ONS does not mention this in *Construction* and no information is provided to help users interpret the measures. ONS has published a series of methods articles⁶³ on a single ‘output in the construction industry’ methodology page on its website. However, whilst the statistical reports link to specific articles as they are published, there is no transparent link to this page in the reports. Also, the page does not provide

⁶⁰ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/business-statistics/output-in-the-construction-industry.pdf>

⁶¹ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/quality-information/business-and-energy/summary-quality-report-for-new-orders-in-the-construction-industry.pdf>

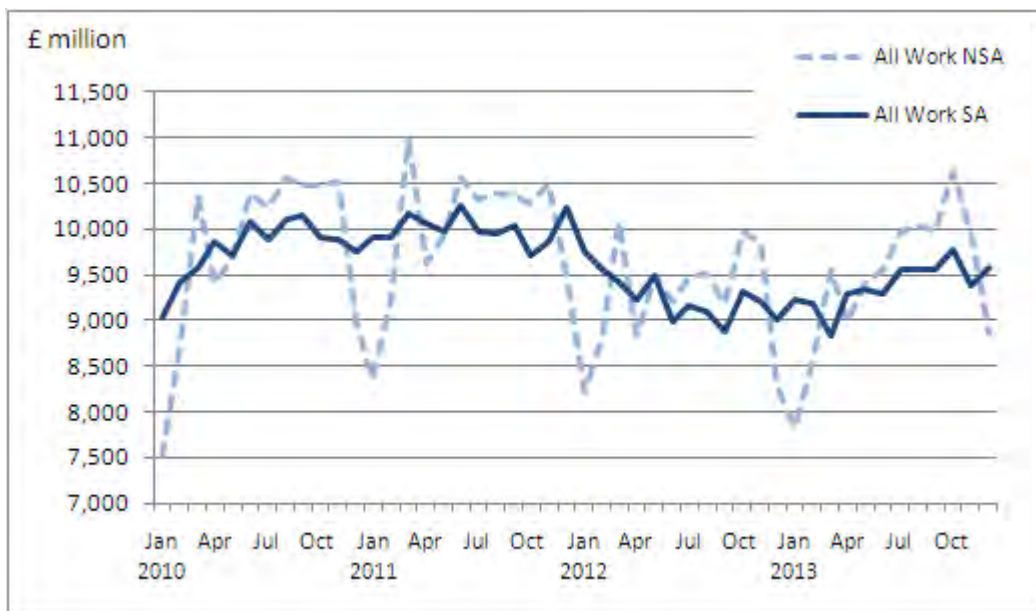
⁶² <http://www.statisticsauthority.gov.uk/assessment/monitoring/monitoring-reviews/review-outlines/mr-outline-03-14.pdf>

⁶³ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/business-and-energy/output-in-the-construction-industry/index.html>

links to all relevant articles and announcements. For example, this page does not include any reference to the new orders articles and there is no equivalent page for those statistics. The issue of the accessibility of the information about methods and quality is discussed further (in relation to Principle 8 of the *Code*) in paragraph 3.29. As part of the designation as National Statistics, ONS should update the published information about methods and quality to reflect the latest developments in the construction output statistics, and provide better information about the strengths and limitations of the statistics⁶⁴ (Requirement 5).

- 3.15 The first edition of *Construction* introduced changes to the construction output statistics announced in May 2013⁶⁵, including the addition of monthly seasonally adjusted series and chained volume estimates⁶⁶ (with inflationary effects removed). The monthly seasonally adjusted series was introduced at the earliest opportunity – as soon as three years’ data were available. Annual chain-linking replaces 5-yearly rebasing to bring the construction output methods in line with the National Accounts and international good practice.

All work, monthly time series, chained volume measures, non-seasonally (NSA) and seasonally (SA) adjusted



Source: Construction: Output & Employment - Office for National Statistics

Users told us that they are still working through the implications of the introduction of chain-linking for their use of the statistics, and in particular their use of longer time series. ONS told us that it would be happy to follow this matter up with users and if necessary, investigate what it might do to address any concerns. We consider this would be worthwhile as users repeatedly communicate to us their concerns about the loss of consistent time series when new methods are introduced, even when they recognise that those changes are

⁶⁴ In relation to Principle 4, Practices 1 and 2 of the *Code of Practice*

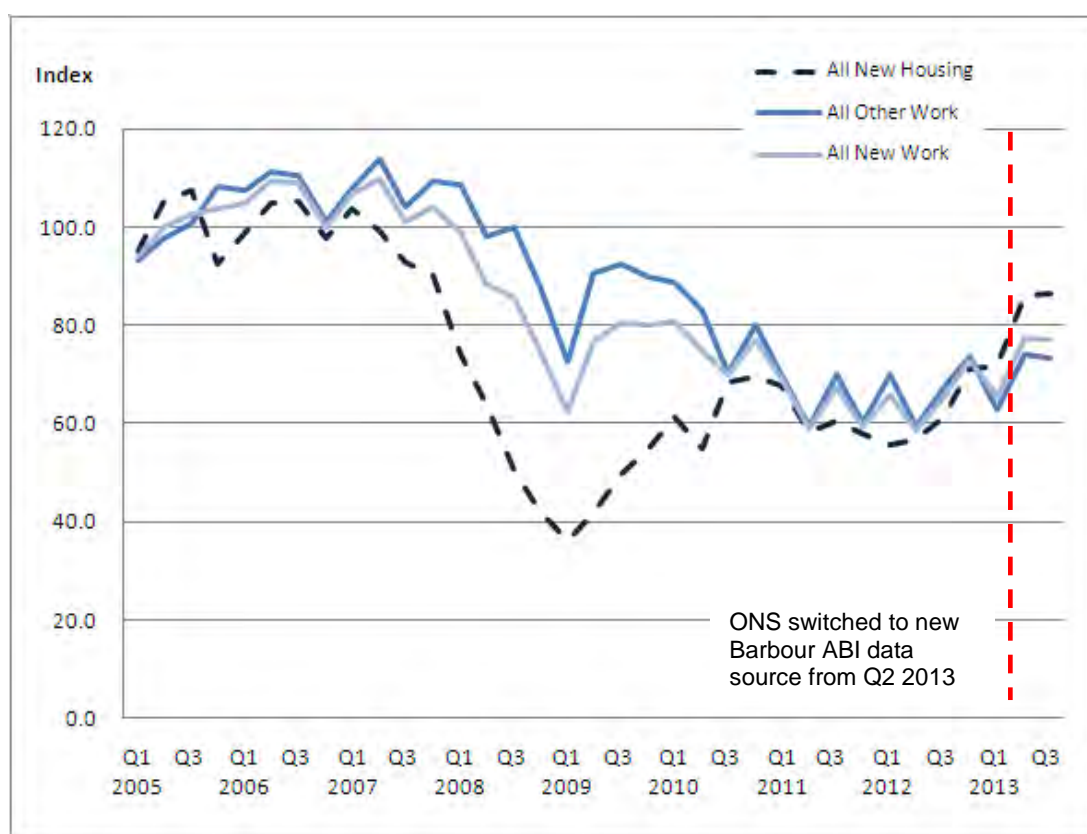
⁶⁵ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/seasonal-adjustment-of-monthly-output-in-the-construction-industry/methodology-improvements-to-construction-output.html#tab-Introduction>

⁶⁶ Chained volume measures are time series that have the effects of inflation removed by considering changes in quantity between consecutive periods, while holding prices from previous periods constant

for the better. ONS should do this as part of meeting Requirement 1 (paragraph 3.3).

3.16 In June 2013 ONS announced⁶⁷ that from the second quarter of 2013, and following a competitive tender, it had replaced its own New Orders Survey with data supplied by Barbour ABI. ONS said it believed that this new data source would improve its estimation of regional output in the construction industry and its Output Price Indices. ONS presented comparative analyses of three years' data and concluded that any differences were due to previous ONS under-coverage of contracts. However, while it has presented this comparison of the two data sources, ONS has only briefly described the strengths and limitations of the statistics in relation to their use and has published no information about possible sources of bias or error. Also, one of the impacts of moving to this new data source is a break in the time series (depicted by the red dotted line superimposed by the Assessment team in ONS's chart, reproduced below) and ONS announced that it would not be reworking the historical series, without explaining the rationale for this decision. ONS told us that, on reflection, it should have made the provision of some historical time series data part of its requirement for supplying the new orders data, and then used this information to help construct a consistent time series for users.

New Orders, Constant (2005) index prices, seasonally adjusted



Source: Office for National Statistics and Barbour ABI

ONS also told us that it has been carrying out additional analyses of the new source data each quarter, including 'sense checks' around established industry

⁶⁷ <http://www.ons.gov.uk/ons/media-centre/statements/announcement-of-changes-to-new-orders-in-the-construction-industry/index.html>

intelligence such as the trade press, to assure itself that changes in the new time series are representative of actual change and not the new data source bedding in. ONS told us that it is confident in its analysis and the new orders statistics published in *Construction*. As part of the designation as National Statistics, ONS should (a) publish information about the strengths and limitations of the new orders statistics in relation to their use, including information about the steps ONS has taken to assure itself of the validity of the data; (b) ensure that users are informed of all main sources of error and bias; and (c) present any breaks in the time series clearly and publish plans for providing users with a consistent historic time series⁶⁸ (Requirement 6).

- 3.17 The accuracy of the construction output statistics has been the source of some public debate and criticism in the past. Users responding to this assessment indicated that ONS has done much to address user concerns. However, media and City and industry commentators regularly reflect⁶⁹ on the volatility of the monthly construction output statistics as well as the propensity for revisions to early estimates. The need for better information about revisions is discussed in paragraph 3.7. On the issue of the volatility of the month-on-month estimates, ONS told us that for *Construction* and *Retail Sales* it has recently started to place more emphasis in its statistical reports on the underlying trends rather than month-on-month fluctuations, and that when it has done this, it has received positive feedback from the media. We support this development but think that ONS could do more to aid users' interpretation of the statistics. *Construction* includes only a small amount of information in the background notes about how to interpret the different measures it presents and some key guidance available in related documents is not brought out in the reports – for example, ONS's advice that the new orders statistics do not serve as a good predictor of future construction output. To avoid misuse of the statistics, a number of users told us that they felt ONS could do more to measure and emphasise more prominently the degree of uncertainty surrounding these estimates. Similar concerns have been raised in relation to the other short-term economic output indicators. As part of the designation as National Statistics, ONS should discuss with users the type of information they require about the quality and uncertainty of the estimates and use the feedback to inform the continuous improvement plans for *Construction* and the suite of short-term economic output indicators⁷⁰ (Requirement 7).
- 3.18 ONS told us that it applies standard quality assurance procedures each time the statistics are produced and that *Construction* is part of a pilot project to strengthen quality assurance procedures (see paragraph 3.9). These procedures are signed off annually by the head of the division responsible for the statistics following a 'walk-through' of the production process. ONS also completes an annual quality review for each output using a Quality, Methods and Harmonisation Tool⁷¹ (QMHT) in order to provide additional assurance about the quality and methodology of these outputs. Based on the recommendations that the Assessment team saw, the QMHT supports the

⁶⁸ In relation to Principle 4, Practices 1, 2 and 7 and Principle 8, Practices 1 and 2 of the *Code of Practice*

⁶⁹ <http://www.theguardian.com/business/2014/feb/14/housebuilders-boost-uk-construction-sector-output-2-percent>

⁷⁰ In relation to Principle 4, Practice 2 of the *Code of Practice*

⁷¹ <http://www.ons.gov.uk/ons/guide-method/method-quality/quality/harmonisation/index.html>

principles of the *Code*. However, the statistics team told us that it considers that the QMHT is yet not producing sufficiently ‘intelligent’ output to justify the resources required to input the necessary information and is not helping to inform its continuous improvement programme. ONS’s Quality Centre manages the deployment of QMHT and told us that it would be conducting a user engagement exercise with the statistics teams in early 2014 to gauge fitness for purpose and inform improvements.

- 3.19 The *National Accounts Five-Year Plan* outlines how ONS complies with current European Regulation and how it will implement new regulatory requirements driven by international standards, most notably the introduction of the concepts and definitions in ESA10. *Construction* briefly references the international requirements and provides a link to European statistics, as well as to statistics for Northern Ireland. No information is provided about the comparability of these statistics. We suggest that ONS might aid users’ interpretation of the construction output and new orders statistics by providing information about the comparability of the GB statistics with those produced for Northern Ireland, and internationally, noting that any analysis might need to be presented with a time lag.

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.

- 3.20 ONS has assured us that it takes all necessary steps to protect the confidentiality of the data that it collects. ONS provides some information in the quality reports about how it protects confidentiality but it does not provide links to its disclosure control policy⁷². We consider that it would be particularly helpful to users of *Construction* to understand more about how ONS balances confidentiality protection with optimising the utility of the statistics, and which statistics are potentially most affected. We suggest that ONS could aid users' understanding of any limitations on the utility of the statistics by publishing clear links in *Construction* to ONS's disclosure control policy and by clarifying which data are potentially most affected by the need to protect confidentiality.
- 3.21 ONS exchanges confidential statistical records for statistical purposes with a small number of government departments, devolved administrations and Eurostat. Arrangements with Eurostat are governed by European regulation. ONS told us that the arrangements with the other bodies is the same for all the short-term economic output indicators – individual service level agreements are signed and reviewed annually and ONS uses secure electronic transfer methods to send the data.

⁷² <http://www.ons.gov.uk/ons/guide-method/best-practice/disclosure-control-policy-for-tables/index.html?format=contrast>

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 170 (February 2012):

- Report annually the estimated costs of responding to the construction surveys.

- 3.22 ONS reports the costs to businesses of responding to statistical surveys in its annual compliance plans⁷³; the annual cost of compliance in 2011/12 for the surveys used to produce these statistics was estimated at around £2.8 million. ONS's estimated⁷⁴ that its decision to replace its own survey of new orders with data provided by Barbour ABI in 2013 reduced this annual cost to business by £1.1 million.
- 3.23 Once a quarter, additional employment questions are asked as part of the Monthly Business Survey. The statistics team told us that this impacts upon response rates to the survey every third month – for example, the team estimates the impact on the number of responses received for the survey that underpins another of the short-term economic output indicators, retail sales, is a fall of approximately two per cent. As part of the designation as National Statistics, ONS should investigate the impact of lower response rates on the short-term economic output indicators and if significant, establish whether there are any improvements that ONS might introduce to improve the response rates in those months when employment questions are asked, and publish its plans⁷⁵ (Requirement 8).

⁷³ <http://www.ons.gov.uk/ons/about-ons/get-involved/taking-part-in-a-survey/information-for-businesses/compliance-and-simplification-plans/index.html?format=contrast>

⁷⁴ See footnote 67

⁷⁵ In relation to Principle 6, Practice 1 of the *Code of Practice*

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.

3.24 The short-term economic output indicators are produced by a number of small teams under the common leadership of a senior statistician, with *Construction* and *Retail Sales* produced by a team of ten. In January 2014, ONS told us that it had recently strengthened the team producing *Construction* by bringing in skilled staff with some National Accounts experience. However, the statistics team told us that ONS generally experiences a high risk of staff turnover across the teams producing the short-term economic output indicators, making it difficult to maintain a corporate memory, and that it struggles to recruit people with the specialised skills needed. Our research indicated that there are a number of interacting factors at play:

- the transfer of National Accounts operations from London to Newport over a concentrated period of time means that a lot of people joined at the same time and so will potentially move on at the same time;
- high vacancy rates across National Accounts means that jobs are often offered on promotion, with those with the greatest experience naturally having the greatest chance of success and so moving between teams; and
- ONS recruiting based on general statistical competences drawn from the general Civil Service Competency framework, rather than giving greater weight to testing the competences needed to acquire key skills used by a 'national accountant' such as seasonal adjustment; deflation; interpreting and assuring economic time series; and contextualising the statistics for users.

3.25 The first two factors might be considered a natural and unavoidable part of bedding in operations and should resolve themselves over time with sound management – ONS told us that it has put some policies in place including investing more resources in economic statistics and prioritising recruitment and limiting lateral moves away from identified priority teams. However, we are concerned that 'national accountant' is not seen as a sufficiently specialist role within ONS and that recruitment does not focus more on the specialist skills set required. Also, whilst the statistics team told us that it has access to advice from economists in preparing commentary and briefing, and that these economists prove a good 'sounding board' for the statisticians, we consider that the statistics would benefit from having economists more embedded in the quality assurance process. While the Assessment team understands the challenges that ONS faces, these are some of the most important official statistics that ONS produces and as such we consider that it is of the highest priority that they should be sufficiently resourced by people with the appropriate skills. As part of designation as National Statistics, ONS should 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, and are based on an appropriate competence framework⁷⁶ (Requirement 9).

- 3.26 ONS told us that the division that produces the short-term economic output indicators prepares an annual business plan, and that the statistics team must report progress against the plan each year as part of ONS's stewardship reporting process.

⁷⁶ In relation to Principle 7, Practices 1 and 6 of the *Code of Practice*

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 170 (February 2012):

- Provide links in the summary *Output* releases to supporting information.
- Improve the commentary in *Output* and *New Orders* so that it aids user interpretation of the statistics.

3.27 After pre-announcing⁷⁷ its intention to present the construction output and new orders statistics together as a single statistical report, ONS published *Construction* for the first time in September 2013. ONS sought some early feedback from the National Statistician's Good Practice Team about the commentary in *Construction* and has taken steps to make the statistics more understandable and accessible – for example, asking a group of its own undergraduates to review the presentation. The statistics team has published regular additional pieces of narrative alongside the statistical reports to provide users with helpful insights in to specific aspects of the statistics – for example, 'Growth in new housing construction gains momentum'⁷⁸ and 'Comparison of construction downturns'⁷⁹. ONS has also included a new 'economic context' section in the statistical report that explains the contribution of construction output to GDP and sets the latest statistics within the context of other related intelligence – for example, the Bank of England's Agent's Summary of Business Conditions⁸⁰ and the House Price Index⁸¹. ONS acknowledges that further enhancements can be made to aid user interpretation and we welcome the steps taken to establish an editorial group to oversee the continuous improvement of the statistical reports for the short-term economic output indicators.

3.28 However, as discussed in paragraph 3.3, we consider that in light of all the recent changes to the content and presentation of *Construction*, a review of users' experiences would be timely. We have heard from a range of users of the short-term economic output indicators as part of this assessment. Their needs differ dependent on their experience and how they use the statistics but there are three strong themes that emerge:

- The importance of providing better and more prominent information about uncertainty around the estimates (discussed in paragraph 3.17).
- Users have an appetite for more information about methods and quality that will help them interpret the statistics and, in particular, about the strengths

⁷⁷ <http://www.ons.gov.uk/ons/media-centre/statements/announcement-of-changes-to-new-orders-in-the-construction-industry/index.html>

⁷⁸ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/july-2013/sty-growth-in-new-housing.html>

⁷⁹ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/august-2013/sty-construction-industry.html>

⁸⁰ <http://www.bankofengland.co.uk/publications/Pages/agentssummary/default.aspx>

⁸¹ <http://www.ons.gov.uk/ons/rel/hpi/house-price-index/index.html>

and limitations of the methods and the impact of any change – for example, information about one-off special factors, revisions, adjustments, deflators, and classification changes.

- Users welcome the additional pieces of narrative about specific aspects of the statistics but would also welcome a better insight to the statistics within the statistical reports. Their interest is less in general economic context, which can appear disconnected, or in statements that simply repeat the content of the data tables, but in contextualising the main messages of the report. Often, the one-off pieces draw on deeper analysis of trends, special factors and anecdotal evidence to provide that insight but this does not always translate through to the reports. We recognise that the risk of disclosure requires a balanced approach.

Also, ONS does not discuss the regional statistics in *Construction*. As part of the designation as National Statistics, ONS should improve the commentary in *Construction* to aid user interpretation of the statistics, drawing on information gathered about users' experiences of these statistics⁸² (Requirement 10). As part of meeting this Requirement ONS should consider the points detailed in annex 1 and annex 2.

- 3.29 The latest estimates for *Construction* are reasonably straightforward to locate on ONS's website. The structure and content of the web pages still reflects the old model of two separate statistical outputs and ONS should review this but, in the short term, ONS has provided helpful signposting for users who search for the new orders statistics and need to be redirected. ONS has also been improving the prominence of links within statistical reports to new articles and one-off pieces of analyses. However, ONS does not make optimum use of the release page to direct users to important information about the statistics that is held in separate areas of its website – for example, statistical plans and web pages dedicated to presenting information about methods and quality⁸³, which ONS told us that it is reviewing. Users suggested a model for this might be the Consumer Price Inflation statistics release page⁸⁴. On a similar point, we think it would be helpful to users if ONS could improve the signposting between the short-term economic output indicators. The new Economy theme pages⁸⁵ that ONS has been developing on its website should help users in this respect but there is no clear link to these pages from the release page or the statistical reports. Again, ease of accessibility is dependent on the point of entry to the website. As part of the designation as National Statistics, ONS should improve the accessibility of *Construction* through its website, including: moving away from having separate web pages for construction output and new orders; and making it clear to users how the statistical report relates to the other short-term economic output indicators⁸⁶ (Requirement 11).
- 3.30 ONS makes the construction statistics and supplementary tables available as structured data in Excel files but not in an open, non-proprietary format. The files include a contents page and some limited metadata but users responding to this Assessment told us that they would like: clearer signposting to the tables

⁸² In relation to Principle 1, Practice 5 and Principle 8, Practice 2 of the *Code of Practice*

⁸³ <http://www.ons.gov.uk/ons/guide-method/method-quality/specific/index.html>

⁸⁴ <http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/october-2013/index.html>

⁸⁵ <http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Economy>

⁸⁶ In relation to Principle 8, Practice 4 of the *Code of Practice*

from the statistical report; consistent table numbering across the report and the data tables; and improved labelling and metadata. As part of the designation as National Statistics, ONS should ensure that construction output and new orders statistics and associated supplementary tables are disseminated in forms that encourage analysis and re-use⁸⁷ (Requirement 12).

⁸⁷ In relation to Principle 8, Practice 6 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.

3.31 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.

- 3.32 *Construction* is normally issued at 9.30am. The last breach⁸⁸ reported to the National Statistician was in May 2012. In its breach report covering the three months to June 2013⁸⁹, ONS reports that timeliness of market sensitive publications has improved significantly but that there are several factors impacting upon timely release, including the size and volume of files to be uploaded to its website. ONS includes information in the breach reports about actions being taken to minimise this risk going forward.
- 3.33 Based on the list⁹⁰ published alongside *Construction* in January 2014, one Minister and eight officials have restricted access to these statistics 24 hours prior to publication. 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 ONS statistics, but that this has resulted in only minor reductions to the pre-release access lists for the short-term economic output indicators, mainly to remove cases of duplication. Sir Andrew Dilnot, Chair of the Authority, recently wrote to Bernard Jenkin MP, Chair of the Public Administration Select Committee, to reiterate his concern that pre-release access arrangements for GDP are deeply unsatisfactory⁹¹. The Authority supports the National Statistician's drive to reduce the degree and incidence of pre-release access to the fullest extent possible under the law. The National Statistician will shortly be finalising the necessary arrangements to reduce further pre-release access to ONS statistics following the exercise to minimise the extent of such access⁹². 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.

⁸⁸ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/breach-reports/collective-09-30-breaches.pdf>

⁸⁹ <http://www.statisticsauthority.gov.uk/assessment/code-of-practice/breach-reports/breaches-of-the-code-of-practice-for-official-statistics--covering-the-period-1-april---30-june-2013.pdf>

⁹⁰ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/november-2013/prac-con-web-nov-2013.html>

⁹¹ <http://www.statisticsauthority.gov.uk/reports---correspondence/correspondence/letter-from-sir-andrew-dilnot-to-bernard-jenkin-mp---10032014.pdf>

⁹² <http://www.statisticsauthority.gov.uk/news/statistics-authority-statement-of-strategy.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.

- 3.34 ONS has published a Statement of Administrative Sources⁹³. The new orders statistics are produced from data supplied by Barbour ABI which monitors planning applications published by Local Authorities in England, Scotland and Wales using a proprietary web-scraping engine. Barbour ABI researches and monitors other sources to collect details of public sector tenders and new orders as they are placed and to identify future planned projects. Barbour ABI's telephone research team speaks to contractors in order to add contract data to schemes already being tracked, and to identify further projects at a very early stage in the construction life cycle. ONS summarises Barbour ABI's methods in the new orders quality report but does not outline its arrangements for auditing the quality of the administrative data sources used by Barbour ABI to ensure their suitability for use in producing official statistics. As part of the designation as National Statistics, ONS should ensure that all the administrative data sources used in the production of *Construction* are listed in ONS's Statement of Administrative Sources and publish information about the quality audit arrangements for these sources⁹⁴ (Requirement 13). We suggest that in meeting this requirement, ONS might find the Authority's Statement *Administrative Data and Official Statistics* useful in establishing appropriate quality audit arrangements⁹⁵.
- 3.35 ONS told us that it has explored the use of administrative tax records from HM Revenue & Customs to produce construction output statistics but that it did not prove a suitable substitute for survey data.

⁹³ <http://www.ons.gov.uk/ons/guide-method/the-national-statistics-standard/code-of-practice/statement-of-administrative-sources/index.html>

⁹⁴ In relation to Protocol 3, Practice 5 of the *Code of Practice*

⁹⁵ <http://www.statisticsauthority.gov.uk/assessment/monitoring/administrative-data-and-official-statistics/index.html>

Annex 1: Compliance with Standards for Statistical Reports

- A1.1 In November 2012, the Statistics Authority issued a statement on *Standards for Statistical Reports*⁹⁶. 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 the statistical reports associated with ONS's construction output and new orders statistics, this annex comments on compliance with the statement on standards.
- A1.2 In implementing any Requirements of this report (at paragraph 1.5) which relate to the content of statistical reports, we encourage the producer body 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 are given at the start of the report. They are presented in a straightforward style, describing the latest changes and highlighting any notable contributions to those changes by sub-sectors of the construction industry. Comparisons are presented with the previous month and with the same month the previous year. The latest three months are also compared with the previous three months and with the same three months the previous year. Once a quarter, the latest new orders statistics are included in the main messages. The order and content of the main messages changes from one report to the next, appearing to adjust to reflect the main story, and drawing out key points like 'three consecutive quarters of growth for the first time since Q3 2010'. However, we consider that the main messages in the statistical reports could offer greater insight for the user.
- A1.4 An introductory paragraph briefly outlines the content of the report and directs users to the Excel data tables and information about definitions. However, the inclusion of the new orders statistics every quarter highlights the importance of defining some key terms early in the report – for example, to help users make the distinction between new work and new orders. Also, while we would discourage front-loading the report with too much explanatory information, given the large number of different measures that are presented, we consider it important to give more prominence to the guidance that ONS offers about how to interpret the data.
- A1.5 The statistical report includes an 'economic context' section that explains the contribution of construction output to GDP and sets the latest statistics within the context of other related intelligence – for example, the Bank of England's Agent's Summary of Business Conditions and ONS's House Price Index. The report then describes the construction output statistics based on just over three years of available monthly seasonally adjusted chained volume measures. This somewhat restricts any discussion of the latest estimates within the context of longer term trends, though once a quarter a seasonally adjusted quarterly series back to 2006 is presented. ONS is able to present a longer time series for new orders and does include some analysis of the construction, production, and services components of GDP back to 2005. ONS is also increasingly

⁹⁶ <http://www.statisticsauthority.gov.uk/news/standards-for-statistical-reports.html>

publishing additional one-off pieces of analysis alongside the main statistical reports and has started to cross-reference these briefly in the statistical report. The statistical report for November 2013 published on 10 January 2014 provided a link to an article from October 2013 that explored how construction output has fared during economic downturns⁹⁷ and this draws on time series from the 1970s. However, this link was not in the report published on 14 February 2014, illustrating the importance of good signposting to aid accessibility. In the course of its work, the Assessment team has seen much evidence that users often struggle to find this kind of additional narrative – but that when they do, they genuinely appreciate it.

- A1.6 The regional statistics presented in the Excel data tables are not discussed in the statistical report. *Construction* provides a link to equivalent statistics for Northern Ireland and to Eurostat’s database tables, where a summary of the latest European data is available. No information is presented about the extent of comparability with these statistics.
- A1.7 All narrative is reported impartially with no statements of opinion and is demonstrably evidence based.

Include information about the context and likely uses of the statistics

- A1.8 *Construction* presents some summary information about the users and uses of the construction output statistics. However, this information is very brief – for example ‘UK National Accounts’. We consider it would be helpful if the report could signpost users to more detailed information that would better aid their understanding. Also, no information is provided about how the new orders statistics are used. ONS has noted elsewhere⁹⁸ its understanding that new orders are being used as a predictor of output in the construction industry and that the statistics do not serve as good predictors but this is not discussed in the statistical report. The report does include a link to some information about users’ experiences of the statistics.
- A1.9 The statistical report presents three pages of information about construction estimates as a component of GDP, including a time series chart, table and infographic. ONS presents similar information about the contributions of the different components to the overall estimate of GDP in all the short-term output indicators reports. While we understand that this information is presented to aid user interpretation, the presentation is inconsistent across the reports and the tables, in particular, are unclear – for example, percentage changes in retail sales are presented directly alongside those for IoP, IoS, construction output and agriculture (without a weight) with no explanation of how they contribute to the overall estimate of GDP.

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

- A1.10 The main messages are used to advise users of any special or one-off factors they should consider when using the statistics – for example, the introduction of

⁹⁷ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/august-2013/sty-construction-industry.html>

⁹⁸ <http://www.ons.gov.uk/ons/media-centre/statements/announcement-of-changes-to-new-orders-in-the-construction-industry/index.html>

a new data source. The text in the reports includes appropriate emphasis that the statistics are estimates. The reports include some caution about the short length of time series available for seasonal adjustment. However, the reports would benefit from more prominent information about the uncertainty associated with the estimates.

A1.11 *Construction* publishes Excel tables alongside the statistical report with information about sampling and non-sampling errors but does not reference these tables in the report, or explain how users might interpret this information.

A1.12 ONS publishes summary information about the scale of revisions in the statistical reports, and provides some information about the nature of those revisions. As an indicator of reliability, the report also states that revisions to the previously published quarterly adjusted constant price series are generally less than 1 per cent when compared to the final revised period five quarters after initial publication. The report does not explain why 'less than one per cent' is considered reliable. While revisions are marked in the Excel tables, the revisions are not quantified. The construction output and new orders statistics adopt the National Accounts revisions policy, the published version of which pre-dates the introduction of Standard Industrial Classification 2007 and would benefit from being updated.

Be professionally sound

A1.13 The descriptive statements are demonstrably consistent with the statistics. The descriptions of proportions, changes, trends and patterns are professionally sound.

A1.14 Some of the charts could be improved to aid user interpretation. In particular, the chart in *Construction*⁹⁹ presenting 'New Orders, Constant (2005) index prices, seasonally adjusted' does not illustrate the break in the series for the change in the data source, and the source for the chart is incorrectly attributed solely to Barbour ABI.

Include, or link to, appropriate metadata

A1.15 The title of the statistical report explains the coverage of the statistics and the period to which the latest statistics relate. However, the title for *Construction* is inconsistently presented in the statistical report and on ONS's website. The report does not include a statement about the frequency with which the statistics are updated or the timing of the next release. Also, the report does not always transition well between the versions with and without new orders, not always making it clear in the commentary which series it is referring to. The name of the producer body, and the name and contact details of the responsible statistician are all given in the reports.

⁹⁹ <http://www.ons.gov.uk/ons/rel/construction/output-in-the-construction-industry/december-and-q4-2013/index.html>

- A1.16 The statistical report includes background notes with some summary information about methods and quality, including a 'What's new' section in which it announces changes to definitions and methods. ONS then provides further information in signposted articles and two quality reports – one for new orders and one for construction output. The new orders quality report was updated in November 2013 to reflect the new data source for the statistics but presents insufficient information about the strengths and limitations of the statistics in relation to use, and potential sources of error.
- A1.17 The release page for each output on ONS's website provides a link to the associated Excel data tables which include a table of contents and some limited metadata. The statistical report does not describe the content of these tables and the numbering is inconsistent with the tables within the report. The statistical report also directs users to the homepage of ONS's website for access to time series datasets to download. We were unable to locate these datasets from this link and consider that ONS could provide users with better signposting.

Annex 2: Summary of assessment process and users' views

- A2.1 This assessment was conducted from August 2013 to March 2014.
- A2.2 The Assessment team – Penny Babb, Emma Bowditch and Donna Livesey – agreed the scope of and timetable for this assessment with representatives of ONS in August. The Written Evidence for Assessment was provided between 11 and 15 October. The Assessment team subsequently met ONS during November to review compliance with the *Code of Practice*, taking account of the written evidence provided and other relevant sources of evidence.

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 23 responses from the consultation of users and suppliers. The respondents were grouped as follows:

Employers' organisations, trade associations and professional bodies	9
Commercial	6
Central government , Bank of England and regulators	4
Academic	1
Individuals	1
Data suppliers	2

A2.5 The overall impression from the feedback is that users find ONS staff to be helpful and prompt in answering any questions about the statistics. Those users who engaged in regular stakeholder meetings with ONS reported strong working relationships and one user indicated that they would like to have similar meetings.

A2.6 Users told us that they understood that the early release of short-term economic output indicators would inevitably result in later revisions. The information about revisions published alongside the statistics was broadly welcomed, though some users identified areas for improvement – clearer revisions information in the data downloads; more detailed revisions analysis and better information about the nature of the revisions. One user also questioned the rationale for moving to monthly construction output statistics as the monthly statistics are often revised. Other users had concerns about the volatility of the monthly statistics but welcomed ONS's efforts to seasonally adjust the series. Users also conveyed the importance of having better and more prominent indications of any uncertainty around the estimates in order to allow them to advise clients appropriately and to avoid misuse of the statistics. Users expressed interest in the presentation of confidence intervals in the data tables for *Construction*.

- A2.7 Some users told us that they do not use the commentary presented around the statistics and go straight to the data tables. Others told us that they value the commentary and were broadly positive about recent improvements in explaining the strengths and limitations of the statistics. Users said that they do not really use the general economic commentary but that they particularly welcome additional analysis about one-off factors, assumptions underpinning the estimates and the impact of changes to methods. Some users are only interested in the very short term and focus on the latest estimate. Others want to examine the latest estimates in the context of longer term trends and a number of users said that they would like to see explanations for any exceptions from the trend, including any anecdotal evidence that ONS has. One user said they would like to see ‘contributions to recent movements’ similar to that presented for the Consumer Price Inflation statistics and another user said they would like to see users views about the commentary better reflected in the presentation of the statistics.
- A2.8 Most users said they used the Excel data tables and said that they would like better links to the tables in the statistical reports; easier mechanisms for downloading data; improved metadata within the Excel files; and more accessible information about revisions. Users acknowledged recent improvements to ONS’s website but told us that poor signposting remains a barrier to using these statistics – for example, one user said that they would like to be able to easily find all statistics relating to the industry. On a similar note, users welcomed ONS’s e-mail alert system but asked if it could be made available at a more granular level.
- A2.9 Users were broadly positive about the quality of the construction output and new orders statistics. Users told us that when the monthly construction statistics were first introduced in 2010, they had concerns around the volatility of the monthly statistics and inability to seasonally adjust the series. However, most users said that these concerns have now been addressed. One user said that the frequency of errors needs to be addressed. Users provided feedback on the changes to the methods and presentation for the construction output statistics that were implemented in the months leading up to this assessment. Users told us that when the construction output moved to 2010 constant prices and were chain-linked for the first time they would have welcomed more information about the impact on the statistics of the changes to the deflators, and the chain-linking effect. Users also raised concerns about the impact on the availability of a long run of consistent time series and one user said they were still working through the potential implications for industry contracts. Users generally wanted time series back to the 1950s reinstated to allow comparisons over a number of periods of recession. Users told us that they would welcome more detailed regional construction statistics; one user asked if the regional statistics could be seasonally adjusted and another raised concerns that the statistics are not based on where the work actually takes place.

Key documents/links provided

Written Evidence for Assessment document

