Office for National Statistics

Statistical bulletin

Household income inequality, UK: Financial year ending 2018

Initial insight into main estimates of household incomes and inequality in the UK, along with analysis of how these measures have changed over time accounting for inflation and household composition.

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1 . Main points

- Income inequality increased slightly in financial year ending (FYE) 2018 from 31.4% to 32.5%, based on estimates from our Living Costs and Food Survey.

- Despite the small increase, income inequality remains slightly lower than levels reached 11 years ago.

- Looking separately at retired and non-retired people, income inequality among non-retired people increased by 1.1 percentage points – while inequality for retired people was broadly unchanged.

- New experimental statistics show the richest 1% of the population's share of total household disposable income was 7.1% in FYE 2018, largely unchanged over the past seven years, and below the level seen in FYE 2008 before the economic downturn.

2 . Other bulletins in this release

Commentary on average household income in financial year ending 2018 is reported in a separate bulletin: Average household income, UK: financial year ending 2018.
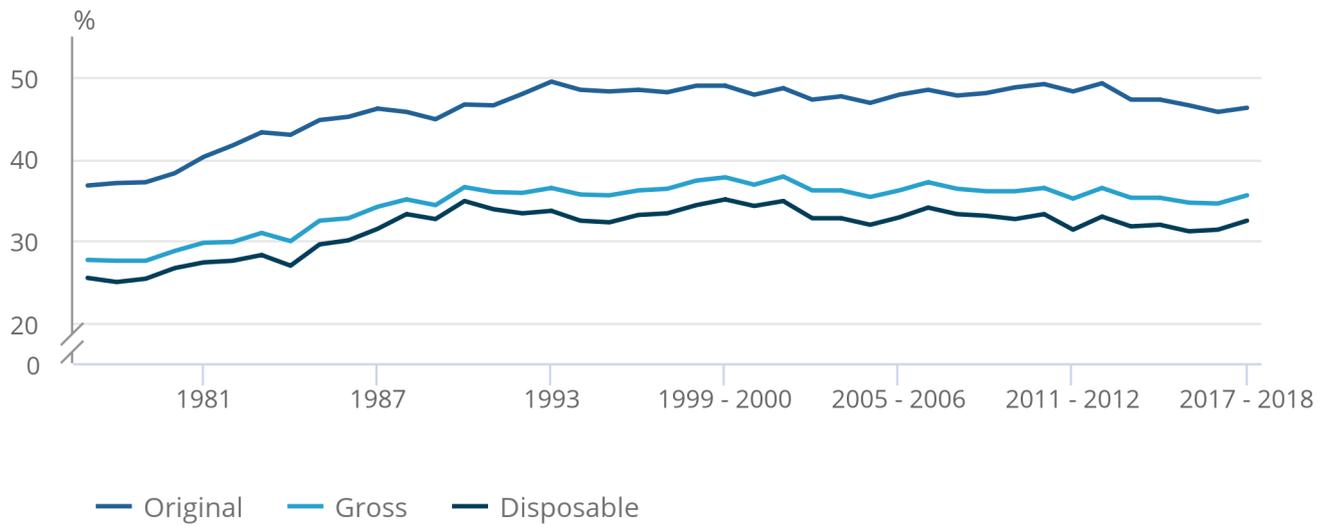
3 . Analysis of income inequality

Figure 1: Income inequality slightly increased in the financial year ending 2018

Gini coefficients for original, gross and disposable income, UK, 1977 to financial year ending 2018

Figure 1: Income inequality slightly increased in the financial year ending 2018

Gini coefficients for original, gross and disposable income, UK, 1977 to financial year ending 2018

Source: Office for National Statistics

Notes:

1. 2017 to 2018, which represents the financial year ending 2018, (April to March), and similarly for all other years expressed in this format.

2. Original income includes all sources of income from employment, private pensions, investments and other non-government sources. The receipt of cash benefits is then added to original income to estimate gross income. Finally, direct taxes are subtracted from gross income to estimate disposable income.

3. A previous version of this chart included labelled financial year ending 2000 as 1999-90 on the chart axis, and in the data download. This has now been corrected to 1999-2000.

Income inequality increased slightly in financial year ending (FYE) 2018 from 31.4% to 32.5%, based on the Gini coefficient for disposable income.

Inequality measures how evenly household income is shared among the population. One of the most widely used measures of income inequality is the Gini coefficient. Gini coefficients can vary between 0% and 100% and the lower the value, the more equally household income is distributed.

Despite the small rise in the Gini coefficient of disposable income, it remains lower than the 34.1% it reached just prior to the economic downturn in FYE 2007.

Figure 1 also highlights changes in the Gini coefficient of original and gross income. Original income includes all sources of income from employment, private pensions, investments and other non-government sources.
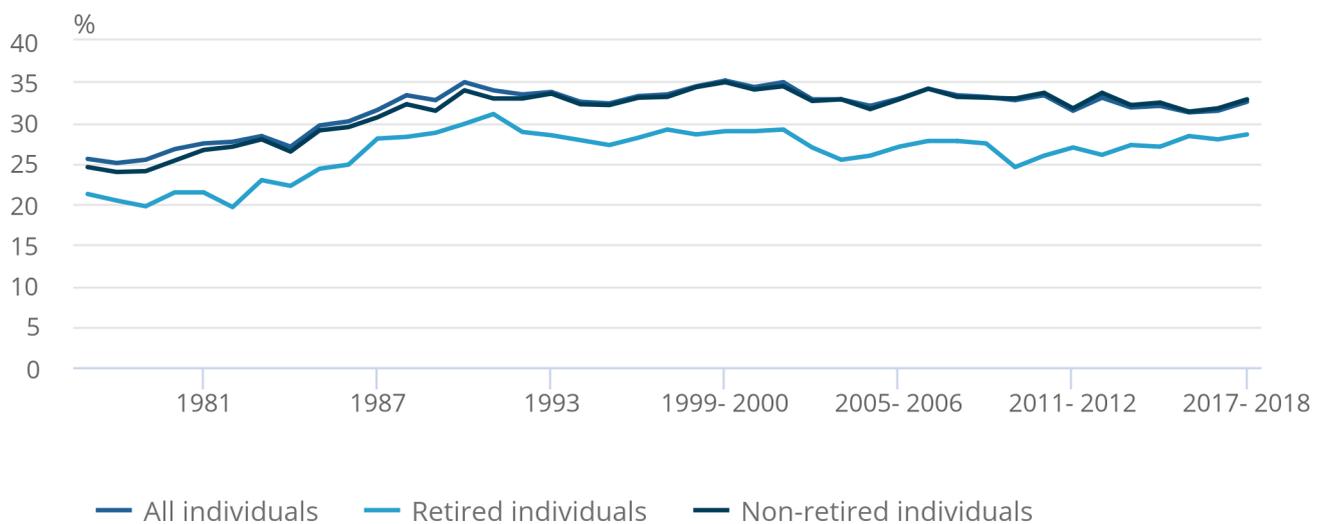
Gross income is based on original income plus cash benefits (such as the State Pension). The Gini coefficient of original and gross income were 13.8 and 3.1 percentage points higher than the Gini coefficient of disposable income. This highlights that cash benefits have the largest impact on reducing income inequality, followed by direct taxation. The effects of taxes and benefits on income inequality: 1977 to financial year ending 2015 article provides more detailed analysis of the relative effectiveness of taxes and benefits in reducing income inequality over time.

Figure 2: Income inequality for people living in retired households levelling off following period of growth over past 10 years

Gini coefficients for disposable income by household type, 1977 to financial year ending 2018

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Gini coefficients for disposable income by household type, 1977 to financial year ending 2018

Source: Office for National Statistics

Notes:

1. 2017 to 2018, which represents the financial year ending 2018, (April to March), and similarly for all other years expressed in this format.

The Gini coefficient of disposable income for people living in retired households was broadly unchanged in FYE 2018 at 28.5%, 4.3 percentage points lower than for non-retired people.

Income inequality among retired people remained broadly unchanged in FYE 2018, failing to reverse the trend since FYE 2010, during which it increased by an average of 0.5 percentage points per year. Income inequality of non-retired people, on the other hand, was unchanged over this period.

A recent article [What has happened to the income of retired households in the UK over the past 40 years? highlights](#) how cash benefits, including the State Pension, play by far the largest role in reducing inequality of retired individuals. It also provides more analysis on the relatively lower but increasing levels of income inequality for retired households. Combined, these measures show the effectiveness of cash benefits in reducing income inequality has fallen, as more retired households increasingly rely on their private pension income to provide their income in retirement.
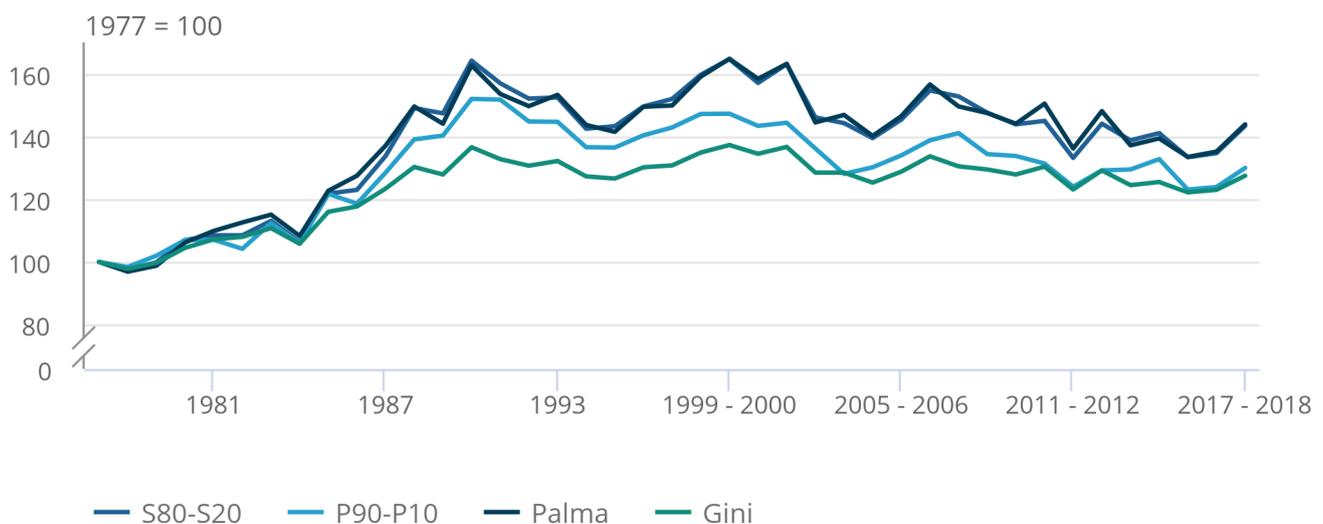
The Gini coefficient for non-retired individuals grew by 1.1 percentage points in FYE 2018, in contrast to the trend since FYE 2013 where it has fallen by 0.2 percentage points per year.

Figure 3: Alternative measures also show income inequality increasing in financial year 2018

Gini coefficient, S80/S20 ratio, P90/P10 ratio and Palma ratio for equivalised disposable income, all households, 1977 to financial year ending 2018, 1977 = 100

Figure 3: Alternative measures also show income inequality increasing in financial year 2018

Gini coefficient, S80/S20 ratio, P90/P10 ratio and Palma ratio for equivalised disposable income, all households, 1977 to financial year ending 2018, 1977 = 100

Source: Office for National Statistics

Notes:

1. Indices are calculated relative to 1977 values.

2. 2017 to 2018, which represents the financial year ending 2018, (April to March), and similarly for all other years expressed in this format.

3. A previous version of this chart included labelled financial year ending 2000 as 1999-90 on the chart axis, and in the data download. This has now been corrected to 1999-2000.

The characteristics of the Gini coefficient make it particularly useful for making comparisons over time, between countries and before or after taxes and benefits. However, one drawback of the Gini is that, as a single summary indicator, it cannot distinguish between different-shaped income distributions. For that reason, it is useful to look at this index alongside other measures of inequality.

One such measure is the S80/S20 ratio, which is the ratio of the total income received by the richest 20% of people to that received by the poorest 20%. In addition, the P90/P10 ratio compares the ratio of the income of the person at the bottom of the top 10% to that of the person at the top of the bottom 10%. Finally, the Palma ratio takes the ratio of the income share of the richest 10% of households to that of the poorest 40% of households. Together these measures provide further evidence on how incomes are shared across households and how this is changing over time.
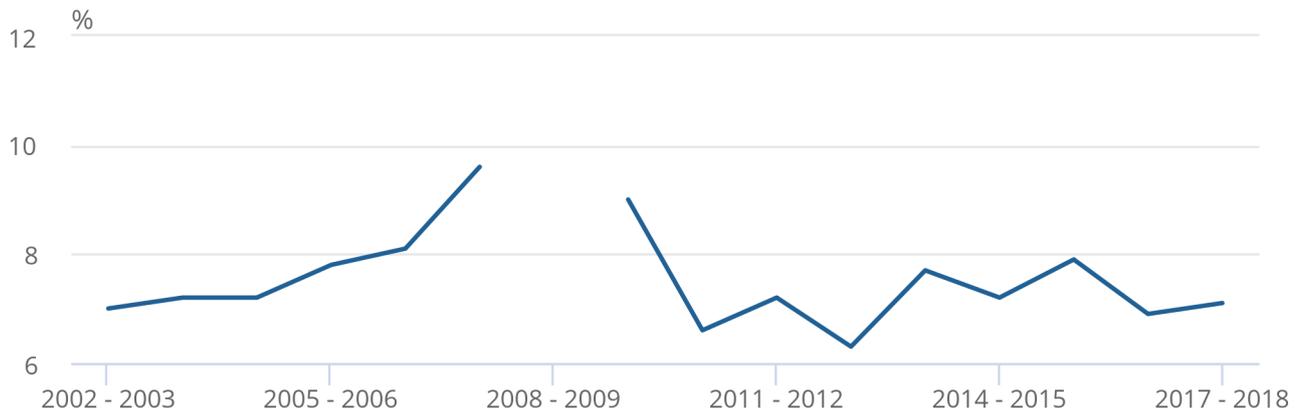
While all four measures increased slightly in FYE 2018, they remain lower than the levels recorded in FYE 2007. Over the longer term, they all highlight that despite falling slightly over the recent decade, levels still reached considerably higher than in the late 1970s and early 1980s (Figure 3). More detailed analysis of changes in income inequality over the longer term is provided in The effects of taxes and benefits on income inequality: 1977 to financial year ending 2015.

Figure 4: Experimental statistics highlight that the richest 1% of the population accounted for approximately 7% of total income over recent years

Disposable income share for top 1% of people, Living Costs and Food Survey data adjusted using administrative tax record information, FYE 2003 to FYE 2018

Figure 4: Experimental statistics highlight that the richest 1% of the population accounted for approximately 7% of total income over recent years

Disposable income share for top 1% of people, Living Costs and Food Survey data adjusted using administrative tax record information, FYE 2003 to FYE 2018

Source: Office for National Statistics

Notes:

1. 2017 to 2018, which represents the financial year ending 2018, (April to March), and similarly for all other years expressed in this format..

2. Estimates for FYE 2009 are excluded due to the SPI data not being available for that year.

A commonly observed limitation of household income surveys is that they don't necessarily capture the very richest people fully. So, we have developed an adjustment making use of administrative data from Her Majesty's Revenue and Customs (HMRC) contained within the Survey of Personal Incomes (SPI). This section highlights estimates based on experimental statistics presented in more detail in Using tax data to better capture top earners in household income inequality statistics.
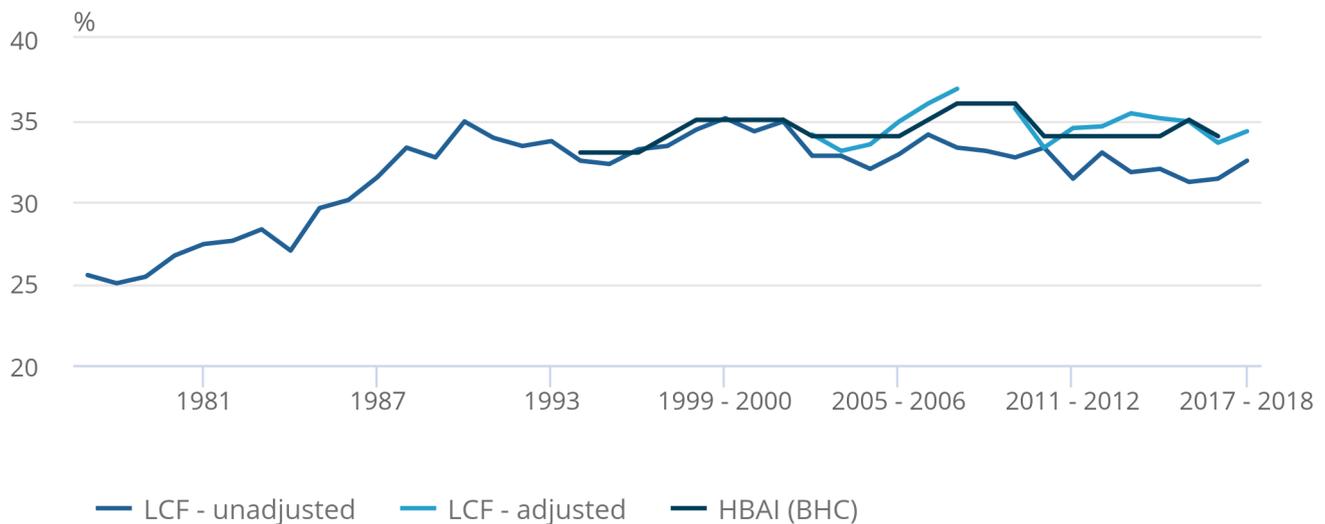
Figure 4 presents estimates of the top 1% of peoples' share of total disposable income based on experimental data that are still in development. This highlights the share of income accounted for by the richest 1% of the population has remained relatively stable over recent years, averaging 7.1% between FYE 2011 and FYE 2018. This is down from 9.6% and 9.0% reached in FYE 2008 and FYE 2010 respectively – the period immediately prior to and during the economic downturn. Estimates for FYE 2009 are excluded due to the SPI data not being available for that year.

Figure 5: Trends in income inequality measured using Living Costs and Food Survey remain comparable with other sources

Gini coefficient of disposable income as measured on Living Costs and Food Survey (adjusted and unadjusted) and households below average income, 1977 to financial year ending 2018

Figure 5: Trends in income inequality measured using Living Costs and Food Survey remain comparable with other sources

Gini coefficient of disposable income as measured on Living Costs and Food Survey (adjusted and unadjusted) and households below average income, 1977 to financial year ending 2018

— LCF - unadjusted   — LCF - adjusted   — HBAI (BHC)

Source: Office for National Statistics, and Department for Work and Pensions

Notes:

1. 2017 to 2018, which represents the financial year ending 2018, (April to March), and similarly for all other years expressed in this format.

2. Estimates for FYE 2009 are excluded in the LCF-adjusted series due to the SPI data not being available for that year.

3. LCF data are adjusted by replacing incomes above the 98 percentile with average income from SPI data using 0.5% quantile groups.

4. A previous version of this chart included labelled financial year ending 2000 as 1999-90 on the chart axis, and in the data download. This has now been corrected to 1999-2000.

As noted in Section 7, 'More about household income', the Households Below Average Income (HBAI) statistics produced by the Department for Work and Pensions provide an alternative source of data on household incomes and inequality. While the Family Resources Survey (which the HBAI statistics are derived from) is subject to the same limitations as other survey sources, it benefits from a larger sample size than the Living Costs and Food (LCF) survey (approximately 19,000 households compared with 5,000) and, as such, will have a higher level of precision than ETB estimates. These differences make HBAI a better source for looking at income-based analysis that does not need a very long time series and when looking at smaller sub-groups of the population.

In addition, the statistics also include an adjustment for "very rich" individuals, similar to the one introduced in the new experimental statistics presented in Figure 4. As these statistics are experimental, the inequality measures headlines of this article are presented using the unadjusted data. Nonetheless, the broad conclusions are similar for both measures.

As highlighted in Figure 5, which compares estimates of the Gini coefficient of disposable income based on both experimentally adjusted and unadjusted LCF data, and HBAI, there was a small rise in inequality in 2017/18, while it was slightly lower over the last 11 years. Further, the impact of adjusting LCF data to improve measures of the incomes of the top earners is to increase measured income inequality. As such, the introduction of this experimental adjustment further improves the coherence with HBAI, particularly at turning points in the Gini coefficient. For instance, in FYE 2011 and FYE 2017, HBAI and adjusted ETB statistics both estimate a fall in inequality compared with unadjusted statistics that recorded small increases.

4 . Household income inequality data

Effects of taxes and benefits: disposable
Dataset | Released on 26 February 2018
Tables 2 to 14 in the Effects of taxes and benefits: disposable data provide more detailed information on household income inequality.

5 . Glossary

Disposable income

Disposable income is arguably the most widely used household income measure. Disposable income is the amount of money that households have available for spending and saving after direct taxes (such as Income Tax, National Insurance and Council Tax) have been accounted for. It includes earnings from employment, private pensions and investments as well as cash benefits provided by the state.

Equivalisation

Comparisons across different types of individuals and households (such as retired and non-retired, or rich and poor) or over time is done after income has been 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 (PDF, 165KB).

Measures of income inequality

Gini coefficient – one of the most widely used measures. It takes values between 0 and 100, with higher values representing an increase in the level of inequality. A value of 0 indicates complete equality in the distribution of household income, implying that all households have the same equivalised income. A value of 100 indicates complete inequality, implying that one household has all the income and the others have no income. P90/P10 – the ratio of the income of the household at the bottom of the top decile (or 10%) to that of the household at the top of the bottom decile.

S80/S20 – the ratio of the total income received by the 20% of households with the highest income to that received by the 20% of households with the lowest income.

Palma ratio – the ratio of the income share of the richest 10% of households to that of the poorest 40% of households.

Retired and non-retired households

This bulletin presents analysis examining the incomes of people who live in retired households. A retired household is one where more than 50% of its income is sourced from retired people. A retired person on ETB needs to satisfy one of the following criteria:

- their self-defined employment status is "Retired" and they are aged over 50 years

- their self-defined employment status is "Sick/Injured", not seeking work and aged at or above the State Pension age (SPA)

As such, analysis of the average income of people living in retired households can include much younger people and potentially exclude older people. However, the strength of this measure is that it highlights those individuals who are most likely to be affected by policy, societal or economic changes that disproportionately impact upon pension income.

6 . Measuring this data

This release provides headline estimates of average disposable income. These data are from the Office for National Statistics' Living Costs and Food Survey (LCF), a voluntary sample survey of around 5,000 private households in the UK. These statistics are assessed fully compliant with the Code of Practice for Official Statistics and are therefore designated as National Statistics.

ONS is currently working on transforming its data on the distribution of household finances. The first part of this work has concentrated on combining the samples from the LCF and another of ONS's household surveys, the Survey on Living Conditions (SLC) and harmonising the income collection in these questionnaires. This will result in a dataset formed of a sample of around 17,000 households. This first stage of work was carried out during FYE 2018. Work is currently under way to quality assure these data before publishing initial results later this year.

In addition, ONS is working towards linking data from administrative and other non-survey sources, including HMRC Real Time Information (RTI) and DWP benefits data. Although these other sources also have their own limitations, by using them together with surveys we should be able to produce better data on household income. More information on our plans for transforming ONS's household finance statistics is contained within Transformation of ONS household financial statistics: ONS statistical outputs workplan, 2018 to 2019

7 . Strengths and limitations

An important strength of this data is that comparable estimates are available back to 1977, allowing analysis of long-term trends. This release also currently provides the earliest survey-based analysis of the household income distribution available each year, allowing people insight into the evolution of living standards as early as possible.

However, as with all survey-based sources, the data are subject to some limitations. The Living Costs and Food Survey (LCF) is known to suffer from under-reporting at the top and bottom of the income distribution as well as non-response error (see The effects of taxes and benefits upon household income Quality and Methodology Information report for further details of the sources of error). Further, as these data is based on a survey of the private household population, these statistics do not include those living in communal establishments such as care homes and student halls of residence as well as some core groups of the homeless populations.

The Department for Work and Pensions (DWP) also produces an analysis of the UK income distribution in its annual Households below average income (HBAI) publication, using data from its Family Resources Survey (FRS). While the FRS is subject to the same limitations as other survey sources, it benefits from a larger sample size (approximately 19,000 households) than the LCF and, as such, will have a higher level of precision than ETB estimates. In addition, HBAI includes an adjustment for "very rich" households to correct for the under-reporting using data from HM Revenue and Customs (HMRC's) Survey of Personal Incomes (SPI), although we are exploring similar adjustments as presented in Using tax data to better capture top earners in household income inequality statistics. These differences make HBAI a better source for looking at income-based analysis that does not need a longer time series (the FRS data are available from financial year ending (FYE) 1995) and when looking at smaller sub-groups of the population, particularly at the upper end of the income distribution.

8 . More about household income

Households below average income (HBAI)
Released 22 March 2018
The Department for Work and Pensions produces statistics on the number and percentage of people living in low-income households in the UK.

Effects of taxes and benefits on UK household income – flash estimate: financial year ending 2018
Bulletin | Released on 25 July 2018
Provides provisional estimates of median equivalised disposable income and measures of income inequality, and includes more detail and analysis relating to the economic and policy context in financial year ending 2018.

Transformation of ONS household financial statistics: ONS statistical outputs workplan, 2018 to 2019
Article | Released on 20 June 2018
Information on our plans for transforming our household finance statistics, including combining the samples from the Living Costs and Food survey, and the Survey on Living Conditions. It also looks at how we're working towards using administrative data from HM Revenue and Customs and the Department for Work and Pensions.

Using tax data to better capture top earners in household income inequality statistics
Article | Released on 26 February 2018
Experimental Statistics examining the impact of replacing incomes at the very top of the distribution with tax records information contained within HMRC's Survey on Personal Incomes (SPI).

9 . You may also be interested in

[A guide to sources of data on earnings and income](#)
Article | Updated 4 February 2019

Further information on other sources of income and earnings data, including the appropriate uses of and limitations of each data source.

[Employee earnings in the UK](#)
Statistical bulletins | Updated 25 October 2018

Important measures of employee earnings, using data from the Annual Survey of Hours and Earnings (ASHE). Figures are presented mainly for full-time employees, although some detail for part-time workers is also included.

[Centre for Equalities and Inclusion](#)
Article | Released on 12 December 2018
The Centre for Equalities and Inclusion aims to improve the evidence base for understanding equity and fairness in the UK today, enabling new insights into key policy questions. We are a multi-disciplinary convening centre based at Office for National Statistics, bringing together people interested in equalities data and analysis from across central and local government, academia, business and the third sector.

[Personal and economic well-being in the UK: February 2019](#)
Statistical bulletins | Updated 4 February 2019
Estimates of the combined findings for personal well-being (October 2017 to September 2018) and economic well-being (July to September 2018) in the UK. This is part of a new series on people and prosperity.

[Wealth in Great Britain Wave 5: 2014 to 2016:](#)
Statistical bulletins | Updated 1 February 2018
Main results from the fifth wave of the Wealth and Assets Survey covering the period July 2014 to June 2016.

[Family spending in the UK: April 2017 to March 2018](#)
Statistical bulletins | Updated 24 January 2019
Average weekly household expenditure on goods and services in the UK, by region, age, income, economic status, socio-economic class and household composition.