

Assessment of compliance with the Code of Practice for Official Statistics

Statistics on Consumer Price Inflation including Owner Occupiers' Housing Costs *(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 of compliance with the Code of Practice for Official Statistics

Statistics on Consumer Price Inflation including Owner Occupiers' Housing Costs

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NATIONAL STATISTICS STATUS

National Statistics status means that official statistics meet the highest standards of trustworthiness, quality and public value.



All official statistics should comply with all aspects of the *Code of Practice for Official Statistics*. They are awarded National Statistics status following an assessment by the Authority's regulatory arm. The Authority considers whether the statistics meet the highest standards of Code compliance, including the value they add to public decisions and debate.

It is a producer's responsibility to maintain compliance with the standards expected of National Statistics, and to improve its statistics on a continuous basis. If a producer becomes concerned about whether its statistics are still meeting the appropriate standards, it should discuss its concerns with the Authority promptly. National Statistics status can be removed at any point when the highest standards are not maintained, and reinstated when standards are restored.

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Foreword

In recent years, ONS has developed an additional product to its range of consumer price inflation statistics; a measure that includes the costs associated with owning, maintaining and living in one's own home, Consumer Price Inflation including Owner Occupiers' Housing Costs (CPIH).

CPIH was designated as a National Statistic in November 2013. In August 2014, its National Statistics status was discontinued after issues emerged with its 'live running' of CPIH, relating to how it processed some administrative data sources used to estimate Owner Occupiers' Housing costs. National Statistics status is only maintained for statistics that meet the highest standards of trustworthiness, quality and value. This issue highlighted that ONS had not established adequate quality assurance arrangements for its administrative data sources.

The conclusion of this assessment is that CPIH still does not meet the standards to be a National Statistic. Whilst we recognise that ONS has worked with its data suppliers, including with statisticians in the Valuation Office Agency (VOA), to address those issues that it identified in 2014, ONS still needs to do more to establish the credibility of, and user confidence in, CPIH. Establishing this credibility and user confidence in the accuracy of CPIH is a pre-requisite to reinstating CPIH's National Statistics status.

We have three areas of concern:

- First, ONS needs to take more time to strengthen its quality assurance of the private rents data sources in order to provide reassurance to users about the quality of CPIH. This is particularly important given the unusual production arrangements between ONS and VOA.
- Second, CPIH has exhibited trends in its short history that are not always easily explained. ONS should monitor how the index behaves and compare it to other data sources over a longer period of time; and ONS should add value to CPIH by producing supporting analysis and explanation that facilitates users' understanding of the statistics and what they measure.
- Third, it is clear that there is some user disagreement and distrust about the concepts and methods that ONS uses to measure Owner Occupiers' Housing costs within CPIH. This degree of user scepticism and disagreement is, in our experience, unusual for an official statistic. The root of the disagreement is the availability of a range of different ways of estimating Owner Occupiers' Housing costs, and there are legitimate arguments for all sides of the debate. In my view, in such a contested space ONS needs to do much more to explain and articulate its own judgements about the concepts and methods that it uses as a coherent package. At present, my concern is that ONS's approach to engagement appears cautious and defensive. ONS could engage more positively and openly with a wide range of users, including interested users that have a range of opinions not necessarily in accord with ONS's own views, in ways that facilitate healthy debate and draw on users' expertise.

Finally, I want to be clear that our decision not to reinstate the National Statistics designation at this point is independent of whether the Authority chooses to identify CPIH as its main measure of consumer price inflation or not. Decisions regarding the range and scope of the wider suite of consumer price statistics will be made by the Authority Board following the recommendations of the 2015 *Johnson Review* and the Authority's subsequent public consultation *Measuring Consumer Prices: The options for change*.

In meeting the Requirements set out in this report, I will be looking for ONS to set a clear direction for the future of CPIH, as part of its future direction of consumer price statistics; to add increasing value to CPIH, through greater transparency of its documentation and decision making and through improved analysis, understanding and explanation of how CPIH behaves over time compared to other data sources; and through enhanced visibility of ONS statisticians to the wider CPIH user community, clearly demonstrating how it is responding to users' concerns.

Ed Humpherson
Director General for Regulation, UK Statistics Authority

1 Summary of findings

Introduction

- 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 statistics on Consumer Price Inflation including Owner Occupiers' Housing Costs (CPIH) and its sub-index CPIHY (CPIH excluding indirect taxation), reported in *Consumer Price Inflation*⁴, produced by the Office for National Statistics (ONS).
- 1.2 The previous assessment of this set of statistics was reported in Assessment report 257⁵ in July 2013. On 14 August 2014, the UK Statistics Authority discontinued⁶ the National Statistics status of CPIH statistics after the National Statistician alerted⁷ the Authority to matters relating to ONS's 'live running' of CPIH using administrative private rental price data, which are used to estimate Owner Occupiers' Housing costs (OOH) in CPIH. The primary source for OOH in CPIH is private rents data held within the Valuation Office Agency's (VOA) systems. The letter stated that ONS and VOA needed to carry out further work to experiment with implementing the methods used to estimate OOH in a more effective way, and also presented an indication of the likely impact of the issue on the overall CPIH series. The Director General for Regulation considered, given the matters raised and the likely implications for the CPIH series, and in recognition of the need for further work by ONS, that a full re-assessment against the *Code* was appropriate, once ONS had presented a report setting out the results of its further work to address the concerns identified. Section 2 of this report provides further information about the previous assessment of CPIH.
- 1.3 This report was prepared by the Authority's Assessment team, and approved by the Regulation Committee on behalf of the Board of the Statistics Authority, based on the advice of the Director General for Regulation.

Decision concerning designation as National Statistics

- 1.4 The Authority expects National Statistics to meet the highest standards of trustworthiness, quality and value. Given the issues identified by ONS in 2014 that led to the suspension of CPIH's National Statistics status, this re-assessment has paid particular attention to the quality of the statistics and to quality assurance, and understanding of how the CPIH index behaves over time.

¹ <https://www.statisticsauthority.gov.uk/publications-list/?keyword=&type=assessment-report>

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

³ <https://www.statisticsauthority.gov.uk/monitoring-and-assessment/code-of-practice/>

⁴ <https://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/january2016>

⁵ <https://www.statisticsauthority.gov.uk/publication/statistics-on-consumer-price-inflation/>

⁶ <https://www.statisticsauthority.gov.uk/correspondence/consumer-price-indices-including-housing-costs-cpih-indicator/>

⁷ <https://www.statisticsauthority.gov.uk/correspondence/preliminary-findings-of-work-with-the-valuation-office-agency-on-cpih/>

- 1.5 The Statistics Authority judges that the statistics covered by this report do not fully comply with the *Code of Practice for Official Statistics*, in the ways summarised in paragraph 1.13. The Authority therefore judges that statistics on Consumer Price Inflation including Owner Occupiers' Housing Costs, published in *Consumer Price Inflation* cannot be designated as National Statistics until the Authority has confirmed that appropriate actions have been taken by ONS to meet the Requirements listed in paragraph 1.13. Our concerns revolve around three issues: the way that ONS presents its approach to measuring OOH and engages with users on the key technical judgements it makes in compiling the CPIH index; quality assurance of the source data; and the way that the index relates to other measures of housing costs.
- 1.6 In meeting the Requirements set out in this report, ONS needs to take more time to establish the credibility of these statistics and to instil a greater level of user confidence in their quality. ONS is expected to report to the Authority by September 2016 on the actions that it has taken to improve the production and presentation of these statistics as described in the majority of Requirements set out in this report (all Requirements except Requirement 6). Following these improvements, the Authority expects that there will be a prolonged period of time where ONS monitors CPIH closely, to fully understand the trends in the index over time compared to other sources, before it can present robust assurance to users about its credibility as a measure of inflation. Requirement 6 of this assessment report reflects this need.
- 1.7 Some of the Requirements in this Assessment report relate, by implication, to the production and publication of the Consumer Prices Index (CPI) and the Retail Prices Index using a geometric (Jevons) formula (RPIJ), which are currently designated as National Statistics. These relate to ONS's communication and presentation of its methods and assumptions and assuring the quality of administrative data, as presented in Requirements 2, 3 and 5. The Authority considers that these are not sufficient to remove National Statistics status from CPI and RPIJ, and expects both to become fully compliant with the *Code* as ONS implements the Requirements from this Assessment report. The Authority judges that it is reasonable for CPI and RPIJ to continue to have National Statistics status while ONS addresses the Requirements in this Assessment report, to the deadline specified in para 1.6.

Summary of strengths and weaknesses

- 1.8 ONS is generally considered by users of its consumer price statistics to be professional and helpful, and it has engaged closely with a small number of prominent users through its work during 2014 to address the issues identified with its estimate of OOH. While ONS has engaged more widely with a broader range of users and organisations as part of its recent consultation on consumer price statistics *Measuring Consumer Prices: the options for change* (see para 2.14), it has not engaged in depth with these users about its recent changes to the way that it estimates OOH in CPIH. During this re-assessment, users and potential users of CPIH expressed polarised views on ONS's measure of OOH in CPIH, and several users told the Assessment team of their concern relating to aspects of quality and of the appropriateness of ONS's approach to measuring OOH. This degree of user scepticism and disagreement about ONS's production of CPIH is, in our experience, unusual. Price index experts

also have polarised views internationally on the most appropriate way to measure OOH. It is unlikely that ONS will be able to remove the disagreement, since users' views are so diverse, but it could do more to help explain and articulate its justification about the methodology that it has chosen to use in a more authoritative manner, and to engage positively and openly with a wide range of users, including critical users, using means that support healthy debate and draw on users' expertise.

- 1.9 ONS has worked with its data suppliers and with VOA in particular, to address those issues identified in 2014 relating to the way that it implements the methods that it uses to estimate OOH in CPIH, and to attempt to strengthen its quality assurance of the data. Given ONS's use of private rents administrative data sources to estimate OOH, the potential importance of CPIH, and the unusual production arrangements between ONS and VOA – where VOA is responsible for processing its own microdata to which ONS does not have access – this assessment report has highlighted a number of areas where ONS needs to take more time to strengthen its assurance of the data, including VOA's own processing of its data. ONS also needs to work to improve the transparency and accessibility of its range of supporting documentation about the methods used to produce CPIH to enable users to access a clear description about the strengths and limitations of CPIH.
- 1.10 While the statistics team has worked hard during 2014 to experiment with and test the way that it implements the methods that it uses to produce CPIH, there are clearly lessons to be learned about not only the quality assurance procedures that ONS applies to its administrative data sources, but wider lessons about the risks posed from moving the statistical production from a development phase into business as usual. CPIH has exhibited trends in its short history that are not always easily explained, which has challenged users' confidence in this measure. A pre-requisite for the designation of CPIH as a National Statistic is that ONS must prioritise its resource to establish the credibility of CPIH as a measure of consumer price inflation. A crucial element of this will be for ONS to monitor, analyse and understand how the index behaves and compares to other data sources over a longer period of time; and to add value by producing supporting analysis and explanation that facilitates users' understanding of the statistics and helps to instil a greater level of user confidence in CPIH.
- 1.11 Measuring changes in prices over time can be conceptually difficult, and there has been much debate in this field in recent years, as demonstrated by the Authority commissioning the *Johnson Review* in 2014 and its subsequent *Measuring Consumer Prices: the options for change* consultation (see paras 2.13 and 2.14 respectively). ONS has not yet published clear plans for the future development of CPIH, about the resources that it plans to allocate for the development and quality assurance of the statistics and for its user engagement activity. We recognise that ONS will be developing these plans as part of its response to its consultation, and consider that ONS will require significant resource to address the Requirements in this Assessment report, to establish the credibility of CPIH as a measure of consumer price inflation. This is especially important given the very high profile of consumer price statistics, the potential future importance of CPIH, and the relatively small numbers of people who currently work to quality assure and analyse the estimates of OOH

within CPIH.

Detailed recommendations

1.12 The Assessment team identified some specific areas where ONS should improve the production and presentation of CPIH to increase the trustworthiness, quality and value of the statistics. 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 1.13, 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 support of the associated Requirement.

Requirements for designation as National Statistics

1.13 This section includes those improvements that ONS is required to make in respect of its statistics on Consumer Price Inflation including Owner Occupiers' Housing Costs in order to fully comply with the *Code of Practice for Official Statistics*, and to enable designation as National Statistics.

Finding	Requirement	
<p>While ONS has used different means to engage with users and potential users of CPIH about its recent changes to the way that it estimates OOH in CPIH, these activities have focussed on a relatively small number of user groups.</p> <p>There is a degree of user scepticism and disagreement about the concepts and methods that ONS uses to produce CPIH. We consider that ONS should seek to engage more positively with users and potential users to enhance users' trust in the statistics, and should develop plans for regular user engagement activities using means to attract a wide range of users. We also consider that ONS should establish effective working relationships with its administrative data suppliers</p>	<p>1</p>	<ul style="list-style-type: none"> a) Establish effective engagement mechanisms with a wide range of users and potential users to build strong ongoing relationships, using means that support debate and draw on the expertise of a wide array of users b) Establish effective engagement mechanisms with its data suppliers, in order to develop and maintain a mutual understanding of the data processing and to understand the future risks to ONS's production of CPIH c) Produce and publish a schedule of user and supplier engagement activities and outline clearly how it will continue to strengthen its ongoing dialogue with users and data suppliers d) Clearly demonstrate how user and supplier feedback will feed into statistical planning for CPIH and update its communication strategy annually in line with this planning

<p>to maintain a mutual understanding of the data processing and risks to production. This engagement will help to establish the credibility of CPIH as an economic indicator.</p> <p>As part of the designation as National Statistics, ONS should:</p>		<p>e) Update its documentation about uses and users of CPIH, taking into consideration the information that it has gathered from its own user engagement and recent consultation, and from user feedback for this re-assessment, and demonstrate a commitment to keep this documentation up to date</p> <p>(para 3.12).</p>
<p>ONS publishes a range of information about the methods that it uses to produce CPIH, with varying levels of detail in the descriptions presented, but this information is dispersed across a number of documents, some of which are out of date. We consider that by presenting its rationale in a more-accessible, transparent way, ONS could present a clearer, more-defensible justification to users of the approach and methods that it adopts to produce CPIH, and to support constructive debate around the measurement of consumer price inflation.</p> <p>As part of the designation as National Statistics, ONS should publish coherent, transparent and accessible information about the methods that it uses to produce CPIH, including:</p>	<p>2</p>	<p>a) Presenting a clear rationale about its choice of the rental equivalence approach to measure Owner Occupiers' Housing costs, the alternative approaches that it considered and the strengths and limitations of these approaches in relation to the uses and potential uses of CPIH</p> <p>b) Publishing more-accessible information about the different data sources of private rents that it considered in its development of OOH and the rationale to support its choice of the private rents data sources</p> <p>c) Presenting accessible information about its choice of weights used to produce CPIH, and its rationale to support the use of the data sources used to derive the weights</p> <p>d) Producing a comprehensive narrative across all its supporting documentation that describes the methods used to produce CPIH in a manner that is transparent and accessible to users, and improves its signposting to its existing technical articles</p> <p>(para 3.19).</p>
<p>Whilst ONS publishes a range of supporting documentation about the methods used to produce CPIH and of the quality of the statistics, the most relevant</p>	<p>3</p>	<p>a) Developing clear and logical navigation between <i>Consumer Price Inflation</i>, the associated CPIH data tables and supporting documentation, to ensure that users can easily find the</p>

<p>supporting documentation and guidance are not presented as accessibly as they could be on ONS's website. Following ONS's introduction of its new website on 26 February 2016, some of the supporting documentation has been archived. The structure of ONS's new website should help to facilitate improved accessibility.</p> <p>As part of the designation as National Statistics, ONS should improve the accessibility of CPIH statistics and its supporting documentation through its website by:</p>		<p>information that they require</p> <p>b) Presenting clearly how <i>Consumer Price Inflation</i> and supporting documentation relate to each other and to other consumer price indices and considering whether some of the supporting documentation could be consolidated</p> <p>(para 3.22).</p>
<p>During the course of this re-assessment, respondents expressed a range of concerns about the suitability and quality of ONS's estimate of Owner Occupiers' Housing costs using the rental equivalence approach. ONS currently publishes limited information about the quality of CPIH. While recognising the challenges of measuring OOH, ONS should demonstrate that it has considered this weight of user concern and respond to these concerns appropriately in a way that provides robust reassurance.</p> <p>As part of the designation of National Statistics, ONS should publish information about the quality of the CPIH statistics that:</p>	<p>4</p>	<p>a) Demonstrates that it has addressed users' concerns about how it produces CPIH, in a transparent, coherent and accessible way</p> <p>b) Presents appropriate measures of quality, that support users' in their evaluation of CPIH and of its appropriateness for its use</p> <p>c) Describes the potential sources of error and bias in measuring Owner Occupiers' Housing costs using the rental equivalence approach, and how it mitigates for them. This should include evidence to support the suitability of using a proxy measure of costs associated with owning, maintaining and living in one's own home</p> <p>d) Considers the implications of any broader developments in rents that may impact on the accuracy of CPIH, and publicise and invite user comment on the impact and treatment of these developments</p> <p>e) Explores the development of</p>

		<p>measures of accuracy of CPIH, ideally aided by engaging with the international community in its work to explore methods to estimate the accuracy of CPIH</p> <p>(para 3.27).</p>
<p>ONS has presented evidence of its judgement of the required level of quality assurance required for the private rents administrative data sources, and of the actions it has taken to strengthen its assurance of the data. The Authority welcomes this evidence, but considers that there is more work for ONS to do in assuring itself of the quality of its administrative data, as set out in this Assessment report.</p> <p>Given the importance of CPIH as part of ONS's suite of consumer price statistics, and the nature of previous concerns arising from the implementation of ONS's methodology to process the private rents data, the Authority considers that it is imperative that ONS works to demonstrate publicly that it has investigated, managed and communicated appropriate and sufficient quality assurance of its administrative data sources, to provide reassurance to users and potential users of CPIH.</p> <p>As part of the designation of National Statistics, ONS should strengthen its quality assurance arrangements for administrative data used to produce CPIH and publish information about them. ONS should:</p>	<p>5</p>	<p>a) Work with its data suppliers to address those limitations in its quality assurance that have been identified in this assessment report; including strengthening its current Service Level Agreements and any other formal agreements with its data suppliers</p> <p>b) Publish information about its strengthened quality assurance arrangements for its administrative data sources and its judgement about the quality of the statistics, taking account of what it has learned from reviewing and improving its existing quality assurance arrangements; and update its published Statement of Administrative Sources to clearly and accurately list all the administrative data sources and assurance arrangements used to produce CPIH</p> <p>c) Embed within its operational procedures practices for keeping its quality assurance arrangements under review</p> <p>d) Take into account the standards set out in the <i>Quality Assurance of Administrative Data</i> Regulatory Standard during its planning and development phase to introduce private rents administrative data for Northern Ireland into its production of CPIH</p> <p>(para 3.38).</p> <p>In meeting this Requirement, we suggest that ONS consider the implications of the Authority's <i>Administrative Data Quality Assurance</i></p>

		<p><i>Toolkit.</i></p> <p>We further suggest that ONS update its supporting documentation for CPIH to include specific reference to the latest development plans to implement private rents administrative data from the Northern Ireland Housing Executive in its production of CPIH, to keep its users informed of this development.</p>
<p>Given the relative infancy of ONS's measure of CPIH, and its measure of OOH specifically, coupled with the fact that CPIH has exhibited trends in its short history that are not always easily explained, we expect ONS to monitor and understand how the index behaves and compares to other data sources over a longer period of time, and to present a clear narrative to users explaining these movements. This will be an essential element of ONS's work to quality assure the private rents administrative data, in order to instil greater user confidence in its measure of CPIH.</p> <p>As part of the designation of National Statistics, ONS should:</p>	<p>6</p>	<p>Publish, and keep up-to-date, comparative analysis that demonstrates the quality and suitability of its estimate of Owner Occupiers' Housing costs in CPIH, on an ongoing basis and over a sustained period of time. This should include comparisons with as wide a range of other data sources as practicable, and include detailed explanation of the movement in CPIH over time compared to other sources, in a way that provides robust reassurance to users that its estimate of Owner Occupiers' Housing costs over time can be understood and trusted by users</p> <p>(para 3.44).</p>
<p>ONS has published quarterly standalone estimates of Owner Occupiers' Housing costs using the net acquisitions approach since December 2014, to meet European Regulation. This is an alternative measure of Owner Occupiers' Housing costs to ONS's estimate of these costs in CPIH using a rental equivalence approach. ONS presents very limited</p>	<p>7</p>	<p>a) Include more-explicit reference in <i>Consumer Price Inflation</i> and supporting documentation to its production of an alternative measure of Owner Occupiers' Housing costs for its quarterly submission to Eurostat, to enhance transparency of its production of consumer price statistics</p> <p>b) Develop an increased understanding of the difference</p>

<p>reference to its publication of alternative estimates of Owner Occupiers' Housing costs in <i>Consumer Price Inflation</i> or in its supporting documentation.</p> <p>Given the large amount of user interest and debate surrounding ONS's measure of Owner Occupiers' Housing costs in CPIH, we consider that ONS should be more transparent about its production of an alternative measure, and should develop a narrative drawn from both series to further help users' understanding of inflationary pressures in the UK.</p> <p>As part of the designation as National Statistics, ONS should:</p>		<p>between its measures of Owner Occupiers' Housing costs using both the rental equivalence and net acquisitions approaches, through an analysis of the different time series' and an attempt to explain the difference in the historical trends presented for each index, and publish this analysis as part of its wider work to monitor, understand and explain CPIH over time compared to other data sources and methods</p> <p>(para 3.53).</p> <p>In meeting this Requirement, we suggest that ONS investigate the methods adopted by other countries to estimate OOH, and take these into account as part of its continuous improvement of CPIH statistics.</p>
<p>ONS publishes aggregated data for CPIH monthly on its website, and publishes microdata for most components of CPIH on a quarterly basis. ONS does not publish microdata for the Owner Occupiers' Housing cost index, partly as a result of data legislation preventing Valuation Office Agency from disclosing record-level information to ONS. ONS has also submitted CPI microdata to the ONS Virtual Microdata Laboratory (VML) in the past, but it does not currently, due to a recent review of the VML about how it stores the data.</p> <p>Some users told us that they viewed ONS's transparency of the price data that it uses to produce CPIH as a considerable strength, to support their understanding of movements in inflation.</p>	<p>8</p>	<ul style="list-style-type: none"> a) Ensuring that the CPIH data published monthly on its website and published in response to ad hoc requests are clearly labelled and accessible to users b) Investigating the feasibility of it regularly submitting CPIH microdata to the VML, a practice that would be consistent with other ONS economic statistics c) Continue its engagement with the Government Data Sharing Policy process with a view to gaining record-level administrative data from the Valuation Office Agency, to enhance its ability to quality assure the data <p>(para 3.59).</p>

<p>As part of the designation as National Statistics, ONS should improve the accessibility of the CPIH data and microdata by:</p>		
<p>Approximately 60 individuals have pre-release access to CPIH. ONS reviews its pre-release access lists corporately. During the last review in April 2014, ONS reduced the number of individuals with pre-release access to ONS statistics by 21 per cent but this did not include reducing access to CPIH. During the course of this re-assessment, some individuals told us that they no longer require pre-release access to CPIH.</p> <p>There appears to be scope for ONS to review the way that it grants pre-release access to its statistics in line with the <i>Pre-release Access to Official Statistics Order 2008</i>, and to review its pre-release access list for CPIH.</p> <p>As part of the designation as National Statistics, ONS should:</p>	<p>9</p>	<p>a) Strengthen its process for determining whether pre-release access is still needed and its process for permitting new individuals to gain access to pre-release data</p> <p>b) Review the list of those with pre-release access for CPIH, with a view to minimising the numbers of individuals included in line with the Pre-release Access Order, and inform the Authority of the justification for each inclusion (para 3.63).</p>
<p>There are numerous demands on ONS staff to develop and disseminate consumer price statistics, and to establish the credibility of CPIH, which will require significant resource. There will be a need for ONS to manage resource allocation for CPIH coherently and in consideration of other critical work resulting from the Authority's recent consultation, the <i>Johnson Review</i> and the <i>Bean Review</i>, alongside planned</p>	<p>10</p>	<p>a) Allocate adequate resources to the production of CPIH to take account of the Requirements from this Assessment report, and the increasing importance of CPIH as an economic indicator</p> <p>b) Publish an annual work programme, which includes a clear demonstration of the strategic direction of CPIH in a coherent and comprehensive manner, taking into account users' views</p> <p>c) Incorporate in all future business plans work to review published documentation to ensure that it</p>

<p>improvements and continuous development projects. This is especially important given the very high profile of consumer price statistics, and the potential future importance of CPIH.</p> <p>As part of the designation as National Statistics, ONS should:</p>		<p>enables users to keep abreast of developments to CPIH and to easily locate and access this documentation</p> <p>d) Ensure that records are maintained and published showing the relationship between the statistical planning process, the work programme, the allocation of resources and the outcomes relating to the development of CPIH</p> <p>(para 3.68).</p>
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2 Subject of the re-assessment

Introduction

- 2.1 Statistics on consumer price inflation are amongst the most important official statistics produced in the UK. They are an important indicator of how the economy is performing and underpin the UK's monetary policy. Consumer price inflation measures the change in the general level of the prices of goods and services purchased by households and other consumers over time. These statistics are widely used by the government, business and the general public. They influence interest rates, tax allowances and wage rises and are used to adjust pensions, benefit levels, contracts and many other payments, including those for index-linked gilts. They are of wide public interest.
- 2.2 ONS produces a range of different consumer price inflation measures on a monthly basis. This portfolio of inflation statistics includes measures designed to accommodate UK and European needs. The Consumer Prices Index (CPI) is the UK's equivalent of the Harmonised Index of Consumer Prices⁸ (HICP), a comparable measure of inflation across the European Union. ONS first published CPI in 1997 and in 2003 the Chancellor of the Exchequer initiated the use of CPI as the basis for the Government's target for inflation. CPI is currently the main measure of inflation in the UK. The Retail Prices Index (RPI) is a long-standing measure of UK inflation that dates from 1947 and has historically been used for a wide range of purposes such as the indexation of pensions, rents and index-linked gilts. ONS has published RPIJ, a variant of the RPI which is calculated using formulae that meet international standards, since March 2013. ONS also publishes a number of sub-indices and special aggregates of its consumer price statistics that are designed to be more suitable to different users' needs, such as excluding the effect of indirect taxation.
- 2.3 A widely recognised weakness of both HICP and CPI is the exclusion of costs associated with owning, maintaining and living in one's own home. The European Statistical System (ESS)⁹ is considering the most appropriate way to introduce Owner Occupiers' Housing costs (OOH) into the HICP. Due to strong user demand in the UK, development of OOH measures has progressed more quickly in the UK than in other European countries. The method that ONS uses for estimating OOH differs from the method being developed by Eurostat.

Subject of this Assessment

- 2.4 ONS publishes Consumer Price Inflation including Owner Occupiers' Housing Costs (CPIH) and CPIHY (CPIH excluding indirect taxation) as monthly official statistics, presented in *Consumer Price Inflation*¹⁰. CPIH is part of a suite of consumer price inflation measures based on the CPI and is a measure of UK consumer price inflation that includes the costs associated with owning, maintaining and living in one's own home. CPIHY is a sub-index of CPIH that excludes the effect of indirect taxation (for example, tobacco duty).

⁸ <http://ec.europa.eu/eurostat/web/hicp/overview>

⁹ <http://ec.europa.eu/eurostat/web/european-statistical-system/overview>

¹⁰ <https://www.ons.gov.uk/economy/inflationandpriceindices>

2.5 ONS first published CPIH and CPIHY as official statistics in March 2013 in response to user demand for a consumer price inflation measure taking account of OOH. Owner-occupied housing is defined¹¹ as ‘Dwellings owned by the households that live in them’. CPIH was awarded National Statistics status in November 2013¹². In August 2014, the Authority discontinued its National Statistics status, following ONS’s identification of issues relating to its ‘live running’ of CPIH using administrative private rental price data, and the need for it to carry out further work to experiment with implementing the methods used to estimate OOH in a more effective way (see para 1.2). The statistics reverted back to official statistics status.

Development of CPIH

2.6 There is no international consensus on the best way to estimate OOH for inclusion in national CPIs, but two internationally recognised methods are the rental equivalence and net acquisitions approaches¹³. ‘Rental equivalence’ is an approach to impute owner occupiers’ housing costs from the rents paid for equivalent rented properties. This approach uses the rent paid for an equivalent house in the private sector as a proxy for the costs faced by owner occupiers. ‘Net acquisitions’ is an approach to measuring costs that are associated with the purchase and ongoing ownership of dwellings for own use. Net acquisitions treats a home as the purchase of a good that is part asset (the land) and part consumable (the house), plus costs associated with buying and maintaining a house; for example, self builds and renovations, repairs and maintenance, transfer costs and dwelling insurance.

2.7 In its *2010 Annual Report*¹⁴, the Consumer Prices Advisory Committee¹⁵ (CPAC) recommended that ONS develop UK measures of OOH using each of these methods. In September 2012, following CPAC’s recommendation¹⁶ and a public consultation on the method of reflecting OOH, the Board of the UK Statistics Authority accepted the National Statistician’s recommendation¹⁷ that the rental equivalence approach be used in a new measure of consumer price

¹¹ International Labour Office’s CPI manual and the Practical Guide To Producing Consumer Price Indices produced jointly by a wide range of international organisations including the UN, ILO, IMF, OECD, Eurostat, and the World Bank http://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/presentation/wcms_331153.pdf

¹² <https://www.statisticsauthority.gov.uk/publication/statistics-on-consumer-price-inflation/>

¹³ There are also two other internationally recognised methods to measure OOH, the payments approach and narrow user cost approach. ONS considered these approaches in its early development work into estimating OOH

¹⁴ See 2010 Annual report download in:

<http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/who-ons-are/programmes-and-projects/other-development-work/consumer-prices-advisory-committee--cpac-/consumer-prices-advisory-committee--cpac--papers/index.html>

¹⁵ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/who-ons-are/programmes-and-projects/other-development-work/consumer-prices-advisory-committee--cpac-/index.html>

¹⁶ CPAC Papers – April 2012 Meeting, ONS:

<http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/who-ons-are/programmes-and-projects/other-development-work/consumer-prices-advisory-committee--cpac-/consumer-prices-advisory-committee--cpac--papers/index.html>

¹⁷ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/get-involved/consultations-and-user-surveys/archived-consultations/2012/owner-occupiers-housing-costs/index.htm>

inflation in the UK. In November 2012, ONS announced its launch of CPIH¹⁸ – a measure of consumer price inflation which includes OOH estimated using the rental equivalence approach. CPIH was first published as experimental official statistics in March 2013. On 1 February 2013, European Regulation concerning harmonised indices of consumer prices, as regards establishing owner-occupied housing price indices (no 93/2013)¹⁹ came into force requiring EU member states to produce a stand-alone OOH index for Eurostat, using the net acquisitions approach and including the provision of a back series from the first quarter of 2010. This regulation requires Eurostat to prepare a report early in 2018 to address the suitability of OOH indices for integration into HICP coverage. ONS has developed a net acquisitions index in line with Eurostat requirements and has been providing quarterly data to Eurostat since December 2014. While not expressly required by European regulation, ONS also publishes these data on its website²⁰ in response to user interest.

2.8 CPIH was previously assessed in July 2013 as part of *Assessment Report 257: Statistics on Consumer Price Inflation* and was awarded National Statistics status in November 2013. That assessment report included two requirements and one suggestion directly relating to CPIH, which were addressed before designation in 2013, but which remain relevant to this re-assessment. These were to:

- Update the published methodology and quality information, including information about CPIH and the quality audit arrangements for administrative data sources
- Publish information about the users and uses of CPIH and users' experiences of these statistics
- Publish better information alongside CPIH to clarify what it does and does not seek to measure

Discontinued National Statistics status of CPIH

2.9 In early 2014 the Bank of England and HM Treasury alerted ONS to their concerns over a divergence in trends between ONS's OOH index using the rental equivalence approach (used in the production of CPIH) and average private rental prices published by the Valuation Office Agency (VOA) – an executive agency of HM Revenue & Customs (HMRC) – which were based on the same underlying data source. VOA's private rents data is a primary data source for ONS's estimate of OOH in CPIH. ONS does not have access to VOA's data, due to data legislation constraints surrounding the data. To overcome this, VOA is responsible for processing its own private rents data, which it submits to ONS in aggregated form.

2.10 In August 2014, the Authority discontinued the National Statistics status of CPIH, following ONS's identification of its need to revise the way that it implements the methodology, data processing and its assumptions used to estimate OOH. ONS worked with statisticians and rent officers at VOA, and

¹⁸ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/introducing-the-new-cpih-measure-of-consumer-price-inflation/2005-to-2012/index.html>

¹⁹ <http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32013R0093>

²⁰ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/owner-occupied-housing-costs-using-the-net-acquisitions-approach/index.html>

their counterparts in Scotland and Wales, to understand the differences in the rental price indices and to address the issues that it identified in the processing of administrative private rents data and implementing the methods used to estimate OOH. During the course of 2015 ONS published additional technical articles and supporting analysis, which set out to explain its changes to the methodology, that ONS describes as improvements to its processing and implementation of the methods its uses to estimate OOH costs:

- *Improvements to the measurement of owner occupiers' housing costs and private housing rental prices*²¹, published in January 2015, which presents ONS's changes to its estimation of both the OOH and 'private rents' index in CPIH, and the impact of these changes
- *Revising the weight of Owner Occupiers' Housing in CPIH*²², published in March 2015, which sets out ONS's revision to the way that it estimates weights for the OOH component of CPIH, and the impact of this revision to the historical annual growth in CPIH
- *Explaining private rental growth*²³, published in September 2015, which contrasts and explains differences in trends between ONS's OOH index and VOA's own *Private Rental Market Statistics*²⁴ (PRM), which are based on the same underlying data but differ in what they intend to measure

The chart below is taken from *Revising the weight of Owner Occupiers' Housing in CPIH* and shows the difference between the 12-month growth rate of CPIH, after ONS changed the way it implemented the methods to estimate OOH in CPIH.

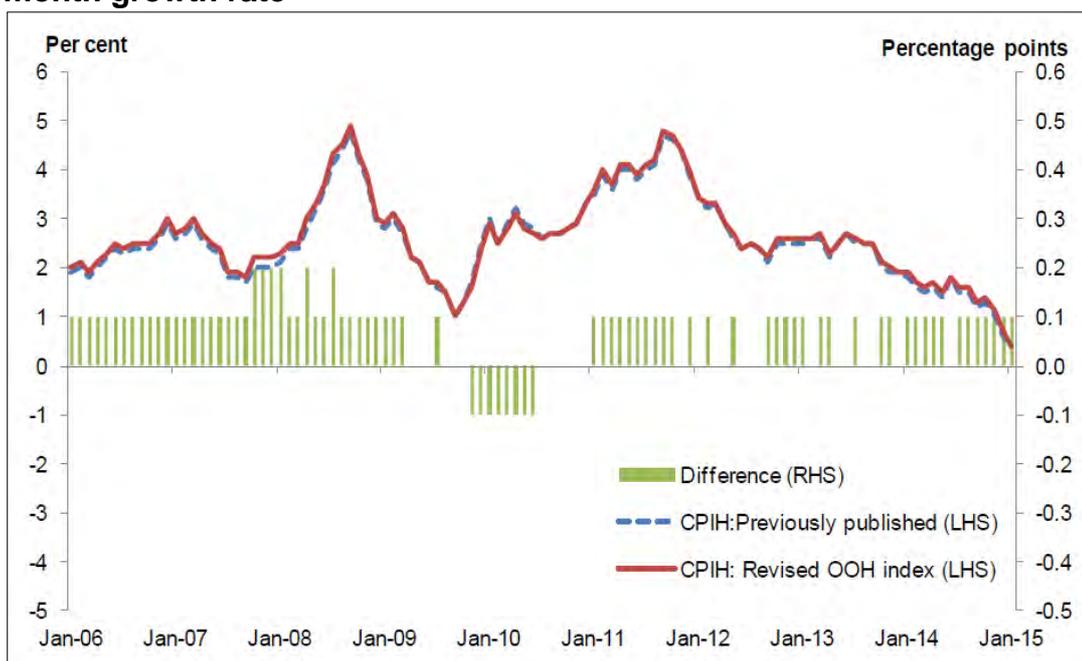
²¹ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/improvements-to-the-measurement-of-owner-occupiers--housing-costs-and-private-housing-rental-prices/index.html>

²² <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/revising-the-weight-of-owner-occupiers--housing-in-cpih/index.html>

²³ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/explaining-private-rental-growth/index.html>

²⁴ <https://www.gov.uk/government/statistics/private-rental-market-statistics-may-2015>

Figure 1: CPIH - Previously published against revised OOH index, 12-month growth rate



Source: ONS

ONS subsequently published CPIH after it made changes to the way that it implements the methodology on 24 March 2015 as part of its February 2015 *Consumer Price Inflation* statistical report²⁵.

Governance Arrangements

- 2.11 The Consumer Prices Advisory Committee was established in 2009 to advise the UK Statistics Authority on proposed changes to the arrangements for producing and presenting consumer price indices. CPAC provided support and direction to ONS on technical issues, as well as representing a user perspective. Membership at that time included the National Statistician and key stakeholders such as representatives from the Bank of England, HM Treasury, academics and the media. In this capacity, CPAC advised on ONS's measurement of OOH in CPIH. The committee last met in January 2013 and was disbanded in February 2014 following the Authority's independent *Review of the Governance of Prices Statistics*²⁶ led by Professor Sir Adrian Smith (*Smith Review*). The *Smith Review* recommended that the advisory function performed by CPAC be split into two separate advisory panels, one dealing with stakeholder issues and the other dealing with technical issues.
- 2.12 In June 2015, in response to the recommendations of the *Smith Review*, the Authority announced²⁷ the formation of two independent Advisory Panels for Consumer Prices: a technical panel chaired by ONS's Director of Economic Statistics and Chief Economist, to advise the National Statistician on technical

²⁵ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/revising-the-weight-of-owner-occupiers--housing-in-cpih/index.html>

²⁶ <https://www.statisticsauthority.gov.uk/reports-and-correspondence/reviews/governance-of-prices-statistics/>

²⁷ <https://www.statisticsauthority.gov.uk/national-statistician/ns-reports-reviews-guidance-and-advisory-committees/national-statisticians-advisory-committees/>

aspects of the statistics; and a stakeholder panel, chaired by Dame Kate Barker, to provide advice on the uses and applications of price indices. The panels met for the first time at a joint meeting on 27 November 2015²⁸.

Review of UK Consumer Price Statistics

2.13 In January 2015, the Authority published *UK Consumer Price Statistics: A Review*²⁹ (*Johnson Review*) led by Paul Johnson, Director of the Institute for Fiscal Studies. The *Johnson Review* considered what changes should be implemented to the current range of UK consumer price statistics to meet current and future user needs and made a series of recommendations. The *Johnson Review* concluded that the CPIH, once issues with the measurement of owner occupiers' housing costs were resolved, could provide a 'good estimate of price changes across the economy'. The review also recommended that ONS adopt CPIH as its main measure of inflation and that 'the UK Statistics Authority and ONS have important roles to play in communicating the primacy of CPIH, explaining what it is measuring and how it should be used'.

Measuring Consumer Prices: the options for change

2.14 Following the *Johnson Review*, on 15 June 2015 the Authority launched a consultation, *Measuring Consumer Prices: the options for change*³⁰ (*Measuring Consumer Prices*), to seek users' views on the future development of the UK's range of consumer price statistics. The consultation closed on 15 September 2015 and the Authority published a summary of responses³¹ on 23 November 2015. This summary notes that next steps are for the Authority to 'seek advice from the newly established Advisory Panels for Consumer Prices, before issuing its final response to the consultation in the first half of 2016'.

Independent review of UK economic statistics

2.15 In August 2015, HM Treasury and the Cabinet Office announced a call for evidence as part of the government's independent review into the production of UK economic statistics (*Bean Review*), led by Professor Sir Charles Bean. The review was commissioned by the Chancellor of the Exchequer and the Minister for the Cabinet Office, and set out to provide 'recommendations on how to address future challenges to the measurement and production of economic statistics whilst continuing to ensure they are independent, high quality, accurate and timely'. On 2 December 2015, interim findings from the review were published³², and found that there is need for ONS and the official statistics system generally to become more of a service provider, helping users answer their questions about the economy. The report presented five interim strategic recommendations; one of these is for ONS to 'Address established

²⁸ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/guide-method/development-programmes/other-development-work/prices-development-plan/consumer-prices-development-work.html>

²⁹ <https://www.statisticsauthority.gov.uk/reports-and-correspondence/reviews/uk-consumer-price-statistics-a-review/>

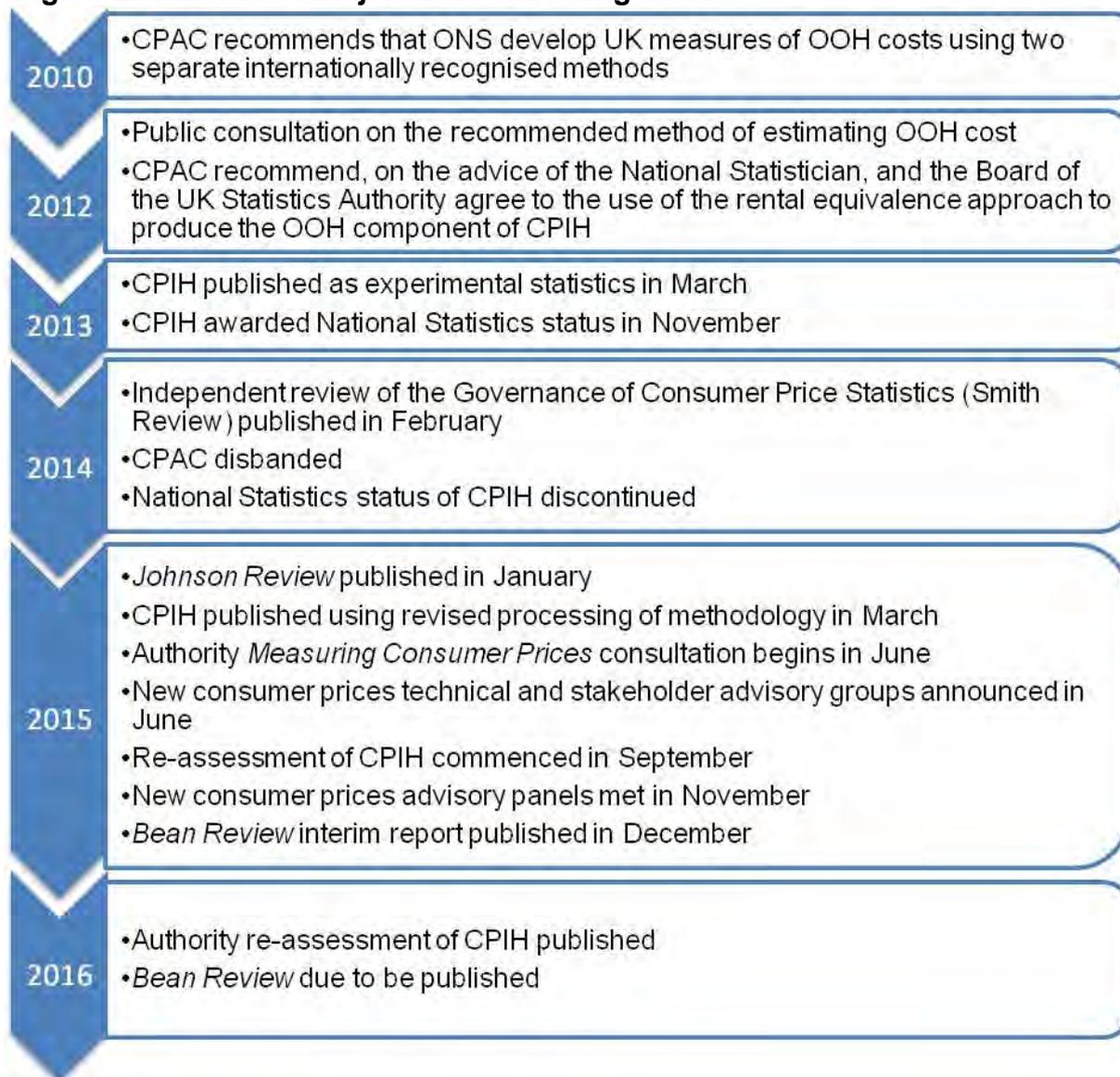
³⁰ <https://www.statisticsauthority.gov.uk/reports-and-correspondence/consultations/>

³¹ https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/images-summaryofresponsesconsumerpricesconsultatio_tcm97-45027.pdf

³² https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/481452/Bean_review_Interim_Report_web.pdf

statistical limitations', which includes a recommended action for ONS to implement 'sufficient improvements to the UK Trade, Construction and CPIH statistics to warrant their re-designation as National Statistics'. The *Bean Review's* final report is expected to be published around the time of Budget 2016. **Figure 2** summarises the timeline of major events affecting CPIH.

Figure 2: Timeline of major events affecting CPIH



Source: produced by Assessment team

Methods and sources

2.16 ONS uses the same underlying data to compile CPIH and CPI, based on the prices for almost 700 representative items. ONS arranges for prices to be collected from around 150 locations throughout the UK. Of the 180,000 price quotations, around 110,000 are collected by visiting outlets. Since 1995, local price collection has been carried out by a market research firm. ONS collects most of the remaining price quotations from the internet, and by telephone and email with a few other quotes obtained from other public bodies. ONS also

uses administrative data sources such as price data from Glass's Guide³³ for new and used cars and insurance quotes collected by a market research company.

Sources of private rents data

- 2.17 ONS uses private rents data for England, Wales, Scotland and Northern Ireland to construct both the OOH and 'private rents' component of the CPIH index. Private housing rental data for England are supplied and processed by VOA. Due to data legislation constraints, VOA is unable to submit record-level data to ONS directly; therefore VOA is responsible for processing the data to compile 'elementary aggregates' which it submits to ONS. The Welsh and Scottish Governments are responsible for submitting private rents data to ONS directly for Wales and Scotland respectively. There is currently no suitable comparable data available for Northern Ireland; therefore information on private rents in Northern Ireland is collected by price collectors employed by ONS. ONS has started to work with the Northern Ireland Housing Executive (NIHE) to identify data that could potentially be used. **Figure 3** illustrates the sources of price data used to produce CPIH.
- 2.18 Since June 2013, ONS has also used the private rents administrative data sources used to construct the OOH and 'private rents' indices in CPIH to produce a quarterly experimental statistic, the Index of Private Rental Housing Prices (IPRHP)³⁴. This index is intended to track the prices paid for renting property from private landlords in Great Britain. The IPRHP is not included within the scope of this re-assessment.

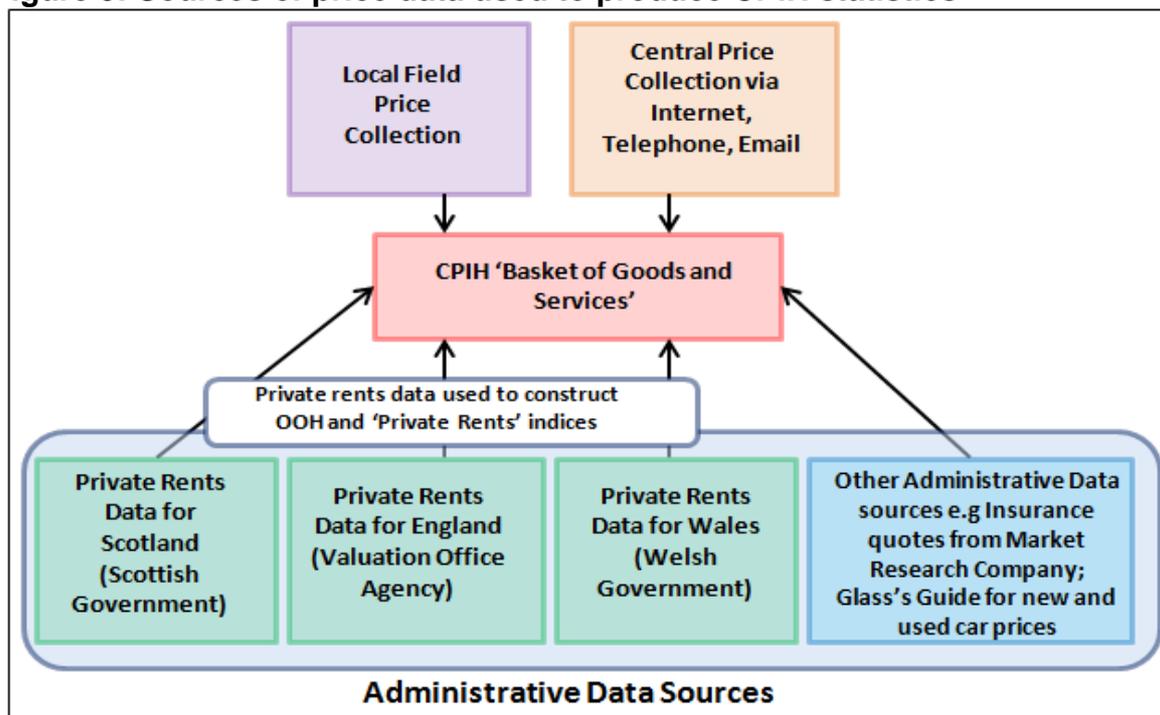
Weighting items in 'basket of good and services'

- 2.19 Households spend more on some goods and services than others, and so when prices are combined to form the indices, weights are applied to reflect this. Information about spending patterns that underpin the weights used for CPI and CPIH largely comes from the Household Final Monetary Consumption Expenditure (HFMCE) component of the UK National Accounts. The weights are based on the expenditure of all private households in the UK, foreign visitors to the UK and residents of communal establishments such as retirement homes. The Living Costs and Food Survey (LCF), part of ONS's Integrated Household Survey, is one of the major inputs into the household expenditure component.

³³ <http://www.glass.co.uk/>

³⁴ ONS publishes IPRHP as an experimental statistic, and is based on the same private rents data sources used to construct the OOH index in CPIH.

Figure 3: Sources of price data used to produce CPIH statistics



Source: produced by Assessment team

Users and uses of CPIH

2.20 ONS lists some current and potential users and uses of CPIH in the report *Users and uses of consumer price inflation statistics*³⁵ published in October 2013. Consumer price indices are generally of interest to a wide range of users and interest groups including central and local government; charities and academics; businesses and the general public and an international audience, in particular Eurostat.

2.21 ONS identifies the following main uses of consumer price inflation measures, especially CPI, the UK's main measure of inflation:

- *As a macro-economic measure of inflation and to inform policy-making decisions.* Since 1992, UK governments have based their economic policies around targeting specific rates of inflation. The Bank of England's Monetary Policy Committee (MPC)³⁶ uses the CPI to assess inflationary pressures and takes it into account in setting interest rates. Parliament and the public use the CPI to judge the success of monetary policy in achieving the inflation target.
- *For deflation.* For many purposes, comparisons of economic series are more useful when the effect of price changes is removed. This allows the series to be presented in real terms to enable constant price comparisons

³⁵ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/users-and-uses-of-consumer-price-inflation-statistics/2013/index.html>

³⁶ <http://www.bankofengland.co.uk/monetarypolicy/Pages/overview.aspx>

over time. ONS uses the CPI and its components to adjust current levels of some economic series

- *For indexation of wages, benefits and pensions.* The CPI is frequently taken into account in wage bargaining. In April 2012, the Department for Work and Pensions (DWP) increased state pensions and various benefits in line with the CPI
- *Price adjustment.* Many contracts link payments due, such as rent, to a change in the CPI

2.22 ONS told us that as CPIH is a relatively new measure of inflation, it does not expect there to be many users of CPIH as yet. The feedback we received from users during the course of this re-assessment supported this view, since many respondents told us they do not currently use CPIH, for a variety of reasons, including an inability to see the relevance of CPIH given that CPI is the current target for inflation, or because of a lack of confidence in the concepts and methods used by ONS to estimate OOH. However, our discussions with some users including the Bank of England, HM Treasury and the Office for Budget Responsibility (OBR) highlighted their interest in, and close scrutiny of, CPIH. These organisations actively monitor and analyse movements in CPIH to understand its behaviour.

Users' views

2.23 As part of this re-assessment we asked for views from a range of representatives from central government, academia, the finance sector, charities, pensioner groups and expert user groups. The majority of respondents to this re-assessment were potential users rather than current users of CPIH.

2.24 Respondents expressed a range of interest in CPIH. Central government departments such as HM Treasury, OBR and the Department for Work and Pensions (DWP) monitor the behaviour of CPIH and analyse its trends. Staff from the Department for Work and Pensions (DWP) analyse CPIH and use the index as one of the ways to adjust for inflation in their statistics on household incomes. The Assessment team also received responses from academics, charities and expert groups which have an interest in the impact of different measures of inflation and some of whom use CPIH to assess real changes in household expenditure. Responses from members of the general public indicated a general interest in the measure of inflation used (or with potential to be used) by the government to up rate pensions and other benefits. We have categorised responses into broad themes of interest.

Concepts

2.25 The Bank of England and HM Treasury expressed most confidence in the methods used by ONS. Several respondents expressed their lack of confidence in the concepts underpinning ONS's methodology and told us that they found the methodology complex and difficult to understand.

- Respondents were divided in their opinions on the choice of the rental equivalence approach over alternative approaches to estimate OOH in CPIH. Some questioned ONS's rationale for using the rental equivalence

approach to measuring OOH, and noted that imputed rental prices may be a very poor proxy for the expenditure that home owners actually incur

- Given the relative weight of the OOH component in CPIH, the extent of imputation required by the use of the rental equivalence approach was of concern to some respondents, citing that the use of imputation for an entire price series is against the principles of HICP which strictly limits the extent of imputation. Some respondents also believed that ONS's choice of using the rental equivalence approach to measure OOH signalled a move away from promoting comparability internationally, as it is likely that Eurostat will adopt the net acquisitions approach

Methods and Quality

2.26 Several respondents challenged aspects of ONS's methodology to estimate OOH and some called for ONS to set out its strategy to increase confidence in the quality of private rental administrative data in the long term, to test this strategy over a sufficient period of time and establish that it is effective. Some respondents submitted their own research papers in support of their challenges, which included:

- Concerns about potential bias in CPIH relating to a potentially unrepresentative sample of rental properties being used to measure OOH. Some respondents acknowledged that the VOA sample is very large but raised concern that it was not selected through a sound statistical methodology and would benefit from more detailed stratification. In addition, one respondent highlighted that ONS's application of weights to allocate a weighting structure to the sample of rental properties, based on a data source of the UK's owner occupiers' housing stock that includes limited classifications and does not distinguish between regions of the UK, could result in a sample that is not representative of the actual UK housing market
- Some concerns of bias in the use of the rental equivalence approach, calling for ONS to conduct further research into the impact of implied quality change when making non comparable substitutions. This respondent quoted Recommendation 19 of the *Johnson Review* which recommended that ONS introduce regular monitoring of the impact of quality adjustment on its consumer price statistics
- Concern about the appropriateness of ONS using National Accounts data to estimate OOH expenditure weights. Some respondents were concerned that CPIH in its current form could not identify the housing boom between 1997 and 2007 and suggested exploring the use of alternative expenditure weights. One respondent suggested using a consumer-based spending survey to determine OOH expenditure weights rather than relying on National Accounts data, as this approach was more likely to reflect peaks and troughs in the housing market. Another user suggested that ONS could use the period of CPIH's official statistics status to analyse the appropriateness of the expenditure weights and that ONS could consider using smoothed average weights over a period of 3-5 years to minimise the impact of annual volatility

- Comments from some respondents expressing concern that ONS's reliance on third party data from the VOA posed a big risk for ONS's quality assurance processes; and recognition that the legislation preventing ONS's access to VOA's microdata could prevent ONS answering data queries about the data in a timely manner. The Bank of England and HM Treasury told us that they would be seeking reassurance from ONS that it is applying the highest standards of quality assurance to the VOA microdata and processing systems

Accessibility and transparency of methods and purpose

2.27 The majority of respondents thought that ONS needed to provide further clarity and direction to communicate the purpose, use and value of CPIH in comparison with other inflation measures. Some respondents told us that they had been reassured by the supporting articles that ONS published during 2015 to explain its methodological changes to CPIH and analyses of trends in the data. Other respondents thought that ONS needed to better justify the methods it adopts and the underlying assumptions of the methodology. Respondents told us that:

- They would like ONS to present more transparent information about the methods and data sources that it uses to produce CPIH, the other alternatives it considered and the strengths and limitations of its chosen approach
- There is insufficient information on the source of weights being used in CPIH and the stratification of the OOH index
- The RPI/CPI user group told us that ONS did not appear to have considered the different needs of a price index used for up rating, to represent the costs that households face, particularly in terms of accounting for OOH

2.28 As part of the re-assessment we also sought views from VOA, the Welsh Government and the Scottish Government who all supply private rental data to ONS for its production of the OOH component of CPIH. All three departments collect private rental data for their own purposes and share them with ONS under formal agreement processes. The three departments have varying levels of interaction with ONS.

- The Scottish Government told us that it has a basic understanding of how ONS compiles CPIH and would welcome the opportunity to have more regular meetings with ONS and visit the statistics team to understand more about how it processes the data
- The Welsh Government told us that it has good ongoing dialogue with ONS via email and telephone, and that recent face to face meetings have helpfully allowed both departments to understand more about each other's processes
- VOA told us that it worked very closely with ONS during the recent joint work between ONS and VOA in 2014 to review and revise the methodology for measuring OOH, and that it is keen to have more regular dialogue with ONS during the 'business as usual' phase going forward, to better

understand and engage with ONS's development plans. During the course of this re-assessment, statisticians in ONS and VOA have now established monthly meetings.

Accessibility and costs

- 2.29 ONS publishes *Consumer Price Inflation* in HTML and PDF format, with supplementary data tables published in Excel and CSV formats. This equates overall to a level of three stars under the Five Star Scheme that forms part of the Open Standards Principles proposed in the *Open Data White Paper: Unleashing the Potential*³⁷ and adopted as UK government policy in November 2012³⁸. Five stars represent the highest star rating within the Scheme.
- 2.30 ONS estimates that the total annual cost of producing its suite of consumer prices indices (including CPIH) is approximately £3.3 million.

³⁷ https://data.gov.uk/sites/default/files/Open_data_White_Paper.pdf

³⁸ <https://www.gov.uk/government/publications/open-standards-principles/open-standards-principles>

3 Assessment findings

Meeting User Needs

Engagement with users

- 3.1 ONS holds quarterly Inflation Tripartite Group meetings with the Bank of England and HM Treasury. ONS also attends regular RPI/CPI user group³⁹ meetings and publishes updates and responses to user feedback on the associated StatsUserNet forum⁴⁰. In February 2015⁴¹, ONS hosted a private rental market statistics user event in London, at which ONS presented its changes to the way that it implements its methodology to estimate OOH in CPIH and processes the data. ONS also presented these proposed changes at an RPI/CPI user group meeting in the same month. ONS told us that it engaged closely with statisticians in DWP and the Department for Communities and Local Government (DCLG) during its development of OOH measures in 2014 to gain early feedback. During early 2015, ONS published three articles to explain its methodological changes and the associated impact on the CPIH annual inflation rates (see para 2.10). While ONS has used different means to engage with users and potential users of CPIH about its recent changes to the way that it implements the methods and processes the data to produce CPIH, these engagement activities have focussed on a relatively small number of user groups. There has been less opportunity for a wider group of users, or potential users, to raise questions and discuss the implications of ONS's recent changes, or relating to wider concerns about the concepts and methods underpinning OOH.
- 3.2 Following the Authority's *Review of the Governance of Prices Statistics*, CPAC was disbanded in 2014 (see para 2.11). Following that review, the advisory function performed by CPAC was split into two separate advisory panels, one dealing with stakeholder matters and the other dealing with technical matters. Each panel comprises representatives⁴² from a wide range of groups, including government, the Bank of England, academia and the private sector. A joint inaugural meeting was held on 27 November 2015. This will be followed by at least three meetings annually commencing from early 2016, the first of which was held on 22 January 2016 for both the technical and stakeholder advisory panels.
- 3.3 While ONS has engaged with some groups of users relating to its recent changes to the way that it estimates OOH in CPIH, regular, systematic face to face user engagement has primarily been in the form of Inflation Tripartite Group meetings between the Bank of England and HM Treasury and through internal ONS briefings. ONS's engagement with the wider public has been through its publication of articles; responses to ad hoc queries; and its presentations at a private rental market statistics user event and RPI/CPI user

³⁹ <http://www.statsusernet.org.uk/communities/community-home?CommunityKey=3fb113ec-7c7f-424c-aad9-ae72f0a40f65>

⁴⁰ <http://www.statsusernet.org.uk/home>

⁴¹ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ns/get-involved/events/events/private-rental-market-statistics-user-event/index.html>

⁴² <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/guide-method/development-programmes/other-development-work/prices-development-plan/consumer-prices-development-work.html>

group meeting. While ONS has engaged more widely with a broader range of users and organisations as part of its consultation on consumer price statistics *Measuring Consumer Prices* (see para 2.14), it has not engaged in depth with these users about the changes to the way that it estimates OOH in CPIH. There is currently little evidence of how ONS has used feedback from this engagement activity to inform its statistical planning for CPIH specifically. ONS had submitted to the Assessment team user engagement plans dated until March 2015, but there are currently only limited plans for future user engagement about CPIH, with one meeting held to discuss CPIH with the Bank of England in February. We recognise that ONS's future user engagement will be largely driven by its strategic direction in response to its recent consultation and by the interim findings from the *Bean Review* which recommends that ONS staff embrace change and become 'proactive rather than reactive in their engagement with users'.

- 3.4 In 2015 the *Johnson Review* concluded that 'the UK Statistics Authority and ONS have important roles to play in ...explaining what it is measuring and how it should be used.' This resonated with user views gathered for the Authority's 2013 *Assessment Report 257 Consumer Price Inflation* where users 'were anxious that arrangements be made for 'ongoing and reoccurring' monitoring of their needs'. From user comments gathered as part of this re-assessment, and the summary of responses to the Authority's *Measuring Consumer Prices* consultation, we find that there is further work for ONS to do in engaging positively with users and developing a successful mechanism to determine user needs for CPIH and to demonstrate how it is responding to user concerns.
- 3.5 Whilst it is understandable that ONS's recent engagement has been focused on its changes to the way that it implements the OOH methodology, several users expressed concerns about this methodology and the potential long-term use of CPIH that they felt that ONS has not addressed. For example, five respondents to this re-assessment who were critical of CPIH submitted their own research to support concerns highlighted in their response. None of these respondents currently use CPIH, and they questioned the value of CPIH in its current form. Some respondents also commented on the perceived lack of clear published information about the strengths and limitations of CPIH with respect to possible uses. For example, DWP produces measures of household income adjusted for inflation using four different consumer price indices instead of one, due to a lack of direction from ONS as to the future use of each of the price indices and the role of CPIH specifically. The joint RPI/CPI user group response to this re-assessment expressed that the purpose of CPIH is unclear. In November 2015, ONS published a summary of consultation responses in *Summary of Responses Measuring Consumer Prices: the options for change*⁴³, which stated that of the respondents who answered the relevant section about measuring prices across the economy, "around three quarters of respondents agree that ONS should identify a main measure of price change across the economy". Almost half of those respondents believed that the main measure should be CPIH, around a quarter believed that it should be RPI, with the remainder favouring a household inflation index or other options. The Authority Board has not yet published its response to its consultation.

⁴³ https://www.statisticsauthority.gov.uk/wp-content/uploads/2015/12/images-summaryofresponsesconsumerpricesconsultatio_tcm97-45027.pdf

- 3.6 Some of the discussions about CPIH, for example on the RPI/CPI user group forum, tend to suggest that ONS could be more proactive in clearly presenting its methods and processes for CPIH and in asserting its rationale for choosing these methods. We consider that ONS should seek to engage more positively and openly with a wide range of users, including interested users that have a range of opinions not necessarily in accord with ONS's own views, and should develop plans for regular user engagement activities that attract a wide range of users to enhance debate with mixed audiences. This could help to balance the intelligence of different expert user opinion and facilitate swifter progress in this complex field. An important cornerstone for ONS to be able to do this is publishing its documentation more transparently, and more accessibly, than at present (as covered elsewhere in this Assessment report), and to adopt and communicate a clear strategic direction for CPIH as part of ONS's suite of consumer price indices. This will also help to establish the credibility of CPIH as an economic indicator.
- 3.7 ONS collects information about user queries and questions from user events, including results from its recent consultation events. The statistics team told us that it also follows threads of discussions on the RPI/CPI user group forum, and responds directly to ad-hoc user queries. The statistics team holds a database of all user questions and queries received. ONS told us that it uses this information in a number of ways, including to develop its 'myth busters' topics on ONS's digital blog⁴⁴; to shape its work programme; and to improve its commentary in *Consumer Price Inflation*. However, it is unclear how ONS uses this user feedback in a systematic, visible manner to identify areas of user concern relating to the concepts and methods used to produce CPIH, and to inform ONS's future user engagement activity and its statistical planning and continuous improvement programmes for CPIH.
- 3.8 ONS publishes *Uses and users of consumer prices inflation statistics*⁴⁵ which presents information about the range of uses and users of ONS's consumer price statistics. This document was last updated in 2013 and would benefit from being updated to reflect current known users and uses of CPIH; and to discuss the current status of CPIH as an official statistic following its National Statistics status being discontinued in August 2014.

Engagement with data suppliers

- 3.9 ONS has generally engaged with its administrative data suppliers on an ad hoc basis. Data suppliers from the Welsh and Scottish Governments told us they have had little face to face contact with the statistics team in ONS, but have engaged frequently via email to answer specific data queries after data delivery. Recent face to face meetings between statisticians in ONS and the Welsh Government and Welsh rent officers have been welcomed by the Welsh Government, since it helped to provide a mutual understanding of how private rents data are collected, and how ONS uses these data in its production of CPIH. ONS told us that it plans to hold a similar meeting in the near future with statisticians and rent officers in the Scottish Government.

⁴⁴ <http://blog.ons.digital/2014/08/04/inflation-mythbusters/>

⁴⁵ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/users-and-uses-of-consumer-price-inflation-statistics/2013/index.html>

- 3.10 Statisticians at ONS and VOA had a close working relationship during 2014 and early 2015 to investigate and explore options to change the implementation of the methodology used by both ONS and VOA to process private rents data. This engagement involved regular meetings between the statisticians as well as temporary staff secondments from ONS to VOA (due to the constraints surrounding VOA's microdata – see para 2.17). VOA told us that this led to closer collaborative working and greater mutual understanding of how the private rents data are processed. VOA also told us that while the engagement was strong during this development phase, it had become more sporadic once the work moved into regular production. The unusual production arrangements for VOA's private rents data (where VOA is responsible for processing its private rents data, before submitting processed aggregates to ONS) was identified as an area of risk by the Bank of England and HM Treasury, that requires appropriate assurances of the quality of the data. During the course of this re-assessment the statistics teams in ONS and VOA have now instituted monthly meetings, along with periodic, more in-depth, review to monitor the Service Level Agreement.
- 3.11 The credibility of CPIH is largely dependent upon ONS's production of high quality statistics and the assurances that it can give to users regarding the methodology that it uses to produce CPIH and of the quality of the statistics. This will in part be achieved by ONS sustaining effective working relationships with its data suppliers to maintain a mutual understanding of the data processing and of the future risks to ONS's production of CPIH.
- 3.12 As part of the designation as National Statistics, ONS should:
- a) Establish effective engagement mechanisms with a wide range of users and potential users to build strong ongoing relationships, using means that support debate and draw on the expertise of a wide array of users
 - b) Establish effective engagement mechanisms with its data suppliers, in order to develop and maintain a mutual understanding of the data processing and to understand the future risks to ONS's production of CPIH
 - c) Produce and publish a schedule of user and supplier engagement activities and outline clearly how it will continue to strengthen its ongoing dialogue with users and data suppliers
 - d) Clearly demonstrate how user and supplier feedback will feed into statistical planning for CPIH and update its communication strategy annually in line with this planning
 - e) Update its documentation about uses and users of CPIH, taking into consideration the information that it has gathered from its own user engagement and recent consultation, and from user feedback for this re-assessment, and demonstrate a commitment to keep this documentation up to date⁴⁶
- (Requirement 1).

⁴⁶ In relation to Principle 1, Practices 1, 2 and 3 of the *Code of Practice*

Methods, Quality and Quality Assurance

Documentation about methods

- 3.13 ONS publishes a *Consumer Prices Technical Manual*⁴⁷ (*Technical Manual*) for its consumer price statistics which presents a description of the procedures used by ONS to produce measures of consumer price inflation. The *Technical Manual* includes a chapter describing how CPIH is constructed in the same way as the CPI, and that OOH are also included in the scope and coverage of CPIH. The chapter also includes a brief description of ONS's use of the rental equivalence approach to estimate OOH and summary information about the private rents data sources used to construct the OOH Index, the weights used and how the index is stratified⁴⁸. The manual is updated approximately every two to three years with the last update being in January 2014, and therefore does not reflect ONS's recent changes to how it implements the methodology to estimate OOH, that it introduced in the February 2015 *Consumer Price Inflation* statistical report. During the course of 2015, ONS has published additional technical articles, which set out to explain its changes to the methodology. The range of published documentation (summarised in para 2.10) includes:
- *Improvements to the measurement of owner occupiers' housing costs and private housing rental prices*
 - *Revising the weight of Owner Occupiers' Housing in CPIH*
 - *Explaining private rental growth*
- 3.14 *Revising the weight of Owner Occupiers' Housing in CPIH* describes ONS's changes to the way that it estimates the OOH weights for CPIH, but it lacks a clear description of its justification to support its use of the data sources to stratify the index and to derive the CPIH weights. ONS told us that the article is not intended to present information about the stratum weights. However, the Assessment team considers that ONS should publish a more-prominent and accessible description about the source of the stratum weights for the OOH component of CPIH, given the degree of user interest. ONS also published *Introducing the new CPIH measure of Consumer Price Inflation* in early 2013 to introduce the concepts around ONS's measure of CPIH. This document is not immediately accessible from *Consumer Price Inflation*.
- 3.15 ONS presents a brief description about its use of the rental equivalence approach to measuring OOH in *Consumer Price Inflation*, which states that 'Rental equivalence uses the rent paid for an equivalent house in the private sector as a proxy for the costs faced by an owner occupier. In other words this answers the question "how much would I have to pay in rent to live in a home like mine?" for an owner occupier'. With regards to ONS's justification of its use of the rental equivalence approach, ONS describes how this method was recommended by the National Statistician following a decision by the now disbanded CPAC (see paras 2.11 and 2.12 for further information about the

⁴⁷<http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices---technical-manual/2014/index.html>

⁴⁸ Stratification is the process of dividing members of the population into homogeneous subgroups before sampling.

governance of CPIH) which recommended using a rental equivalence approach, rather than a net acquisitions approach, and through a subsequent public consultation on the choice of approach to measuring OOH, for which user opinion was evenly split between support for using rental equivalence, net acquisition, and neither approach⁴⁹. It is unclear what weight was given to the public consultation and to CPAC's recommendation.

- 3.16 Some users still regularly criticise the suitability of the rental equivalence approach to measuring OOH, for example on user forums such as the RPI/CPI user group on StatsUserNet. During the course of this re-assessment, some respondents have repeated their challenge to the suitability of ONS's use of the rental equivalence approach to estimate OOH (see para 2.25). The questions considered by CPAC in 2012 to support its decision to recommend ONS's use of the rental equivalence approach to estimate OOH, and the Committee's judgments against the questions, provide helpful rationale for its decision. The questions considered are presented in **Figure 4**. This information is published in CPAC papers and minutes, but these are not readily accessible from ONS's website and are not explicitly referenced in ONS's supporting documentation describing the methods used to produce CPIH.

Figure 4: Questions considered by CPAC in its recommendation on the most appropriate approach to measuring owner occupiers' housing costs

Questions considered by CPAC	
1	How well does the index represent changes in owner occupiers' housing costs?
2	To what extent does this approach meet the range of different user needs?
3	Can the approach be easily understood by the public?
4	Does the approach follow the same trends as other relevant measures? (e.g. Is the approach consistent with National Accounts deflators?)
5	Is the method consistent with a) The European Union method for measuring OOH and b) International best practice for measuring OOH
6	Is the approach consistent over time and geographical area?
7	Can the approach be produced in time to be included in the CPI?

Source: ONS, CPAC(12)14 *Decision on the recommended approach to incorporating OOH in an expanded Consumer Prices Index*⁵⁰

- 3.17 Overall, ONS publishes a range of documentation that presents different descriptions of the methods used to produce CPIH, including those articles presented in para 3.13 and:

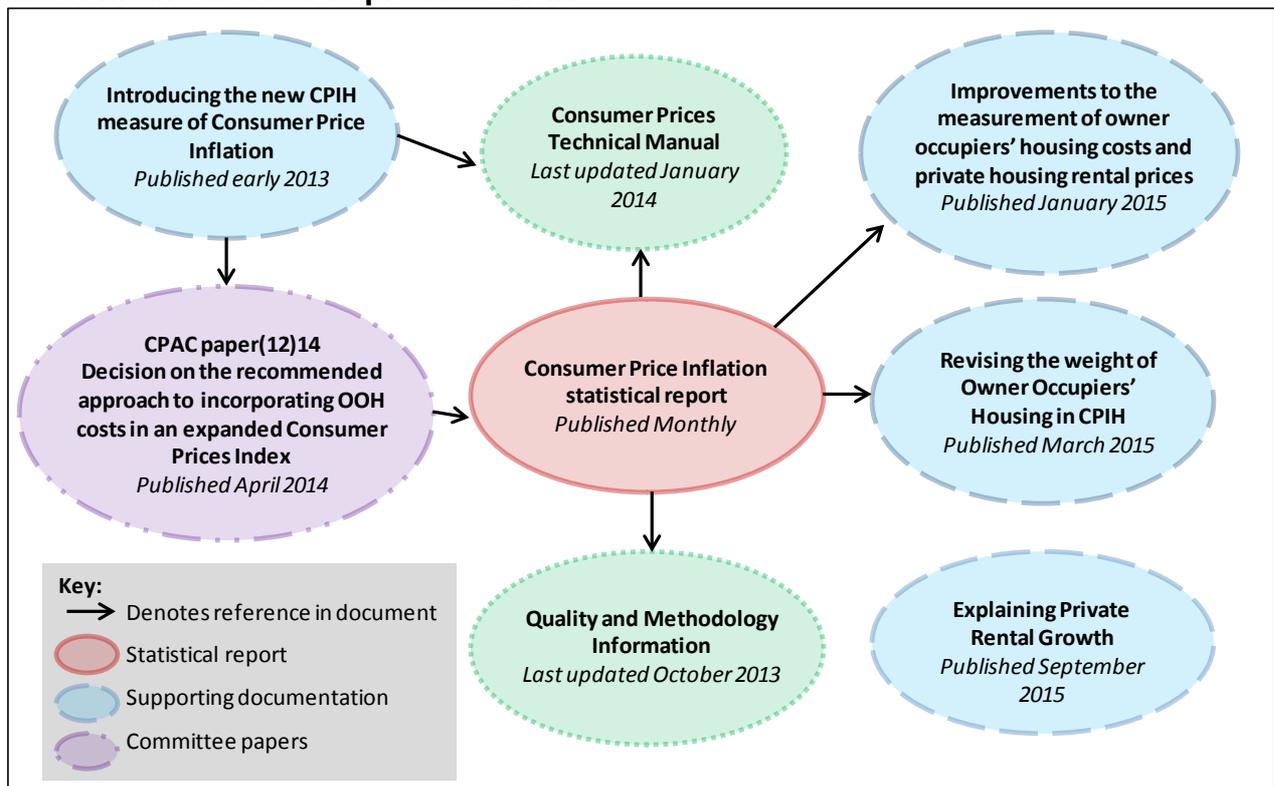
⁴⁹ See paper CPAC(12)23 presented at September 2012 meeting- <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/who-ons-are/programmes-and-projects/other-development-work/consumer-prices-advisory-committee--cpac-/consumer-prices-advisory-committee--cpac--papers/index.html>

⁵⁰ See paper CPAC(12)14 presented at April 2012 meeting <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/who-ons-are/programmes-and-projects/other-development-work/consumer-prices-advisory-committee--cpac-/consumer-prices-advisory-committee--cpac--papers/index.html>

- a brief description in ONS's *Technical Manual* of ONS's use of the rental equivalence approach to estimate OOH
- an introduction to the concepts around ONS's measure of CPIH in *Introducing the new CPIH measure of Consumer Price Inflation*, which was published in 2013 and is not immediately accessible from *Consumer Price Inflation* or from other supporting documentation
- a brief description in *Consumer Price Inflation* about its use of the rental equivalence approach to measuring OOH
- criteria considered by CPAC in 2012 to support its decision to recommend ONS's use of the rental equivalence approach to estimate OOH, which is not immediately accessible from *Consumer Price Inflation* or other supporting documentation

The range of documentation is illustrated in **Figure 5** below:

Figure 5: Illustration of ONS's range of documentation that presents information about methods used to produce CPIH



Source: produced by the Assessment Team

3.18 While ONS publishes a range of information about the methods used to produce CPIH, with varying levels of detail in the descriptions presented, this information is dispersed across a number of documents, some of which are out of date. It is therefore difficult for users to access:

- a clear justification for ONS's decision to use the rental equivalence approach

- the other methodology that ONS considered and the strengths and limitations of the rental equivalence approach and the alternative approaches
- which data sources ONS considered for the construction of the OOH index using the rental equivalence approach
- the rationale for ONS's choice of the data sources

Instead, the documentation is presented to justify why decisions were made rather than to explain what options were considered and then chosen. This means that descriptions of the methods that were considered to produce CPIH are not available in an accessible way that users can easily evaluate the strengths and limitations of each method considered, nor in a way that ONS can use to effectively support its decisions and enhance their transparency. We think that by presenting its rationale in an accessible, transparent way, ONS could present a clearer, defensible justification to users of the approach and methods that it adopts to produce CPIH. This would support constructive debate around the measurement of consumer price statistics, and estimating OOH in particular.

- 3.19 As part of the designation as National Statistics, ONS should publish coherent, transparent and accessible information about the methods that it uses to produce CPIH, including:
- a) Presenting a clear rationale about its choice of the rental equivalence approach to measure Owner Occupiers' Housing costs, the alternative approaches that it considered and the strengths and limitations of these approaches in relation to the uses and potential uses of CPIH
 - b) Publishing more-accessible information about the different data sources of private rents that it considered in its development of OOH and the rationale to support its choice of the private rents data sources
 - c) Presenting accessible information about its choice of weights used to produce CPIH, and its rationale to support the use of the data sources used to derive the weights
 - d) Producing a comprehensive narrative across all its supporting documentation that describes the methods used to produce CPIH in a manner that is transparent and accessible to users, and improves its signposting to its existing technical articles⁵¹

(Requirement 2).

Accessibility of supporting documentation

- 3.20 During the course of this re-assessment, ONS redeveloped its website. While the new website offers potential for improved accessibility, at present many of the supporting documents (for example the *Technical Manual*) are archived and are therefore not available through a search on ONS's website. A common theme across this re-assessment is a need for ONS to develop and enhance the accessibility of the description of methods used to produce CPIH and of ONS's quality assurance of the data.

⁵¹ In relation to Principle 4, Practice 1 of the *Code of Practice*

- 3.21 CPIH is a consumer price index measure, located within a wider family of consumer price indices. The relevance of CPIH as part of ONS's suite of consumer price indices is presented clearly on ONS's inflation and price indices. As noted in para 3.18, consolidating and improving the accessibility between supporting documentation for CPIH will improve transparency and support users' understanding of CPIH. This should be supplemented with a clear narrative around the statistics. In fulfilling the Requirements presented in this Assessment report, ONS should consider the arrangement and organisation of documentation published on its website to ensure that users can find the required information easily and in a way that supports the information remaining up to date. Whilst ONS publishes a range of documentation about the methodology used to produce CPIH, the most relevant supporting documentation and guidance are not presented as accessibly as they could be on ONS's website.
- 3.22 As part of the designation as National Statistics, ONS should improve the accessibility of CPIH statistics and its supporting documentation through its website by:
- a) Developing clear and logical navigation between *Consumer Price Inflation*, the associated CPIH data tables and supporting documentation, to ensure that users can easily find the information that they require
 - b) Presenting clearly how *Consumer Price Inflation* and supporting documentation relate to each other and to other consumer price indices and considering whether some of the supporting documentation could be consolidated⁵²
- (Requirement 3).

Methods and Quality

- 3.23 ONS publishes a *Quality and Methodology Information*⁵³ (QMI) report for consumer price statistics, which presents information about the quality of the statistics based on the five European Statistical System (ESS) Quality Dimensions⁵⁴ and was last updated in October 2013. This document presents information about the data collection, computation and validation of ONS's suite of consumer price indices, including CPIH. Under the heading of 'Accuracy' ONS states that 'the methodology for estimating the accuracy of the CPI, CPIH, RPIJ and RPI has not yet been fully developed because of the complexity of the sample design. Work is underway to aid users in understanding the accuracy of these statistics and work in the field of estimating the accuracy of indices is continuing'. The absence of measures of estimating the accuracy of consumer price statistics was highlighted in *Assessment Report 257 Statistics on Consumer Price Inflation*. ONS does not have any current work plans to develop its work to estimate the accuracy of CPIH.

⁵² In relation to Principle 8, Practices 4 and 5 of the *Code of Practice*

⁵³ http://www.ons.gov.uk/file?uri=/economy/inflationandpriceindices/qmis/consumerpriceinflationqmi/qmicpifinaloct13updatev2_tcm77-180774.pdf

⁵⁴ <https://gss.civilservice.gov.uk/statistics/methodology-quality/quality-2/quality-resources/ess-dimensions-quality/>

3.24 During the course of this Assessment, respondents expressed a range of concerns about the suitability and quality of ONS's estimate of OOH using the rental equivalence approach. Examples of these concerns include:

- A lack of transparency about the data sources that ONS uses to estimate its weights for, and to stratify, the OOH index; about ONS's rationale in using these weights and strata and their suitability in reflecting owner-occupied dwelling stock across the UK; and whether there is potential bias in how ONS stratifies the OOH index
- Users' challenge of ONS's use of imputed rents data to estimate the costs associated with owning, maintaining and living in one's own home; and a view by some users that the use of imputed data for such a significant element of the CPIH index does not conform to a level of quality that meets their needs as users. Some users highlighted that the use of imputation for an entire price series is against the principles of HICP which strictly limits the extent of imputation
- A need to understand the reasons for the unexpectedly high annual growth in VOA's sample of private rents data in England that is used by ONS in its estimation of OOH; and to understand the reasons for the notable difference between the annual growth in ONS's estimate of OOH and the annual growth in average rents prices presenting in VOA's PRM statistics (see para 2.10), which are based on the same underlying data; and in monitoring and understanding the changing composition of VOA's private rents prices over time
- One data supplier and one user commented on the future potential for rent capping and rental control, and the implications that this could have for ONS's estimation of OOH using the rental equivalence approach
- One user expressed concern around the scale of non-comparable substitutions, implied quality change and sellers' (landlords') margins, and cited a recommendation made in the *Johnson Review* (see para 2.13) that 'ONS should introduce regular monitoring of the impact of quality adjustment on its consumer price statistics. This includes monitoring how often non-comparable replacements occur for each item in the basket of goods and services, and investigating those items where this is frequent'

3.25 ONS told us that it is aware of some of these concerns and that it has sought to respond to some users' challenge of its estimate of OOH, typically through the medium of the RPI/CPI user group on the StatsUserNet forum. ONS states in its *Technical Manual* and in its *Consumer Price Inflation* statistical report that:

'OOH does not seek to capture increases in house prices. Although, this may be inconsistent with some users' expectations of measures of OOH, the inclusion of an asset price and therefore capital gains makes the measure less suitable for a measure of consumption'.

ONS has also sought to analyse and explain differences between annual changes in its OOH index and alternative sources of private rental market process (see para 3.42 for further detail of this analysis), and in September 2015 published *Explaining private rental growth*, which contrasts and seeks to explain differences in trends between ONS's OOH and IPRHP indices and VOA's own private rental market statistics, which are based on the same

administrative data source. Some users have welcomed this analysis, but believe that further work by ONS may be necessary to continue to understand and explain these differences in order to provide additional assurance to users about the quality of ONS's estimate of OOH.

- 3.26 While recognising the challenges of measuring OOH, and appreciating that it will take time to address those challenges, it is our view ONS should demonstrate that it has considered this weight of user concern and respond to these concerns in a way that provides robust reassurance. There is clearly a degree of user concern and disagreement about the quality of ONS's estimate of OOH, the concepts that it uses, and of the value of CPIH in its current form. The statistics team told us that it had received similar feedback from users, including from respondents to the Authority's recent consultation *Measuring Consumer Prices*. The Authority Board is currently considering respondents' views to its consultation (see para 2.14). This finding is consistent with a recommended action in the *Bean Review* for ONS staff to be encouraged to 'understand better how their statistics are used; to be more open and curious in identifying statistical issues; and to use their expertise to influence the international statistical agenda more effectively'.
- 3.27 As part of the designation as National Statistics, ONS should publish information about the quality of the CPIH statistics that:
- a) Demonstrates that it has addressed users' concerns about how it produces CPIH, in a transparent, coherent and accessible way
 - b) Presents appropriate measures of quality, that support users' in their evaluation of CPIH and of its appropriateness for its use
 - c) Describes the potential sources of error and bias in measuring Owner Occupiers' Housing costs using the rental equivalence approach, and how it mitigates for them. This should include evidence to support the suitability of using a proxy measure of costs associated with owning, maintaining and living in one's own home
 - d) Considers the implications of any broader developments in rents that may impact on the accuracy of CPIH, and publicise and invite user comment on the impact and treatment of these developments
 - e) Explores the development of measures of accuracy of CPIH, ideally aided by engaging with the international community in its work to explore methods to estimate the accuracy of CPIH⁵⁵
- (Requirement 4).

Quality assurance

Introduction

- 3.28 Following the issues identified by ONS in 2014 from its own and VOA's 'live running' of private rents administrative data and of the suitability of its implementation of the methods used to estimate OOH in CPIH, a key focus of this re-assessment has been to explore how ONS has addressed the issues that it identified and how it has learned and applied lessons, and to evaluate its

⁵⁵ In relation to Principle 4, Practice 2 of the *Code of Practice*

progress in strengthening its assurance arrangements. To this end, as well as collecting evidence from the statistics team, we have discussed the issues raised with a range of users and data suppliers.

- 3.29 As described in para 2.16, the majority of the CPIH ‘basket of goods and services’ is based on the same underlying price data used to compile the CPI. The majority of prices used to produce CPIH are collected for the specific purpose of measuring consumer prices inflation through local and central price collection. ONS also uses administrative data sources such as price data from Glass’s for new and used cars and insurance quotes collected by a market research company. Private rents administrative data for England are supplied by, and processed by, VOA. Due to data legislation constraints concerning VOA’s data⁵⁶, VOA is not allowed to disclose record-level information to ONS; therefore VOA is responsible for processing the data to compile ‘elementary aggregates’⁵⁷, which it submits to ONS. The inability of ONS staff to gain access to the microdata that it uses in its production of statistics is unusual, and means that it is more difficult for ONS to directly assure itself of the quality of the data and the implementation of the methods. The Welsh and Scottish Governments are responsible for submitting private rents administrative data to ONS directly for Wales and Scotland respectively, which ONS then uses to produce ‘elementary aggregates’ for the OOH index.

Quality assurance of prices collected by field collectors

- 3.30 Quality assurance of prices collected by field collectors is carried out in several ways, which include field checks programmed into the hand-held computers used for collecting price data; validation checks conducted by statisticians in ONS when they receive the price data; and ONS auditors conducting audits of price collection in the field monthly. The audits involve ONS staff accompanying price collectors during price collection and revisiting outlets shortly after collection to ‘back check’ the data. ONS describes these assurance procedures in Chapter 6 of its *Technical Manual*.

Quality assurance of prices from administrative data sources

- 3.31 ONS’s article *Improvements to the measurement of owner occupiers’ housing costs and private housing rental prices* presents a description of the operational context and data collection practices conducted by rent officers employed by VOA, the Welsh Government and the Scottish Government, but does not include information about the quality assurance checks that ONS applies to the private rents data that it receives from the Welsh Government or the Scottish Government, nor of the quality assurance applied by VOA in its processing of the private rents data for England.
- 3.32 In early 2015, ONS conducted its own assessment of the quality assurance of its private rents administrative data sources against the Authority’s Regulatory

⁵⁶ Commissioners for Revenue and Customs Act (CRCA) 2005. The Act places statutory restrictions on the disclosure of identifying taxpayer information and any provision must be for functions of the VOA

⁵⁷ An elementary aggregate is the lowest aggregate of prices, which covers all prices collected for one item in one stratum.

Standard on the *Quality Assurance of Administrative Data*⁵⁸. This standard requires producers to consider what level of quality assurance they require (Basic, Enhanced, Comprehensive) depending on the inherent risk in the data source and public interest in the statistics. ONS submitted its judgements to the Authority as part of its evidence to support this re-assessment, but has not published these. ONS considered the level of concern over accuracy of the three private rents data sources to be low, and that the public interest in CPIH was high, and therefore judged that the private rents administrative data should be subject to an 'enhanced' level of quality assurance. In its evidence, ONS describes a number of practices to demonstrate the operational context and the data collection; ONS's communication with data suppliers; data suppliers' quality assurance principles, standards and checks and its own quality assurance investigation and documentation. The quality assurance practices are presented in para A2.1 in **Annex 2** of this assessment report.

- 3.33 ONS told us that it also commissioned an informal external audit of VOA's processes against the ISO 9001:2008 standard in March 2015. This audit found that:

'generally, the process appears to be working, but there was only one data set to review during the audit as the revised procedures were only launched immediately prior to the production of the February data. Seven observations were identified to help with the further development of the procedures. The Quality Management System is deficient of a number of processes required by ISO 9001:2008 and a further eight observations are made to provide guidance on the further development of the system should certification be required'.

These observations included the absence of evidence to demonstrate relatively simple practices, for example document control identification data such as author, issue date, version number, to more substantial observations such as: a lack of completed internal audit of VOA's system and lack of audit plan or defined process; an absence of a defined management review process within VOA, that would include a review of performance against the Service Level Agreements (SLAs). VOA told the Assessment team that it has now addressed those observations suggested for further development of its procedures, and expressed a willingness to seek ISO 9001 accreditation. ONS told us that it plans to seek ISO 9001 accreditation for its own processing of private rents data for Wales and Scotland, which is consistent with the scrutiny that ONS seeks for its own documentation of its other processes used to produce CPIH. It does not have plans to seek equivalent accreditation for VOA's private rents data for England since some work would require VOA to re-structure some of its processes, which would prove costly.

- 3.34 The Authority's *Quality Assurance of Administrative Data* standard requires that statistics producers ensure that they have put in place appropriate and adequate procedures to assure themselves and users of the quality of the administrative data that they use to produce statistics. Given the nature of the issues identified in 2014 with ONS and VOA's implementation of the methods used to produce OOH in CPIH, there is clearly a risk that a similar type of issue

⁵⁸ <https://www.statisticsauthority.gov.uk/monitoring-and-assessment/monitoring/administrative-data-and-official-statistics/>

could arise in future. ONS needs to demonstrate that it has embedded appropriate mechanisms in its quality assurance processes to minimise the risk of this happening in future, including sufficient external assurance of VOA's processes.

- 3.35 The Authority welcomes the actions that ONS has taken or plans to undertake as part of its quality assurance of the monthly supply of private rents administrative data. Given the nature of the issues arising in 2014 from VOA's processing of private rents data, coupled with the very unusual production arrangements, the Authority views that a 'medium risk' would be a more appropriate judgement for the VOA private rents data. This is because the high risk factors identified during 2014 in VOA's processing of the private rents data have been moderated through the use of safeguards, primarily through ONS and VOA's review of the processing code; the recent inclusion of automated checks in the data processing; and in ONS's receipt of monthly metrics to supplement VOA's submission of 'elementary aggregates'. In addition, the extent of the contribution of the OOH component to CPIH (accounting for 17.8 per cent of its weight in 2015; the 'private rents' index accounts for an additional 3.5 per cent of CPIH), and the significant contribution of the sample of private rents in England to the OOH component of CPIH reinforces a judgement to consider the level of concern as a 'medium risk'.
- 3.36 The Assessment team therefore considers that 'comprehensive' quality assurance would be appropriate for the VOA data, given the unusual production arrangements for this data source coupled with the high public interest in consumer price statistics. In this light, the Assessment team judges that there are several gaps in ONS's practices of quality assuring the administrative data sources for CPIH. These gaps range from a lack of external quality assurance of VOA's processing of the private rents data for England that provides strong assurance that VOA's processes are robust; to a need for ONS to strengthen its Service Level Agreements with its data suppliers, to include clearer information about ONS's expectation of the quality standards and quality assurance that should be applied as part of the agreement. These gaps are presented more fully in para A2.2 in **Annex 2** of this report.
- 3.37 As described in paras 3.9 and 3.10, ONS's level of engagement with VOA, the Welsh Government and the Scottish Government has been varied, and as part of demonstrating its assurance about the quality of these administrative data, ONS should establish sustained, collaborative engagement with these data suppliers. Furthermore, ONS has not presented evidence to demonstrate its judgement of the level of appropriate assurance for its other administrative data sources. Given the importance of CPIH as part of ONS's suite of consumer price statistics, and the nature of previous concerns arising from the implementation of the ONS's methodology to process the private rents data, the Authority considers that it is imperative that ONS works to publicly demonstrate that it has investigated, managed and communicated appropriate and sufficient quality assurance of its administrative data sources. ONS should also demonstrate that it has embedded practices for keeping its quality assurance arrangements under review, to provide reassurance to users and potential users of CPIH.

- 3.38 As part of the designation as National Statistics, ONS should strengthen its quality assurance arrangements for administrative data used to produce CPIH and publish information about them. ONS should:
- a) Work with its data suppliers to address those limitations in its quality assurance that have been identified in this assessment report; including strengthening its current Service Level Agreements and any other formal agreements with its data suppliers
 - b) Publish information about its strengthened quality assurance arrangements for its administrative data sources and its judgement about the quality of the statistics, taking account of what it has learned from reviewing and improving its existing quality assurance arrangements; and update its published Statement of Administrative Sources to clearly and accurately list all the administrative data sources and assurance arrangements used to produce CPIH
 - c) Embed within its operational procedures practices for keeping its quality assurance arrangements under review
 - d) Take into account the standards set out in the *Quality Assurance of Administrative Data* Regulatory Standard during its planning and development phase to introduce private rents administrative data for Northern Ireland into its production of CPIH⁵⁹

(Requirement 5).

- 3.39 In meeting this Requirement, we suggest that ONS consider the implications of the Authority's *Administrative Data Quality Assurance Toolkit*. We further suggest that ONS update its supporting documentation for CPIH to include specific reference to the latest development plans to implement private rents administrative data from NIHE in its production of CPIH, to keep its users informed of this development.

Monitoring CPIH over time

- 3.40 One element of the Authority's *Quality Assurance of Administrative Data* regulatory standard is for statistics producers to undertake comparisons between the administrative data and other relevant data sources. This is to ensure that movements in CPIH reflect genuine price changes, rather than being a function of the way that the methods are applied to produce the statistics. As highlighted elsewhere in this assessment report, the approach that ONS uses to estimate OOH is widely contested, and there is no international consensus over the 'best' way to measure OOH. There are legitimate arguments for each side of the debate in using the rental equivalence or net acquisitions approaches, or other methods such as the payment and narrow user cost approaches.
- 3.41 Given the relative infancy of ONS's measure of CPIH, and its measure of OOH specifically, coupled with the fact that CPIH has exhibited trends in its short history that are not always easily explained, we expect ONS to monitor and understand how the index behaves and compares to other data sources over a longer period of time, and to present a clear narrative to users explaining these

⁵⁹ In relation to Principle 4, Practice 3, and Protocol 3, Practice 5 of the *Code of Practice*

movements. This will be an essential element of ONS's work to quality assure the private rents administrative data, in order to instil greater user confidence in its measure of CPIH.

- 3.42 ONS has started to carry out this type of analysis. For example, Section 6 of its article *Improvements to the measurement of owner occupiers' housing costs and private housing rental prices* presents information about private rents growth over time compared with other sources of private rents prices, to attempt to explain some of the differences between IPRHP (see para 2.18) and other sources of private rents data⁶⁰. These alternative sources include government sources (such as the English Housing Survey) and other proprietary data sources of the private rental housing sector (such as Countrywide PLC). While this analysis helps to present some assurance regarding the trends shown in ONS's IPRHP compared with alternative sources, ONS presents a caveat that 'all of the evidence provided is open to interpretation. Although the evidence presented suggests a change in the composition and quality of the private rented market, it is difficult to quantify this and provide definitive evidence'. ONS therefore needs to carry out further work to understand and quantify differences between its administrative data and a range of alternative sources over a sustained period of time, as part of its definitive evidence to provide assurance and explanation of trends in CPIH.
- 3.43 ONS told us that it is currently in discussion with two organisations (Zoopla and Countrywide PLC) about its acquisition of unit-level rental price historic data, to replicate its production of the OOH index using these alternative sources, to provide further assurance of the validity of VOA's private rents data as a representative source of private rents prices in England. The Authority welcomes these developments and considers that they form a key element of ONS's quality assurance. A key user told us that it conducted its own analysis to replicate ONS's calculations to derive inflation rates for London using microdata from an alternative source, to assure itself about ONS's methods to estimate OOH. However, ONS should produce and publish its own systematic analysis, to assure all users and potential users of CPIH of the quality of its estimates of OOH. As part of this analysis, ONS should compare and contrast its OOH estimates using both the rental equivalence and net acquisitions approaches (see Requirement 7 in para 3.53), as well as comparing its OOH estimate with other data sources. ONS should also investigate whether it is possible to acquire more timely private rents price data from alternative sources as part of its monthly production process, to validate its monthly production of an OOH index for inclusion in CPIH, to supplement its analysis of historic private rents data.
- 3.44 As part of the designation of National Statistics, ONS should publish, and keep up-to-date, comparative analysis that demonstrates the quality and suitability of its estimate of Owner Occupiers' Housing costs in CPIH, on an ongoing basis and over a sustained period of time. This should include comparisons with as wide a range of other data sources as practicable, and include detailed explanation of the movement in CPIH over time compared to other sources, in

⁶⁰ ONS uses its IPRHP instead of its OOH index for comparison purposes, since while they are both based on the same sources of private rents prices, the IPRHP also includes furnished properties, and is therefore more comparable with these other sources

a way that provides robust reassurance to users that its estimate of Owner Occupiers' Housing costs over time can be understood and trusted by users⁶¹ (Requirement 6).

Continuous improvement to statistical processes

3.45 ONS's Prices Division has a dedicated development team that is responsible for investigating and developing improvements to ONS's production of consumer price statistics, including CPIH. This team is currently exploring the use of 'web-scraped'⁶² data and the use of supermarket 'scanner data', as part of a corporate ONS project exploring the use of 'Big Data'⁶³. This development to data collection practices has been recognised by both the *Johnson Review* and the *Bean Review* as very important for the future of economic statistics. ONS published updates on its research into the use of 'web-scraped' price data in June 2015⁶⁴ and September 2015⁶⁵. These articles present trial price indices using the 'web-scraped' data, descriptions of the methodologies used and an analysis of the indices as well as limitations of this data source. The September 2015 article presents some conclusions and ideas for future work including a commitment to explore ways to make use of the 'web-scraped' data, such as through automating aspects of price collection, or assisting in the collection of attribute information for hedonic quality adjustment⁶⁶, and to provide updates on future developments on an ad hoc basis. As described in para A2.3 in **Annex 2**, ONS is also liaising with the NIHE about its plans to collect private rent prices in Northern Ireland, for inclusion in CPIH in the near future.

Presentation and accessibility of statistics

Presentation of the statistics

3.46 ONS publishes CPIH monthly in *Consumer Price Inflation*, usually on the third Tuesday of every month. The statistical report also presents three other consumer price indices; CPI, RPI and RPIJ and their derivatives. ONS hosts a press conference on the morning of each release which allows the media to disseminate the high level statistics to a wider audience. The main numbers are also published on Facebook and Twitter at 09:30 and a recorded message facility is available 24 hours a day. The latest report is easily accessible from the front page of ONS's new website, which also links to an inflation price statistics landing page⁶⁷, providing more detail for interested users about how ONS's consumer price indices are measured. The commentary in the report

⁶¹ In relation to Principle 4, Practice 3 of the *Code of Practice*

⁶² This is the process of developing automated tools to collect prices from retailers' websites. The tools read the underlying HTML code and use the structure to identify price information.

⁶³ Big data is an evolving term that describes any voluminous amount of structured, semi-structured and unstructured data that has the potential to be mined for information.

⁶⁴ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/experimental-consumer-price-indices-using-web-scraped-data/index.html>

⁶⁵ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/research-indices-using-web-scraped-price-data/index.html>

⁶⁶ Hedonic quality adjustment refers to a method of adjusting prices whenever the characteristics of the products included in the 'basket of goods and services' change due to innovation or the introduction of completely new products.

⁶⁷ <http://www.ons.gov.uk/economy/inflationandpriceindices/bulletins/consumerpriceinflation/latest>

presents impartial explanations of the main drivers for movements in the indices, including CPIH.

- 3.47 The statistical report presents a section dedicated to CPIH, which states prominently that its National Statistics status has been removed and includes links to two of the articles relating to the developments to CPIH – *Improvements to the measurement of Owner Occupiers' Housing Costs and Private Housing Rental Prices* and *Revising the weight of Owner Occupiers' Housing in CPIH*. This section presents a chart showing the annual change in CPIH and the OOH index over time, compared with CPI, from January 2006 to the latest month. A footnote to the graph notes 'the time series for this chart will be gradually increased up to a time span of ten years as more periods of data become available'. Table D in the statistical report includes a helpful guide to the data and time series that are available for each index, allowing users to quickly find the data they need. The statistical report presents data tables at the level of division, group and class and also notes that detailed CPI data are now available quarterly, including the individual price quotes and item indices, but that 'no retailer or service provider will be able to be identified', but it does not make explicit that detailed data for the OOH component of CPIH are not available in the same way⁶⁸.

Re-referencing time series

- 3.48 ONS publishes CPIH as a monthly series back to January 2005. Previously, the reference date for CPIH was 2005=100, and all following CPIH indices produced are defined and published in relation to the reference index, to create a consistent measure of inflation over time. From November 2015, ONS published a notice in its *Consumer Price Inflation* statistical report advising users that it would be re-referencing both its CPI and CPIH indices and publishing with the reference date 2015=100 in its January 2016 publication (published in February 2016), resulting in changes to both historical indices. ONS states that 'regular re-referencing of indices is methodological good practice as it avoids rounding issues that can arise from small index values. Published CPI and CPIH inflation rates are calculated from unrounded indices, meaning that re-referencing will not impact on published inflation rates'. ONS published a back series for each revised index shortly before it published the January 2016 data, on 9 February 2016. We consider the early notification to users and the timely provision of revised back series to be good practice.
- 3.49 In its February 2015 *Consumer Price Inflation*, ONS presented revised weights for the OOH index so that it is aligned with historical National Accounts estimates and reflects, as far as possible, planned changes to the methodology for measuring imputed rents that will be introduced in Blue Book 2016⁶⁹. ONS published a supporting article, *Revising the weight of Owner Occupiers' Housing in CPIH*, setting out the forthcoming changes, and the impact of the revised weights on both the OOH component of CPIH, and on CPIH overall.

⁶⁸ ONS also does not publish detailed data for some prices that are collected centrally

⁶⁹ The Blue Book presents a full set of economic accounts (National Accounts) for the United Kingdom. They record and describe economic activity in the UK and as such are used to support the formulation and monitoring of economic and social policies.:

<http://www.ons.gov.uk/economy/grossdomesticproductgdp/compendium/unitedkingdomnationalaccountsthebluebook/2015-10-30>

3.50 In June 2015, ONS published an indicative OOH time series for the period 1988 to 2004, in response to user discussion on the RPI/CPI user group⁷⁰. ONS noted that ‘the time series is based on historical private rental data collected for the Consumer Prices Index (CPI) and Retail Prices Index (RPI). During the development of CPIH, these data were deemed not suitable for an official measure of CPIH due to the small sample size and limited number of variables available for stratification’. The time series data are not referenced in the *Consumer Price Inflation* statistical report, and are therefore not as readily accessible to users as they could be.

Promoting Comparability in UK and internationally

3.51 CPIH is constructed using the standard international ‘Classification of individual consumption by purpose’ (COICOP) classification system used by the CPI, including a measure of OOH. As described in para 2.2, the CPI is equivalent to the UK’s Harmonised Index of Consumer Prices (HICP), which is designed for international comparisons of consumer price inflation. *Consumer Price Inflation* presents prominent links to Eurostat’s HICP web page and database tables. These metadata⁷¹ explain the frameworks for data collection, data specifications and compliance monitoring processes that are applied. ONS also publishes tables presenting International comparisons of the HICP of EU countries for the period 1997 to 2015 in its monthly reference tables that accompany *Consumer Price Inflation*.

3.52 As described in para 2.3, the absence of OOH within the HICP has been a widely recognised weakness and the European Statistical System (ESS) has been considering for many years the most appropriate way forward to introduce OOH into HICP. On 1 February 2013 a European Regulation (no 93/2013) came into force, which required member states to provide a standalone OOH index, using the net acquisitions approach from the end of 2014. Since December 2014, ONS has published quarterly OOH estimates back to 2005 using the net acquisitions approach in reference tables⁷². ONS does not present any supporting commentary for this measure nor does it reference these tables in its monthly *Consumer Price Inflation* statistical report. ONS published an article⁷³ to accompany its first quarterly publication, which explains how it had chosen to use the rental equivalence approach to estimate OOH within CPIH, but does not explain the similarities or differences between the different OOH indices. ONS’s *Technical Manual* includes a lapsed reference to ONS’s plans to produce OOH using the net acquisitions approach. ONS told us that it presents this measure independently of its consumer price statistics to minimise user confusion. Given the large amount of user interest and debate surrounding ONS’s production of a measure representing OOH in CPIH, the Assessment team considers that ONS should be more transparent about its production of an alternative measure of OOH using the net

⁷⁰ <http://www.statsusernet.org.uk/communities/community-home?CommunityKey=3fb113ec-7c7f-424c-aad9-ae72f0a40f65>

⁷¹ http://ec.europa.eu/eurostat/cache/metadata/en/prc_hicp_esms.htm

⁷² Latest publication available on new website, previous versions are archived:

<http://www.ons.gov.uk/ons/rel/cpi/owner-occupied-housing-costs-using-the-net-acquisitions-approach/q2-2015/index.html>

⁷³ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/rel/cpi/owner-occupied-housing-costs-using-the-net-acquisitions-approach/article/index.html>

acquisitions approach, and should develop a narrative drawn from both OOH series to further help users' understanding of inflationary pressures in the UK.

3.53 As part of the designation of National Statistics, ONS should:

- a) Include more-explicit reference in *Consumer Price Inflation* and supporting documentation to its production of an alternative measure of Owner Occupiers' Housing costs for its quarterly submission to Eurostat, to enhance transparency of its production of consumer price statistics
- b) Develop an increased understanding of the difference between its measures of Owner Occupiers' Housing costs using both the rental equivalence and net acquisitions approaches, through an analysis of the different time series' and an attempt to explain the difference in the historical trends presented for each index, and publish this analysis as part of its wider work to monitor, understand and explain CPIH over time compared to other data sources and methods⁷⁴

(Requirement 7).

3.54 In meeting this Requirement, we suggest that ONS investigate the methods adopted by other countries to estimate OOH, and take these into account as part of its continuous improvement of CPIH statistics.

Public accessibility of data and microdata

3.55 As described in para 2.29, ONS publishes the supplementary data tables for CPIH in propriety forms such as Excel, and non propriety forms such as csv, xml file, structured text file and navidata, and as such they equate to a 3 star on the 5 star rating system adopted by the UK Government. In addition, a wide range of special aggregate datasets⁷⁵ were also available on data explorer on ONS's Beta site, which became ONS's new website on 26 February 2016.

3.56 The ONS Virtual Microdata Laboratory (VML)⁷⁶ is a facility for providing secure access to sensitive detailed data for statistical research purposes that serve the public good, where access is granted to Approved Researchers working on defined and approved projects⁷⁷. The VML also offers remote access to certain institutions, such as the Bank of England to its system through a Public Services Network connection, providing a reliable and safe mechanism to share data with a range of approved users. ONS told us that it has submitted CPI microdata to the VML in the past, but it does not currently, since the VML team in ONS has been reviewing how it stores the data and that it plans to re-start the data feed once this review is complete. ONS also told us that it would not be possible to submit VOA's private rents microdata in this way, due to data legislation preventing VOA from disclosing record-level data to ONS.

⁷⁴ In relation to Principle 4, Practices 2, 3 and 6 and Principle 8, Practice 1 of the *Code of Practice*

⁷⁵ <http://www.ons.gov.uk/searchdata?q=cpih>

⁷⁶ <http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/virtual-microdata-laboratory--vml/index.html>

⁷⁷ <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/about-ons/business-transparency/freedom-of-information/what-can-i-request/approved-researcher-accreditation.html>

Future access to microdata

- 3.57 As described in para 3.47, ONS publishes microdata for CPI, and for most components of CPIH on a quarterly basis. Some users told us that they viewed ONS's transparency of the price data that it uses to produce CPIH as a considerable strength, since it allows them to access and scrutinise prices for a number of components of CPIH to improve their understanding of movements in inflation.
- 3.58 These users expressed concern that the private rents microdata for England are not available in the same way, due to data legislation constraints preventing VOA from disclosing record-level information to ONS. This restriction places a greater emphasis on the need for ONS to apply appropriate quality assurance practices to the data that it receives from VOA, to provide assurance to its users on the robustness of the data and of VOA's production processes, and to embed these practices in its monthly production of CPIH. Whilst these quality assurance practices will go some way to providing assurance to users of the suitability of the data and the methods used to process the data, we welcome the development of a Government Data Sharing Policy⁷⁸ which will be developed in the next year, and which, if successful, could allow HMRC (and VOA as an executive agency of HMRC) greater ability to share microdata with ONS in the future⁷⁹.
- 3.59 As part of the designation as National Statistics, ONS should improve the accessibility of the CPIH data and microdata by:
- a) Ensuring that the CPIH data published monthly on its website and published in response to ad hoc requests are clearly labelled and accessible to users
 - b) Investigating the feasibility of it regularly submitting CPIH microdata to the VML, a practice that would be consistent with other ONS economic statistics
 - c) Continue its engagement with the Government Data Sharing Policy process with a view to gaining record-level administrative data from the Valuation Office Agency, to enhance its ability to quality assure the data⁸⁰
- (Requirement 8).

Pre-release access

- 3.60 On 9 May 2014 a breach of the statutory arrangements for pre-release access to official statistics was reported when *UK Trade* was distributed to 421 officials in HM Treasury and other departments who were not permitted to receive them, 40 minutes ahead of publication at 9.30am. In a letter to HM Treasury the UK Statistics Authority stated that 'it remains the Statistics Authority's view that the existence of pre-release access can undermine public confidence both in the statistical evidence and in the policies to which official statistics relate'. As part of the Authority's *Assessment of Statistics on UK Trade*⁸¹, published in April 2015, the Assessment team considered that the pre-release access list for

⁷⁸ <http://datasharing.org.uk/current-proposals/>

⁷⁹ <http://datasharing.org.uk/latest/>

⁸⁰ In relation to Principle 8, Practices 4, 5 and 6 and Protocol 3, Practice 3 of the *Code of Practice*

⁸¹ <https://www.statisticsauthority.gov.uk/publication/statistics-on-uk-trade/>

UK Trade remained excessively long and as part of UK Trade's designation as National Statistics, ONS was required to review the pre-release access list with a view to minimising the numbers of individuals included, and inform the Statistics Authority of the justification for each inclusion. ONS was due to report on its progress to address the Requirements in January 2016.

- 3.61 The published list⁸² of those with pre-release access to CPIH in November 2015 contains 60 individuals including the Prime Minister, 32 individuals from the Bank of England, 14 from HM Treasury and 7 from the Department for Business Innovation and Skills (BIS). ONS told us that it reviews its lists of those with pre-release access at a corporate level, as per the timetable set out by the National Statistician and Chair of the Authority – the last review was in April 2014. ONS told the Authority that it had reduced the number of individuals with pre-release access to ONS statistics by 21 per cent. Pre-release access to CPIH statistics was not reduced during this exercise. During this re-assessment's user feedback exercise, however, staff from the Bank of England told us that some individuals on the list no longer require pre-release access.
- 3.62 Considering the size of the pre-release access list for CPIH, that this list was not reduced during ONS's corporate exercise to review and reduce its pre-release access list for its range of National Statistics, and feedback to the Assessment team that some people on the list do not need pre-release access, there is clearly scope for ONS to review the way that it grants pre-release access to its statistics. ONS has not made it clear to the Assessment team how the current arrangements result in access that 'where to deny such access would, in the opinion of the person responsible, significantly impede— (i) the provision of responses to questions or the making of statements about an official statistic at or shortly after the time of publication of that statistic; or (ii) the taking of action before, at the time of or shortly after publication of that statistic' in line with the *Pre-release Access to Official Statistics Order 2008*⁸³.
- 3.63 As part of the designation as National Statistics, ONS should:
- a) Strengthen its process for determining whether pre-release access is still needed and its process for permitting new individuals to gain access to pre-release data
 - b) Review the list of those with pre-release access for CPIH, with a view to minimising the numbers of individuals included in line with the Pre-release Access Order, and inform the Authority of the justification for each inclusion⁸⁴
- (Requirement 9).

Statistical Planning and Resources

- 3.64 ONS presented evidence to the Assessment team of its 2015/16 statistical plans for the production and development of CPIH, which were developed in January 2015. The plans present strategic aims that are aligned with ONS's business objectives and include the provision for monitoring the measurement of OOH and private rents prices; the implementation of recommendations from

⁸² <http://www.ons.gov.uk/ons/rel/cpi/consumer-price-indices/october-2015/index.html>

⁸³ http://www.legislation.gov.uk/uksi/2008/2998/pdfs/uksi_20082998_en.pdf

⁸⁴ In relation to Protocol 2, Practice 7 of the *Code of Practice*

the *Johnson Review*; and investigation into alternative data sources for consumer price statistics; and compliance with Eurostat regulation relating to HICP. ONS has not published these plans.

3.65 ONS's development of methods to estimate OOH during 2011 and 2012, and related user engagement, appear to have been well-planned by ONS, with dedicated resources allocated to both strands of work. In April 2013, ONS first published CPIH as an experimental statistic and it formed part of ONS's suite of monthly consumer price inflation measures. Once CPIH was designated as a National Statistic in late 2013 and moved into a 'business as usual' phase of production, it appears that ONS significantly reduced its dedicated resource for continued research, planning and user insight into estimating OOH and to monitor CPIH. As a result, ONS did not provide sufficient oversight and monitoring of its production of CPIH and this could have impacted on the time taken for ONS to identify potential flaws in the implementation of the methodology. Recognising this, ONS told us that it has conducted a review exercise with VOA and with colleagues in Prices Division, to identify lessons learned from the issues identified with CPIH. ONS should incorporate these lessons into its production practices and future statistical plans, where resources and prioritisation of work are considered in business planning, particularly for development projects such as the future use of 'web-scraped' or scanner data.

3.66 ONS has a mix of statistical and operational staff involved in the production of CPIH, including a well-established development team that is responsible for investigating and developing improvements to ONS's production of consumer price statistics, including CPIH. Although current resourcing for the development of CPIH appears adequate, an investment of resources will be necessary to address the following:

- To address the Requirements from this assessment report, particularly in improving the quality and accessibility of published documentation and in ONS's quality assurance of administrative data
- To regularly monitor and understand the processing of private rents data in particular, whether these data are comparable to other sources of private rents data; and to produce supporting analysis and explanation of CPIH that facilitates users' understanding of the statistics
- To integrate user feedback into its operations in order to enhance transparency in its development of CPIH, especially in relation to Prices Division's programme of planned developments
- To support ONS to take the lead in improving data quality and continued future development of CPIH, for example, by exploiting 'web-scraped' data and scanner data and other administrative data sources
- The development of its processing systems. ONS compiles much of the data for CPIH using a computer system that ONS told us is coming to the end of its useful life, which includes some manual index entry to bring the OOH elements together. ONS plans to migrate these processes to an existing Central ONS Repository for Data (CORD) system. The discovery phase of this project was completed in December 2015 and the development of CORD is expected to start in April 2016. Additional

resources are also likely to be needed to manage the transition between computer systems

- To address outcomes from the Authority's *Measuring Consumer Prices* consultation, the *Johnson Review* and to address recommended actions from the *Bean Review*

3.67 These numerous demands on ONS staff to develop and disseminate consumer price statistics, and establish the legitimacy of CPIH, will require significant resource. There will be a need for ONS to manage resource allocation for CPIH coherently and in consideration of other critical work resulting from the Authority's recent consultation, the *Johnson Review* and the *Bean Review*, alongside planned improvements and continuous development projects. This is especially important given the very high profile of consumer price statistics, and the potential future importance of CPIH. ONS should demonstrate in its business plans clear evidence of the resources required to address this wide range of work, with appropriate prioritisation of these resources.

3.68 As part of the designation as National Statistics, ONS should:

- a) Allocate adequate resources to the production of CPIH to take account of the Requirements from this Assessment report, and the increasing importance of CPIH as an economic indicator
- b) Publish an annual work programme, which includes a clear demonstration of the strategic direction of CPIH in a coherent and comprehensive manner, taking into account users' views
- c) Incorporate in all future business plans work to review published documentation to ensure that it enables users to keep abreast of developments to CPIH and to easily locate and access this documentation.
- d) Ensure that records are maintained and published showing the relationship between the statistical planning process, the work programme, the allocation of resources and the outcomes relating to the development of CPIH⁸⁵

(Requirement 10).

⁸⁵ In relation to Principle 7, Practices 1, 3 and 4 of the *Code of Practice*

Annex 1: Summary of assessment process and users' views

A1.1 This re-assessment was conducted from September 2015 to January 2016.

A1.2 The Assessment team – Sara James, Caroline Jones, Tegwen Green and Johanna Hutchinson – agreed the scope of and timetable for this assessment with representatives of ONS in September 2015. The Written Evidence for Assessment was provided on 30 August 2015. The Assessment team subsequently met ONS during October and December 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

A1.3 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.

A1.4 The Assessment Team spoke directly with 5 users or organisations. In addition, the Assessment team received 30 email responses from the user consultation, however 15 of these responses stated that they did not use CPIH and thus could not provide further comment. Of the 20 user responses received, 8 stated that they used CPIH in some form. The respondents were grouped as follows:

Individuals	6
Charity	3
Central Government	3
Office for National Statistics	1
Central Bank	1
Banking/finance	4
Special interest user group	1
Professional Bodies/Trade Associations	1

Key documents/links provided

Written Evidence for Assessment document

- Written Evidence for Assessment documents completed by ONS – organisational evidence and output evidence
- [Consumer Price Inflation – October 2015](#)
- Minutes of Assessment team meetings with users and data suppliers, and email responses

Annex 2: ONS's quality assurance of its administrative data

A2.1 In its evidence submitted to the Authority to support this re-assessment, ONS told us that it applied the following practices to quality assure its private rents administrative data:

- ONS's application of a range of quality assurance and data validation processes to the VOA data as they are entered onto the system; a manager audit of hardcopy versus data entered, with a sample follow-up with sources and visits; and monthly checks such as outlier checks, descriptive errors and removal of duplicates
- ONS working with VOA during 2014 to improve VOA's processing and methods. ONS representatives were seconded to VOA to quality assure VOA's revisions to the way it processed the data and implemented the methodology. ONS methodologists were also responsible for quality assuring VOA's processing code
- VOA's production of metrics to supplement the OOH 'elementary aggregates' that it submits to ONS monthly. The metrics include summary diagnostics which are summarised in **Figure 6** below
- VOA establishing its own methodology team during 2014, to support its statistical production processes
- ONS establishing Service Level Agreements (SLAs) between itself and the VOA, Welsh Government, Scottish Government regarding the provision of the data by pre-set dates each month. The SLAs are reviewed annually
- ONS is represented by a statistician from Prices Division at the VOA Official Statistics Steering Group which considers the VOA statistics annual work programme on its statistics publications and its adherence to the *Code of Practice*. ONS statisticians also hold additional ad hoc discussions with VOA statisticians
- ONS maintaining working relationships with representatives from the Welsh and Scottish Governments through email or telephone contact on a monthly basis. ONS also met with Welsh rent officers in April 2015, and plans to hold a similar meeting for rent officers in Scotland in the near future
- ONS published analysis⁸⁶ in September 2015 which contrasts and attempts to explain differences in trends between ONS's OOH index and VOA's *PRM* statistics (see para 2.10), which are based on the same underlying data. Some users we spoke to welcomed this analysis

⁸⁶ Presented in *Explaining private rental growth*

Figure 6: Illustration of metrics produced by VOA in its monthly processing of private rents data

Summary diagnostics
Sample size
Substitution pool size
Number of updates
Number of comparable replacements
Number of non comparable replacements
Number of records where non comparable replacement is not possible

Source: ONS

A2.2 The Assessment team identified several areas where there are gaps in ONS's practices for quality assuring the administrative data sources for CPIH, considering the need for 'comprehensive' assurance of the private rents data for England, and 'enhanced' assurance of the other administrative data sources:

VOA's private rents data for England:

- There is a lack of external quality assurance of VOA's processing of the private rents data for England (see para 3.33) that provides strong assurance that processes are robust. ONS has not formally requested that VOA seek ISO 9001 accreditation and has not sought alternative external assurance of VOA's processes
- There appeared to be a lack of established regular communication between ONS and VOA statisticians, and rent officers in England (data collectors). The statistics teams in ONS and VOA have now established monthly meetings, along with periodic more in-depth review to monitor the SLA
- The SLA between ONS and VOA does not specify VOA's monthly sign-off process for the data that it submits to ONS, nor does it include information about the quality standards or quality assurance mechanisms that ONS expects VOA to apply, or any requirement for VOA to report any quality measures each month beyond the metrics listed in **Figure 6** above
- While ONS has presented some description of the potential sources of bias and error in the VOA's administrative data, it has not provided a detailed description of the implications for the quality of the CPIH, including the impact of any changes in the context or data collection
- ONS presents some information about the strengths and limitations of the private rents data source and constraints on use for producing statistics, such as the lack of requirement that all private rental properties must be 'followed up' after a certain period of time to check whether the rental price has changed. ONS has developed a methodology for processing this data to account for this limitation. But ONS does not explain the likely degree of residual risk to the quality of the administrative private rents data, once it has attempted to account for the limitations of the data
- It is unclear how ONS and VOA will monitor the metrics that VOA submits to ONS to supplement its data submission and whether ONS has defined any triggers to indicate where further investigation into the data is required

- ONS has not communicated its plans to repeat its analysis comparing its OOH and IPRHP indices and VOA's own PRM statistics, to investigate whether all the difference between the annual price change in these two sources can be explained, and to monitor these differences on an ongoing basis

Private rents data for Wales and Scotland

- There is currently no ISO 9001 accreditation for ONS's processing of the private rents data supplied by the Welsh Government and the Scottish Government. ONS told us that it plans to seek accreditation
- While ONS has documented the operational context of the collection of rents in Wales and Scotland, it has not documented a process map of the Welsh Government and the Scottish Government's data collection processes nor the quality assurance processes conducted by rent officers during their collection of private rents prices
- ONS has not described the role of relevant information management or governance groups in data quality management
- The SLAs between ONS and the Welsh Government and the Scottish Government do not include information about the quality standards or quality assurance mechanisms that ONS expects the data suppliers to apply
- ONS has not explained whether there is any bias relating to the fact that rent officers in Scotland collect advertised rather than achieved rent prices

Other administrative data sources used to produce CPIH

- ONS has not presented evidence to the Assessment team of its judgement of the required level of assurance for its other administrative data sources, with supporting rationale; or evidence of actions that it has taken to achieve compliance with its chosen level of compliance; and evidence that it has embedded the practices for keeping its quality assurance under review.

Private rents data for Northern Ireland

A2.3 As described in para 2.17, ONS does not currently use administrative private rents data for Northern Ireland for inclusion in CPIH. ONS is currently liaising with NIHE about NIHE's plans to collect private rent prices in Northern Ireland, for inclusion in CPIH⁸⁷ in the near future. The Authority welcomes this development. ONS includes some reference to this development in its article *Improvements to the measurement of owner occupiers' housing costs and private housing rental prices*, but does not include explicit reference to the likely time scales for implementation. ONS's publication of IPRHP for the period July to September 2015⁸⁸, published on 29 October 2015, states that 'further progress will be provided in the January 2016 IPHRP, with Northern Ireland data hopefully included later in the year'.

⁸⁷ And its inclusion in ONS's experimental IPRHP index

⁸⁸ http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171778_420557.pdf

