

Article

Alternative measures of UK households' income and saving: October to December 2017

Experimental Statistics on the impact of removing "imputed" transactions from real household disposable income and the saving ratio to better represent the economic experience of UK households.

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1 . Main points

- Cash basis real household disposable income (RHDI) fell in 2017 for the first time since 2011, due mainly to a rise in prices experienced by households.
- RHDI per head fell for the second successive year in 2017, both on a national accounts and cash basis.
- The cash basis saving ratio fell to 0.9% in 2017, from 2.9% in 2016. However, it remained unchanged quarter on quarter at 1.4% in Quarter 4 (Oct to Dec) 2017.

2 . Things you need to know about this release

This article provides an update to data for the experimental [Alternative measures of UK real household disposable income and the saving ratio: July to September 2017](#), which was published on 9 January 2018. These data estimate disposable income and the saving ratio less the transactions that are imputed and unobserved by households. Sections 3 and 7 explain the removal of such transactions in greater detail.

This article compares experimental cash-based measures of real household disposable income (RHDI) and the saving ratio with the internationally comparable national accounts defined methodology as published in the [Quarterly Sector Accounts](#) on 29 March 2018.

This is an experimental product and we are continually reviewing the methodology used to produce the cash measures of RHDI and the saving ratio as well as how we present the product. Following user feedback, we have added the time series (1997 onwards) of transactions removed from the cash-based measures of RHDI and the saving ratio in the [Alternative measures of RHDI and saving ratio](#). We hope this will make it easier for users to follow through the methodology using one single dataset.

We continue to welcome feedback from users about the future content of this article and publication tables and are particularly interested to know how you make use of these data to inform your work. Please email us at sector.accounts@ons.gov.uk.

Estimates within this release

This article includes new data for the latest available quarter, Quarter 4 (Oct to Dec) 2017. It also includes revisions from Quarter 1 (Jan to Mar) 2017. These reflect better or more complete source data and methodological improvements that have been introduced in line with the [National Accounts Revisions Policy: updated December 2017](#).

Data within this article are estimated in current prices (also called nominal terms), except for cash basis RHDI, which is estimated by deflating gross disposable income using the cash-based household final consumption expenditure implied deflator. This cash-based deflator excludes the effect of price changes that are not directly experienced by households (that is imputed rentals of housing and financial intermediation services indirectly measured (FISIM)) in order to better reflect the real purchasing power of households in terms of the quantity of goods and services they would be able to purchase if observed prices remained constant over time.

Current price series are expressed in terms of the prices during the time period being estimated. In other words, they describe the prices recorded at the time of production or consumption and include the effect of price inflation over time. RHDI, on the other hand, is a measure of the real purchasing power of households' incomes and it enables users to make comparisons of households' disposable income over time.

All data in this article are adjusted for seasonality, unless otherwise stated. Seasonal adjustment removes seasonal or calendar effects from data to enable more meaningful comparisons over time.

The [Population estimates for UK, England and Wales, Scotland and Northern Ireland](#) used in this release are those published on 22 June 2017 and the [population projections](#) used are those published on 26 October 2017.

3 . Why do we estimate cash measures of RHDl and the saving ratio?

Estimates of real household disposable income (RHDl) and the saving ratio published in the [Quarterly Sector Accounts](#) include transactions that are not directly observed by households.

For example, imputed rental represents the value of housing services that owner-occupiers derive from their homes. This is the amount that they would have to pay in rental to achieve the same consumption of housing services. Whilst this concept is important when measuring economic activity and in like-for-like international comparisons, it is not expenditure (or income) directly observed by homeowners. As a result, the national accounts measure of RHDl can differ from the perceived experience of households.

We therefore consider “cash RHDl”. This measure removes imputed rental and other imputed transactions resulting in a measure of RHDl that is a closer representation of disposable income as measured by social surveys. This is mainly achieved by following guidance from the [Organisation for Economic Co-operation and Development Framework for Statistics on the Distribution of Household Income, Consumption and Wealth](#) and the [United Nations Economic Commission for Europe \(UNECE\) Canberra Group Handbook on Household Income Statistics](#).

We also consider a “cash” saving ratio. This measure removes imputed transactions from the use of disposable income account. For example, the adjustment for the change in pension entitlements, imputed rental and financial intermediation services indirectly measured (FISIM) (both removed from the national accounts measure of final consumption expenditure). Their removals result in a measure of gross saving which reflects households’ saving (excluding pension contributions) in the respective quarter or year.

4 . Cash basis real household disposable income fell for the first time since 2011

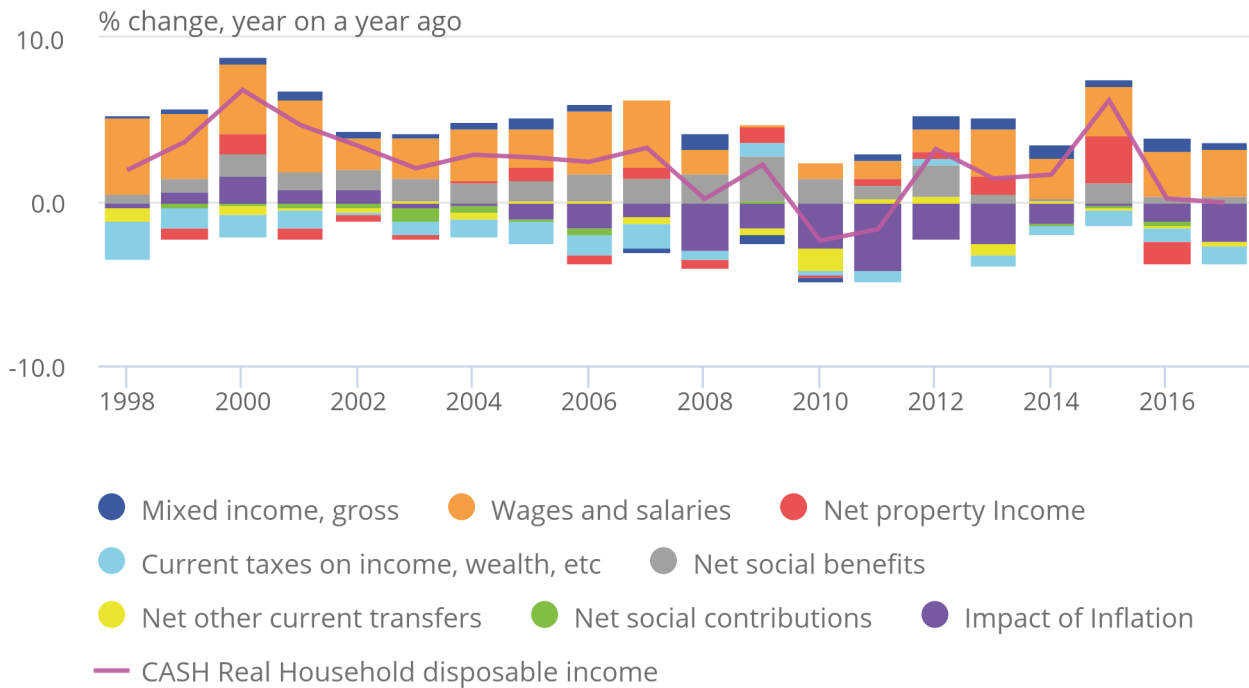
Cash basis real household disposable income fell for the first time since 2011 in 2017, falling 0.1% year on year. As shown in Figure 1, this was due to a 2.4 percentage point contribution from the impact of inflation and a 1.1 percentage point contribution from the rise in taxes on income and wealth. This was partially offset by a 2.8 percentage point contribution from the rise in wages and salaries. A fall in cash basis real household disposable income (RHDl) growth rate implies that after the removal of transactions not directly observed by households, they had less to spend in the latest year (2017), than in the previous year (2016). The fall in Quarter 1 (Jan to Mar) 2017, the largest fall since Quarter 1 2013, was the reason for the overall negative growth in annual RHDl in 2017. Despite negative annual growth, cash basis RHDl grew 0.3% in Quarter 4 2017 (Oct to Dec) when compared with Quarter 3 (July to Sept) 2017, and 1.7 percent when compared with Quarter 4 (Oct to Dec) 2016.

Figure 1: Annual contributions to growth in cash real household disposable income (%)

1998 to 2017, UK

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1998 to 2017, UK



Source: Office for National Statistics

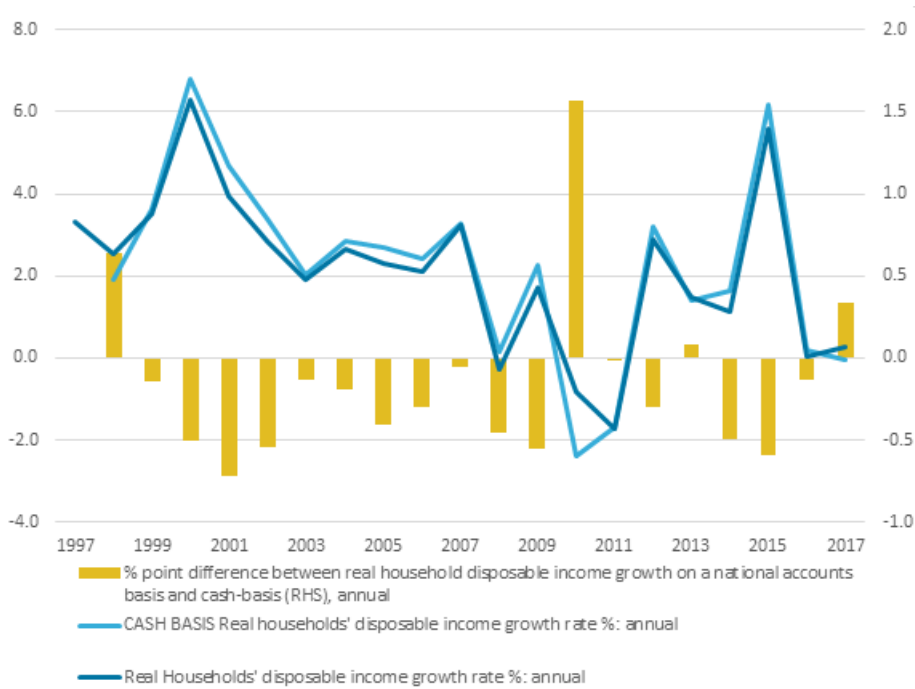
The fall in annual cash basis RHDH was not mirrored in the national accounts measure of RHDH, which grew 0.3% year on year in 2017. However, unlike RHDH on a cash basis, national accounts RHDH followed a stagnant year of no growth in 2016 (Figure 2).

Gross disposable income in 2017 grew 2.3% for both the national accounts measure and on a cash basis. Therefore, the difference in RHDH was attributed to the different prices experienced by households with and without the imputed transactions. Specifically, the fall in the price of imputed bank charges paid by households (also known as financial intermediation services indirectly measured (FISIM)), which led to lower overall prices on a national accounts basis than on a cash basis (where FISIM is removed). Section 7 has more details on transactions excluded from the cash basis measure of GDHI.

See Figure 5 for contributions to gross disposable household income on a national accounts basis by transactions excluded from the cash basis measure.

Figure 2: Comparison between real household disposable income on a cash basis and national accounts basis, annual growth rates

1997 to 2017, UK



5 . RHDl per head fell for the second successive year, both on a national accounts and cash basis.

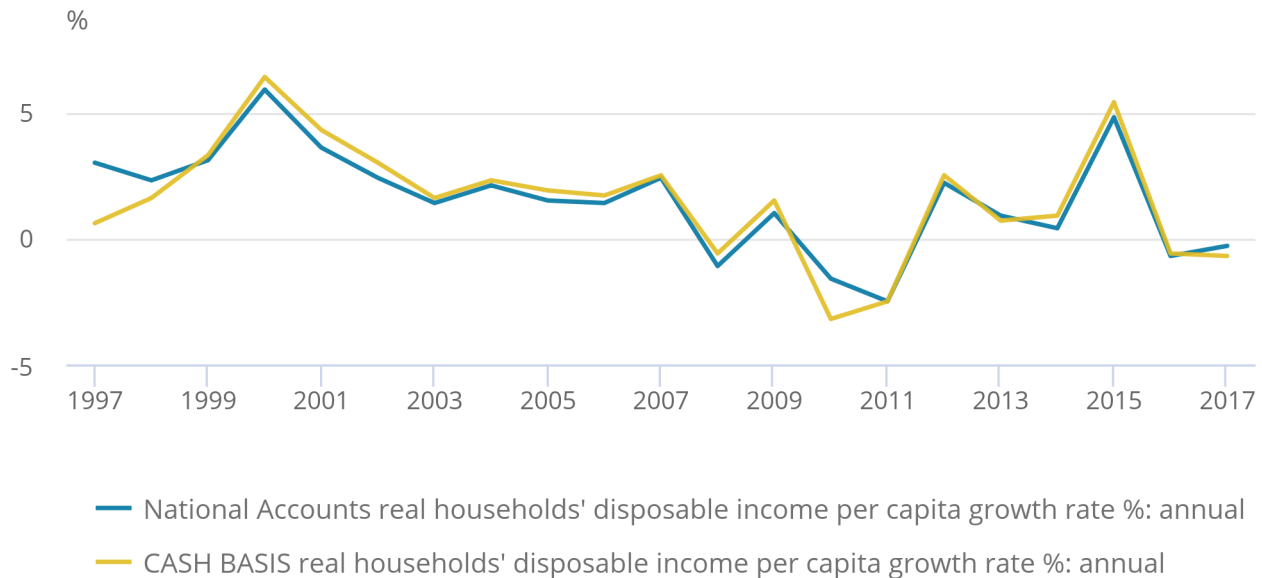
Cash real household disposable income (RHDl) per head fell for the second successive year, both on a national accounts and cash basis. Cash RHDl per head fell, by 0.7% year on year, whereas national accounts RHDl per head fell 0.3% year on year. RHDl per head is calculated by dividing RHDl by the population estimates and projections. Figure 3 shows the year on year growth rates for real household disposable income per capita. This means households were experiencing a fall in real income per person, for the second year in a row. The cause for this was the 2.4 percentage point increase in the rate of inflation. Both per head measures have continued to follow a similar trend – rising and falling in conjunction with one another for the last two decades.

Figure 3: Comparison between real household disposable income on a cash basis and national accounts basis, annual growth rates

1997 to 2017, UK

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1997 to 2017, UK



Source: Office for National Statistics

6 . The cash basis saving ratio fell to 0.9% in 2017, from 2.9% in 2016.

The cash based saving ratio fell to 0.9% in 2017, from 2.9% in 2016. Although this is not historically low, it is the lowest annual cash savings ratio since 2008. Whereas, the [latest national accounts](#) saving ratio recorded an historic low of 4.9% in 2017. The cash savings ratio has previously been negative, shown in Figure 4 – a negative saving ratio implies that households are spending more than was earned for a given period.

The cash savings ratio remained unchanged quarter on quarter, at 1.4% in Quarter 4 (Oct to Dec) 2017. This was also the case with the national accounts measure, where the savings ratio remained unchanged at 5.2%.

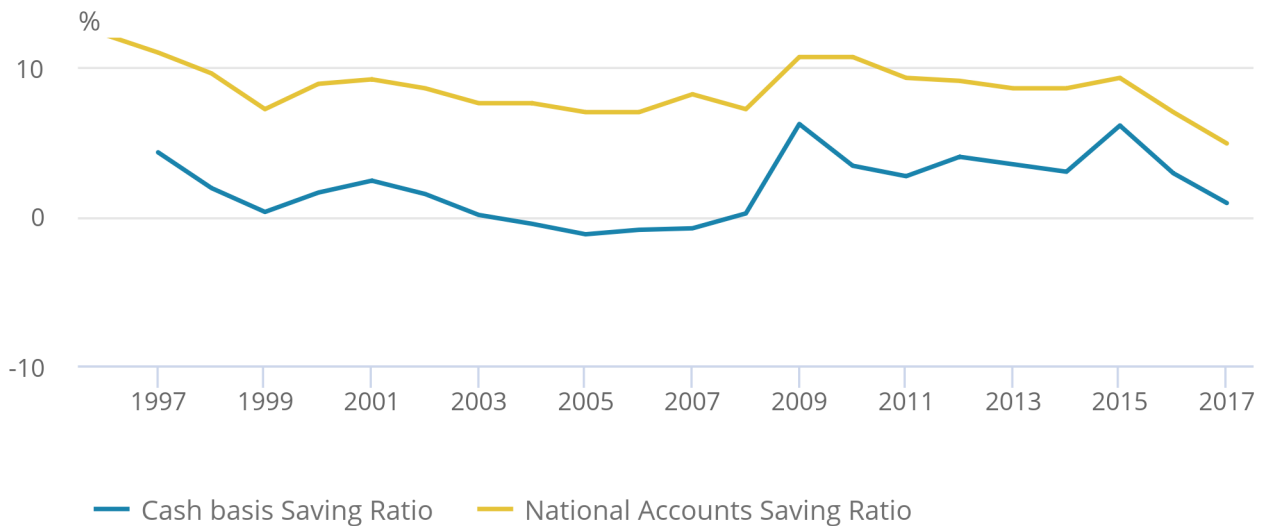
The annual fall in the cash savings ratio can be partially attributed to a second successive decline in gross saving. Gross saving fell 68% between 2016 and 2017, from £29.6bn to £9.6bn, its lowest level since 2008 to its lowest level since 2008. Although wages and salaries rose by £28.7bn, this was more than offset by a rise in household spending of £43.5bn in the latest year. This increase in spending and consequent decline in saving, has driven the fall in the cash basis saving ratio.

Figure 4: Household saving ratio (%), both on a cash basis and national accounts basis

1997 to 2017, UK

Figure 4: Household saving ratio (%), both on a cash basis and national accounts basis

1997 to 2017, UK



Source: Office for National Statistics

7 . How do we estimate cash measures of RHDl and the saving ratio?

To calculate gross disposable household income (GDHI), we have to work through the allocation of primary income account and secondary distribution of income account of the households sector, adding up all the resources and subtracting all the uses from the two accounts. To calculate GDHI on a cash basis, we exclude the imputed resources and uses in the allocation of primary income account and secondary distribution of income account.

There are 11 transactions that are included in the national accounts calculation of GDHI but excluded from the cash measure of GDHI. These are:

- B.2g (resource): Gross operating surplus
- D.12 (resource): Employers' social contributions
- P.119 (resource): (Plus) Financial intermediation services indirectly measured (FISIM)
- D.442 (resource): Property income payable on pension entitlements
- D.4432 (resource): Investment income attributable to collective investment fund shareholders – retained earnings
- P.119 (use): (Less) Financial intermediation services indirectly measured (FISIM)
- D.612 (resource): Employers' imputed social contributions
- D.72 (resource): Non-life insurance claims
- D.611 (use): Employers' actual social contributions
- D.612 (use): Employers' imputed social contributions
- D.614 (use): Households' social contribution supplements

Within the national accounts, there are accounting identities, which mean that the values of some of the above transactions net to zero:

- employers' social contributions (D.12r) is equal and opposite to the sum of Employers' actual social contributions (D.611u) and Employers' imputed social contributions (D.612u)
- income payable on pension entitlements (D.442r) is equal and opposite to Households' social contributions supplements (D.614u)

Therefore, only the removal of the following six transactions explains the differences between GDHI on a cash basis and a national accounts basis:

- B.2g (resource): Gross operating surplus
- P.119 (resource): (Plus) Financial intermediation services indirectly measured (FISIM)
- D.4432 (resource): Investment income attributable to collective investment fund shareholders – retained earnings
- P.119 (use): (Less) Financial intermediation service indirectly measured (FISIM)
- D.612 (resource): Employers' imputed social contributions
- D.72 (resource): Non-life insurance claims

Once we have calculated GDHI on a cash basis, we use the cash-based household final consumption expenditure implied deflator to remove the effect of price inflation and price changes observed by households to calculate real household disposable income (RHDI) on a cash basis.

RHDI is calculated by using a new cash-based deflator. Previously, GDHI on a cash basis was deflated by using the national accounts household final consumption expenditure implied deflator. Now, the deflator used is the national accounts household expenditure deflator less imputed rental and financial intermediation services indirectly measured (FISIM). This cash-based deflator represents more closely price changes actually experienced by households.

The saving ratio estimates the amount of money households have available to save (known as gross saving) as a percentage of their total disposable income (known as total available resources).

To calculate the saving ratio, we must first calculate gross saving. Within the national accounts, gross saving is calculated by subtracting final consumption expenditure from total available resources, where total available resources are the sum of GDHI and the adjustment for the change in pension entitlements. The adjustment for the change in pension entitlements is excluded from the cash-based measure of the saving ratio as it takes in to account pension entitlements that are not accessed at that point in time. Therefore, on a cash basis, gross saving is calculated by subtracting final consumption expenditure on a cash basis from GDHI on a cash basis.

Final consumption expenditure on a cash basis is calculated by subtracting the following from the national accounts measure of final consumption expenditure, to ensure that we are removing imputed transactions consistently from both resources and uses where appropriate:

- imputed rental
- financial intermediation services indirectly measured (FISIM)

The saving ratio on a cash basis is then gross saving on a cash basis expressed as a percentage of GDHI on a cash basis (which is equal to the cash measure of total available resources).

The difference between the national accounts saving ratio and the cash basis saving ratio is caused by the value of the transactions excluded from the calculation of gross disposable household income (see Figure 5) and the transactions removed from national accounts gross saving.

Table 1 presents the changes in the values of transactions that are included in the calculation of the saving ratio on a national accounts basis, but are excluded from the saving ratio on a cash basis. The exclusion of these transactions (and the changes in the value of these transactions) explains the difference between the cash measure and national accounts measure of the saving ratio, in 2017.

Table 1: Change in the value of transactions removed from the national accounts methodology to calculate the cash measure of gross disposable income and the saving ratio

Transaction removed	CDID	Change, annual (2016 to 2017) , £ billion
Gross operating surplus (B.2g)	CAEO	1629
Employers' social contributions* (D.12r)	DTWP	11232
(Plus) Financial Intermediation Services Indirectly Measured (FISIM) (P.119r)	CRNC	-2009
Investment income payable on pension entitlements* (D.442r)	KZL5	-9023
Collective investment fund shareholders - Retained earnings (D.4432r)	MN7M	254
(Less) Financial Intermediation Services Indirectly Measured (FISIM) (P.119u)	CRNB	3819
Employers' imputed social contributions (D.612r)	L8RQ	-14
Non-life insurance claims (D.72r)	RNLU	2100
Employers' actual social contributions* (D.611u)	L8NM	10189
Employers' imputed social contributions* (D.612u)	MA4B	1043
Households' social contribution supplements* (D.614u)	L8QA	-9023
Adjustment for the change in pension entitlements (D.8r)	RNMB	-8499
Imputed rental for housing (removed from final consumption expenditure on a cash basis)	GBFJ	4429
Financial Intermediation Services Indirectly Measured (FISIM) (removed from final consumption expenditure on a cash basis)	C68W	-1289

Source: Office for National Statistics

Notes:

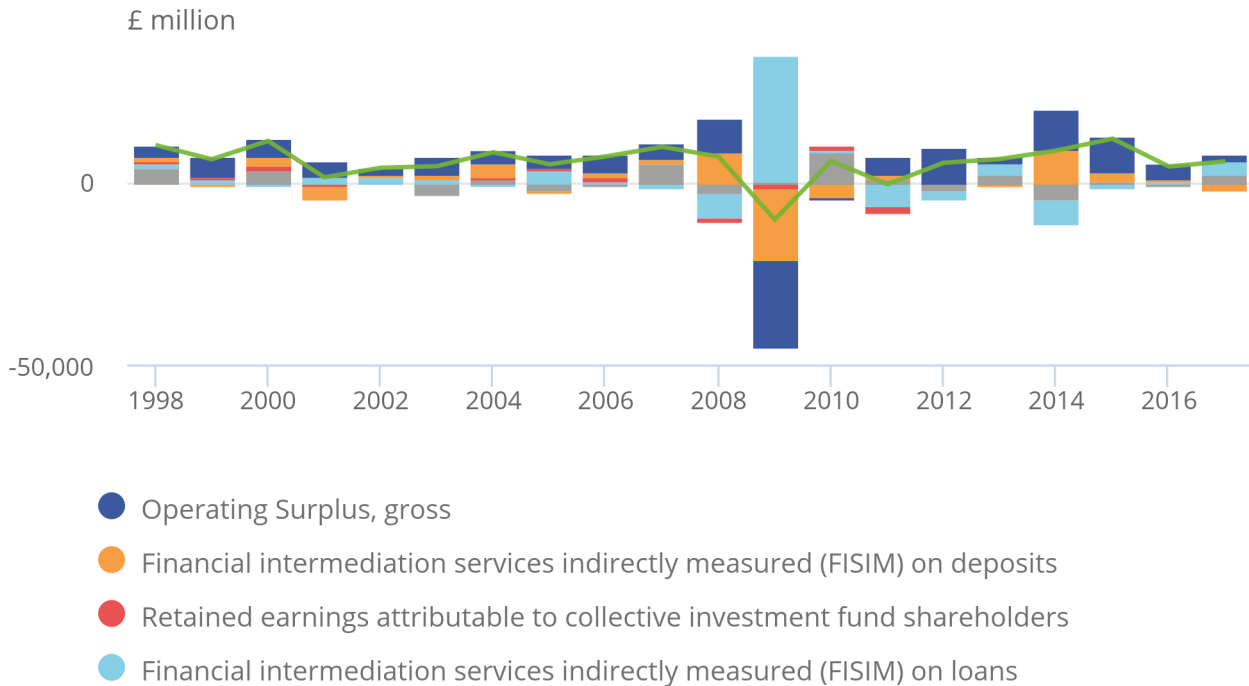
1. An asterisk (*) marks the transactions whose values net to 0
2. 'r' = resource, 'u' = uses, 'g' = gross

Figure 5: Nominal contributions to gross disposable household income on a National Accounts basis by transactions excluded from the cash-based measure, year on previous year, £million

1998 to 2017, UK

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1998 to 2017, UK



Source: Office for National Statistics

Notes:

1. Employers' social contributions, employers' imputed social contributions and households' social contribution supplements are not shown as their values net to 0.