

Article

Measures of owner occupiers' housing costs, UK: July to September 2018

Understanding the different approaches of measuring owner occupiers' housing costs (OOH) associated with owning, maintaining and living in one's own home.

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1 . Main points

- Owner occupiers' housing costs (OOH) in the UK according to the rental equivalence approach have grown by 1.1% in Quarter 3 (July to Sept) 2018 compared with the corresponding quarter of the previous year.
- OOH according to the net acquisitions approach have grown by 2.6% in Quarter 3 2018 compared with the corresponding quarter of the previous year.
- OOH according to the payments approach experienced growth of 3.6% in Quarter 3 2018 compared with the corresponding quarter of the previous year.

2 . Things you need to know about this release

Owner occupiers' housing costs (OOH) are the costs of housing services associated with owning, maintaining and living in one's own home. This is distinct from the cost of purchasing a house, which is partly for the accumulation of wealth and partly for housing services.

In this article, we focus on three approaches to measuring OOH: payments, rental equivalence and net acquisitions, and evaluate the performance of the different measures over time, in prevailing economic conditions. The series will be updated on a quarterly basis. We invite you to submit feedback on this release to cpi@ons.gov.uk.

The first article in the series provides more information about the [different approaches to measuring owner occupiers' housing costs](#) to aid your understanding of the differences in concept and underlying methodology. There have also been a number of "Spotlight" sections produced, which focus in on a particular topic. For a list of subjects covered, please see [Annex 1](#). We will continue to produce these Spotlights as and when there is need.

The manner in which revisions to the House Price Index (HPI) and Producer Price Index (PPI) are incorporated into the quarterly estimates OOH(net acquisitions) and OOH(payments) has changed. These changes have been incorporated into this article. The new revisions policy for net acquisitions and payments estimates will enable all revisions to the HPI and PPI to be included in the quarterly estimates to OOH(net acquisitions) and OOH (payments). The impact of this change on the series is small. The [spotlight section](#) in this article provides more details on the changes to the revisions policy for our OOH publication and assesses their impact over the series from Quarter 1 (Jan to Mar) 2005 to Quarter 3 (July to Sept) 2018.

The rental equivalence approach is a component of the Consumer Prices Index including owner occupiers' housing costs (CPIH), our lead measure of inflation and a National Statistic, whereas the payments approach and net acquisitions are both experimental indices and therefore we would caution against any use other than for research purposes. More information on the methodology for each approach can also be found in the [CPIH compendium](#).

3 . Results

Figure 1 presents the cumulative indices for each approach and Figure 2 shows the year-on-year quarterly growth rates. These figures take into account the changes to the revisions policy discussed previously. Figure 1 shows that the index for the net acquisitions approach (OOH(NA)) has been consistently higher than the payments approach (OOH(payments)) and rental equivalence approach (OOH(RE)) since Quarter 1 (Jan to Mar) 2009 and Quarter 4 (Oct to Dec) 2009 respectively.

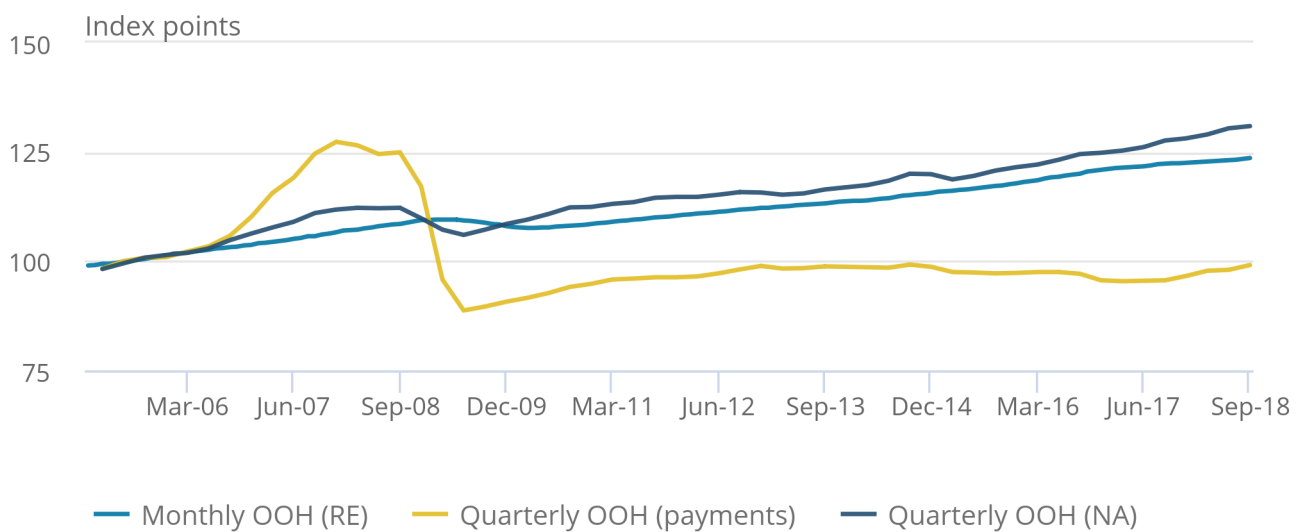
The year-on-year quarterly growth rate of OOH(payments) was 3.6% in Quarter 3 (July to Sept) of 2018. This is the highest growth rate of OOH(payments) since Quarter 1 2011. The year-on-year quarterly growth rate of OOH (NA) was 2.6% in the third quarter of 2018. The year-on-year quarterly growth rate of OOH(RE) remained unchanged at 1.1% in Quarter 3 2018.

Figure 1: OOH rental equivalence (RE), OOH net acquisitions (NA) and OOH (payments) indices

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 3 (July to Sept) 2018

Figure 1: OOH rental equivalence (RE), OOH net acquisitions (NA) and OOH (payments) indices

UK, Quarter 1 (Jan to Mar) 2005 to Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

Notes:

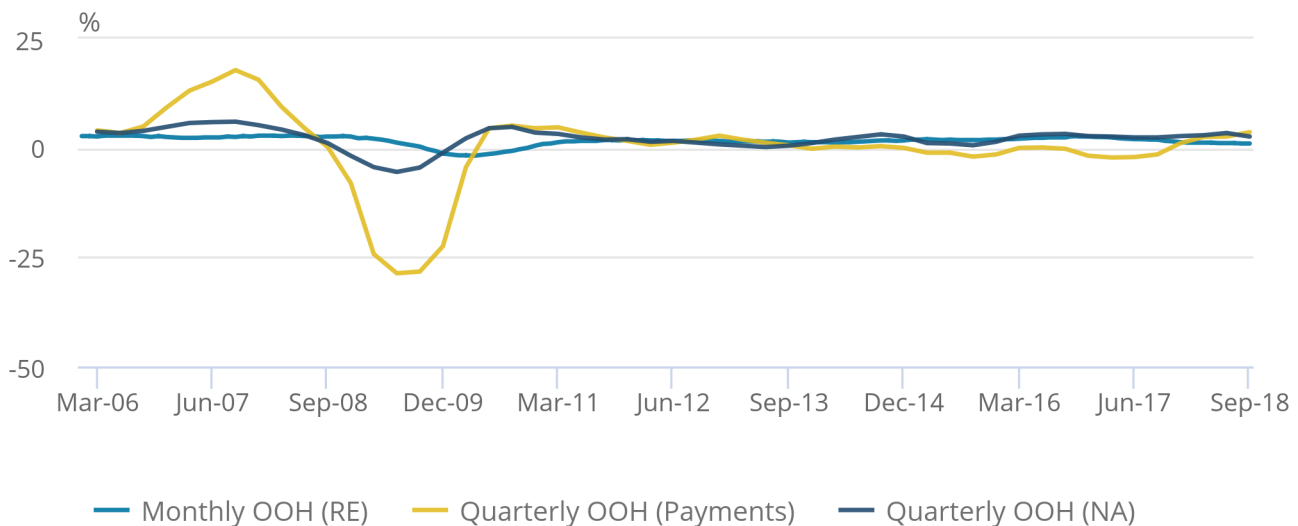
1. Q1 refers to Quarter 1 (Jan to Mar); Q2 refers to Quarter 2 (Apr to June); Q3 refers to Quarter 3 (July to Sept); and Q4 refers to Quarter 4 (Oct to Dec).

Figure 2: OOH rental equivalence (RE), OOH net acquisitions (NA) and OOH (payments) quarter on corresponding quarter of previous year growth rate

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018

Figure 2: OOH rental equivalence (RE), OOH net acquisitions (NA) and OOH (payments) quarter on corresponding quarter of previous year growth rate

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

Notes:

1. Q1 refers to Quarter 1 (Jan to Mar); Q2 refers to Quarter 2 (Apr to June); Q3 refers to Quarter 3 (July to Sept); and Q4 refers to Quarter 4 (Oct to Dec).

4 . What are the main contributions to these results?

This section shows which components are contributing the most to the year-on-year quarterly growth rate for the payments approach (payments) and the net acquisitions approach (NA). Because of the methodology used to calculate the rental equivalence approach of owner occupiers' housing costs – OOH(RE) – it is not possible to present a contributions chart for this approach. This is mainly because OOH(RE) is not constructed using a set of sub-indices that measure different concepts (for example, maintenance costs and Stamp Duty), but instead is aggregated from indices measuring the same concept across regions.

Payments approach

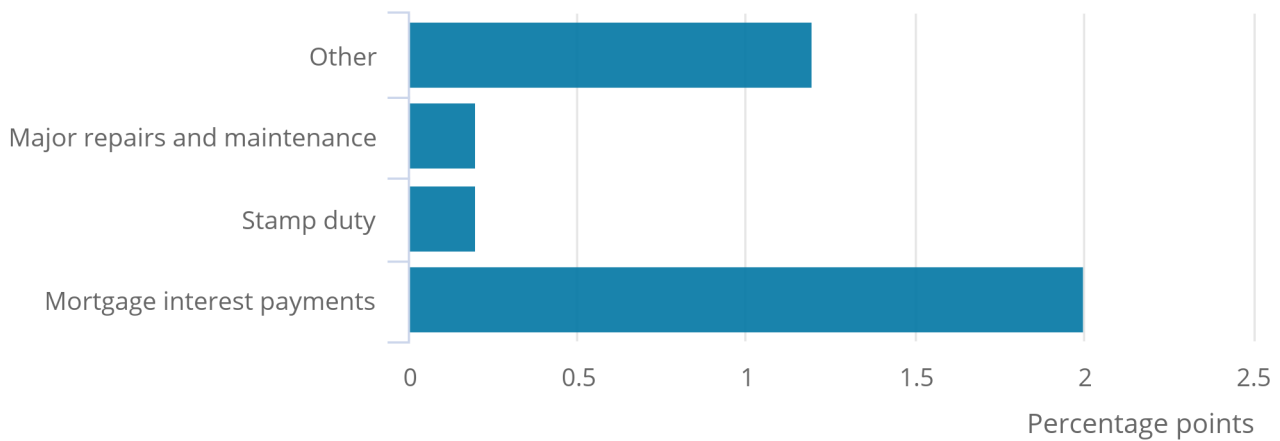
Figure 3 presents the contributions of the OOH(payments) sub-indices to the quarterly growth rate of OOH (payments). Mortgage interest payments contributed the most to the quarterly growth rate of OOH(payments) in Quarter 3 (July to Sept) 2018 with a contribution of 2.0 percentage points. Major repairs and maintenance continued to make a positive contribution in Quarter 3 2018 at 0.2 percentage points. Stamp Duty also contributed 0.2 percentage points in the third quarter of 2018.

Figure 3: Contributions to year-on-year quarterly growth rate of OOH (payments) from component sub-indices

UK, Quarter 3 (July to Sept) 2018

Figure 3: Contributions to year-on-year quarterly growth rate of OOH (payments) from component sub-indices

UK, Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

Notes:

1. Contributions may not sum due to rounding. Other includes dwelling insurance, ground rent, estate agent fees, home-buyers survey and house conveyancing.
2. Q1 refers to Quarter 1 (Jan to Mar); Q2 refers to Quarter 2 (Apr to June); Q3 refers to Quarter 3 (July to Sept); and Q4 refers to Quarter 4 (Oct to Dec).

Net acquisitions approach

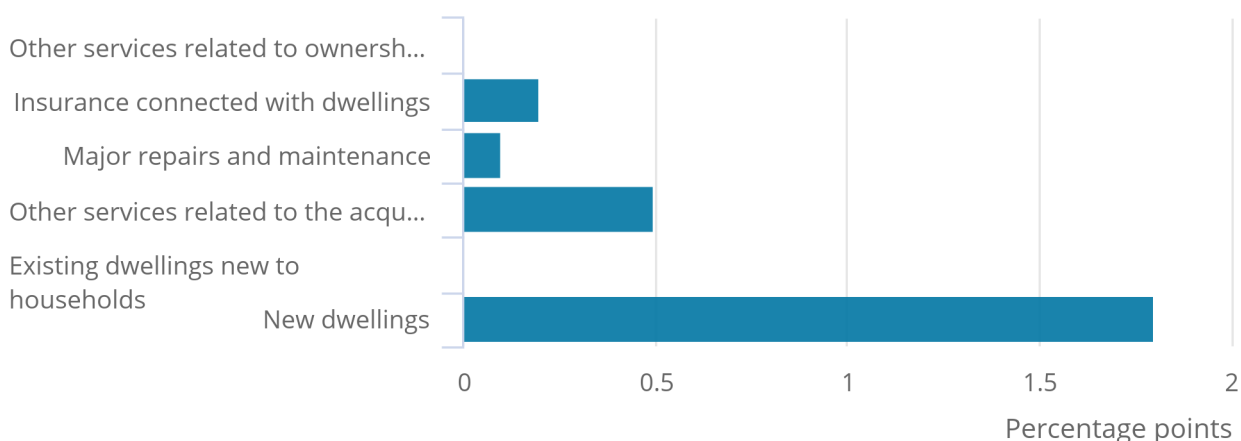
Figure 4 shows the contributions of the OOH(NA) sub-indices to the year-on-year quarterly growth rate of OOH (NA) in Quarter 3 2018. New dwellings remained the largest contributor to the quarterly growth rate of OOH(NA) at 1.8 percentage points. The components “existing dwellings new to households” and “other services related to ownership of dwellings” are not included due to lack of data and therefore contribute 0 percentage points.

Figure 4: Contributions to the year-on-year quarterly growth rate of OOH net acquisitions (NA) from component sub-indices

UK, Quarter 3 (July to Sept) 2018

Figure 4: Contributions to the year-on-year quarterly growth rate of OOH net acquisitions (NA) from component sub-indices

UK, Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

Notes:

- Contributions may not sum due to rounding. New Dwellings includes self-builds and renovations and the acquisition of new dwellings.
- Q1 refers to Quarter 1 (Jan to Mar); Q2 refers to Quarter 2 (Apr to June); Q3 refers to Quarter 3 (July to Sept); and Q4 refers to Quarter 4 (Oct to Dec).

5 . Different approaches to measuring OOH

The rental equivalence approach – OOH(RE) – uses the rent paid for an equivalent house as an estimate of the cost of housing services that are consumed. In other words, we value housing services by looking at the cost of the next best alternative to home ownership, namely renting a property. Importantly, OOH(RE) does not capture changes in asset value; rather it measures the change in price of housing services provided.

The payments approach – OOH(payments) – aims to measure the payments related to the ownership of owner occupied housing. This means that all payments that households make as owner occupiers when consuming housing should be included, such as mortgage interest payments, transaction costs and running costs.

OOH(payments) is not our favoured method to measuring owner occupiers' housing costs (OOH) in the Consumer Prices Index including owner occupiers' housing costs (CPIH). This is because a consumer price index aims to measure consumption and interest payments represent the cost of borrowing money rather than the cost of consumption. However, OOH(payments) is our preferred measure for the Household Costs Indices (HCIs), which depart from consumption principles, and aim to capture households' experience of changing prices and costs. For more information about the HCIs please see the article [Developing the Household Costs Indices \(HCIs\)](#).

The net acquisitions approach – OOH(NA) – aims to measure the costs of acquiring a house with household to household transactions netted off. The approach theoretically treats a home as the purchase of a good that is part asset (the land) and part consumable (the house) and excludes the land component from the index. OOH (NA) also includes costs associated with buying and maintaining a house; for example, self-builds and renovations, repairs and maintenance, transfer costs and dwelling insurance.

In practice, while the measure presented here is the best measure of OOH(NA) that we can currently produce, the lack of available source data means that some components are not recorded fully. We therefore advise that OOH(NA) should be used and referred to with caution and it is consequently not our favoured approach of measuring OOH in CPIH.

Table 1 shows the components of these different approaches. For more information about each please see the [CPIH compendium](#) or the [first article](#) in this series.

Table 1: Components of the three approaches of measuring owner occupiers' housing

Rental equivalence Payments		Net acquisitions
Imputed rents	Mortgage interest payments	Acquisition of new dwellings
	Dwelling insurance	Self-builds and renovations
	Ground rent	Existing dwellings new to the OOH sector
	Stamp duty	Services related to acquisition
	Estate agent fees	Major repairs and maintenance
	Home-buyers survey	Insurance connected with the dwelling
	Major repairs and maintenance	Other services related to ownership of dwellings
	House conveyancing	

Source: Office for National Statistics

6 . Spotlight: changes to OOH revisions policy

We have been improving the system used for calculating the net acquisitions (OOH(NA)) and payments (OOH (payments) approaches to measuring owner occupiers' housing costs (OOH). This has allowed us to make some changes to improve the estimates, most notably ensuring that revisions to the component indices within both approaches are accounted for when publishing the latest quarterly indices. While this is not in line with the revisions policy for the Consumer Prices Index (CPI) and Consumer Prices Index including owner occupiers' housing costs (CPIH), OOH(NA) is primarily produced for Eurostat and we are required to include the latest possible input data to these indices.

There are two indices used in the production of OOH(NA) and OOH(payments) that are subject to revisions, namely the House Price Index (HPI) and the Producer Price Index (PPI). Following a review, HM Land Registry extended their revision period of the HPI from the latest two months to 12 months. This came into effect from 13 June 2017 and affects the components of OOH(NA) and OOH (payments) using the HPI. Specifically, the HPI is used in the calculation of the “Stamp Duty” component for OOH (payments) and is also used to calculate the “New dwellings” and “Existing dwellings new to households” components of OOH(NA).

The PPI is subject to five-month revisions whereby the latest five months’ PPI estimates may change. Revisions to PPI estimates affect the “New dwellings” component of OOH(NA) because PPI is one of two data sources used to estimate “Self-builds and major renovations” – a sub-index of the “New dwellings” component in OOH(NA).

The weights for OOH(NA) and OOH(payments) are updated on an annual basis and published in the Quarter 1 (Jan to Mar) update. They are not revised once they have been published. The current year’s sub-indices weights are calculated in Quarter 1 using the previous year’s December and January indices. These sub-indices weights are utilised for the entire duration of the current calendar year, which means that though the December and January indices are subject to revisions during the calendar year, the weights of component sub-indices are not revisable.

What is changing?

Until this release, the revisions policy used in the production of the OOH(NA) and OOH(payments) estimates only incorporated revisions from the beginning of the current calendar year. This meant that not all revisions to the previous year’s HPI or PPI were captured in the current year’s estimates of OOH(NA) and OOH(payments).

Equations 1 and 2 present a visual illustration of the 12-month revisions to HPI and the old revisions system for our OOH publication for a Quarter 1 (Q1) and Quarter 2 (Q2) publication respectively. Assume that the latest OOH quarterly update is Q1 year t as shown in Equation 1. The bar denotes the end and start of a calendar year and the months within brackets denote months subject to revisions in line with the 12-month HPI revisions policy. Under the old revisions system for our OOH publication, only revisions to January and February of the current calendar year were incorporated into the Q1 year t OOH estimates.

Equation 1

$$J_{t-1} F_{t-1} (M_{t-1} A_{t-1} M_{t-1} J_{t-1} J_{t-1} A_{t-1} S_{t-1} O_{t-1} N_{t-1} D_{t-1} | J_t F_t) M_t$$

Now assume that the latest OOH quarterly update is Q2 year t as shown in Equation 2. In this scenario, HPI is revisable back to June of the previous year. However, only revisions from the beginning of the current calendar year (that is, January to May) are incorporated into the OOH Q2 year t update. In this manner, the number of revisions that are incorporated into the quarterly OOH estimates progressively increases with each quarterly update but is restricted to the current calendar year.

Equation 2

$$J_{t-1} F_{t-1} M_{t-1} A_{t-1} M_{t-1} (J_{t-1} J_{t-1} A_{t-1} S_{t-1} O_{t-1} N_{t-1} D_{t-1} | J_t F_t M_t A_t M_t) J_t$$

Under the new revisions system, the full 12-month revision to the HPI and five-month revision to the PPI is included in the quarterly updates to OOH(NA) and OOH(payments), effectively removing the demarcation between calendar years. The new revisions system will affect estimates of OOH(NA) and OOH(payments) published before the Quarter 3 (July to Sept) 2018 update. However, because the back series of OOH(NA) and OOH(payments) was recalculated in 2016, we do not expect this change in revisions policy to have an effect prior to 2016. The following section will assess the impact of the changes to the revisions policy on OOH(NA) and OOH (payments).

Impact assessment of changes to OOH revisions policy on OOH(NA) and OOH (payments) estimates

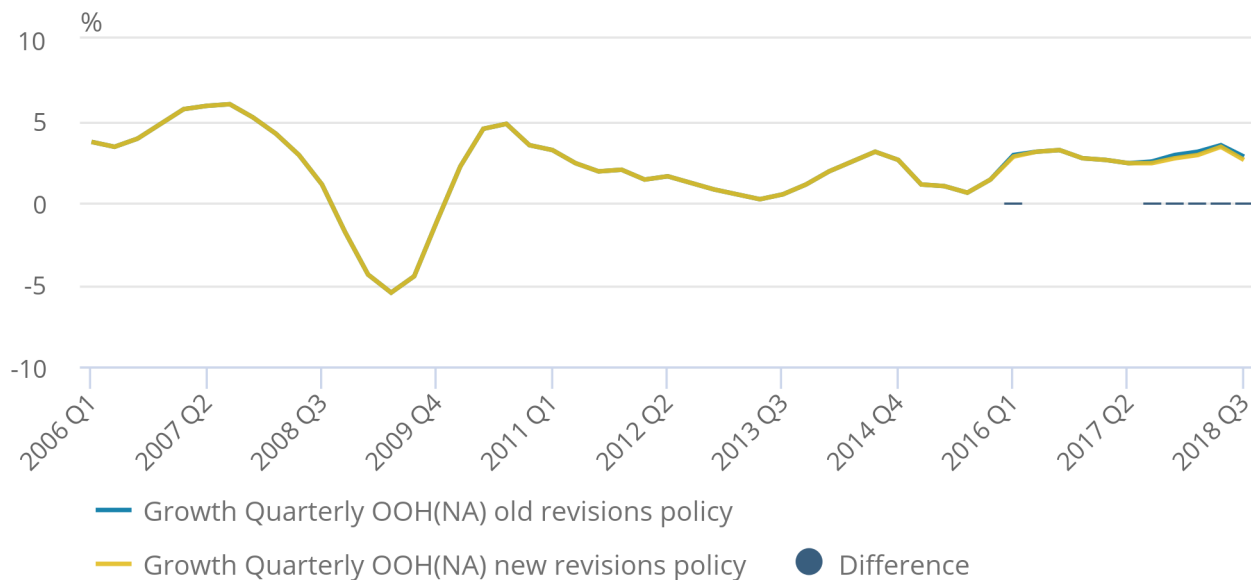
This section analyses the impact of change to the OOH revisions policy as described in the previous section. Figure 5 shows the 12-month growth rate of OOH(NA) using the old and new revisions policy as well as the differences between the two series. The figure shows that there is almost no difference in the 12-month growth rate of OOH(NA), with only six quarters showing a difference. These differences range from 0.1 to 0.2 percentage points.

Figure 5: Comparison of OOH(NA) quarter on corresponding quarter of previous year growth rate using the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018

Figure 5: Comparison of OOH(NA) quarter on corresponding quarter of previous year growth rate using the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

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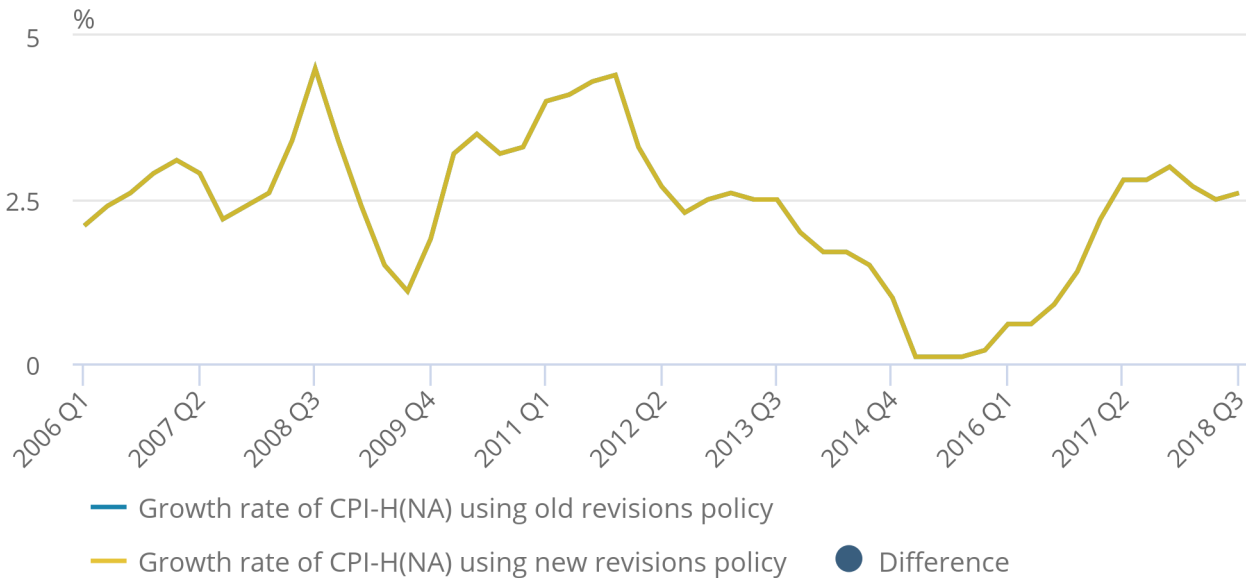
Figure 6 shows CPI-H(NA) under the old and new revisions policy from Quarter 1 2006 to Quarter 3 2018. The figure shows that CPI-H(NA) is unaffected by the changes to the revisions policy of OOH. In all quarters, the difference between CPI-H(NA) under the old and new revisions policy is zero to one decimal place.

Figure 6: 12-month growth rate of CPI-H(NA) under the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018

Figure 6: 12-month growth rate of CPI-H(NA) under the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

Notes:

The figure shows that CPIH(NA) is unaffected by the changes to the revisions policy of OOH.

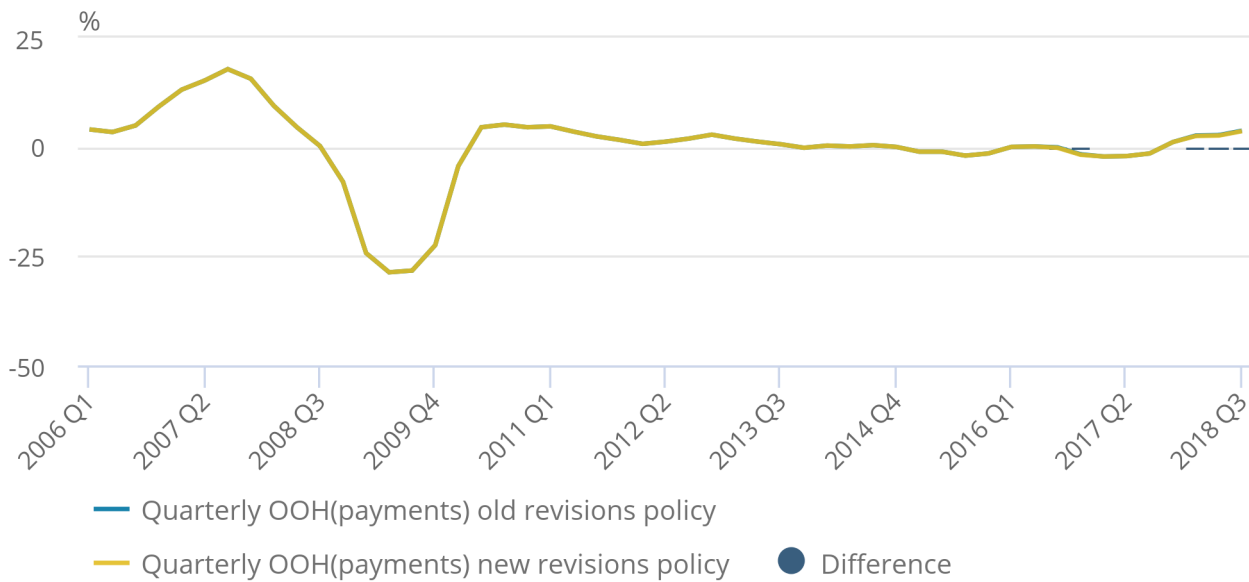
Figure 7 shows the 12-month growth rate of OOH(payments) indices using the old and new revisions policy along with the differences between the two series. The figure shows that the growth rate of OOH(payments) is virtually unaffected by the change to the revisions policy. There are only five quarters in which there is a difference between the two series and the magnitude of these differences is 0.1 percentage points.

Figure 7: 12-month growth rate of OOH(payments) under the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018

Figure 7: 12-month growth rate of OOH(payments) under the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

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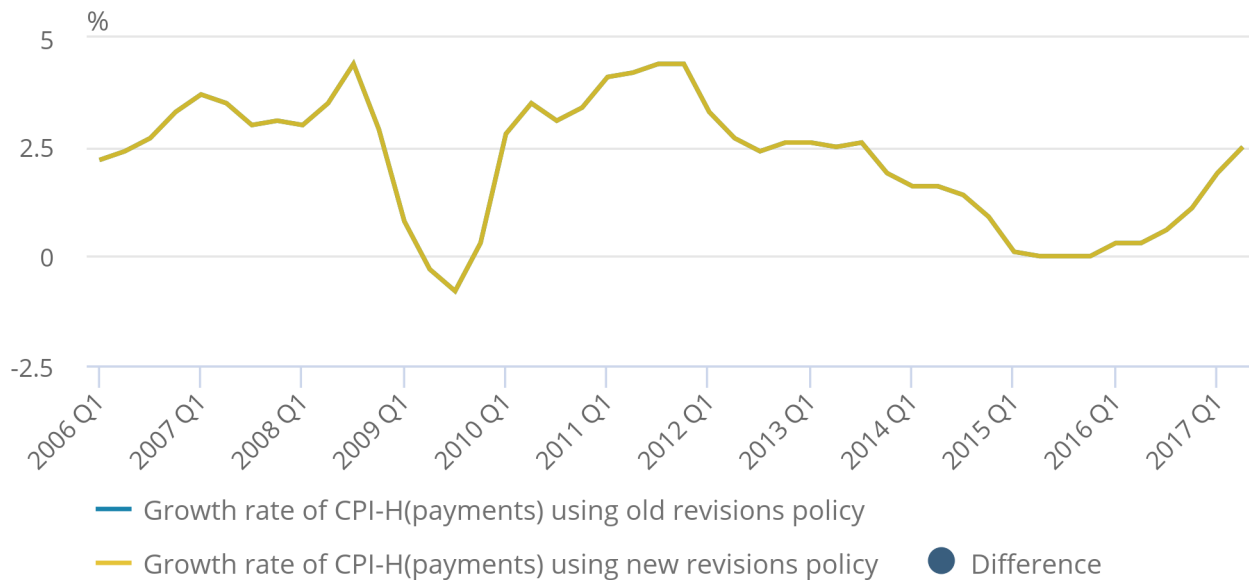
Figure 8 shows the 12-month growth rate of CPI-H(payments) from Quarter 1 2006 to Quarter 3 2018 under the old and new revisions policy. The figure shows that the growth rates of CPI-H(payments) are identical under the old and new revisions policy to one decimal place.

Figure 8: 12-month growth rate of CPI-H(payments) under the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018

Figure 8: 12-month growth rate of CPI-H(payments) under the old and new revisions policy

UK, Quarter 1 (Jan to Mar) 2006 to Quarter 3 (July to Sept) 2018



Source: Office for National Statistics

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7 . Annex 1: List of spotlight articles

This is a list of topics that we have focused on in previous publications:

[Spotlight: the relationship between private rents and house prices](#)

[Spotlight: owner occupiers' housing costs in the RPI](#)

[Spotlight: analysis of revisions to OOH\(RE\) expenditure weights](#)

[Spotlight: changes to methodology](#)

[Spotlight: exploratory analysis of the impact of errors in the OOH stratum weights](#)

[Spotlight: changes to methodology of the OOH\(payments\) approach](#)