

Compendium

Household Costs Indices: the intersections of tenure type, retirement status and the presence of children

Analysis of changing household costs between 2005-2018 for retired and non-retired households and households with and without children grouped by tenure type.

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1 . Main points

- We extend the analysis presented in [Household Costs Indices \(HCIs\), second preliminary estimates, UK: 2015 to 2018](#) to examine the effect of the intersection of household tenure type with retirement status and presence of children in the household.
- The extent to which households experience different rates of change of household costs is predominantly driven by their exposure to mortgage interest payments during the period 2008 to 2010.
- Childless households in subsidised rented accommodation have on average seen their costs rise 33% faster than owner occupied households with children (2.8% compared with 2.1%).
- Among non-retired households, the proportion of household expenditure spent on housing is nearly twice as large for private renters as for owner-occupiers.
- Other factors driving differences between the groups are food and energy bills for households with children and retired households, while transport costs are influential for households without children.

2 . Introduction

On 25 April 2019 we published the [Household Costs Indices \(HCIs\), second preliminary estimates, UK: 2015 to 2018](#). The HCIs are a new set of measures designed to complement our lead measure - the Consumer Prices Index including owner occupiers' housing costs¹ (CPIH). The HCIs reflect changing prices and costs as experienced by different household groups. In other words, they reflect the month-on month impact of changing prices on household budgets. The publication focussed on a range of subgroups: retired and non-retired households, households with and without children, income deciles, and different tenure types.

This article will explore these findings further by focussing on different types of households, within groups. We examine the effect of tenure type on retired and non-retired households, as well as households with and without children.

For each grouping we present an all-items Household Costs Index and its annual growth rate, alongside an analysis of the divisional expenditure breakdown, contributions to the annual growth rate and the drivers of the differences within groups.

Notes: Introduction

1. The most comprehensive measure of inflation as it includes owner-occupiers' housing costs and Council Tax, which are excluded from the CPI

3 . The Households Costs Indices – purposes and design

The [Household Costs Indices](#) (HCIs) have been designed to complement our other measures of price change:

- the Consumer Prices Index including owner occupiers' housing costs (CPIH), which is our most comprehensive measure of inflation
- the Consumer Prices Index (CPI), which omits certain housing costs; it is an internationally comparable measure
- the Retail Prices Index (RPI) – a legacy measure that only continues to be produced for ongoing use in pre-existing gilts and long-term contracts

The focus of the HCIs on the impact of price changes on household budgets leads to several key differences in their design. Like our other indices, the HCIs capture expenditure data from the Living Costs and Food survey (LCF), however they weight this data differently. CPI and CPIH weight a household's expenditure contribution according to its share of the total. This so-called "plutocratic" approach to weighting most closely captures the value of money across the whole economy, at the expense of emphasising contributions from higher-spending households. In contrast the HCIs weight expenditure contributions according to how representative the specific household is of the population. In this way, the "democratic" weighting approach of the HCIs more closely captures the experience of a typical household.

Another difference in the design of the HCIs brought about by the focus on household budgets is that expenditure on goods and services is, in principle, counted at the point in time that they are paid for, which is not necessarily the point in time at which they are acquired. For many goods the distinction between the payments approach of the HCIs and the acquisition approach, which largely underpins CPI and CPIH, is inconsequential. For larger items however, this can be significant. Items such as owner-occupied housing, cars, tertiary education and household appliances are acquired at a point in time but paid for over many years through finance agreements. The HCIs aim to reflect this reality in their design.

The adoption of a payments approach leads to differences in the scope of items included in the HCIs. If goods are paid for via finance arrangements that attract interest then it is logical to include a measure of this interest in the index as this is a monthly cost that households incur, while CPIH deems this out of scope. The last release of the HCIs included a measure of credit card interest, and treated student loan repayments rather than headline tuition fees as the measure of higher education costs. The HCIs also consider insurance premia on a gross basis rather than net of claims, as this more closely reflects the experiences of households.

More detailed description of the HCIs and our other price change measures can be found in our previous publications:

- [Measuring changing prices and costs for consumers and households: March 2018](#)
- [Household Costs Indices: methodology](#)

4 . HCIs for retired and non-retired households, separated by tenure type

In the publication [Household Costs Indices, UK: second preliminary estimates, 2005 to 2018](#), we introduced a new population subgroup for analysis – that of housing tenure type. Households were grouped according to whether they were subsidised rented, privately rented or owner-occupied. As housing costs make up the largest share of household expenditure across all households they proved to be a significant driver of differences between groups.

Analysis of the Household Costs Indices (HCIs) for retired and non-retired households showed that retired households overall spend a smaller share of their expenditure on owner-occupied housing payments, but more on other housing related costs (for example energy). This is expected as many retired households own their homes outright and no longer make mortgage payments. Their proportionally larger expenditure on energy may be explained by spending more time at home, which would align with the observation that they also spend proportionally less on transport. Retired households tend to spend more on food and healthcare, and less on restaurants and accommodation, and clothing.

Examining the household characteristics of the Living Costs and Food (LCF) data shows the sample sizes available to us for analysis. This reveals firstly that there are very few retired households living in privately rented accommodation, meaning we are unable to provide a robust analysis of their expenditure trends. It also shows that proportionally more retired households are owner-occupied (75% compared with 67% for non-retired).

Table 1: Mean annual LCF sample sizes broken down by retirement status and tenure type, UK, 2005 to 2018

Tenure type	Non-retired households			Retired households		
	Count	% of group	% of total	Count	% of group	% of total
Subsidised rented	726	18%	13%	333	21%	6%
Privately rented	595	15%	11%	55	3%	1%
Owner-occupied	2726	67%	49%	1175	75%	21%

Source: Office for National Statistics

Table 2 shows the year-on-year average annual growth rates in the HCI, alongside the cumulative costs increase between 2005 and 2018 for each type of household. It bears out the observations from the [second preliminary release of the HCIs](#) that cost increases have been lower for non-retired households and lower for those in owner occupied housing. The combination of these effects has been more pronounced amongst non-retired households.

Table 2: Summary annual growth rates and cumulative costs increases for retired and non-retired households by tenure type, UK, 2006 to 2018

Tenure Type	Non-retired households		Retired households		All Retirement Statuses	
	Annual Growth Rate	Cumulative % costs increase, 2005-2018	Annual Growth Rate	Cumulative % costs increase, 2005-2018	Annual Growth Rate	Cumulative % costs increase, 2005-2018
Subsidised rented	2.6	40.80%	2.9	45.70%	2.7	42.40%
Privately rented	2.5	38.20%	N/A	N/A	2.5	38.50%
Owner occupied	2.2	34.20%	2.7	43.10%	2.3	36.60%
All tenure types	2.3	35.90%	2.7	43.70%	2.4	38.00%

Source: Office for National Statistics

Notes

1. The average presented is the compound average 12-month growth rate of the unrounded indices. Consequently it may differ from the arithmetic average of the 12-month growth rates presented in this article. [Back to table](#)
2. All figures presented in this table are rounded to 1 decimal place (dp). [Back to table](#)

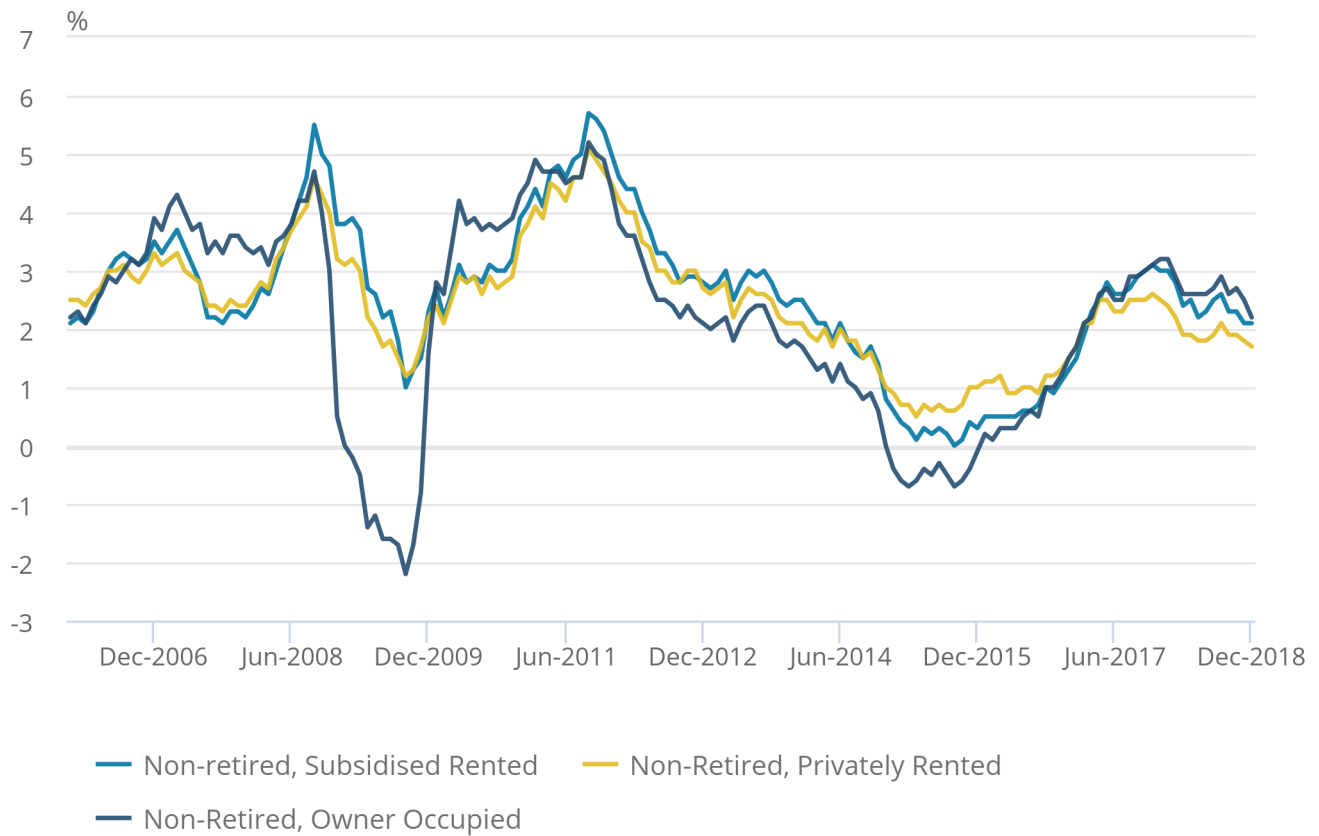
Examining the progress of household costs over time gives an indication of the drivers of this difference between groups. Figure 1 shows the year-on-year growth rate of the HCIs for each of the subgroups. While the HCIs for retired households of all tenure types track each other relatively closely, for non-retired households there is a pronounced decline for owner-occupiers between 2008 and 2010 coinciding with the financial downturn and related interest rate cuts. This had the effect of reducing mortgage payments for those households that were making them, and these households were predominantly non-retired. Elsewhere on the chart the growth rates are much closer to each other, suggesting that most of the difference between non-retired owner-occupied households and other non-retired households at the end of 2018 can be accounted for by this event.

Figure 1a: Growth rates for non-retired owner-occupiers dropped sharply between 2008 to 2010

Household Costs Indices, non-retired households by tenure type, 12-month growth, UK, January 2006 to December 2018

Figure 1a: Growth rates for non-retired owner-occupiers dropped sharply between 2008 to 2010

Household Costs Indices, non-retired households by tenure type, 12-month growth, UK, January 2006 to December 2018



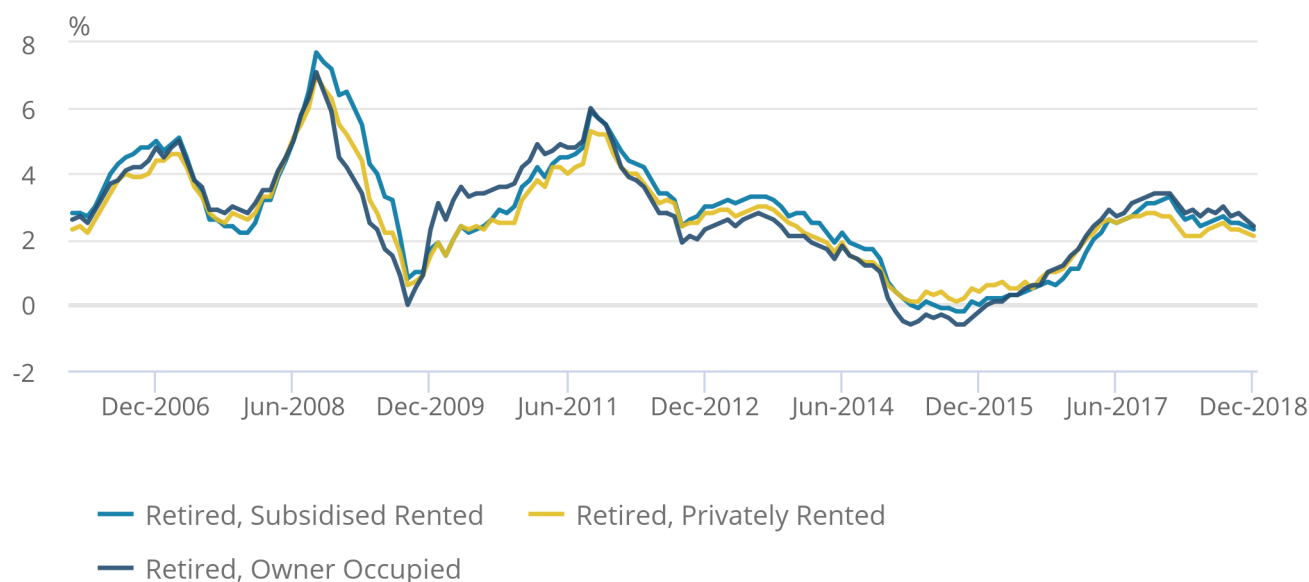
Source: Office for National Statistics

Figure 1b: Growth rates for all types of retired household tracked each other more closely

Household Costs Indices, retired households by tenure type, 12-month growth rates, UK, January 2006 to December 2018

Figure 1b: Growth rates for all types of retired household tracked each other more closely

Household Costs Indices, retired households by tenure type, 12-month growth rates, UK, January 2006 to December 2018



Source: Office for National Statistics

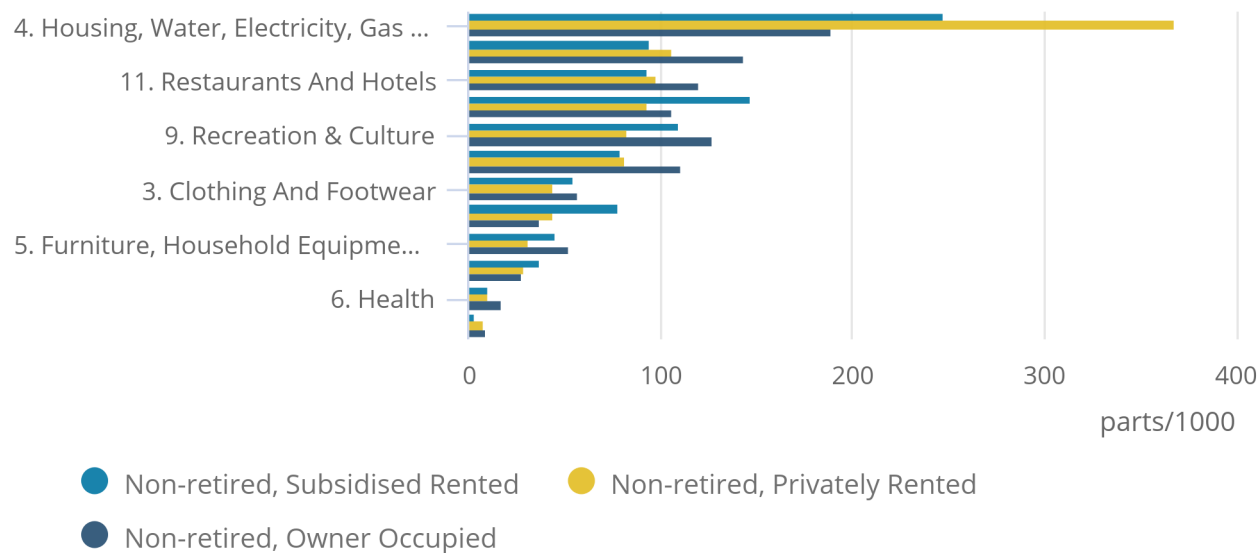
Examining the breakdown of expenditure shares between subgroups illustrates the increased proportion of expenditure that subsidised, and especially private renters devote to housing. For non-retired households the proportion of expenditure spent on housing is 95% larger for private renters than owner-occupiers (368 parts per thousand compared with 189). When we look at where owner-occupiers distribute their displaced expenditure there is no single category that dominates, suggesting that owner-occupiers have wide discretion over how they spend their budgets outside of housing.

Figure 2: Non-retired private renters spend nearly twice as much proportionally on housing as owner-occupiers

Household Costs Indices, average expenditure share, UK, 2005 to 2018

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Household Costs Indices, average expenditure share, UK, 2005 to 2018



Source: Office for National Statistics

Notes:

- 1. Expenditure shares may not sum to 1,000 due to rounding.
- 2. Weights for each category of spending are averaged across the period of 2005 to 2018.

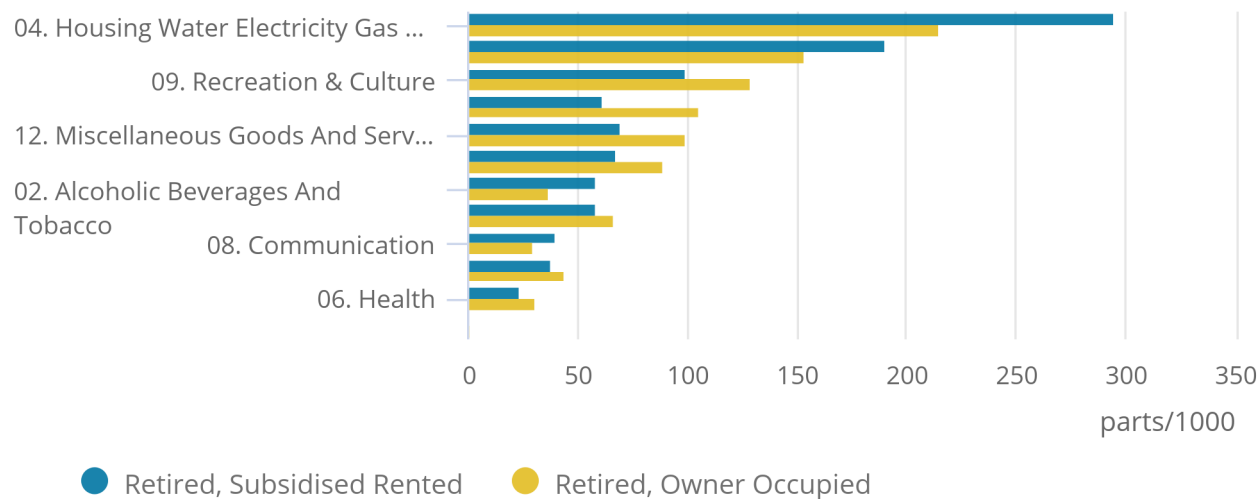
When considering retired households, the small sample size of private renters means it is more appropriate to compare subsidised renters and owner-occupiers. It is notable that subsidised renters still spend a greater proportion of their expenditure on housing than owner-occupiers (296 parts per thousand compared with 219).

Figure 3: Retired households in subsidised rented accommodation spend proportionally more on housing and food

Household Costs Indices, average expenditure share, UK, 2005 to 2018

Figure 3: Retired households in subsidised rented accommodation spend proportionally more on housing and food

Household Costs Indices, average expenditure share, UK, 2005 to 2018



Source: Office for National Statistics

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- 1. Expenditure shares may not sum to 1,000 due to rounding.
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Understanding how households distribute their expenditure between categories helps to explain drivers of differences in their annual growth rates. For example, households that spend a greater proportion of their outgoings on food will be more exposed to price changes in that category. Analysing contributions to the annual growth rate can display how this plays out over time, and studying the differences between groups in these contributions can show how and where experiences of costs growth diverge the most.

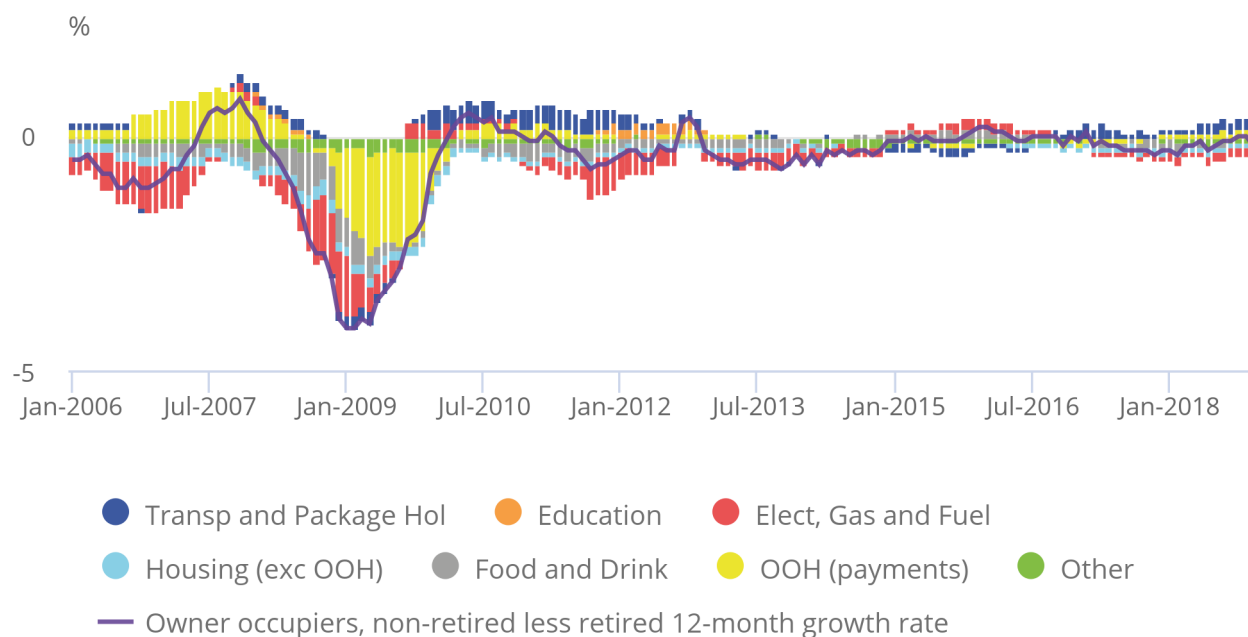
As Figure 1 demonstrated, growth rates for retired households track each other closely, and a contributions analysis shows that the underlying expenditure shares are also consistent. However, some interesting observations can be made if tenure type is held fixed and we compare between retirement statuses. A chart of the differences in contributions between non-retired and retired owner-occupied households clearly shows the effect of owner-occupied housing payments early in the series, as well as the increased exposure to energy costs faced by retired households.

Figure 4: Owner-occupied housing costs drive most of the variation in growth rates prior to 2010

Household Costs Indices, retired and non-retired owner-occupied households, contributions to difference in 12-month growth rates, UK January 2006 to December 2018

Figure 4: Owner-occupied housing costs drive most of the variation in growth rates prior to 2010

Household Costs Indices, retired and non-retired owner-occupied households, contributions to difference in 12-month growth rates, UK January 2006 to December 2018



Source: Office for National Statistics

Notes:

1. Stacked bars reflect the percentage point contributions of each of the 87 class-level items to the 12-month growth rate, or the difference in 12-month growth rates. The contribution of each of the 87 class-level items is estimated separately, before being aggregated to seven distinct categories.
2. 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.
3. "Food and drink" comprises food, non-alcoholic and alcoholic beverages and tobacco. "Housing (exc. OOH)" comprises actual rents, Council Tax, and products and services for the repair of dwellings. Owner occupiers' housing costs (payments) is a separate category. "Elect., gas and fuel" comprises 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.
4. Contributions may not sum due to rounding.

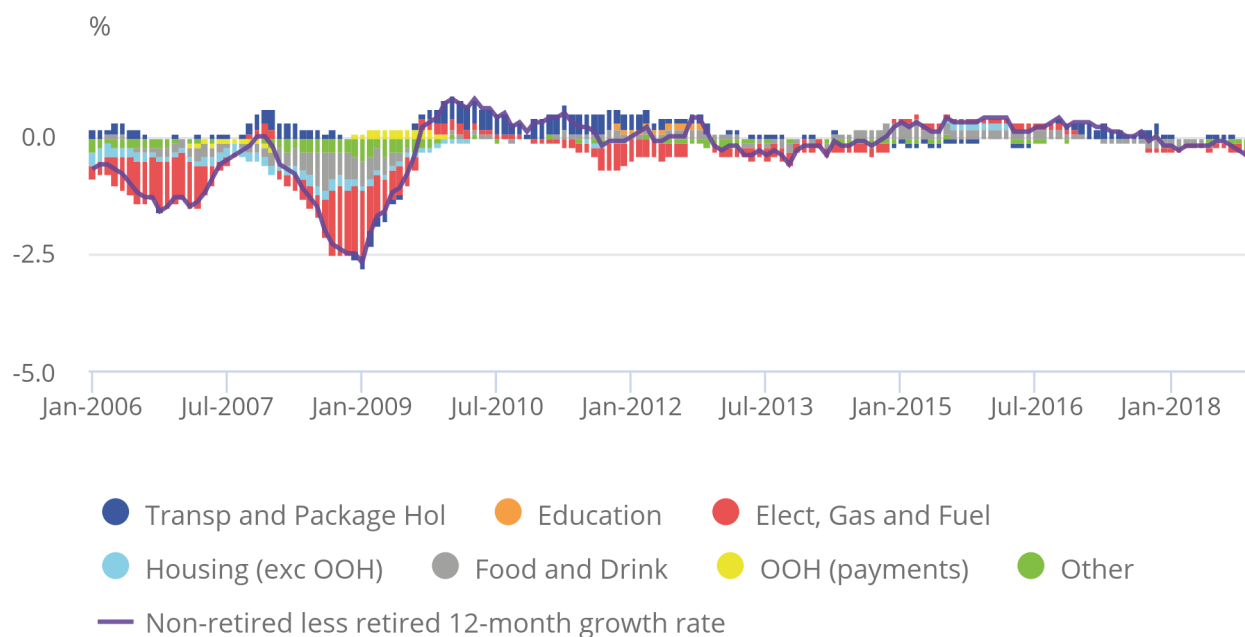
A similar chart for subsidised renters further emphasises the impact of energy bills on retired households and highlights the increased exposure to transport costs faced by non-retired households.

Figure 5: Among subsidised renters, retired households are more sensitive to changes in energy costs

Household Costs Indices, retired and non-retired subsidised rented households, contributions to difference in 12-month growth rates, UK January 2006 to December 2018

Figure 5: Among subsidised renters, retired households are more sensitive to changes in energy costs

Household Costs Indices, retired and non-retired subsidised rented households, contributions to difference in 12-month growth rates, UK January 2006 to December 2018



Source: Office for National Statistics

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4. Contributions may not sum due to rounding.

5 . HCIs for households with and without children, separated by tenure type

As the Living Costs and Food survey (LCF) captures details of the number of children living in households it is also possible to construct Household Costs Indices (HCIs) for households with and without children. Extra care is required when interpreting these results however, as almost all (99.1%) of retired households are also childless. This means that a proportion of what we observe in this analysis can be associated with retirement status rather than the presence or absence of children. The picture is complicated further when we are reminded that the distribution of tenure types across retired households is markedly different from the wider population.

We find that for households without children, 47% of subsidised rented households and 42% of owner-occupied households are also retired, while the figure for privately rented households is only 13%. For consistency with the second preliminary release of the HCIs, the following analysis includes retired households in the without children group.

The annual growth rates and cumulative costs increase between 2005 and 2018 for households with and without children are shown in Table 3:

Table 3: Summary annual growth rates and cumulative costs increases for households with and without children by tenure type, UK, 2006 to 201

Tenure type	Households without children		Households with children		All households	
	Annual Growth Rate	Cumulative % costs increase, 2005-2018	Annual Growth Rate	Cumulative % costs increase, 2005-2018	Annual Growth Rate	Cumulative % costs increase, 2005-2018
Subsidised rented	2.8	44.5%	2.4	38.0%	2.7	42.4%
Privately rented	2.5	39.1%	2.4	37.1%	2.5	38.5%
Owner occupied	2.5	38.4%	2.1	32.1%	2.3	36.6%
All tenure types	2.5	39.7%	2.2	33.9%	2.4	38.0%

Source: Office for National Statistics

Notes

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Households without children have experienced larger increases in costs than households with children. Some of this will be explained by the composition effect already described, as retired households have also encountered larger costs increases and almost all retired households are childless. Excluding retired households from the without children group would be expected to lower their growth rates, especially in the case of owner-occupiers. The difference between childless subsidised renters and owner-occupiers with children is striking: 2.8% compared with 2.1%.

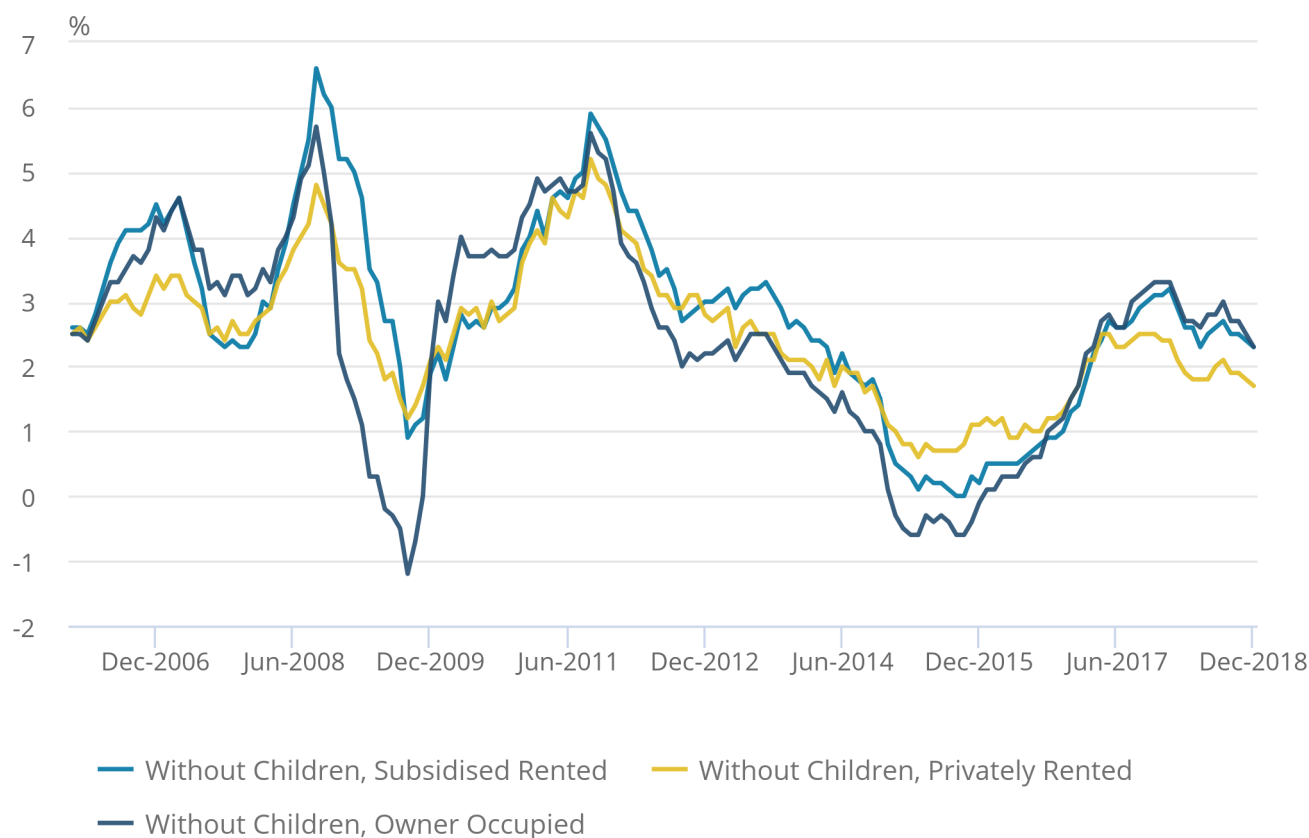
Figure 10 shows where growth rates have diverged over the period 2005-2018. As already seen with the retired /non-retired analysis, owner occupiers saw a significant drop in their costs during the financial downturn. This effect is far more pronounced for households with children, an effect partly caused by the absence of retired households (who are largely free of mortgage payments) from this group. Compared with owner occupiers, the series for private and subsidised renters follow each other closely and are less volatile overall

Figure 6a: Owner-occupiers with and without children experienced declines in costs in 2009

Household Costs Indices, households without children by tenure type, 12-month growth, UK, January 2006 to December 2018

Figure 6a: Owner-occupiers with and without children experienced declines in costs in 2009

Household Costs Indices, households without children by tenure type, 12-month growth, UK, January 2006 to December 2018



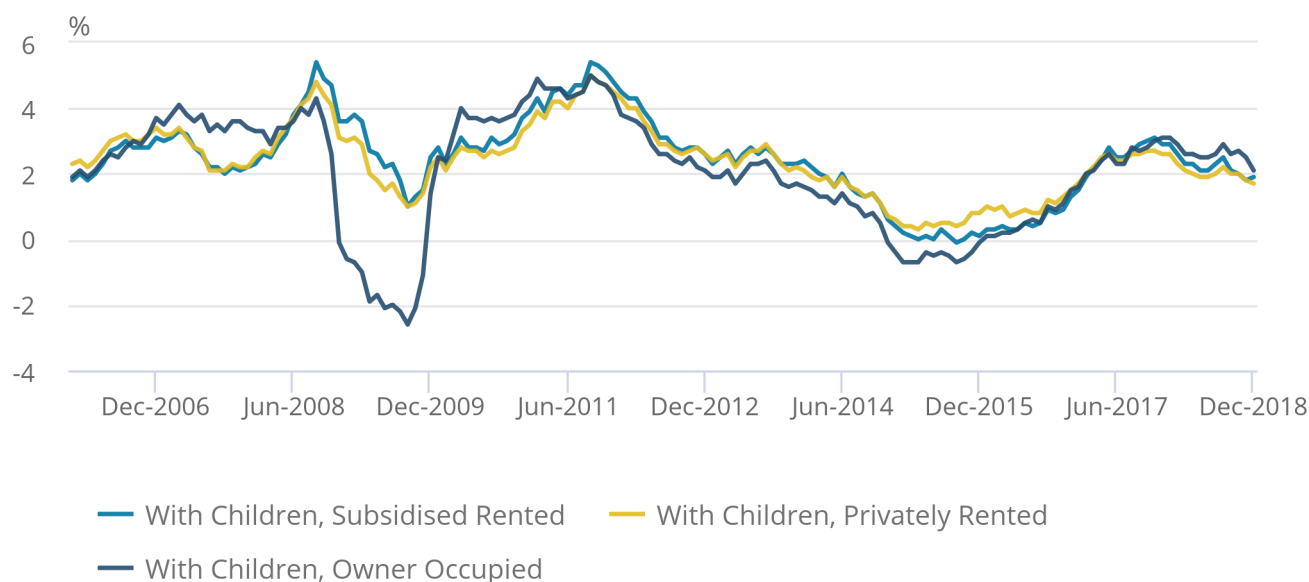
Source: Office for National Statistics

Figure 6b: Owner-occupied households with children saw a steep drop in costs during 2008 to 2009

Household Costs Indices, households with children by tenure type, 12-month growth rates, UK, January 2006 to December 2018

Figure 6b: Owner-occupied households with children saw a steep drop in costs during 2008 to 2009

Household Costs Indices, households with children by tenure type, 12-month growth rates, UK, January 2006 to December 2018



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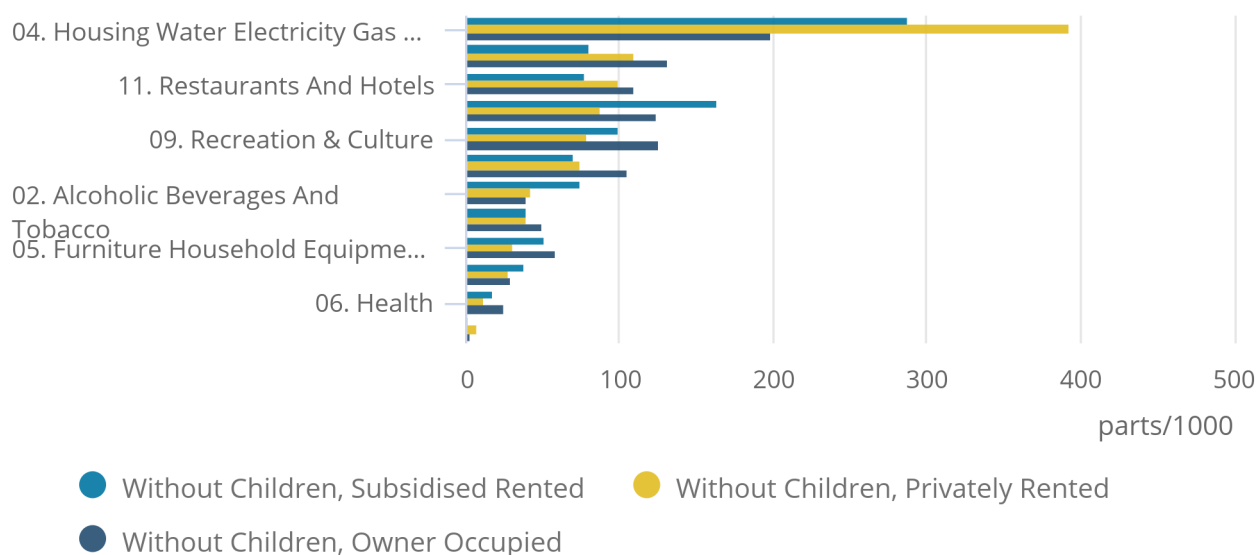
A breakdown of expenditure into classification of individual consumption by purpose (COICOP) divisions shows that housing dominates. This is especially true for private renters, and of those it is households without children who have spent the greatest proportion of their outgoings on housing (390 parts per thousand).

Figure 7: Privately rented households without children spend proportionally less on food and recreation

Household Costs Indices, average expenditure share, UK, 2005 to 2018

Figure 7: Privately rented households without children spend proportionally less on food and recreation

Household Costs Indices, average expenditure share, UK, 2005 to 2018



Source: Office for National Statistics

Notes:

1. Expenditure shares may not sum to 1,000 due to rounding.
2. Weights for each category of spending are averaged across the period of 2005 to 2018.

Examining the differences in expenditure breakdown, we can see that for households without children there are some clear patterns. Privately rented households have spent a far greater proportion of their outgoings on education than either subsidised renters or owner-occupiers. It might be expected that private renters are as a group younger than the other tenure types (recall Table 1, and the lack of retired households in privately rented accommodation) and therefore feature a greater proportion of recent graduates.

Owner-occupiers have spent a far smaller proportion of their outgoings on housing than either category of renter. Compared to subsidised renters, owner-occupiers spend more on education, transport, financial services and health. However, when comparing with private renters a different set of expenditure categories emerges. After health, furniture, recreation and food are the next largest differences in percentage terms. This resonates with the analysis for retired and non-retired households, because as there are relatively few retired households in privately rented accommodation the expenditure patterns for private renters are more likely to track those of the non-retired population.

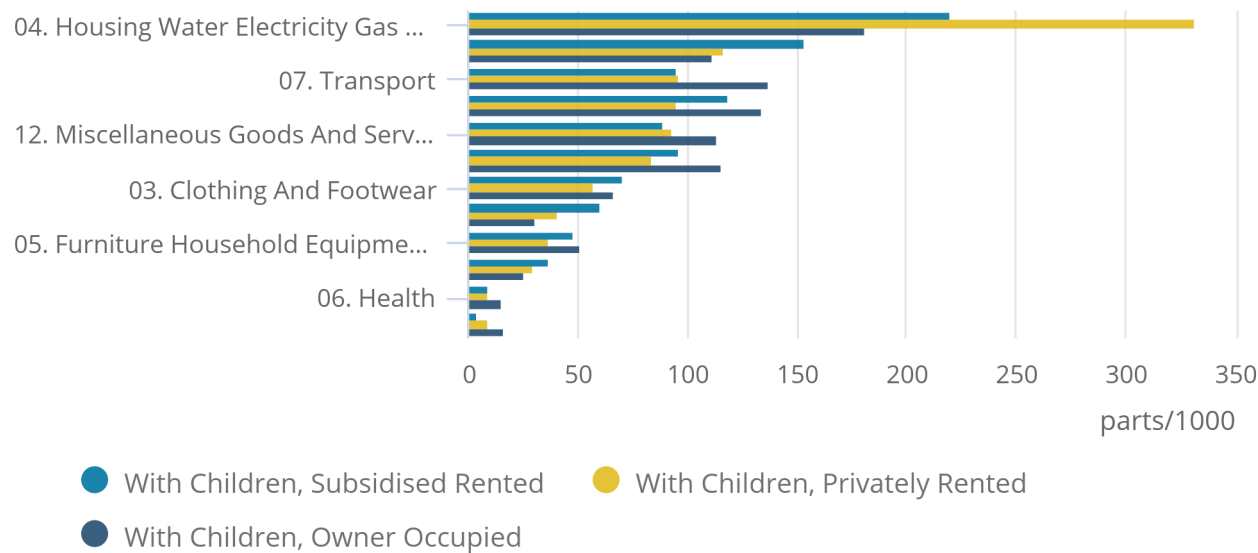
Turning to households with children, owner-occupiers spend a far larger proportion of their outgoings on education services than private renters, who in turn spend a larger proportion of their outgoings on education than subsidised renters. Housing costs make up a much greater proportion of expenditure for private renters than either subsidised renters or owner-occupiers.

Figure 8: Among households with children, owner-occupiers spend the highest proportion on education

Household Costs Indices, average expenditure share, UK, 2005 to 2018

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Household Costs Indices, average expenditure share, UK, 2005 to 2018



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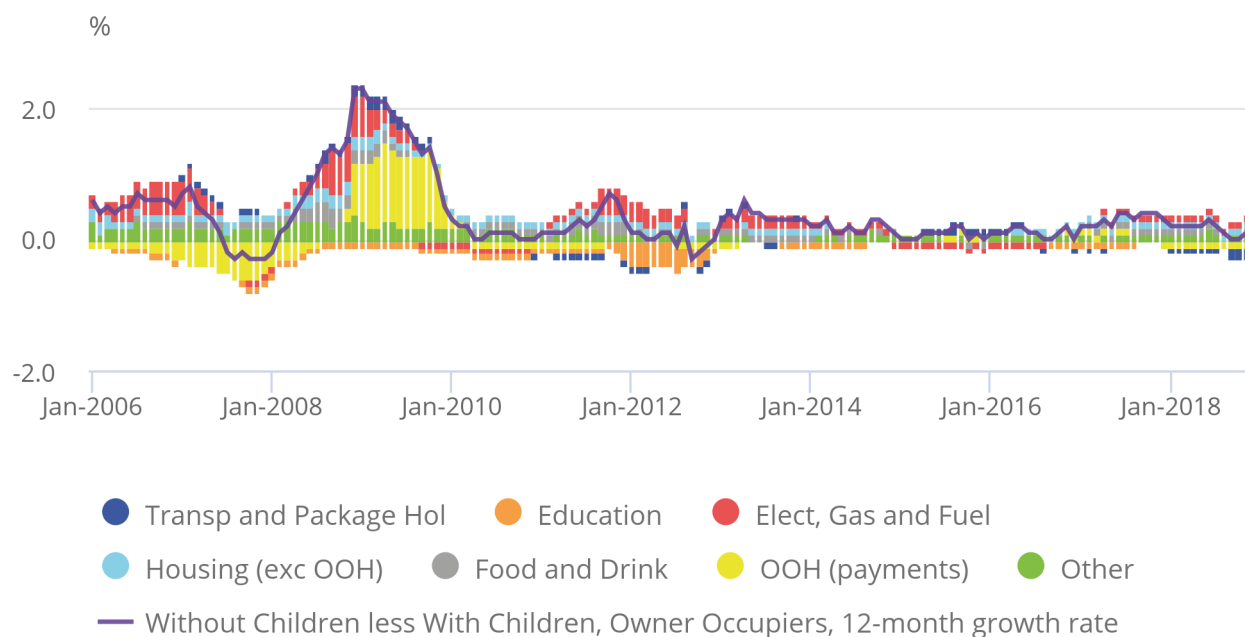
Examining the differences in contributions for households with and without children shows that the sharp difference in annual growth rate for owner-occupied households between 2008 and 2010 was caused mainly by owner-occupied housing and energy. Only education costs have consistently worked to increase the growth rate for households with children.

Figure 9: For owner-occupiers, housing and energy costs drove substantial differences in the growth rate

Household Costs Indices, owner-occupied households with and without children, contributions to difference in 12-month growth rates, UK January 2006 to December 2018

Figure 9: For owner-occupiers, housing and energy costs drove substantial differences in the growth rate

Household Costs Indices, owner-occupied households with and without children, contributions to difference in 12-month growth rates, UK January 2006 to December 2018



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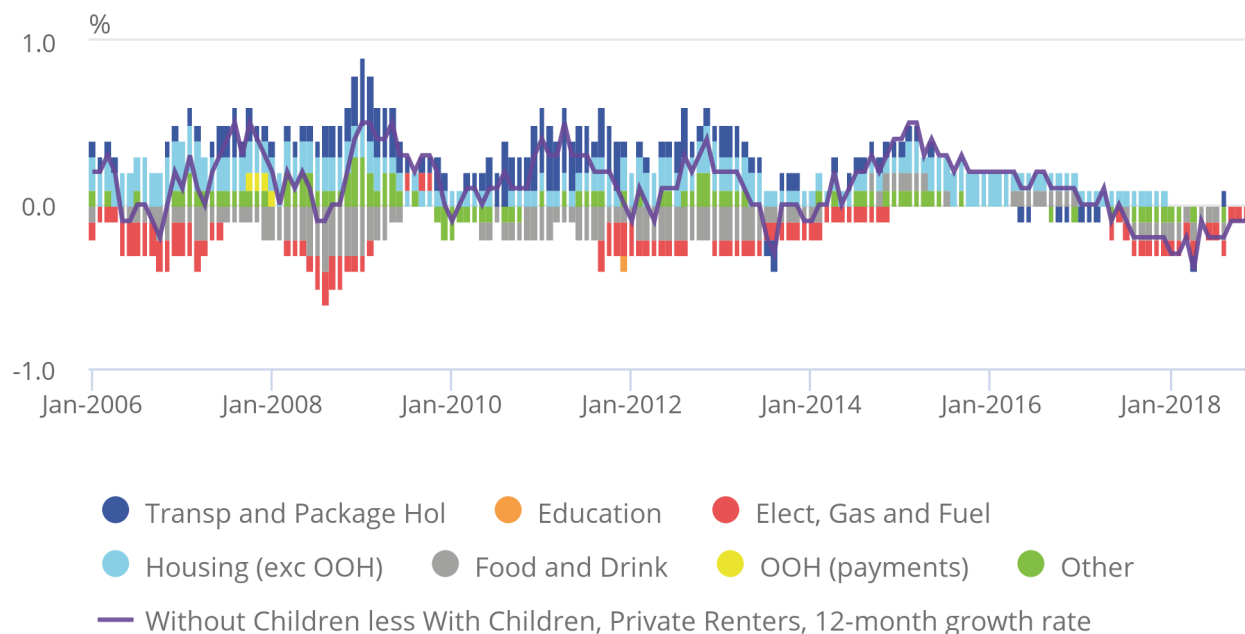
Turning to the privately rented sector, the overall difference in growth rate between households with and without children does not show the dramatic divergence between 2008 and 2010 seen among owner-occupiers. Food and energy costs are the most prominent categories for households with children, reflecting a tendency firstly for this group to spend more time at home, and secondly for them to be larger households generally. Transport and housing (excluding owner-occupied housing costs) are the main drivers for households without children. The influence of transport on households without children is notable as the analysis of retired and non-retired households revealed that transport is a driver of growth for non-retired households. The presence of transport as a growth driver for households without children suggests that it is strong enough to override the influence of retired households within this group.

Figure 10: For renters, growth in food and energy costs for households with children is balanced by transport

Household Costs Indices, privately rented households with and without children, contributions to difference in 12-month growth, UK January 2006 to December 2018

Figure 10: For renters, growth in food and energy costs for households with children is balanced by transport

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6 . Conclusions

The main conclusion from this analysis is that greatest driver of differences between groups is exposure to interest rates between 2008 and 2010. Households repaying mortgages at that time benefitted from sharp cuts in interest rates, and ongoing low rates have meant that this difference has carried through to the present day amounting to about 6% between subsidised renters and owner-occupiers.

Elsewhere, we can see where particular circumstances lead to households facing greater or lesser exposure to price and expenditure movements in certain categories of goods. Households with children and retired households are both sensitive to price changes in food and energy. Households without children are more sensitive to price changes in transport, even allowing for the inclusion of retired households who tend to spend less in this category.

It is reasonable to argue that tenure type may be taken as a proxy for income level, and therefore the case could be made that some of the effects we see in this analysis are really driven by income. One avenue for further analysis in the future could be to use income data to separate out these effects.

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.

7 . Author

Huw Pierce