

Article

CPIH-consistent inflation rate estimates for UK household groups: 2005 to 2019

An update to estimates of inflation rates for different types of households in the UK on a Consumer Prices Index including owner occupiers' housing costs (CPIH)-consistent basis.

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1 . Main points

- Consumer Prices Index including owner occupiers' housing costs (CPIH)-consistent inflation rates have been calculated for different UK household groups. This includes comparing households within the second-lowest (decile 2) and second-highest (decile 9) income and expenditure deciles.
- The inflation rate for households in income decile 9 has been consistently higher than the inflation rate of households in income decile 2 since March 2017, driven largely by differences in the contributions of the transport, and recreation and culture categories.
- Households in expenditure decile 2 experienced a higher rate of inflation during 2018 compared with households in expenditure decile 9; this difference was driven by the housing, water, electricity, gas and other fuels category, however, the difference between the two groups diminished in the first few months of 2019.
- Renter households experienced the lowest rate of inflation of all the tenure types in 2018, while owner occupiers' 12-month inflation rate has been consistently above the headline rate since February 2017.

2 . Things you need to know about this release

What are CPIH-consistent inflation rate estimates for UK household groups?

The Consumer Prices Index including owner occupiers' housing costs (CPIH) is our most comprehensive measure of consumer price inflation. It measures the change in the prices of the goods and services as consumed by households. However, because of the consumption baskets of specific households, the price experience of different groups of households may differ from the average figure for all households. Producing CPIH-consistent inflation rates for different household groups therefore provides an insight into how these price changes can vary between different groups, within an established framework based on economic principles.

The [first article in this new series](#) was published in November 2017 and covered the January 2005 to September 2017 period. Since then we have started producing data updates on a quarterly basis with the [last data update](#) covering the October 2018 to December 2018 period. Each year in May, we also publish a longer annual update alongside these quarterly data releases. As well as the data from January to March of each year, this article will also include more commentary around the different household groups and introduce the new annual weights for each year.

Users should note that the CPIH-consistent inflation rates for different household groups are [experimental indices](#) and therefore we would caution against any use other than for research purposes.

What household groups are presented in this article?

This article will cover the following household groups:

- retired households and non-retired households
- households grouped by equivalised disposable income deciles
- households grouped by equivalised expenditure deciles
- households with children and without children
- households grouped by tenure type: renters, owner occupiers and subsidised renters

Data on households grouped by equivalised disposable income quintiles are also included in the datasets published alongside this release. These datasets also include the full results for each group that are not necessarily covered in this article, including contributions to the 12-month growth rate and expenditure weights over the period since 2005.

The democratically-weighted dataset also includes the aggregate democratically-weighted CPIH index, as well as a version of this index excluding housing costs (updating an ad hoc user request first published in [Democratic measure of CPIH excluding housing, UK, 2005 to 2016](#)).

For definitions of terms, please see the Glossary at the end of this article.

If you would like to provide feedback on the choice of household groups presented, please send your comments to cpi@ons.gov.uk.

What is the structure of this release?

We first present results from the latest period (January 2019 to March 2019) in comparison with the long-term historical trend on the household groups presented in the [previous release](#). We then analyse the contribution of the different categories of spending to the 12-month inflation rate for each household type. Where relevant we also present analyses of the expenditure share of specific household types.

Quality and methodology information (including revisions)

The methodology that we use to calculate these estimates means that differences in the expenditure shares of the various categories of household spending are the sole driver of any differences in the inflation rates between the household groups.

Since the last release in February, several methodological improvements have been implemented to the imputed rents model used to estimate housing costs for owner occupiers. These are summarised as follows (for more information, please see the [updated methodology article associated with this release](#)):

- one variable has been removed as an independent variable in the prediction model
- only renters with private, unfurnished and unsubsidised (that is, not supported in whole or in part by housing benefit) tenancies are considered “renters” for the purpose of calculating imputed rent for owner occupiers; previously all renters were included in the model
- a bias correction term has been included in the Box-Cox back-transformation
- ordinary least squares (OLS) are now used to estimate the prediction model as opposed to weighted least squares (WLS)

The impact of these improvements on the 12-month inflation rate is a maximum of plus or minus 0.1 percentage points for most household groups, but there are absolute differences up to a maximum of 0.4 percentage points for subsidised renter households in 2017 and 2018. Previous versions of the data are available in the data download section of this release.

It should be noted that these revisions do not impact on the published headline CPIH figure as this is constructed using different methodology and data sources.

For more information on the quality and methodology used to calculate these indices, please see the Quality and methodology section at the end of this article. We welcome feedback on these statistics to cpi.ons@gov.uk.

Related publications

We have recently published the second preliminary estimates of the [Household Costs Indices \(HCIs\)](#). The HCIs are a set of measures that aim to reflect UK households' experience of changing prices and costs. More information on the HCIs, including why they are being developed, how they differ from consumer price indices and progress towards their development, can be found in the [Developing the Household Costs Indices \(HCIs\)](#) article. The HCIs will be updated annually, with the next publication planned for early 2020.

3 . Summary table of results

Table 1 presents the average annual inflation rates for our selected household groups for 2006 to 2018 (the last full year of data). Ranking households by income and expenditure, and splitting them into 10 equally-sized deciles, allows for the comparison of the inflation experience across the expenditure and income distribution. However, due to the unusual composition of households in the 1st and 10th income deciles, our analysis focuses on the difference between decile 2 (second-lowest income and expenditure households) and decile 9 (second-highest income and expenditure households). For more information on this, please see our [previous analysis](#).

We have also chosen to include retired and non-retired households, and households with and without children because of their current policy interest. This is also true for the inclusion of tenure type, which is divided into three categories of household: renters, owner occupiers and subsidised renters.

Table 1: Average annual inflation rates for selected groups, UK; average 2006 to 2018; 2018

Inflation (%)

Group	Average 2006 to 2018 2018	
Expenditure deciles		
Expenditure decile 2	2.5	2.5
Expenditure decile 9	2.1	2.2
Income deciles		
Disposable income decile 2	2.3	2.2
Disposable income decile 9	2.2	2.4
Households by retirement status		
Retired households	2.3	2.5
Non-retired households	2.2	2.2
Households with and without children		
Households with children	2.2	2.3
Households without children	2.3	2.3
Households by tenure type		
Subsidised renter households	2.4	2.1
Renter households	2.5	1.7
Owner occupier households	2.2	2.5
CPIH	2.2	2.3

Source: Office for National Statistics – Consumer price inflation

Notes

1. Deciles of disposable income and expenditure are calculated on an equivalised basis, adjusting for the composition of the household. See the Glossary for more details. [Back to table](#)
2. Equivalised income deciles (1 equals lowest-income households, 10 equals highest-income households). [Back to table](#)
3. Equivalised expenditure deciles (1 equals lowest-expenditure households, 10 equals highest-expenditure households). [Back to table](#)
4. Differences may not sum due to rounding. [Back to table](#)
5. The average presented is the compound average annual growth rate. [Back to table](#)

4 . Differences between inflation experiences for different household groups have increased slightly in 2018

Income deciles

The 12-month inflation rate for households in the 2nd and 9th income deciles is shown in Figure 1 from January 2006 to March 2019.

The 12-month inflation rate of households in income decile 9 was consistently higher than that of households in income decile 2 in 2018. Income decile 9 households also experienced inflation at or above headline Consumer Prices Index including owner occupiers' housing costs (CPIH) during this period. This pattern continued into the first three months of 2019.

Figure 1: In 2018, the 12-month inflation rate of households in income decile 9 was consistently higher than that of households in income decile 2

12-month growth rates for equivalised disposable income deciles 2 and 9; CPIH, UK, January 2006 to March 2019

Figure 1: In 2018, the 12-month inflation rate of households in income decile 9 was consistently higher than that of households in income decile 2

12-month growth rates for equivalised disposable income deciles 2 and 9; CPIH, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Equivalised income deciles (1 equals lowest-income households, 10 equals highest-income households).

Contributions to growth analyses enable us to determine which components of CPIH are driving the 12-month inflation rate. Figure 2 presents the difference in the contributions to growth for income decile 2 less income decile 9 from January 2006 to March 2019.

If the bar in the figure is positive, it means that the contribution for that component is higher for income decile 2 than income decile 9. That is, the component is pushing the inflation rate higher for income decile 2 compared with income decile 9. If it is negative, the contribution is higher for income decile 9 than income decile 2. That is, the component is pushing the inflation rate for income decile 9 higher compared with income decile 2. The line shows the overall difference in the 12-month growth rate between the two groups.

For most of the period, the housing, water, electricity, gas and other fuels category has increased the 12-month inflation rate for households in income decile 2 compared with income decile 9. However, the contribution from this category notably decreased during the economic downturn in 2009 and 2010.

The 12-month inflation rate for households in income decile 9 has been consistently higher than that of income decile 2 households in the two years to March 2019. The main driver of the difference in 2018 and the first few months of 2019 was the contribution of the transport category and is due to income decile 9 households having a larger expenditure share for this category (Figure 3). In the six months to November 2018, fuels and lubricants was the largest contributor to the difference between income deciles 2 and 9 within the transport category.

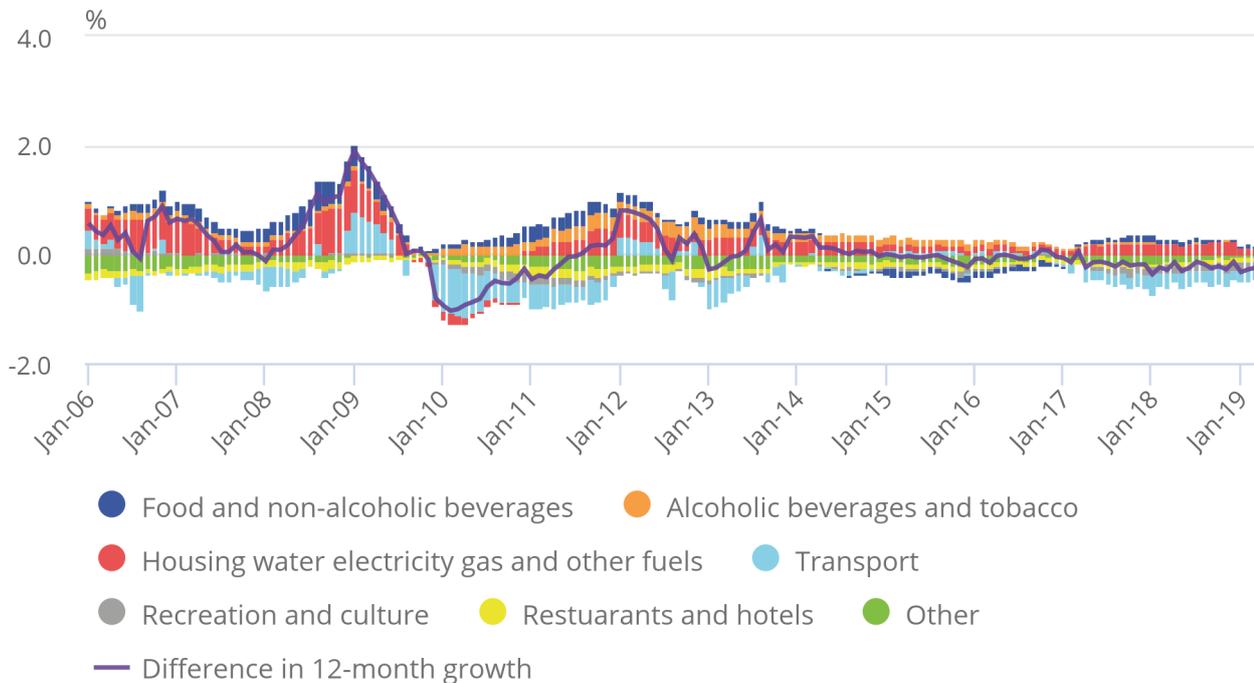
The contribution of recreation and culture has also played a role in pushing up the inflation rate for income decile 9 households.

Figure 2: The main driver of the difference between income deciles in 2018 was the contribution from transport

Contributions to the difference in annual inflation: income decile 2 less income decile 9, UK, January 2006 to March 2019

Figure 2: The main driver of the difference between income deciles in 2018 was the contribution from transport

Contributions to the difference in annual inflation: income decile 2 less income decile 9, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Stacked bars reflect the percentage point contributions of each of the 12 categories items to the annual percentage change in the CPIH-consistent inflation rate. Note that a reduction in the contribution of series to the annual rate of change need not imply falling prices, but could also reflect a lower rate of increase than the previous year.
2. The other category reflects the combined division-level contributions of furniture, health, clothing, communication and education, bringing the sum of contributions to the inflation rate.
3. Contributions may not sum due to rounding.

Figure 3 shows the expenditure share for each category of household spending for the 2nd and 9th income deciles for 2019 (January).

Though housing is the largest category of expenditure for both groups' spend, households in income decile 2 spend approximately 10 percentage points more on housing as a proportion of their total expenditure basket compared with income decile 9 households.

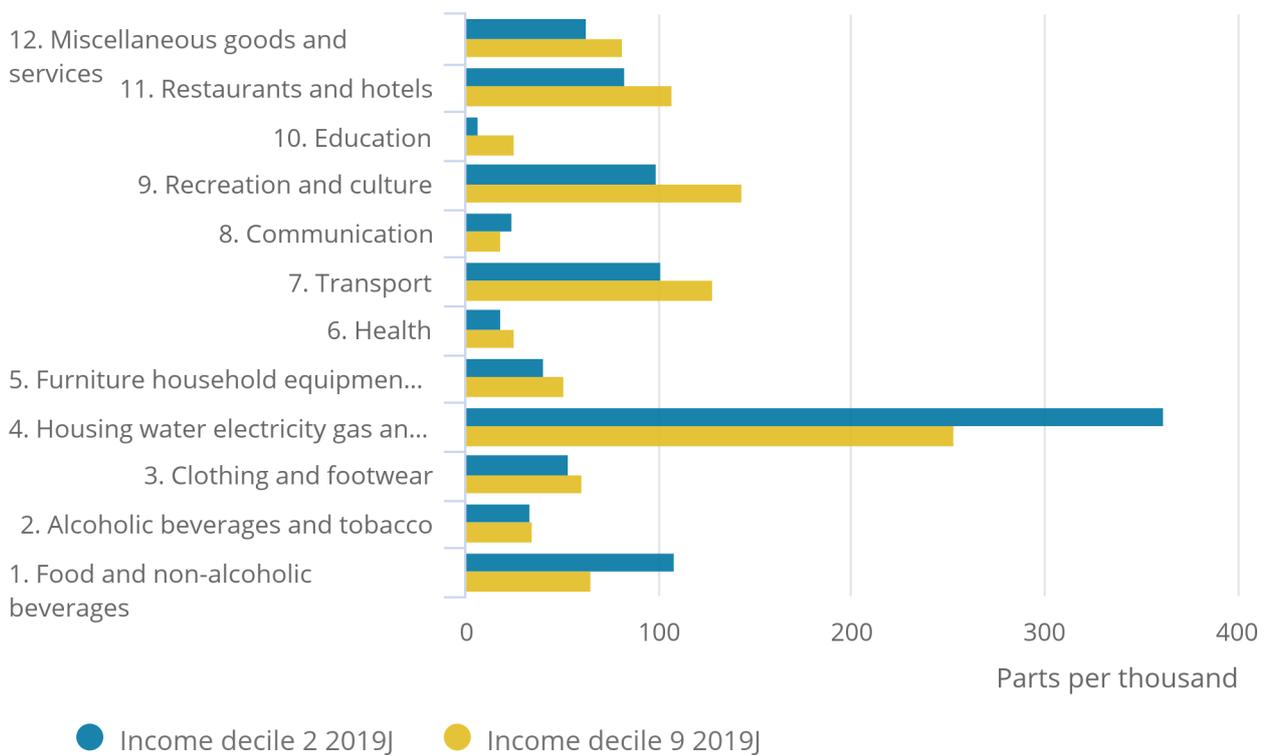
The proportion of total expenditure share spent by income decile 9 on luxury items is larger than the proportion of total expenditure share spent by income decile 2 on essential items. For instance, the proportion of total expenditure share for recreation and culture by income decile 9 is 32% greater than the proportion spent on food and non-alcoholic beverages by income decile 2 households.

Figure 3: Income decile 9 households allocate a larger amount of their expenditure share on luxury items

Expenditure shares for each category of spending by equivalised income deciles 2 and 9, UK, 2019 (January)

Figure 3: Income decile 9 households allocate a larger amount of their expenditure share on luxury items

Expenditure shares for each category of spending by equivalised income deciles 2 and 9, UK, 2019 (January)



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Equivalised income deciles (1 equals lowest-income households, 10 equals highest-income households).
2. Expenditure shares may not sum due to rounding.
3. The implementation of the double update in 2017 means that for 2017, 2018 and 2019, there are two sets of weights produced for these years, one for January, and one for February to December. For consistency with previous years, we compare only the January weights in this analysis. For more information about the double update, please see the [Methodology article](#).

Expenditure deciles

Figure 4 presents the 12-month inflation rate for the 2nd and 9th expenditure deciles from January 2006 to March 2019, along with headline CPIH.

In 2018, the inflation rate experienced by households in expenditure decile 2 was consistently higher than that experienced by households in expenditure decile 9, with the difference between the two groups peaking at 0.5 percentage points in July 2018. This difference was driven by the housing, water, electricity, gas and other fuels category. In the first three months of 2019, the difference in inflation experienced by the two groups diminished.

Figure 4: The difference in inflation experienced by expenditure deciles 2 and 9 increased in 2018

12-month growth rates for equivalised disposable expenditure deciles 2 and 9; CPIH, UK, January 2006 to March 2019

Figure 4: The difference in inflation experienced by expenditure deciles 2 and 9 increased in 2018

12-month growth rates for equivalised disposable expenditure deciles 2 and 9; CPIH, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Equivalised expenditure deciles (1 equals lowest expenditure households, 10 equals highest expenditure households).

Figure 5 shows the difference in the contributions to growth for the households in expenditure deciles 2 and 9.

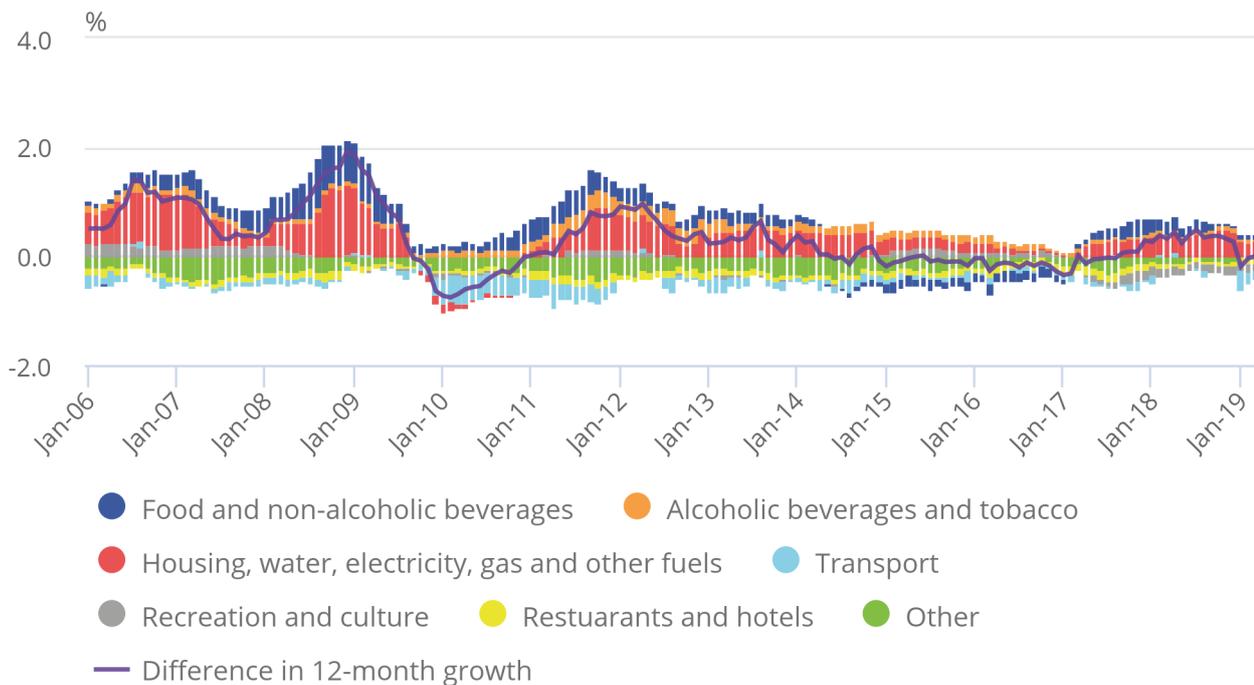
The figure shows that the housing, water, electricity, gas and other fuels, and food and non-alcoholic beverages categories were the main drivers for the difference in inflation rates for these two groups in 2018. The contribution of the different components of CPIH became more balanced at the beginning of 2019 and has resulted in minimal differences in the inflation experienced by the two groups.

Figure 5: The contribution to the difference between expenditure deciles 2 and 9 became more balanced in 2019

Contributions to the difference in annual inflation: expenditure decile 2 less expenditure decile 9, UK, January 2006 to March 2019

Figure 5: The contribution to the difference between expenditure deciles 2 and 9 became more balanced in 2019

Contributions to the difference in annual inflation: expenditure decile 2 less expenditure decile 9, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Stacked bars reflect the percentage point contributions of each of the 12 categories items to the annual percentage change in the CPIH-consistent inflation rate. Note that a reduction in the contribution of series to the annual rate of change need not imply falling prices, but could also reflect a lower rate of increase than the previous year.
2. The other category reflects the combined division-level contributions of furniture, health, clothing, communication and education, bringing the sum of contributions to the inflation rate.
3. Contributions may not sum due to rounding.

Figure 6 presents the expenditure share of each category of spending for the 2nd and 9th expenditure deciles for 2019 (January).

Expenditure decile 9 households allocate twice as much expenditure as expenditure decile 2 on recreation and culture. Similar to the analysis by income deciles, households in expenditure decile 2 spend a larger proportion of their total expenditure on housing and food.

It is interesting that the inflation rate for income decile 9 is higher than income decile 2, whereas expenditure decile 2's inflation rate is higher than that of expenditure decile 9. The reversal in the 12-month inflation trends between these two subgroups can be attributed to reversals in the expenditure share of fuels and lubricants within the transport category.

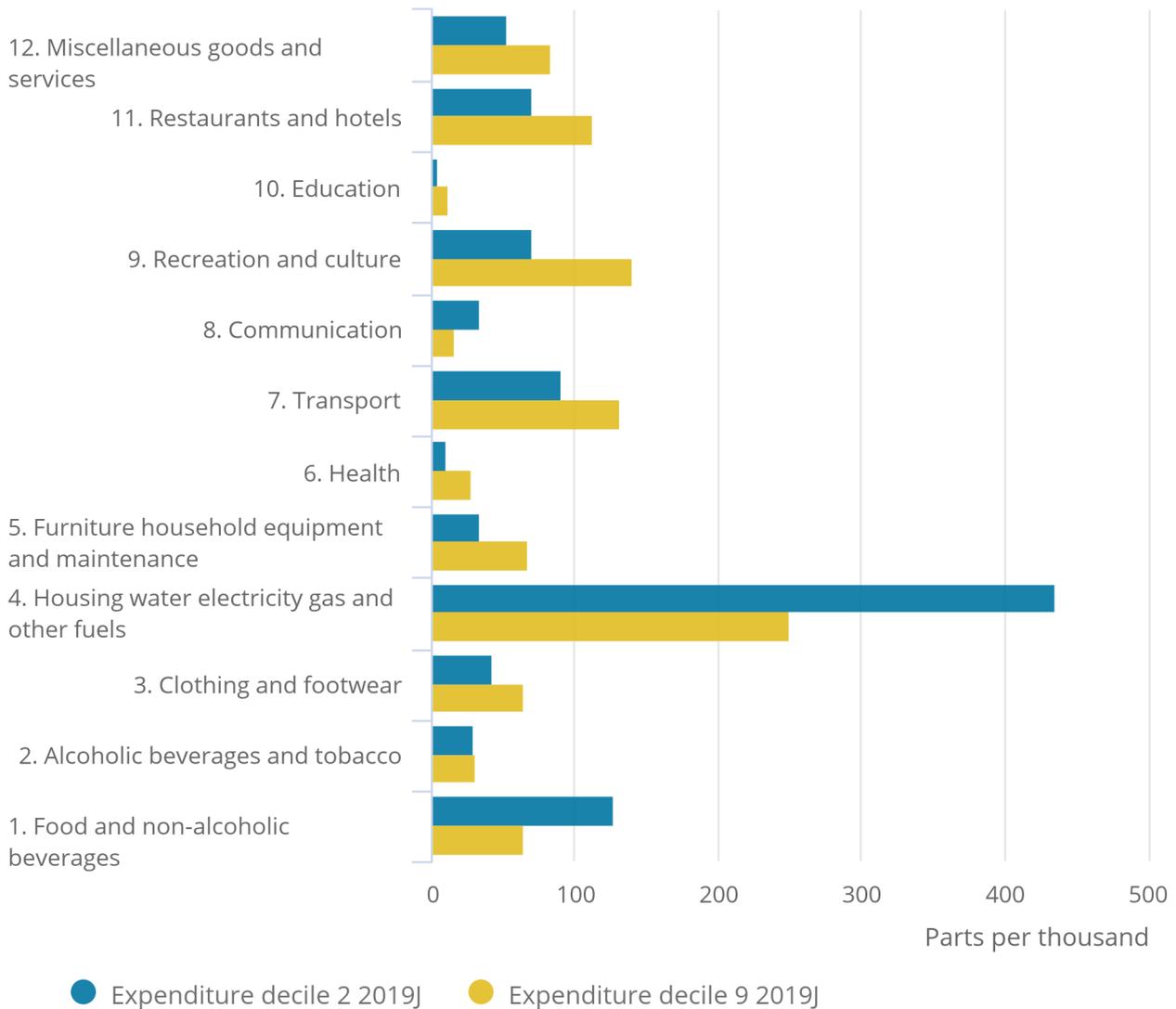
Specifically, income decile 9 has always had a higher expenditure share for fuels and lubricants than income decile 2. In contrast, since 2014, expenditure decile 2 households' expenditure share for fuels and lubricants has been higher than that of expenditure decile 9, with the magnitude of this difference consistently increasing over the remaining period.

Figure 6: Expenditure decile 9 allocates twice as much in proportional terms as expenditure decile 2 on recreation and culture

Expenditure shares for each category of spending by equivalised expenditure deciles 2 and 9, UK, 2019 (January)

Figure 6: Expenditure decile 9 allocates twice as much in proportional terms as expenditure decile 2 on recreation and culture

Expenditure shares for each category of spending by equivalised expenditure deciles 2 and 9, UK, 2019 (January)



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Equivalised expenditure deciles (1 equals lowest-expenditure households, 10 equals highest-expenditure households).
2. Expenditure shares may not sum due to rounding.
3. The implementation of the double update in 2017 means that for 2017, 2018 and 2019, there are two sets of weights produced for these years, one for January, and one for February to December. For consistency with previous years, we compare only the January weights in this analysis. For more information about the double update, please see the [Methodology article](#).

Retired and non-retired households

Figure 7 shows the 12-month inflation rate for retired and non-retired households from January 2006 to March 2019.

Since July 2017, the 12-month inflation rate for retired households has been consistently higher than non-retired households. In the first three months of 2019, the absolute difference in 12-month inflation rate between the two households was 0.2 percentage points. This difference was driven mainly by the recreation and culture, and housing, water, electricity, gas and other fuels categories.

Figure 7: The 12-month inflation rate for retired households was higher than non-retired households in 2018

12-month growth rate for retired and non-retired households; CPIH, UK, January 2006 to March 2019

Figure 7: The 12-month inflation rate for retired households was higher than non-retired households in 2018

12-month growth rate for retired and non-retired households; CPIH, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Figure 8 shows the expenditure shares for retired and non-retired households for 2019 (January).

For both household types, housing, water, electricity, gas and other fuels is the largest category as a proportion of total spend. However, the magnitude of the expenditure share allocated to this category is around 20% larger for retired households than non-retired households.

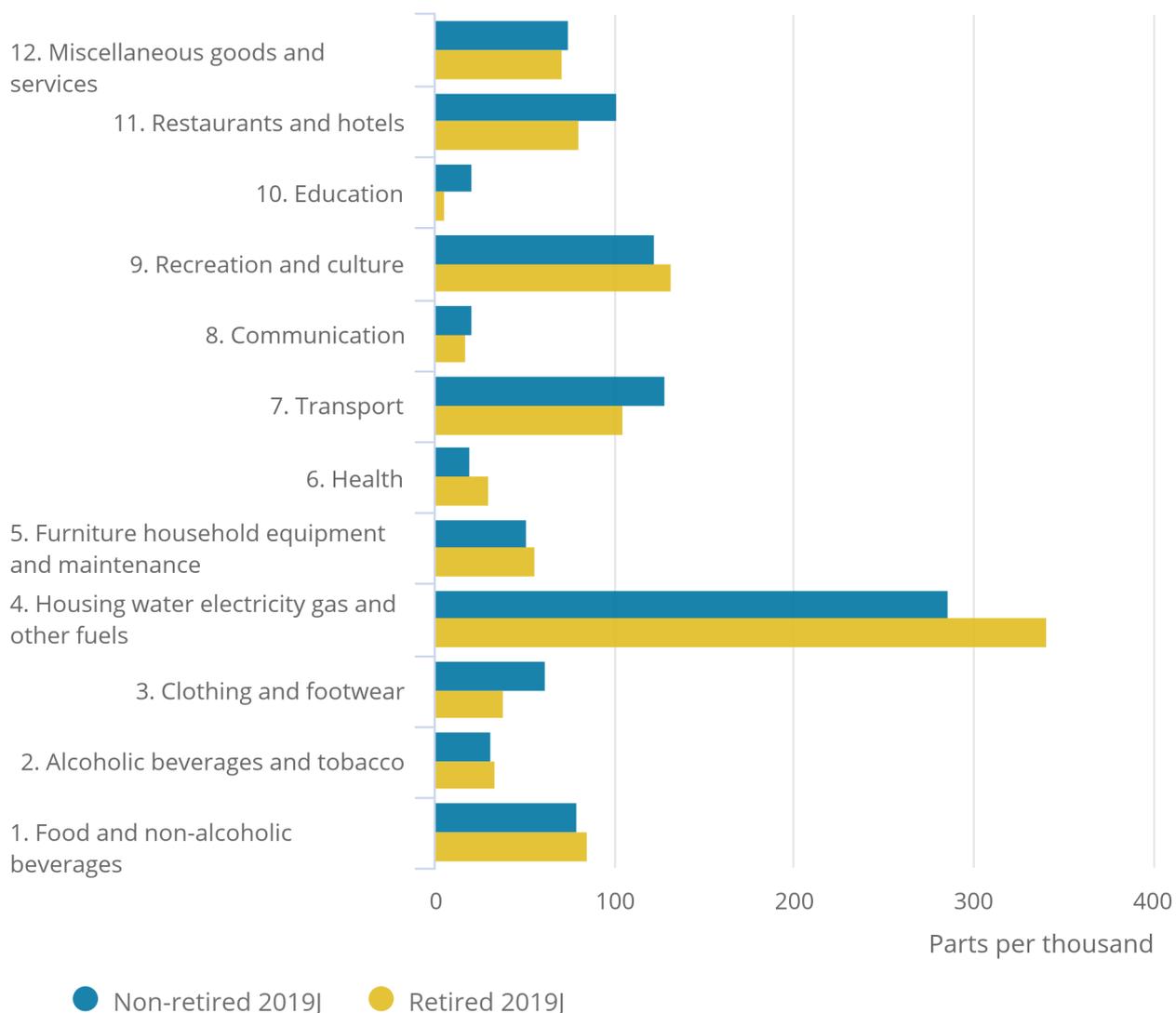
The second-largest category of expenditure for non-retired households is transport, whereas it is recreation and culture for retired households. Within the recreation and culture category, the largest difference stems from retired households' expenditure share for package holidays and is likely due to retired households having more time to engage in leisure activities than non-retired households.

Figure 8: Housing, water, electricity, gas and other fuels is the largest category of spending for both groups

Expenditure shares for each category of spending, retired and non-retired households, UK, 2019 (January)

Figure 8: Housing, water, electricity, gas and other fuels is the largest category of spending for both groups

Expenditure shares for each category of spending, retired and non-retired households, UK, 2019 (January)



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Expenditure shares may not sum due to rounding.
2. The implementation of the double update in 2017 means that for 2017, 2018 and 2019, there are two sets of weights produced for these years, one for January, and one for February to December. For consistency with previous years, we compare only the January weights in this analysis. For more information about the double update, please see the [Methodology article](#).

Figure 9 shows the percentage change between 2019 (January) and the average of 2005 to 2018 for each expenditure share category for retired and non-retired households.

The largest percentage change between the two groups was in the expenditure share for education. For retired households, there was an increase of 50% in the expenditure share of this category between 2019 (January) and the 2005 to 2018 average compared with only 5% for non-retired households.

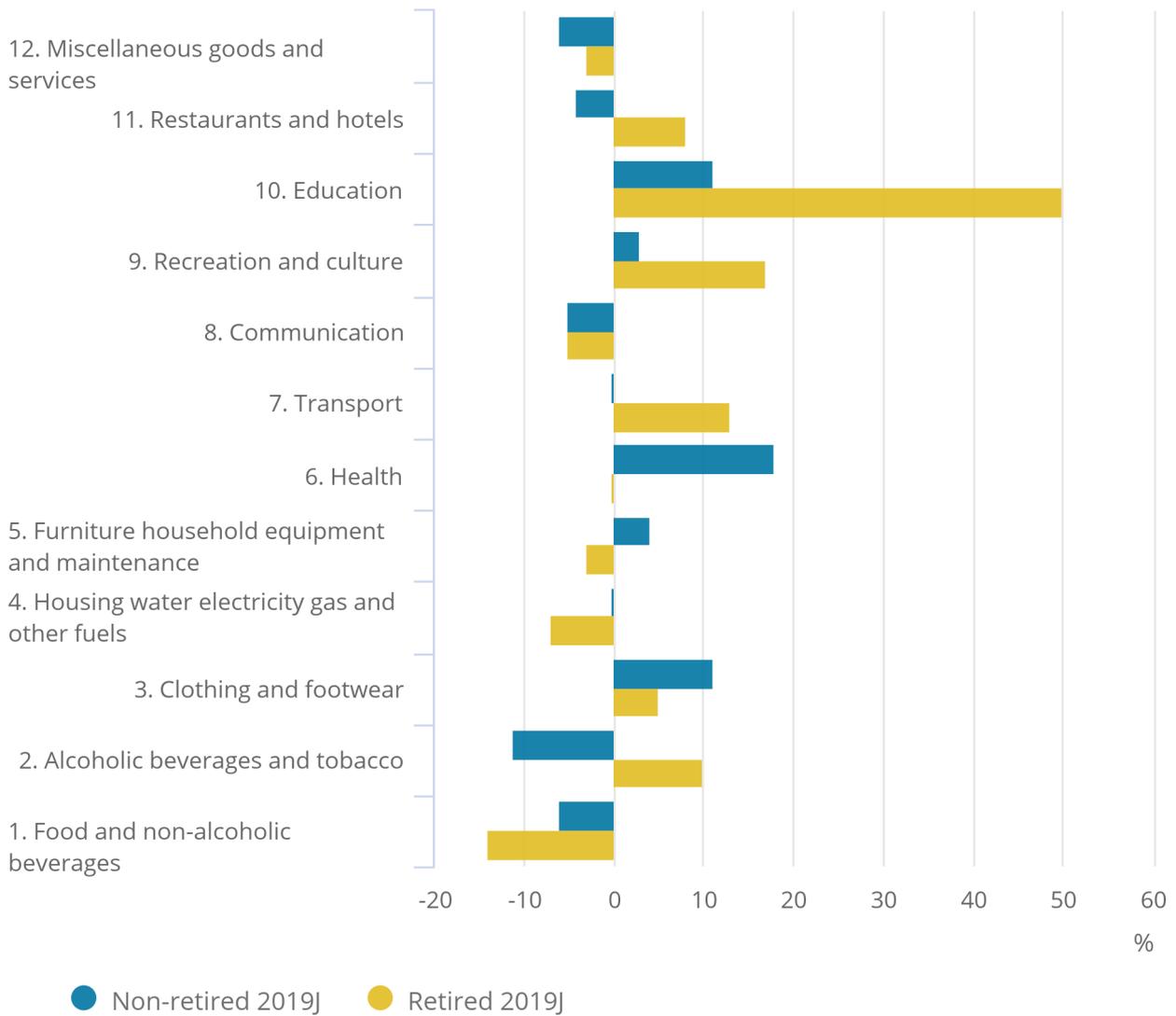
It should be noted the percentage changes reported for the expenditure share of education are small changes in absolute terms. There was no percentage change in the transport, and housing, water, electricity, gas and other fuels categories for non-retired households, while retired households experienced no percentage change in the health category.

Figure 9: The largest percentage change in expenditure shares for both non-retired and retired households was in education

Percentage change between 2019 (January) and 2005 to 2018 average expenditure shares for non-retired and retired households, UK, 2005 to 2019 (January)

Figure 9: The largest percentage change in expenditure shares for both non-retired and retired households was in education

Percentage change between 2019 (January) and 2005 to 2018 average expenditure shares for non-retired and retired households, UK, 2005 to 2019 (January)



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Expenditure shares may not sum due to rounding.
2. The implementation of the double update in 2017 means that for 2017, 2018 and 2019, there are two sets of weights produced for these years, one for January, and one for February to December. For consistency with previous years, we compare only the January weights in this analysis. For example, when we take the average of the weights across the period 2005 to 2018, we only include the weights for January 2018 in this average. For more information about the double update, please see the [Methodology article](#).

Households with and without children

Figure 10 shows the 12-month inflation rate for households with and without children.

The two groups have experienced very similar inflation rates over time relative to the other subgroups. The inflation rates for the two groups began to diverge slightly in the first three months of 2019, with households without children experiencing slightly more inflation than households with children.

Figure 10: The two groups have experienced very similar inflation rates over time

12-month growth rates for households with and without children; CPIH, UK, January 2006 to March 2019

Figure 10: The two groups have experienced very similar inflation rates over time

12-month growth rates for households with and without children; CPIH, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Households by tenure type

Figure 11 shows the 12-month inflation rate by tenure type.

Renters experienced the least inflation of all the tenure types in the 18 months to March 2019 while the owner occupiers' inflation rate was above headline CPIH. The difference between the renters and owner occupiers' inflation rate widened as 2018 progressed and has persisted into the first few months of 2019.

Figure 11: Renters experienced the least inflation of all the tenure types in 2018

12-month growth rates by household tenure type; CPIH, UK, January 2006 to March 2019

Figure 11: Renters experienced the least inflation of all the tenure types in 2018

12-month growth rates by household tenure type; CPIH, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

To understand how the inflation experience varies between tenure types, we can look at the difference in contributions to the 12-month growth rate, as this will indicate which categories of spending have a greater influence on the overall inflation rate for each household group. As renters and subsidised renters do not have expenditure on owner occupiers' housing costs (OOH), this category has been changed to the contribution from actual rents for these groups.

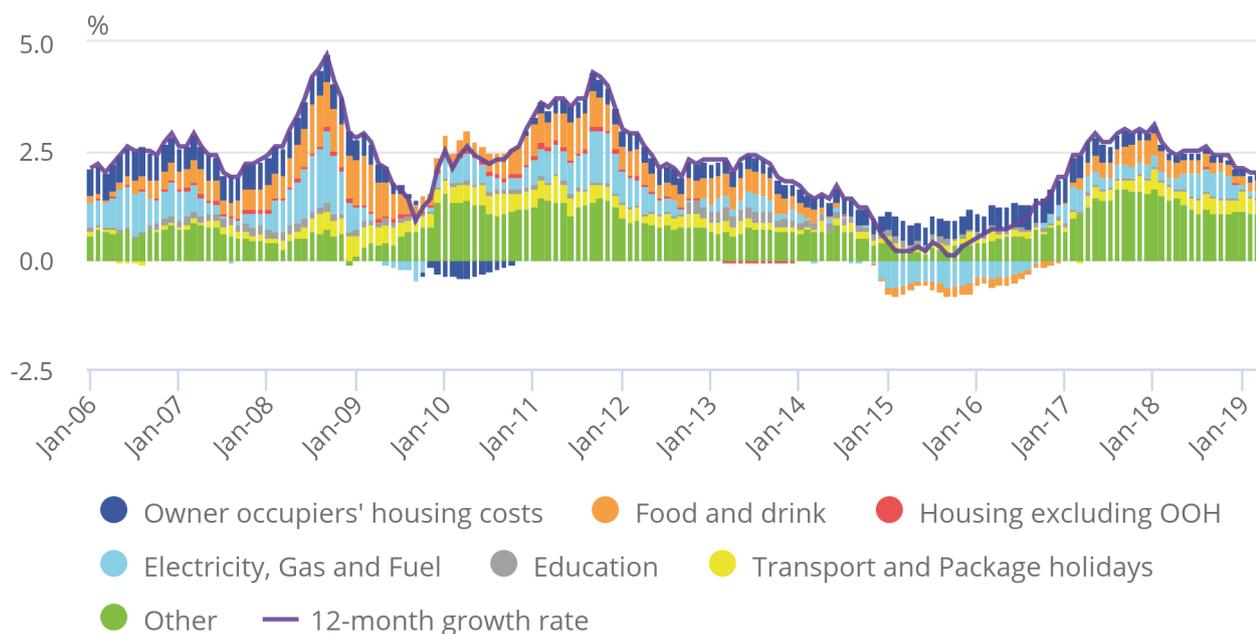
Figure 12 shows the contribution to growth for owner occupiers. This enables us to identify which categories of spending have a greater influence on the overall inflation rate for this group. In the 24 months to March 2019, the contribution from transport and package holidays increased whilst the contribution from owner occupiers' housing costs diminished.

Figure 12: The contribution from transport increased in the 24 months to March 2019 for owner occupiers

Contributions to the 12-month growth rate in inflation for owner occupiers, UK, January 2006 to March 2019

Figure 12: The contribution from transport increased in the 24 months to March 2019 for owner occupiers

Contributions to the 12-month growth rate in inflation for owner occupiers, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Stacked bars reflect the percentage point contributions of each of the 87 class-level items to the annual percentage change in the CPIH-consistent inflation rate. The contribution of each of the 87 class-level items is estimated separately, before being aggregated to the categories. Note that a reduction in the contribution of series to the annual rate of change need not imply falling prices, but could also reflect a lower rate of increase than the previous year.
2. Food, drink and tobacco is composed of food, non-alcoholic and alcoholic beverages and tobacco. Housing is composed of actual rents and products and services for the repair of dwellings. Owner occupiers housing costs (imputed rents) is a separate category. Elect., gas and fuel includes electricity, gas and other household fuels as well as fuels and lubricants for motor vehicles. Transport and package holidays includes passenger transport by road, rail, air and sea, as well as package holidays. Education reflects the division-level contribution. The other category reflects the combined contributions of the remaining class-level items, bringing the sum of contributions to the inflation rate.
3. Contributions may not sum due to rounding.

Figure 13 shows the difference in the contribution to growth for renters less subsidised renters.

If the bar in the figure is positive, it means that the contribution for that component is higher for renters than subsidised renters (that is, the component is pushing the inflation rate of renters higher compared with subsidised renters). If it is negative, the contribution is higher for subsidised renters than renters (that is, the component is pushing the inflation rate of subsidised renters higher compared with renters). The line shows the overall difference in the 12-month growth rate between renters and subsidised renters.

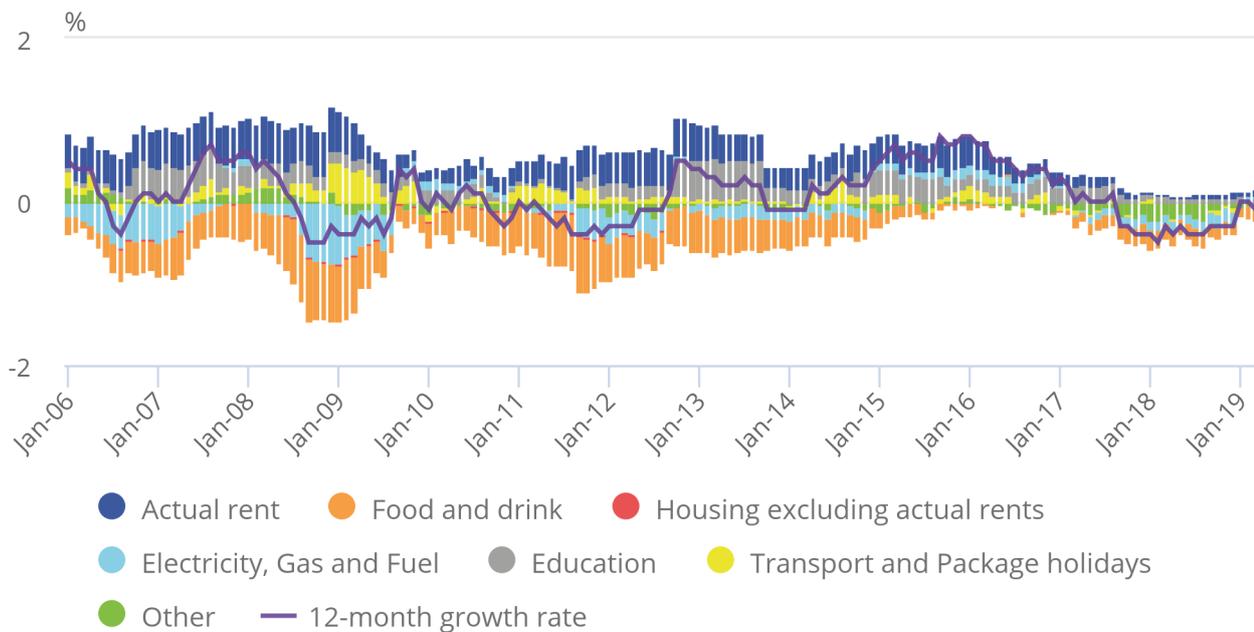
Subsidised households have experienced more inflation than renter households since July 2017. This difference was driven by the contribution from food and drink, for which subsidised households have a larger expenditure share. The difference in the contribution from electricity, gas and fuel between the two groups, which had propped up subsidised households' inflation compared with renters, all but vanished at the start of 2019.

Figure 13: Subsidised households have experienced more inflation than renter households since July 2017

Contributions to the difference in annual inflation: renters less subsidised renters, UK, January 2006 to March 2019

Figure 13: Subsidised households have experienced more inflation than renter households since July 2017

Contributions to the difference in annual inflation: renters less subsidised renters, UK, January 2006 to March 2019



Source: Office for National Statistics – Consumer price inflation

Notes:

1. Stacked bars reflect the percentage point contributions of each of the 87 class-level items to the annual percentage change in the CPIH-consistent inflation rate. The contribution of each of the 87 class-level items is estimated separately, before being aggregated to the categories. Note that a reduction in the contribution of series to the annual rate of change need not imply falling prices, but could also reflect a lower rate of increase than the previous year.
2. Food, drink and tobacco is composed of food, non-alcoholic and alcoholic beverages and tobacco. Housing is composed of products and services for the repair of dwellings. Actual rents is a separate category. Elect., gas and fuel includes electricity, gas and other household fuels as well as fuels and lubricants for motor vehicles. Transport and package holidays include passenger transport by road, rail, air and sea, as well as package holidays. Education reflects the division-level contribution. The other category reflects the combined contributions of the remaining class-level items, bringing the sum of contributions to the inflation rate.
3. Contributions may not sum due to rounding.

5 . Glossary

Disposable income

Disposable income is that which is available for consumption and is equal to all income from wages and salaries, self-employment, private pensions and investments, plus cash benefits less direct taxes.

Disposable income deciles

Households are grouped into deciles (or tenths) based on their equivalised disposable income. The richest decile (decile 10) is the 10% of households with the highest equivalised disposable income. Similarly, the poorest decile (decile 1) is the 10% of households with the lowest equivalised disposable income. Similarly, disposable income quintiles are grouped into twentieths.

Equivalised

Income and expenditure groups are based on a ranking of households by equivalised income and expenditure. Equivalisation is the process of accounting for the fact that households with many members are likely to need a higher income to achieve the same standard of living as households with fewer members.

Equivalisation takes into account the number of people living in the household and their ages, acknowledging that while a household with two people in it will need more money to sustain the same standard of living as one with a single person, the two-person household is unlikely to need double the income. This analysis uses the modified Organisation for Economic Co-operation and Development (OECD) equivalisation scale.

Expenditure deciles

Households are grouped into deciles (or tenths) based on their equivalised expenditure. The highest-expenditure decile (decile 10) is the 10% of households with the highest equivalised expenditure. Similarly, the lowest-expenditure decile (decile 1) is the 10% of households with the lowest equivalised expenditure.

Households with children

Households with children are defined as any household with one or more household members who are under 18 years of age, in full-time education and have never been married.

Owner occupier households

Owner occupier households are defined as any household in which the residents own the property outright or are buying the property with a mortgage. This includes shared owners (who own part of the property; paying both rent and mortgage).

Renter households

Renter households are defined as any household that rents their property from a private sector landlord. It excludes households who live in their property rent-free.

Retired persons and households

A retired person is defined as anyone who describes themselves (in the Living Costs and Food Survey (LCF)) as “retired” or anyone over the National Insurance pension age describing themselves as “unoccupied” or “sick or injured but not intending to seek work”. A retired household is defined as one where the combined income of retired members amounts to at least half the total gross income of the household.

Subsidised renter households

Subsidised renter households are defined as any household that either rents their property from a council, a registered social landlord or live in their property rent-free.

6 . Quality and methodology

More information on the methodology used to calculate these indices can be found in the related [Methodology to calculate CPIH-consistent inflation rates for UK household groups publication](#).

Limitations

While the calculation of inflation rates for household groups is straightforward analytically, a range of data constraints make their estimation challenging in practice. For instance, an analysis of household group-specific inflation rates would ideally use price indices and expenditure weights specific to each household group. This would reflect the fact that different households will purchase goods and services from different outlets and therefore face different prices.

However, data are not available on specific price indices and therefore we have had to use national price indices as an approximation. There are also a number of challenges that arise from the data sources that we have available for us to calculate the expenditure shares. These limitations do not impede the validity of the chosen methodology and its robustness. For more information, please see the related methodology publication.

Weights

Price indices are constructed using price and expenditure data. These expenditure shares can be calculated using different methodological approaches; the main two are democratic and plutocratic weighting. An overview of these approaches and their associated concepts can be found in Section 7.2 of the [Consumer Price Indices Technical Manual \(PDF, 674KB\)](#). We have also produced a methodology article [Investigating the impact of different weighting methods on CPIH](#) that compares the two approaches, alongside additional approaches to weighting a price index.

For the purpose of this article, [plutocratic weighting](#) is used, which is consistent with the method of weighting used in Consumer Prices Index including owner occupiers' housing costs (CPIH). Plutocratic weighting is also the most common approach used internationally. Using plutocratic weighting allows for comparisons to be made between the household group inflation rates and the headline CPIH because both are produced within an established framework.

However, for analytical purposes we have also produced democratically-weighted inflation rates for each household group. Data are available to download alongside this release in the data download section.