

Article

Household inflation and income inequality in the UK

The relationship between household inflation and income inequality in the UK, using a set of experimental measures of inflation called the Household Costs Indices (HCIs).

Contact:
George Clarke
economic.advice@ons.gov.uk
+44 (0)1633 580128

Release date:
2 November 2020

Next release:
To be announced

Table of contents

1. [Other pages in this release](#)
2. [Main points](#)
3. [How the HCIs present income inequality](#)
4. [Differences between the HCIs and CPIH](#)
5. [The HCIs for low- and high-income households](#)
6. [Income inequality and inflation, measured by the HCIs](#)
7. [The effects of the coronavirus \(COVID-19\)](#)
8. [Glossary](#)
9. [Data sources and quality](#)
10. [Future developments](#)
11. [Related links](#)

1 . Other pages in this release

- [Foreign direct investment in digital industries. UK trends and analysis: November 2020](#)
- [Producing an alternative approach to GDP using experimental double deflation estimates](#)

2 . Main points

- Low-income households spend a greater amount of their income on food, drink (both alcoholic and non-alcoholic), tobacco and housing.
- High-income households have a larger proportion of expenditure shares on education, transport, dining out and hotels.
- Using the Household Costs Indices (HCIs) as a deflator of income, real income for low-income households rose 4.3% over the time period 2005 to 2018, compared with a 7.7% rise in real income for high-income households.
- The 12-month growth rate of the HCIs for both low- and high-income households have converged from 2014 and have tracked each other very closely in recent years.
- Using our analysis of the Gini coefficient we find that after a peak in 2008, the real Gini coefficient follows a similar path to the nominal Gini coefficient, but approximately 1 percentage point higher than the nominal Gini coefficient, suggesting that as inflation increases, so does income inequality.

3 . How the HCIs present income inequality

This research aims to use the Household Costs Indices (HCIs) to analyse the relationship between household inflation and income inequality in the UK. Using expenditure shares per income decile, we can see that the differences in expenditure shares between low- and high-income households highlight spending categories that have a large influence on the growth rate for the HCIs for low- and high-income households.

Spending categories where low-income households have a large expenditure share and experience volatile price movements will have a large impact on the 12-month growth rate for low-income households.

This research also computes a real (HCI deflated) [Gini coefficient](#), which illustrates the relationship between income inequality and inflation. The use of an HCI deflated series ensures the analysis is more representative of the household experience of changing prices and their effect on income inequality. Our analysis shows that generally, income inequality is improving over the time period, but in real terms it is not improving as quickly. This finding provides evidence towards the positive relationship between inflation and income inequality found in academic literature.

Using the HCI for each income decile we deflated the monthly average income series to obtain a real income series for both low- and high-income households. This enables us to better illustrate the real pressures felt on household budgets. We found that over the time period, nominal income increased 45.9% and 43.4% for low- and high-income households, respectively. Considering household inflation, real income for low-income households only increased by 4.3% and real income for high-income households increased by 7.7% over the time period.

4 . Differences between the HCIs and CPIH

The scope of this article is to investigate the relationship between household inflation and income inequality in the UK. To do so, we use a set of [experimental](#) measures of inflation called the Household Costs Indices (HCIs).

The HCIs measure how much the nominal disposable income of different household groups would need to change, in response to changing costs, to enable households to purchase the same quantity of goods and services of the same quality. The HCIs are an important part of the prices landscape and we are aiming to achieve [National Statistic](#) status. We will continue to use feedback we receive along with the advice of the Advisory Panels on Consumer Prices (APCPs) to help determine the [HCIs' development](#).

Previous analysis of the HCIs suggests that [different household groups, such as retired and non-retired households or households with and without children, experience different levels of inflation](#). The purpose of this article is to present further developed analysis, with a focus on low- and high-income households, to better understand their experience of changing prices and costs over time.

The difference between the Consumer Prices Index including owner occupiers' housing (CPIH), which is our lead measure of inflation, and the HCIs, is that the CPIH takes a top down approach to measuring inflation. The CPIH shows the change in prices faced by households ([or a particular subgroup of households](#)) in the UK. The HCIs instead take a bottom-up approach to inflation, describing the experience of households (or a group of households) as a result of changing prices in the UK, through measuring the impact of changing prices to the household budget. Hence, we choose to use the HCIs for this analysis.

The CPIH and HCIs' methodology differs in five distinct ways:

- the HCIs adopt a "democratic" weighting approach, which assigns equal weight to each household's share of expenditure
- the HCIs measure directly the payments that owner occupiers' make to consume housing services (including mortgage interest payments, dwelling insurance, ground rent and Stamp Duty Land Tax); whereas the CPIH measures owner occupiers' housing costs (OOH) using a rental equivalence approach, which estimates the cost of consuming housing services by calculating the price that would need to be paid to rent an equivalent property
- the HCIs also use a payments approach for higher education, accounting for student loan repayments and tuition fees paid upfront separately
- the HCIs include a measure of interest costs on credit card debt, as they impact a household's budget
- in the measurement of insurance premiums, CPIH expenditure weights are based on the service charge element of an insurance package, whereas the HCIs' expenditure incorporates the full cost, including money used to reimburse households

Further information on the methodology behind the calculation of the HCIs and its differences with the CPIH is documented in our [Household Cost Indices: methodology](#) article.

For the measure of income inequality, we have chosen the [Gini coefficient](#). The coefficient ranges from 0 (or 0%) to 1 (or 100%), with 0 (or 0%) representing perfect equality and 1 (or 100%) representing perfect inequality. For our measure of income, we choose mean equalised household disposable income of decile groups (£ per year, not inflated).

We choose to use the Living Costs and Food Survey (LCF) over alternative data sources such as Households below average income (HBAI), as the income measures for subgroups available in the LCF are more aligned to those within the HCIs. Therefore, the LCF data are preferable to ensure consistency with the HCIs. The alignment of the HCIs and the income data available within the LCF is discussed further in [the measurement of real income in the UK: a coherent approach](#).

5 . The HCIs for low- and high-income households

For the purpose of this analysis, the population of UK households is to be divided into income deciles: 10 equally sized groups of households ranked by their equivalised disposable income, where the income deciles to be analysed will be the second-lowest (2) and second-highest (9) income decile¹.

We are using the [latest results of the Household Costs Indices \(HCIs\)](#), which were released in July 2020, providing a sample period from 2005 to 2019 for our household inflation analysis. For our measure of income inequality, we use the sample period 2005 to 2018 because of data availability. The income data required for 2019 will be released in January 2021.

Figure 1 represents the expenditure shares used to calculate income decile HCIs. They represent each of the 12 COICOP (Classification of Individual Consumption according to Purpose) categories for low- and high-income households².

Figure 1 illustrates that low-income households have a larger expenditure in the following categories: "food and non-alcoholic beverages", "alcoholic beverages and tobacco" and "housing, water, electricity, gas and other fuels" relative to high-income households.

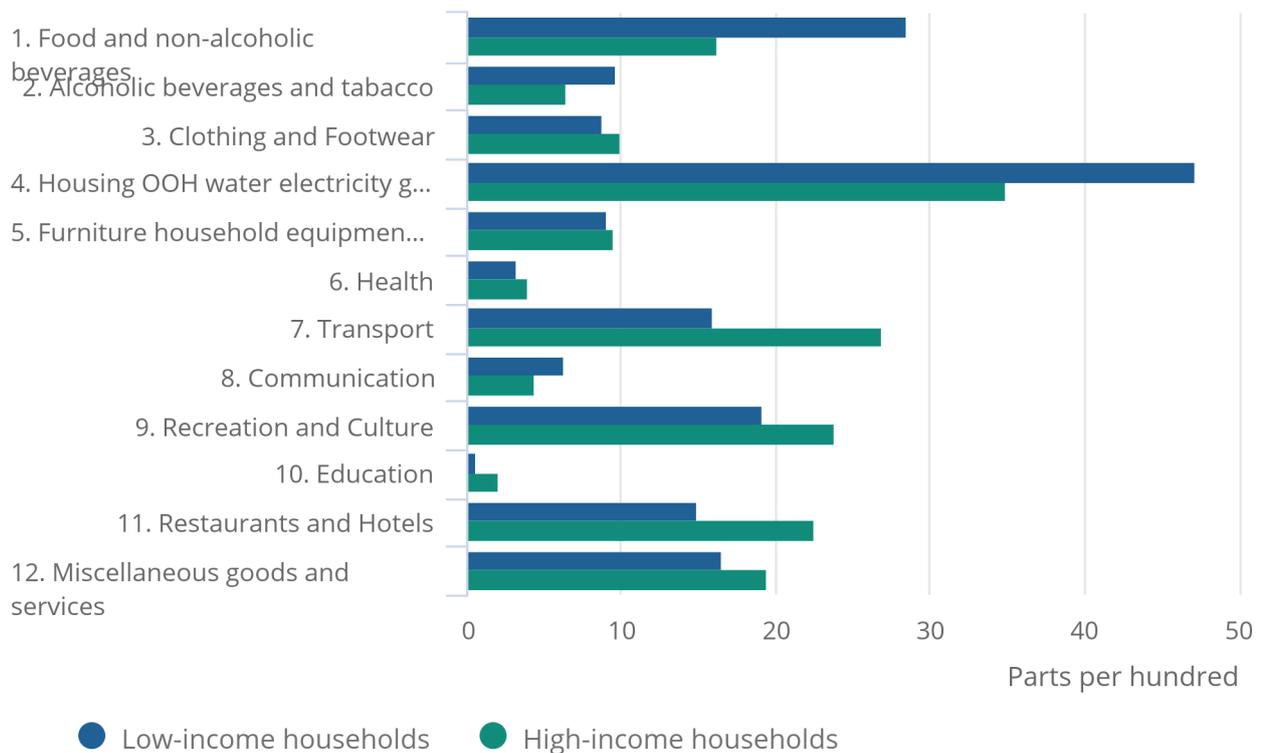
Housing costs are a significant expenditure for both low- and high-income households. High-income households have a larger expenditure share in divisions: "transport", "restaurants and hotels" and "recreation and culture."

Figure 1: Housing costs are a significant expenditure for both low- and high-income households

Expenditure shares for the HCIs of low- and high-income households by COICOP division, UK, 2005 to 2019

Figure 1: Housing costs are a significant expenditure for both low- and high-income households

Expenditure shares for the HCIs of low- and high-income households by COICOP division, UK, 2005 to 2019



Source: Office for National Statistics - Household Costs Indices

Notes:

1. Expenditure shares may not sum to 100% due to rounding.
2. Weights for each category of spending are averaged across the period of 2005 to 2019.
3. Low-income households are those within the second income decile, and high-income households are those within the ninth income decile.
4. The two bars only represent two income deciles and therefore will not sum to 100%.

These differences in the expenditure shares between low- and high-income households are as one would expect. High-income households are more likely to have a higher amount of expenditure on transport compared with low-income households. This may be because high-income households are more likely to use more expensive modes of transport for leisure as well as for work, such as air or railway travel, rather than the bus, for example.

This effect is shown within the expenditure share differences, where air and railway travel have differences of 3 parts per 1,000 and 6 parts per 1,000, respectively, in favour of high-income households. Passenger transport by road has a difference of 4 parts per 1,000, in favour of low-income households. Within the transport division are classes such as new cars, second-hand cars and supplementary items such as fuel, lubricants and maintenance. These classes are typically expensive and as such, those households at the upper end of the income distribution tend to have greater expenditure shares in these classes.

This trend may have reversed, however, in recent months during lockdown, as research shows a [positive correlation between occupations with a higher proportion of those working from home and the average income of those employees](#). [Coronavirus and how people spent their time under lockdown: 28 March to 26 April 2020](#) found households on lower incomes continued to spend less time working from home during lockdown, meaning there was a much smaller reduction in the total time spent travelling and working compared with those on higher incomes.

Additionally, high-income households have a larger expenditure share in the restaurants and accommodation category, compared with low-income households, who have a large contrasting expenditure share difference in the category food and non-alcoholic beverages. This could be because low-income households may be constricted to eating food at home, whereas high-income households may eat more of their meals out at restaurants.

This is supported by the expenditure share differences being heavily skewed towards the food and non-alcoholic beverage division for low-income households, with an expenditure share of 70 parts per 1,000, and the same effect regarding restaurants, with an expenditure share of 25 parts per 1,000 in favour of high-income households.

Over the period used for analysis, households that spend a large proportion of their budget on goods and services that are exposed to large price rises face higher inflation rates. The spending behaviour of the income deciles depicted in Figure 1 conform to economic theory of income elasticity of demand (YED) - which seeks to explain changes in different types of good as income rises.

YED measures the proportionate responsiveness of a change in demand to a change in consumer income. Goods can be categorised broadly as "inferior" and "normal" goods. A normal good has a positive YED, where if incomes rise, more goods are demanded at each price level. If a normal good has a YED between zero and one it is said to be a necessity, implying consumers will buy these types of goods regardless of changes in their income levels.

Luxury goods are a type of normal good whose YED is greater than one. Consumers will buy proportionately more of a good compared with a percentage change in their income. Finally, inferior goods have a negative YED, meaning that as consumers' income rises, demand falls for inferior goods.

In periods where prices for luxury goods are rising at a faster rate than for necessities, high-income households are likely to experience higher inflation rates, as high-income households are likely to have a higher proportion of goods that are defined as luxury goods. While in periods when the cost of household necessities is rising faster, low-income households are likely to experience higher inflation rates, as they tend to have a limited capacity to substitute towards cheaper products (Flower and Wales, 2014)⁴.

Although Figure 1 depicts an interesting illustration of consumer behaviour, it is important to state that these expenditure shares are representative of the HCIs and not the wider UK economy.

Figure 2 illustrates the 12-month growth rates of the HCIs for low- and high-income households. Although the income data are presented annually throughout this article, the HCIs do provide a more granular level of data and are available in a monthly frequency. As such, we present this discussion of the growth rates for the HCIs for low- and high-income households using a monthly frequency.

At the beginning of the sample period these two sets of 12-month growth rates remain close together, until a significant divergence following the 2008 to 2009 economic downturn. This divergence can be explained by analysing the composition of low- and high-income households, where substantially more high-income households are owner-occupiers (84%) compared with low-income households (51%).

Figure 2 illustrates that the two household groups diverge in response to interest rate cuts caused by the 2008 to 2009 economic downturn, which had the effect of reducing mortgage payments for those households that were making them, these households being typically high-income rather than low-income households.

From 2014, the two 12-month HCI growth rates converge until they are almost identical, where in December 2018, low-income households and high-income households experienced a 12-month HCI growth rate of 2.17% and 2.18%, respectively. As the two series continue, they remain close, until they begin to diverge in September 2019.

This divergence can be explained by analysing the main drivers in the differences in the annual growth rates. Between September 2019 and December 2019, package holidays, gas, and restaurants and cafes were the three largest contributors to the upward pressure felt on household costs for high-income households. For low-income households, the main drivers of downward pressure were tobacco, soft drinks and telephones.

Figure 2: At the beginning of the sample period, the 12-month growth rates for low- and high-incomes remain close together, until a significant divergence following the 2008 to 2009 economic downturn

Household Cost Indices, low and high-income households, UK, 2005 to 2019

Figure 2: At the beginning of the sample period, the 12-month growth rates for low- and high-incomes remain close together, until a significant divergence following the 2008 to 2009 economic downturn



Source: Office for National Statistics - Household Costs Indices

Notes for The HCIs for low- and high-income households

1. This is because the lowest (1) and highest (10) income deciles are expected to share the same unusual composition as [described in the CPIH-consistent inflation rate estimates for UK household groups](#), they may display unusual spending patterns that could obscure the underlying trends. Therefore, the focus of this analysis will focus primarily on low income (income decile 2) and high income (income decile 9) households.
2. This analysis should be caveated with the fact that expenditure shares are those calculated for suitability in a price index and therefore are "price updated", meaning that analysis of expenditure data may not give the same results.
3. Analysing the expenditure share trends for the HCIs during 2005 to 2019, expenditure shares do fluctuate in reaction to economic shocks such as the 2008 to 2009 economic downturn, but do return to pre-shock levels, on average, over this time period.
4. Flower. T and Wales. P (2014) 'Variation in the inflation experience of UK households: 2003 to 2014', Office for National Statistics.

6 . Income inequality and inflation, measured by the HCIs

Comparison of nominal and real (HCI deflated) average income for low- and high-income households

To illustrate households' experience of income and changing prices, we have created a real income series for both low- and high-income households. The income series used [is mean equivalised household disposable income of decile groups \(£ per year, not inflated\)](#). To achieve the real (HCI deflated) average¹ income series we deflated each income decile by their respective Household Costs Indices (HCIs) for each income decile. This was achieved using the following formula:

$$Real\ Income_{d^0,t} = \frac{Nominal\ Income_{d^0,t}}{HCI_{d^0,t}} \times 100$$

where; d represents the respective income decile, 0 represents the reference period and t represents the current time period.

The benefit of deflating income for both low- and high-income households by their respective HCI, and not by an aggregate measure of inflation such as the Consumer Prices Index including owner occupiers' housing (CPIH), is that the real income series produced are more representative of the households' experience of changing prices. Although the CPIH provides analysis and results by income decile, the use of the HCI as a deflator reflects the real pressures felt on household budgets. When choosing a deflator, it is important to select one that matches the composition of the measure you are deflating. As such, the HCIs are the optimal choice for this income measure. The HCI price index for each respective decile uses 2005 as its reference period, meaning the real income series produced is in 2005 prices.

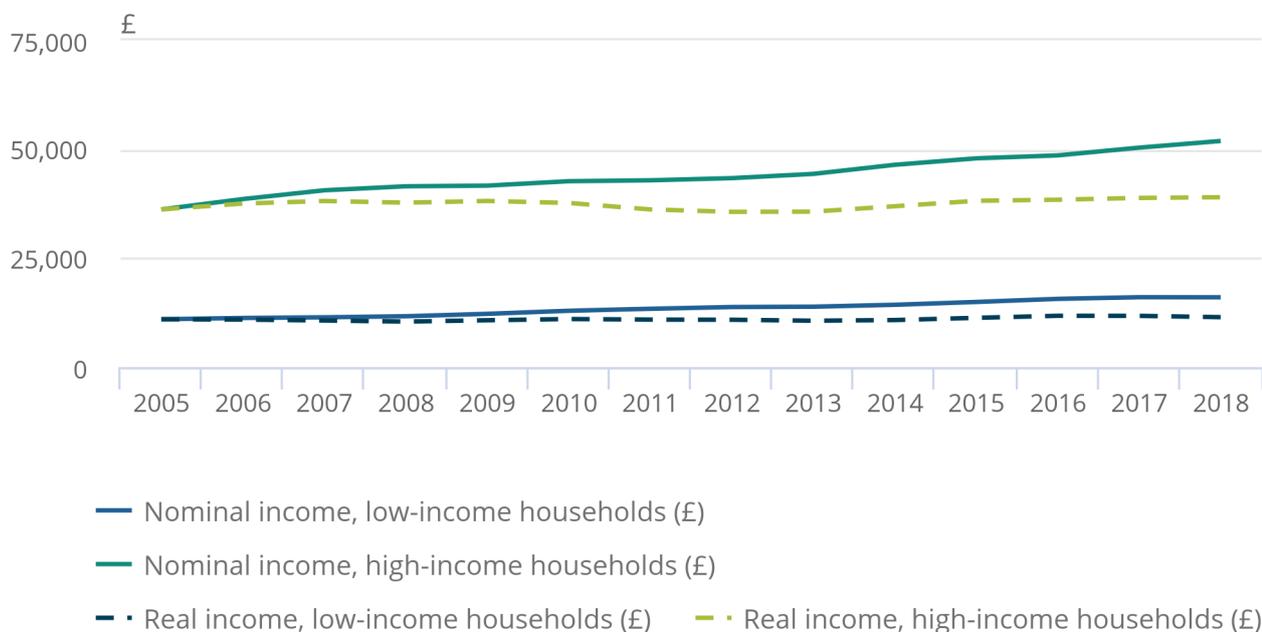
Figure 3 represents the level of income for low-income and high-income households. Both show an increase in their nominal income (depicted by the solid line) over the data time series.

Figure 3: Nominal income increases over the data time series for both low- and high-income households

Nominal and real average equivalised household disposable income for low and high-income households, UK, 2005 to 2018

Figure 3: Nominal income increases over the data time series for both low- and high-income households

Nominal and real average equivalised household disposable income for low and high-income households, UK, 2005 to 2018



Source: Office for National Statistics - Effects of taxes and benefits on household income: historical household-level datasets and Household Costs Indices

Notes:

1. Low-income households are those within the second income decile, and high-income households are those within the ninth income decile.

Figure 3 shows a larger divergence between the nominal and real incomes for the high-income households compared with the low-income households, this implies that high-income households are more exposed to inflation hence the squeeze on their real income. For low-income households, nominal income has increased from £10,985 to £16,022, an increase of 45.9%. By contrast, in real terms, low-income households' average income has increased from £10,984 to £11,461 in 2005 prices over the sample period, an increase of 4.3%.

The nominal income of high-income households has increased 43.4% over the time period, from £36,191 to £51,896. In real terms, the income of high-income households has increased by a higher percentage than low-income households, where average income increased from £36,194 to £38,993 over the time period, an increase of 7.7%.

Income inequality

We have chosen the [Gini coefficient](#) over alternative measures of income inequality, such as the Palma Ratio, P90/P10 ratio or S80/S20 ratio because of the Gini coefficient's wide adoption and ease of interpretation.

The Gini coefficient is a measure of income inequality, which explains the distribution of household income amongst a select population. The closer the value is to zero, the more equally household income is distributed, likewise the closer the value is to 100, the less equally household income is distributed. The extreme case of this is a Gini coefficient of 100, meaning one household receives 100% of the income of all the households within the population.

To calculate the Gini coefficient, we plot a Lorenz curve, which is the plot of the cumulative share of household income against the cumulative share of households. The Gini coefficient is then the area between the Lorenz curve of the income distribution and the diagonal line of complete equality, expressed as a proportion of the triangular area between the curves of complete equality and inequality:

$$\text{Gini coefficient} = \frac{A}{A + B}$$

where A equals the area between the curve of perfect equality and the Lorenz curve and B equals the area below the Lorenz curve. [An example of the Lorenz curve](#) can be found on the economicshelp.org website.

To analyse how inflation affects income inequality, we have used the respective HCIs income decile series to deflate average income for each of the 10 deciles, which were then used to calculate a real (HCI deflated) and nominal Gini coefficient. Through computing a real (HCI deflated) Gini coefficient we can better analyse how movements in the HCIs influence real income and income inequality.

Figure 4 illustrates this relationship. The nominal Gini coefficient initially begins to increase until 2008, where it then gradually decreases over time, increases from January 2011 to January 2014 and a final rise in February 2017 to the end of the sample period.

The real (HCI deflated) Gini coefficient follows a similar path but begins to diverge after February 2007. Figure 4 suggests that generally, income inequality is reducing slightly over the time period. However, if we were to focus on the real (HCI deflated) Gini coefficient, this suggests that inequality does not fall as quickly as the nominal Gini coefficient implies. Although an interesting insight into the effect of inflation on income inequality in the UK, the maximum disparity between the two Gini coefficients is 0.9 percentage points, implying that when inflation is accounted for, its effect is apparent yet not very significant.

This finding should also be caveated that, although there are other sources of income inequality, such as education, unemployment, skills and training or inheritance, our findings illustrate that the positive relationship between inflation and income inequality discussed in previous literature, Albanesi (2017)²; Erosa and Ventura (2002)³, holds true.⁴

Previous literature states that inflation can affect income inequality through three main channels: capital income, labour income and government transfers. Inflation does not affect all income sources equally, since households differ in their source of income, the impact of inflation on their total income will not be equal either (Monnin, 2014). Inflation could affect labour income through the inflation exposure channel, whereby wages that are indexed to inflation are a better hedge (that is, wage rises are more aligned to changes in inflation) than a wage without.

Secondly, the use of capital income can also be used as a hedge against inflation. But access to financial markets for low-income households may be difficult because of entry cost and barriers. Cysre, Maldonado and Klinger Monteino (2005)⁵ show such segmentation induces a positive link between inflation and income inequality.

The final channel is via government transfers. Typically, when government transfers are indexed, lower-income households benefit as they receive a larger share of their income from transfer, such as [unemployment benefits](#) and food stamps.

To explore this relationship further, Figures 5a, 5b, 6a and 6b plot the 12-month growth rate of inflation, measured by the HCIs, for low- and high-income households compared with the real and nominal Gini coefficient. Here the 12-month growth rates for the HCIs are calculated on the annual HCIs, to match the data frequency of the annual Gini coefficient to provide a like-for-like comparison.

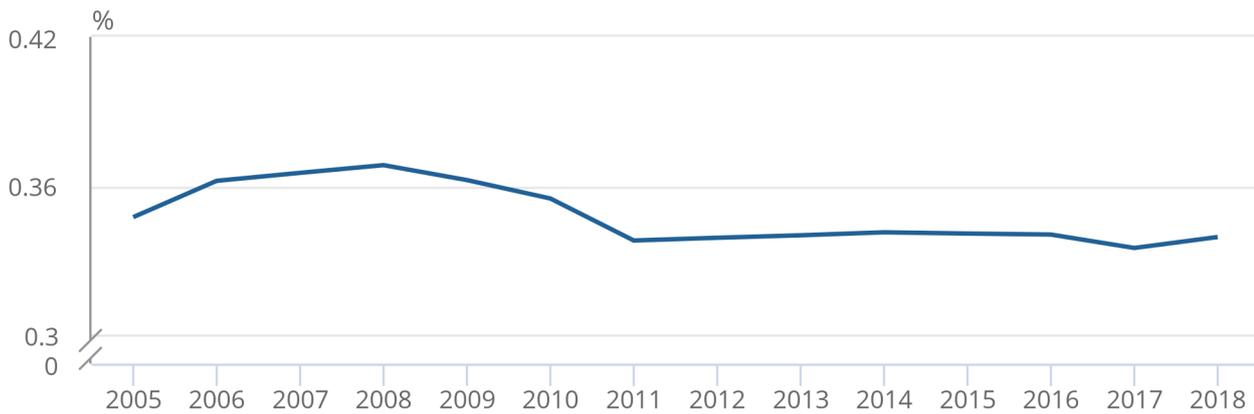
Previous literature states that as inflation increases, income inequality rises. This relationship holds true except for the year 2011, where inflation rises and income inequality falls. When the 12-month growth rates for low- and high-income households diverge, the Gini coefficient rises, indicating an increase in income inequality. The reverse is also true; when the growth rates converge, the Gini coefficient appears to decrease.

Figure 5a: Income inequality is improving gradually over the time period

Nominal Gini Coefficient, UK, 2006 to 2018

Figure 5a: Income inequality is improving gradually over the time period

Nominal Gini Coefficient, UK, 2006 to 2018



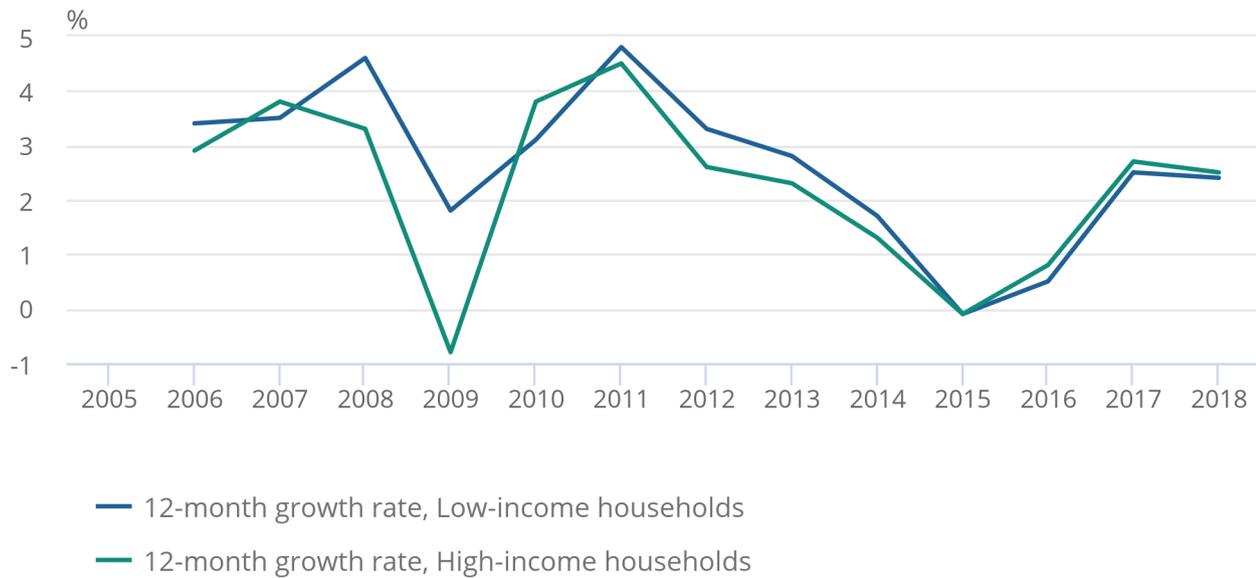
Source: Office for National Statistics - Household Cost Indices

Figure 5b: The two annual growth rates remain close together, except for a significant divergence during the 2008 to 2009 economic downturn

12-month growth rate for low- and high-income households, UK, 2006 to 2018

Figure 5b: The two annual growth rates remain close together, except for a significant divergence during the 2008 to 2009 economic downturn

12-month growth rate for low- and high-income households, UK, 2006 to 2018



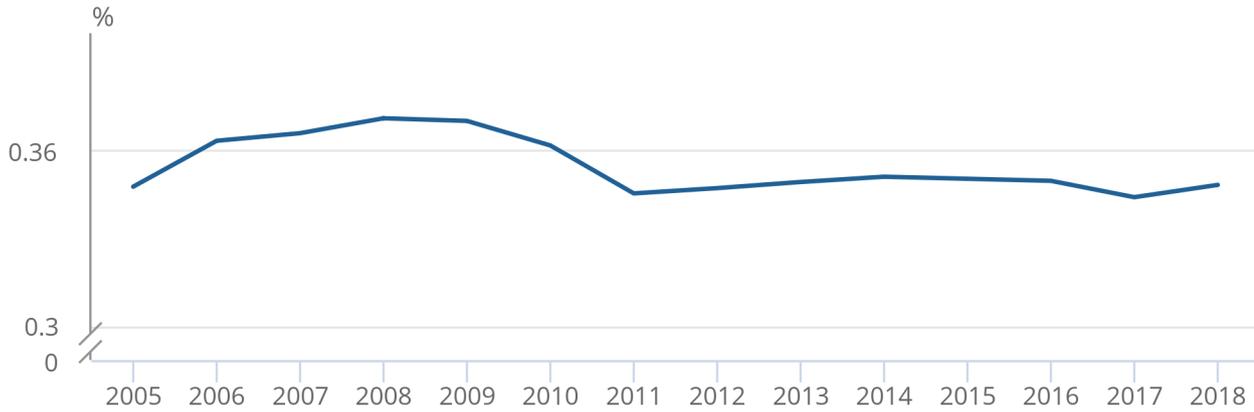
Source: Office for National Statistics - Household Cost Indices

Figure 6a: When household inflation is taken into account, income inequality is not improving as quickly as the nominal Gini coefficient would suggest

Real (HCI deflated) Gini coefficient, UK, 2006 to 2018

Figure 6a: When household inflation is taken into account, income inequality is not improving as quickly as the nominal Gini coefficient would suggest

Real (HCI deflated) Gini coefficient, UK, 2006 to 2018



Source: Office for National Statistics - Household Costs Indices

Figure 6b: After a negative spell for both low- and high-income households, the annual growth rates return positive in 2016

12-month growth rate for low- and high-income households, UK, 2006 to 2018

Figure 6b: After a negative spell for both low- and high-income households, the annual growth rates return positive in 2016

12-month growth rate for low- and high-income households, UK, 2006 to 2018



Source: Office for National Statistics - Household Costs Indices

Notes for Income inequality and inflation, measured by the HCIs

1. Average income refers to the mean income.
2. Albanesi, S. (2007). 'Inflation and inequality', *Journal of Monetary Economics*, Volume 54 Number 4, pages 1088 to 1114.
3. Erosa, A. and Ventura, G. (2002). 'On inflation as a regressive consumption tax', *Journal of Monetary Economics*, Volume 49 Number 4, pages 761 to 795.
4. It is important to highlight that a negative relationship between income inequality and inflation has also been observed in previous literature, see Monnin (2014); Sun (2011) and Maestri and Roventini (2012).
5. Cysne, R., Maldonado, W. and Klinger Monteiro, P. (2005). 'Inflation and income inequality: A shopping-time approach', *Journal of Development Economics*, Volume 78 Number 2, pages 516 to 528.

7 . The effects of the coronavirus (COVID-19)

Globally, job loss is estimated to be 345 million in Quarter 3 (July to Sept) 2020, with [40% of the global workforce employed in sectors that face high risk of displacement](#) and with limited access to health services and social protection (International Labour Organization, 2020).

Studies show that pandemics do raise income inequality. Furceri and others (2020) analyse five major epidemics of this century: SARS (2003), H1N1 (2009), MERS (2012), Ebola (2014) and Zika (2016), and find that the [pandemics lead to a persistent and significant increase in the net Gini measure of inequality](#). The authors also find that after five years the Gini is above its pre-shock level by about 1.25%.

Whilst we are unable to currently analyse the effects of the coronavirus (COVID-19) on household inflation and income inequality because of the timing of data availability, we discuss the potential impacts it may be having on household inflation and income.

The coronavirus has had a significant effect on consumer expenditure, because of public health restrictions and social distancing policies in place. Because of this we have produced analysis on our [re-weighted consumer prices basket](#), which has been adjusted for consumption changes during lockdown. By adjusting the underlying weights, using various data sources, we can see that consumer expenditure on food and drink, housing, education and communication increased during lockdown, while consumer expenditure on restaurants and hotels, transport, clothing, and recreation and culture fell. These changing consumption patterns did have an impact on contributions from different categories of spending to the level of inflation, however, these are largely offsetting, resulting in minimal differences at the aggregate level.

In more recent months as lockdown measures have begun to be eased, we have seen falling prices, especially in restaurants and cafes, because of the Eat Out to Help Out Scheme and Value Added Tax reductions for the hospitality sector. These large downward contributions resulted in the change in the Consumer Prices Index including owner occupiers' housing (CPIH) 12-month inflation rate of 0.44 percentage points between July and August 2020.

We can also see that the effects of the coronavirus are not the same across the income distribution, with some industries feeling a greater impact than others. Recent analysis shows a [positive correlation between occupations with a higher proportion of those working from home and the average income of those employees](#). This demonstrates the potential for widening inequalities to emerge during the pandemic.

Employees that work in occupations that are less likely to be able to work from home risk greater potential exposure to the virus when they must travel to work. This in turn may lead to workers either accepting the increased level of risk, or reducing their activity in the labour market, with their household income suffering detrimentally. This effect will mean that the impact of the coronavirus on household income will not be uniform across the income distribution.

8 . 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.

Equivalised

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 considers 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 living standards 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.

Low- and high-income households

For the purpose of our analysis, low-income households are those within the second income decile and high-income households are those within the ninth income decile. The reasons for choosing the second and ninth deciles are described in the [CPIH-consistent inflation rate estimates for UK household groups](#).

Income inequality

Income inequality is how even or uneven income is distributed throughout a population. The less equal the distribution, the higher income inequality is.

Real income

Real income is the amount of money an individual, household or nation has and the buying power of that money, based on the rate of inflation. Real income can go up or down based on whether the inflation rate is going up or down. When real income goes up, a person's purchasing power increases. Likewise, when real income goes down, purchasing power decreases.

9 . Data sources and quality

As with any research it is important to discuss the possible limitations of the methodology and research techniques taken. As such, one aspect to mention is the use of longitudinal data for the Household Costs Indices (HCIs).

It is expected that a typical household will move through different income deciles over time, but the data does not capture this progression over time. It is also true that the composition of a subgroup will also fluctuate over time, for example, individuals retiring or having children. The data used do not show these changes, it instead shows the experience for the group (income decile) as a whole.

Secondly, one of the main limitations of using a democratically weighted approach relates to the intended coverage of the HCIs. The price indices that inform this method are either extracted from Consumer Prices Index including owner occupiers' housing costs (CPIH) or are constructed based on aggregated data. However, the calculation of "true" household group-specific price indices would require the use of household-specific prices. As price data are collected from retailers rather than by asking households the prices they have paid for each item, separate price indices are not available for different types of household. The methodology thus assumes that households all experience the same changes in price. For more information, please see the [methodology publication](#) for CPIH subgroups.

10 . Future developments

As the Household Costs Indices (HCIs) continue to develop it is hoped that they will be used to inform public debate and other social analysis. The differential experiences of household groups with regards to changing costs is a recurring public concern and the HCIs can help to ground the discussions that arise as a result. Examining the variation in how changing prices and costs impact on the baskets of different household groups can tell us about the choices and challenges with which they are confronted. In so doing, the HCIs can help to analyse potential responses to economic changes as they occur.

11 . Related links

[Household Costs Indices, UK: third preliminary estimates, 2005 to 2019](#)

Bulletin | Released 21 July 2020

UK households' experience of changing prices and costs. These are the third preliminary estimates for 2005 to 2019 of the Household Costs Indices, a set of measures which are currently in development.

[Developing the Household Costs Indices \(HCIs\): October 2020](#)

Article | Released 14 October 2020

The development of a set of measures that aim to reflect UK households' experience of changing prices and costs.

[Household Costs Indices: methodology](#)

Methodology | Last updated 19 December 2017

The methodology used in the Household Costs Indices and how it differs from the methodology used in our lead measure of consumer price inflation.