

## **CPIH Announcement 14 August 2014 - Explanatory Note**

This document provides the preliminary findings of recent work by the Office for National Statistics (ONS) and the Valuation Office Agency (VOA), looking at the measure of owner occupiers' housing costs (OOH) in CPIH. The work has assessed the implementation of the methods that generate the elementary indices used in compiling the OOH component of CPIH. These methods were set out in the article accompanying the release of the index<sup>1</sup>.

The same data are used to measure private rental prices in the suite of consumer price inflation statistics, however the lower weighting applied to these prices mean that the findings set out in this note would not have an appreciable impact on CPI, RPI or RPIJ.

The document:

- sets out the background to the issues.
- details the old, current and future methods for the calculation of OOH and private rents highlighting the issues with each.
- sets out the likely impact of the improvements on CPIH.
- provides some conclusions and outlines next steps.

### **Background**

In early 2013, ONS launched CPIH, a new measure of consumer price inflation that included owner occupiers' housing costs (OOH). These are the costs of housing services associated with owning, maintaining and living in one's own home. OOH does not include costs such as utility bills, minor repairs and maintenance, which are included separately in consumer price indices. CPIH uses an internationally recognised approach called rental equivalence to measure OOH. Rental equivalence uses the rent paid for an equivalent house 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?"

Prior to 2013, the development of a measure of OOH had been taking place for a number of years. The initial driver was a desire by the European Statistical System to include OOH into the Harmonised Index of Consumer Prices (HICP). However, the pace of European development was slower than met UK needs and ONS decided that it should aim to develop a measure independently of Europe while still playing a leading part in the European development programme. The development of this measure was one of the first issues that the Consumer Prices Advisory Committee (CPAC) was asked to advise upon when it was formed in 2009. The decision to move ahead of Europe was welcomed by UK stakeholders and also became a commitment of the coalition government in their programme for government<sup>2</sup>.

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<sup>1</sup> <http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/introducing-the-new-cpih-measure-of-consumer-price-inflation.pdf>

<sup>2</sup> [http://www.direct.gov.uk/prod\\_consum\\_dg/groups/dg\\_digitalassets/@dg/@en/documents/digitalasset/dg\\_187876.pdf](http://www.direct.gov.uk/prod_consum_dg/groups/dg_digitalassets/@dg/@en/documents/digitalasset/dg_187876.pdf)

Numerous internationally recognised methods for measuring OOH were considered though this was narrowed to two viable choices – the net acquisitions and rental equivalence methods, by the time ONS reported to the UK Statistics Authority in September 2010. Over the following eighteen months ONS undertook a work programme to develop robust OOH indices using these two methods. The Authority Board made this work a top priority for ONS at its September 2010 meeting<sup>3</sup>.

In developing the rental equivalence method, ONS determined that the existing source of private rental data information (the key component of the method) used in the Consumer Prices Index (CPI) and Retail Prices Index (RPI) was not suitable for creating a robust measure of OOH. This tallied with some previous concerns from Eurostat and ONS staff (described in the ‘Old method’ section below) over the existing method of collecting private rental prices.

Research by ONS identified that rental data collected by the Valuation Office Agency (VOA) for England, plus Welsh and Scottish Governments provided a solid basis for the measurement of OOH and could also improve the measurement of private rental prices in the CPI and RPI. These data were collected by the respective bodies for the purposes of calculating the Local Housing Allowance. From an OOH perspective, key advantages of these data over existing private rental data included a far larger number of quotes (hundreds of thousands per month compared with around 1,500 in the existing private rents sample) and improved metadata which would allow the drawing and weighting of a sample that reflected the composition of the owner occupiers’ housing market. ONS was able to gain agreements from the Welsh and Scottish governments to have access to their microdata. This enabled ONS to develop OOH indices from these data in-house. However, the legislation governing the VOA<sup>4</sup> meant that it was not possible for them to share microdata with ONS. A compromise was reached whereby ONS developed a method for calculating OOH and private rental indices. ONS staff worked with VOA to implement this into their systems.

During summer 2012, ONS ran a public consultation on the preferred method of OOH. Respondents to the consultation were split between those who preferred rental equivalence and net acquisitions. Following this consultation ONS recommended that the rental equivalence method should be adopted. The board of the UK Statistics Authority approved this recommendation. The Authority also approved the use of these new sources of data to measure private rental prices in all consumer price inflation measures. CPIH (the new measure including OOH using the rental equivalence method) was launched in early 2013. Concurrently, these new data were introduced to measure private rental prices.

CPIH was assessed and CPI re-assessed for National Statistics status during the first half of 2013. The assessment report<sup>5</sup> was published on 25 July 2013 and following the implementation of requirements, CPIH was granted National Statistics status on 21 November 2013<sup>6</sup>.

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<sup>3</sup> <http://www.statisticsauthority.gov.uk/about-the-authority/board-and-committees-documentation/minutes-and-papers/papers-from-uk-statistics-authority-meeting-on-24-september-2010.pdf> para 9.1 of the minutes.

<sup>4</sup> Commissioners of Revenue and Customs Act 2005

<sup>5</sup> <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/assessment-report-257--statistics-on-consumer-price-inflation.pdf>

<sup>6</sup> <http://www.statisticsauthority.gov.uk/assessment/assessment-reports/confirmation-of-designation-letters/letter-of-confirmation-as-national-statistics---assessment-report-257.pdf>

These data were also used as the basis for the Index of Private Rental Housing Prices (IPHRP), a new experimental index of private rental prices at a sub-UK level. The IPHRP was developed in response to user demand for improved statistics on the private rental market as identified by the National Statistician's review of housing market statistics.

Following the adoption of these new data, a number of users and stakeholders have questioned the different price evolution shown by the new ONS measures of private rental prices when compared to other sources of information on private rental prices. Particular focus has been given to the difference in the change in the average rental prices published by VOA and the ONS figures – both of which are based on the same underlying data source. These queries have resulted in some questioning the validity of the method used to measure OOH in CPIH.

ONS has been working with VOA to understand these differences and to determine whether any improvements to the methods used in the ONS measures are possible. This work has identified a number of areas where improvements in the practical implementations of the methods are possible.

### **Old Method**

This section describes the method used to measure private rental prices in the CPI and RPI for the whole of the UK prior to 2013. This method is still used to measure OOH and private rental prices for Northern Ireland. In expenditure weight terms these account for approximately 2.0% and 1.3% of the weight of the whole UK measures respectively.

Under this method, private rental data were collected from letting agents in 141 locations throughout the UK by ONS contracted price collectors as part of the main ONS local price collection. In each location rental prices for six furnished and six unfurnished properties were collected once a quarter. Different locations were allocated different months in the quarter, so some data were collected each month. Prices were rolled forward during non-collection months.

A commodity review conducted by ONS price auditors and work by the European HICP Implementation Group on Quality Adjustment and Sampling<sup>7</sup> in 2009 suggested that there was a need to improve the quality of the private rents series used in the CPI and RPI. Areas identified for improvement included the coverage of the index, the stratification and quality adjustment of the price quotes collected and ensuring price quotes collected were for actual rental prices paid as opposed to advertised rents.

### **Current Method**

This section describes the methods used to measure OOH for England in CPIH for the entire back series to 2005. Comparable methods have been used for Welsh and Scottish OOH estimates from 2009 and mid 2010 respectively. This method has also been used, with a much smaller weighting, to measure private rental prices in the CPI, RPI, CPIH and RPIJ since 2013.

Each January, a sample of properties is drawn from the VOA data. In practice this will mean that virtually all properties included in the dataset at this point of the year will be included in the private

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<sup>7</sup>Destatis, February 2009, CENEX – HICP Quality Adjustment: Rents. Paper prepared for the Second Implementation Group on Quality Adjustment and Sampling, 8 December 2009

rents sample. Only unfurnished properties are included in the OOH sample as they are more representative of the owner occupiers' market (purchased furniture being already included in the indices). Data are stratified by property type (detached, semi-detached etc) and the nine English regions. Strata weights are calculated using housing stock data provided by the Department for Communities and Local Government combined with average rental price information from VOA. The split between furnished and unfurnished properties for private rents are derived from the Living Costs and Food Survey. Within each stratum an index is calculated using standard elementary aggregate formulae (the geometric mean in the case of all measures apart from RPI where the arithmetic average of price relatives is used). Prices remain in the sample until a new price is received for the property, or the price has been in the sample for 18 months – whichever comes first. When a price is no longer valid, a comparable property (determined by property type, postcode sector, number of bedrooms and furnished status) is sought from those currently not in the sample. Properties for which there is no comparable property available using the criteria listed above, are excluded from future months' calculations.

Investigations by VOA and ONS have identified that, while the current methods are sound in theory the practical implementation has some shortcomings. In summary, improvements might be made in the replacement of properties in the sample. Because there is no operational requirement to do so, currently VOA has no formal procedures in place for following up properties once they are included in the data. Therefore an assumption has to be made of how long a price should remain valid should a new price not be received. Currently this assumption has been set at 18 months - a figure based on a report from the Association of Residential Letting Agents (ARLA) which stated that 71% of tenancies last between 13 and 24 months<sup>8</sup>. Recent analysis of the VOA data suggests that the period of this assumption should be shortened. Shortening the period would result in more prices having to be matched or imputed as described below.

When a property is dropped from the sample, a process is run within the data to match the existing quote to a property with sufficiently similar characteristics. Analysis of the data suggests that this process is not as efficient as it could be, resulting in suitable replacement properties being excluded from the sample and some duplication of matches.

Should it not be possible to find a comparable property for matching then the price history for that property is dropped from the index for the remainder of the year. This means that the sample size falls through the year and the influence of properties with no price change have a larger impact on the index.

## **Improved Method**

This section describes the improvements to current practices that ONS and VOA are assessing.

In total there are four areas of improvement. First, the matching process for comparable replacements could be improved meaning that the viable matches that are rejected by the current process would be used in future.

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<sup>8</sup> <http://www.ons.gov.uk/ons/guide-method/user-guidance/prices/cpi-and-rpi/introducing-the-new-cpih-measure-of-consumer-price-inflation.pdf> page 4

Second, if a comparable match cannot be found, a new property could be included in the index as a non-comparable replacement. A base price for the new property would be imputed from the price movements of comparable properties, this approach is in line with practice for other components of consumer price indices.

Third, the initial sample size used could be reduced to leave a sufficient supply of replacement properties to be used as comparable or non comparable replacements throughout the year. The optimal sample size, which should strike the right balance between a robust initial sample and the maintenance of the sample over the year, will be determined in consultation with ONS sampling methodologists.

Finally, the assumed length of a contract will be re-assessed using actual VOA data as a basis. This is likely to result in a shorter assumed contract length.

The combined impact of these improvements is that the index would be more responsive to rental price changes than at present. The benefits of the current method over the old private rental method (greater sample size, improved property attribution) will be maintained.

## **Impact**

ONS has produced preliminary estimates of the impact of the improvements to the matching and imputation processes, as well as reducing the initial sample size. These are based on data provided by VOA and include a number of assumptions about the impact of the improvements on Welsh and Scottish data where comparable methods used to the VOA data for England but with a far smaller weight in the indices. In summary:

- Estimates of the CPIH annual rate of growth rate could be approximately 0.2 percentage points higher than currently estimated.
- The lower weighting applied to private rental prices mean that improvements on this scale would not have an appreciable impact on CPI, RPI or RPIJ.

## **Conclusions**

The experience gained from 'live running' has allowed VOA and ONS to gather a more complete understanding of the statistical properties of this administrative data source. There is a clear need to complete this work and establish the most effective way to implement these methods.

By mid-September ONS and VOA expect to be in a position to advise further on the options for improvement set out in this document, and the likely impact any improvements might have. The National Statistician will write again to the Chair of the UK Statistics Authority and seek the views of users and key stakeholders before any changes are made.

It may be several months before this process is complete. ONS will continue to produce CPIH to the pre-announced schedule and release as currently, while further work is underway.

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