Office for National Statistics

Compendium

Measuring inequalities in the UK for the Sustainable Development Goals

The UK's progress towards global Sustainable Development Goal (SDG) indicators and the past and present state of inequality in household income and expenditure.

Contact:
Claudia Wells
claudia.wells@ons.gov.uk
+44 (0)1633 455867

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1 . Sustainable Development Goals

The Global Goals for Sustainable development

Measuring inequalities in the UK for the Sustainable Development Goals

The [United Nations (UN) Sustainable Development Goals (SDGs)](#) began in 2016. They are a set of 17 Global Goals that aim to end all forms of poverty, fight inequalities and tackle climate change, by 2030.

As the UK’s national statistics institute, Office for National Statistics (ONS) is responsible for reporting on UK progress towards the global SDG indicators. Goal 10 of the SDGs is about reducing inequality within and among countries, and both target 10.1 and indicator 10.1.1 aim: “by 2030, progressively achieve and sustain income growth of the bottom 40 per cent of the population at a rate higher than the national average”.

The Global Goals for Sustainable development

2 . Main points

- The UK is currently meeting the Sustainable Development Goals' (SDGs) target 10.1 to sustain income growth of the poorest 40% of the population at a higher rate than the national average.

- The poorest 40% spend more than they receive in income, although this gap has reduced between 2001 and 2017; in contrast, on average, all households spend less than their income and this gap is increasing over time, therefore, we have also looked at an expenditure-based inequality measure.

- Expenditure growth rates of the poorest 40% of the population are much closer to the national average and in recent years have not sustained a higher rate of growth.

- Internationally, the UK sits among 14 OECD countries meeting the SDG target 10.1 in the period around 2010 to 2015.

- The bottom 40% of the income and expenditure distributions in the UK in 2016 was mostly made up of couples with children, and employed individuals; however, those most at risk of poverty in 2016 were single parent households with children and those who are seeking employment.

- The United Nations stipulated method used in this analysis is not an official measure of inequality in the UK.

3 . Things you need to know about this release

Definitions and calculations

United Nations (UN) metadata for this Sustainable Development Goal (SDG) indicator stipulates that both the national average growth rate and the growth rate of the bottom 40% is calculated as the annualised average growth rate in consumption or income of all households, compared with the bottom 40% of the consumption or income distribution, over a five-year period.

The bottom 40% has been chosen because of a "practical compromise" (see UN metadata). The World Bank also uses the bottom 40% in their shared prosperity goal and states that the decision to use this population relates to the practical implementation of the goal.

We tend to focus on the bottom 20% when we look at those with the lowest incomes, but this target is about equality and shared prosperity and so we want to consider a wider group than those seen to be living in relative poverty. However, if we select a higher threshold than 40%, we would be looking at people whose income is very close to the national mean income and this would not give us enough information about shared prosperity.

Rationale

The UN and the World Bank both recognise that it is necessary to consider economic growth as well as equality when measuring progress in shared prosperity.

This method has been specified to allow for international comparison that is easy to measure and communicate. The UN acknowledges that many dimensions of well-being comprise shared prosperity and that in a national context, it is important to consider a wider range of indicators of welfare and economic well-being (for example, wealth and assets).

Household expenditure

The expenditure measure includes spending on items that are usually purchased frequently (such as food, petrol), as well as less frequent expenditure (such as household appliances and furnishings). Housing costs such as rent, water rates, community water charges and council water charges, mortgage interest payments, structural insurance premiums, ground rent and service charges are excluded from the measure, meaning expenditure is counted on an "after housing costs" (AHC)[1] basis.

Household income

The measure we use for income is household disposable income, AHC. 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) and pension contributions have been accounted for. It includes earnings from employment, private pensions and investments as well as cash benefits provided by the state.

Reflecting household size

The expenditure and income measures used in this analysis are all 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. Both income and expenditure are adjusted using the Organisation for Economic Co-operation and Development (OECD)-modified "companion" scales developed for AHC measures in the Department for Work and Pensions (DWP) Households below average income (HBAI) series[2] .

Data sources

Throughout this analysis, the primary data source used to derive measures of both income and expenditure in the UK is the Living Costs and Food Survey (LCF). The LCF is an annual survey of the expenditure and income of private households; people living in hotels, lodging houses and institutions such as old people's homes are excluded. It is the only data source used to collect detailed data on both income and expenditure, thereby allowing analysis of the two measures.

As with all surveys, there are some limitations to be aware of. The LCF is known to not fully capture those at the poorest and richest ends of income distribution and suffers from non-response error[3]. When analysing inequalities, this can impact on the representation of the target population (in this case, the bottom 40%) and the overall appearance of income distribution.

In international comparisons, data have been sourced from the World Bank and data for the UK come from Eurostat's European Union Statistics on Income and Living Conditions (EU-SILC). Organisation for Economic Co-Operation and Development (OECD) countries have been selected from the World Bank data and used in our comparisons (see Figures 4 and 5).

The EU-SILC collects data on poverty, income, social exclusion and living conditions. In the international analysis, the total population and the target population (bottom 40%) are defined on a household level, before housing costs (BHC). Eurostat sets the reference year at T-1 from the survey year, therefore, 2009 reference year will refer to 2010 survey data.

In addition, data from the World Bank are from 91 countries. Not all these countries will have annual surveys, therefore, the reference years for the annualised growth rates are labelled at approximately 2010 to 2015. The annualised growth rate is calculated as:

(mean in year 2/mean in year 1)^(1/(reference year 2 – reference year 1))

Data period

Data used in this analysis are for financial years: April to March.

Notes for: Things you need to know about this release

1. For more details on how the AHC measures of income and expenditure are derived, please see [An expenditure-based approach to poverty in the UK].
2. Information on the OECD-modified "companion" scaled is provided in [An expenditure-based approach to poverty in the UK].
3. For further details of the sources of error, see [The effects of taxes and benefits upon household income Quality and Methodology Information report].

4 . Background information

In the UK, much of the policy focus has been on inequality measures based on income. According to Living Costs and Food (LCF) survey data, we have seen a [downward trend in income inequality] in recent years (from 2007 to 2017)[1] . However, if looking from a longer-term point of view, levels of income inequality remain above those seen in the late 1970s and early 1980s.

This UN Sustainable Development Goal (SDG) measurement of inequality focuses on income and expenditure. Income data are more readily available, but often less stable in developing countries, therefore, expenditure is sometimes considered a better measure of living standards. The SDGs measure progress in 193 countries, including developing countries, so it is necessary to use a measure that works in multiple contexts.

Promoting shared prosperity is defined by the UN as "fostering income growth of the bottom 40% of the welfare distribution". To what extent the shared prosperity should be boosted is for countries to decide, according to their national circumstances, so there is no global numerical target. In the case of this SDG indicator, progress is measured by how economic gains are shared with society's poorest members and the target aims to ensure that economic growth also increases prosperity among the poor over time.

The background, and progress to date, in reducing inequality within and among countries has been mixed:

- a World Bank study of global trends of income inequality found that, between 1998 and 2008, there had been increases all along the total global income distribution, with two notable exceptions; the top 1% of the global income distribution report a much higher (60%) rise in real income in this time period, whereas the bottom 5% had not seen any change (Milanovic, 2012)[2].
- from 2008 to 2013, the per capita income or consumption of the poorest 40% of the population [improved more rapidly than the national average in 49 of 83 countries] (accounting for three-quarters of the world's population).
- SDG target 10.1 seeks to ensure that income growth among the poorest 40% of the population in every country is more rapid than its national average; this was true in [56 of 91 countries with data available from approximately 2010 to 2015]

Notes for: Background information

1. DWP's Households below average income (HBAI) statistics have an alternative Gini series, which shows a stable picture in recent years. HBAI includes an adjustment for high-income individuals based on tax records, whose incomes tend to be under-reported on voluntary surveys. Changes in the incomes of the very richest may have contributed to the differences in trends between these two sources.

2. Note that the top 1% of the global population will be different to the top 1% of each country's population.

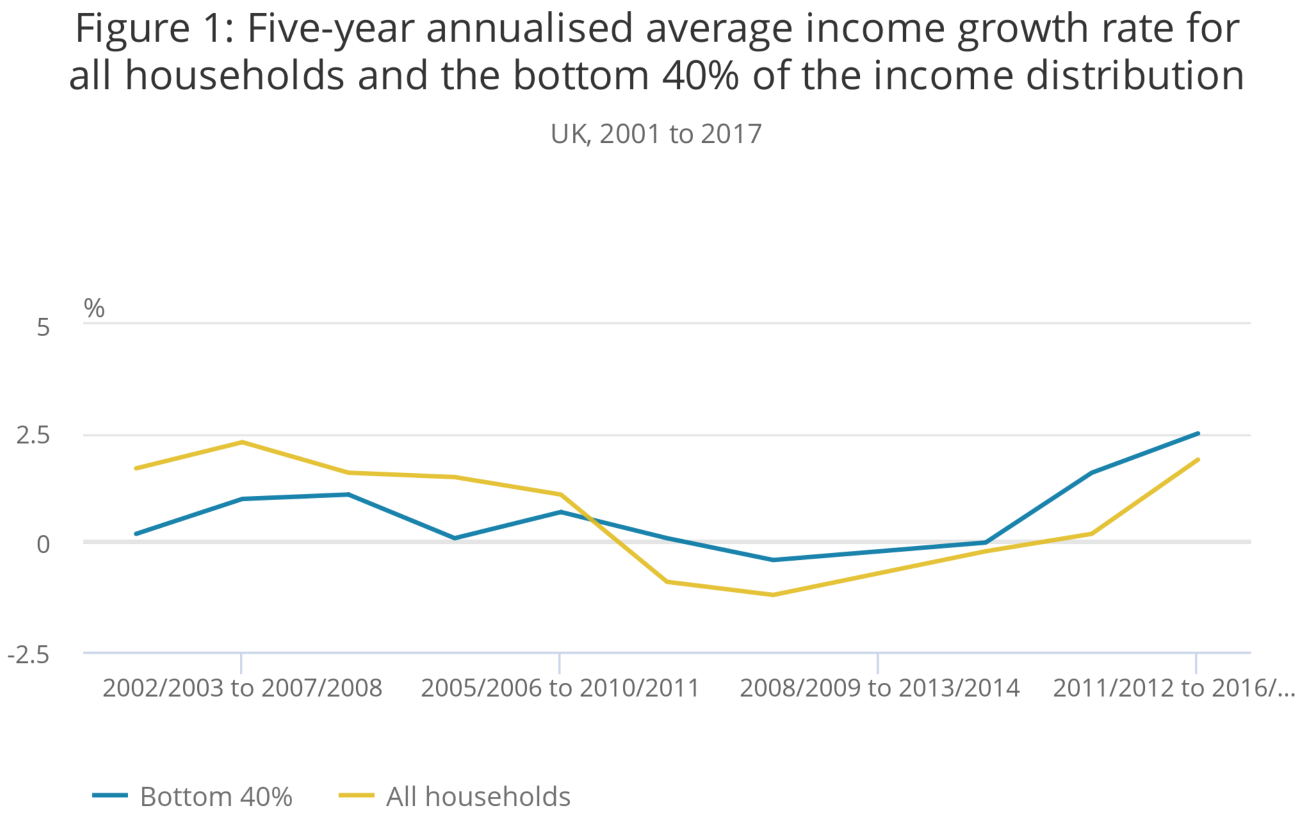
5 . UK is meeting SDG target 10.1, income growth rate for the bottom 40% of households is higher than all households

Previous Office for National Statistics (ONS) research has found that the poorest households have seen more growth in income since the economic downturn in 2008 to 2009 than the richest 20%. The richest 20% median disposable income returned to pre-economic downturn levels for the first time since 2008, in 2016 to 2017.

Our analysis using the United Nations (UN) Sustainable Development Goals (SDGs) method of looking at growth over rolling five-year periods (see the Things you need to know about this release section) is consistent with this, and shows us that the average growth rate for the bottom 40% has been higher than the national average since the five-year period ending 2011 to 2012. This means that in the UK, we are currently meeting SDG target 10.1. This is because income for the middle and richest households in the distribution fell the most following the economic downturn and took longer to recover. At the same time, those at the bottom of the distribution saw increases in income from employment (See: ONS Household Disposable Income and Inequality financial year ending (FYE) 2015, FYE 2016, FYE 2017) and certain cash benefits such as tax credits and Jobseeker's Allowance (now Universal Credit for some claimants).

Figure 1: Five-year annualised average income growth rate for all households and the bottom 40% of the income distribution

UK, 2001 to 2017



Source: Office for National Statistics

Notes:

1. Data in the analysis refer to financial years ending March and are five-year averages of the five years preceding the stated year.

Figure 1 shows that, prior to the economic downturn, the five-year growth rate in income for all households was higher than the bottom 40%. More recently, the national and the bottom 40% five-year average income growth rates have been converging, again supporting data showing that income in the richest households is recovering. In addition, in the most recent year, the annual income growth rate was higher for all households (2.8%) than for the bottom 40% (2.5%). Going forward, it is therefore unclear whether the poorest households will continue to sustain a higher than average growth rate and whether the UK will continue to meet the SDG target.

The main source of official statistics on the percentage of people living in low-income households in the UK is the Department for Work and Pensions' (DWP) annual publication Households Below Average Income (HBAI), based on the Family Resources Survey (FRS)[1]. The FRS has a larger sample size than the Living Costs and Food (LCF) survey, which means the HBAI measure of income is often considered a stronger measure than the estimates produced from the LCF. The FRS, however, does not have comprehensive information on household expenditure and therefore cannot be used for the type of analysis contained in this article.

For the purpose of this article, DWP provided income data from the HBAI, using the UN stipulated calculation (see the Things you need to know about this release section). It has not been used as a source for this article, but rather as a comparison for trend. The trend is similar to LCF results (shown in Figure 1) and tells us nearly the same about income growth rates for the bottom 40%.

The main differences in the two analysis results are the HBAI shows the income growth rate for the bottom 40% as falling below the national average in the periods between 2010 to 2011 and 2015 to 2016, and between 2011 to 2012 and 2016 to 2017. The LCF results do not show this, but do show a convergence in growth rates in recent years (see the Things you need to know about this release section for limitations of the LCF).

Notes about UK is meeting SDG target 10.1, income growth rate for the bottom 40% of households is higher than all households

1. A comparison of median after housing costs (AHC) disposable income and poverty rates from both the LCF and HBAI is available in a recent publication on expenditure poverty.

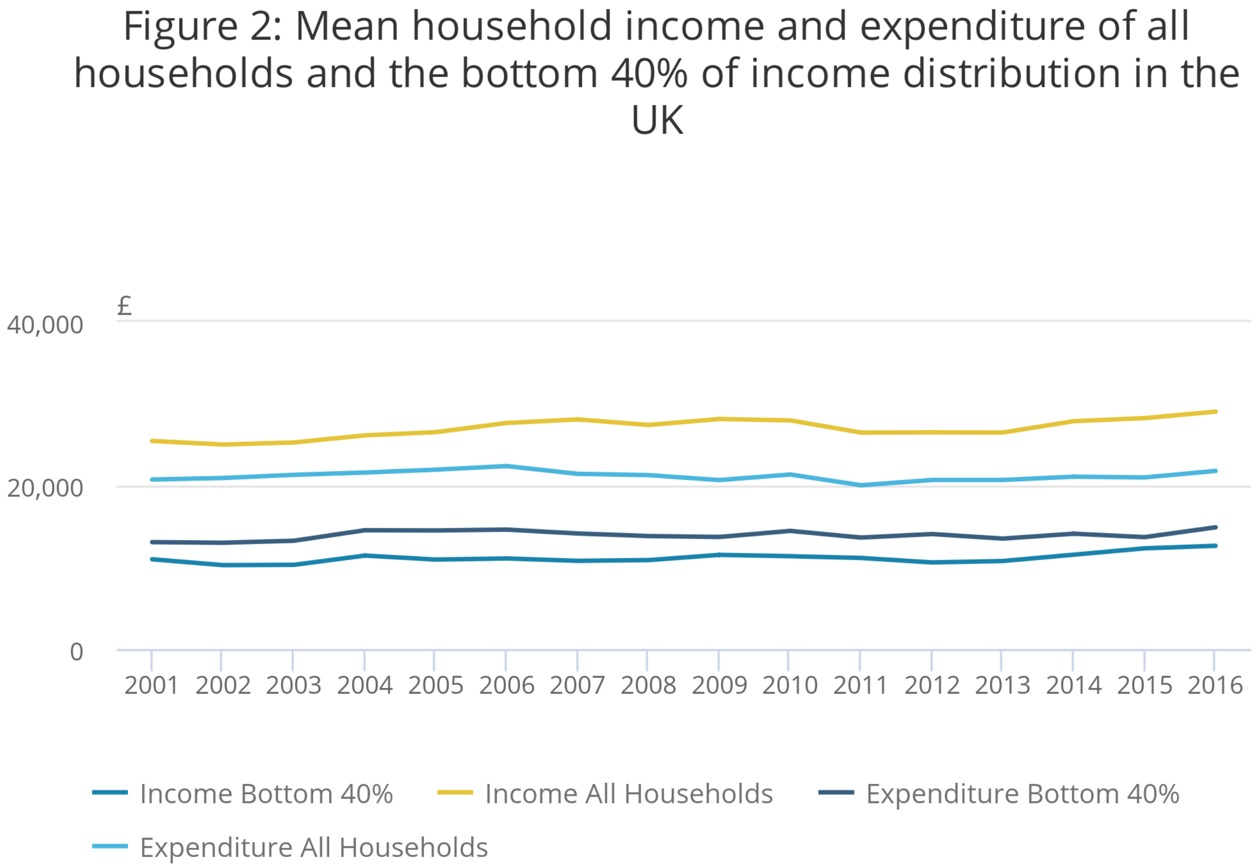
6 . Bottom 40% have been spending more than their income since 2001

The poorest 40% of households in the UK spent more than their disposable income between 2001 and 2016, however, the gap between this group's income and expenditure has lessened (see Figure 2). In contrast, on average all households in the UK were spending less than their disposable income, but this gap has increased between 2001 and 2016.

This is consistent with findings from other studies showing relatively high levels of expenditure at the bottom of the income distribution (Brewer M. and O'Dea, 2017) (Carrera, 2010). There are several reasons, including instability of income, at the bottom of the distribution (such as temporary periods of low income where consumption is maintained through the use of savings or borrowing). In addition, people towards the bottom of income distribution tend to have multiple sources of income, making errors in reporting more likely.

It is for these reasons why it is also important to consider an inequality measure based on expenditure alongside a measure based on income.

Figure 2: Mean household income and expenditure of all households and the bottom 40% of income distribution in the UK

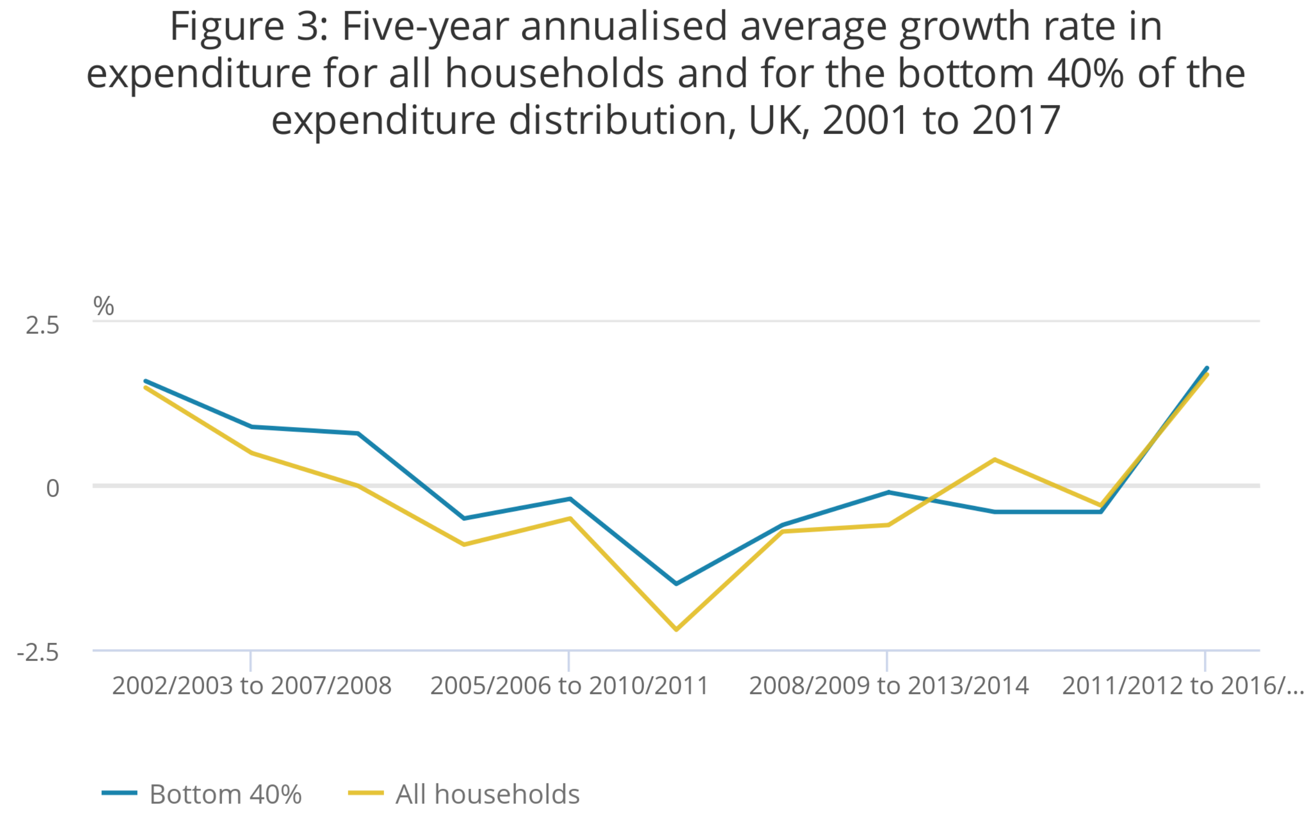


Source: Office for National Statistics

7 . Expenditure growth rate for bottom 40% of households is higher than all households

The average growth rate of expenditure for the bottom 40% was higher until the five-year period ending 2014 to 2015, where it fell below the national average (see Figure 3). Both populations have recovered to pre-economic downturn rates of growth expenditure(bottom 40%: 1.8%, all population: 1.7%), increasing steeply in the latest two years.

Figure 3: Five-year annualised average growth rate in expenditure for all households and for the bottom 40% of the expenditure distribution, UK, 2001 to 2017



Source: Office for National Statistics

The differences in growth rates are less than 0.2 percentage points, suggesting that growth rates based on expenditure do not show any reduction in inequality over the period. This means that, based on this measure it is unclear whether the UK will meet Sustainable Development Goal (SDG) target 10.1.

8 . UK amongst 14 OECD countries where income growth among the bottom 40% was faster than average

Based on annualised average income or expenditure growth rates, the UK is placed amongst 14 other Organisation for Economic Co-operation and Development (OECD) countries - including France, Finland and the Czech Republic - meeting target 10.1 of the Sustainable Development Goals (SDGs) and achieving faster growth for the poorest 40% than the average (see Figure 5)[1] [2].

Using internationally comparable data from the World Bank and using UK data on income sourced from the EU Survey for Income and Living Conditions (EU-SILC), the UK had an overall income growth rate between (approximately) 2010 and 2015 of 0.11%, whereas the bottom 40% income grew at double the rate, at 0.26% (see Figure 6). This is a different result to the Living Costs and Food (LCF) Survey findings, due to it being a different source. The EU-SILC also uses income before housing costs (BHC) and a different definition of income.

The World Bank data (adjusted for international comparisons), for growth rates between approximately 2010 and 2015, show 16 OECD countries where inequality was increasing (income or expenditure growth among the poorest 40% was slower than average) and 14 OECD countries where inequality was decreasing (income or expenditure growth among the poorest was faster than average) (see Figures 4 and 5).

For example, in Sweden between about 2010 and 2015, the bottom 40% experienced a slower average growth rate (0.62%) compared with the national average growth rate in the same period (1.91%). In contrast, the bottom 40% of households in Spain, Belgium and Latvia had higher than average growth rates compared with the national average for the same period.

Of the listed G7 Summit countries (UK, France, Italy), only France and the UK are achieving the SDG 10.1 target of higher than national average growth rate for the bottom 40%. Research from the OECD shows that income inequality in rich countries (using the Gini coefficient) has been rising since the mid-1980s (Keeley, 2015). It was found that this increase has been more pronounced among the top 1% of earners and especially in English-speaking countries. For example, in the United States, the share of (pre-tax) income going to the richest 1% more than doubled in 2012.

Figure 4: OECD member countries where five-year average income or expenditure growth among the bottom 40% was slower than the five-year national average

Approximately 2010 to 2015

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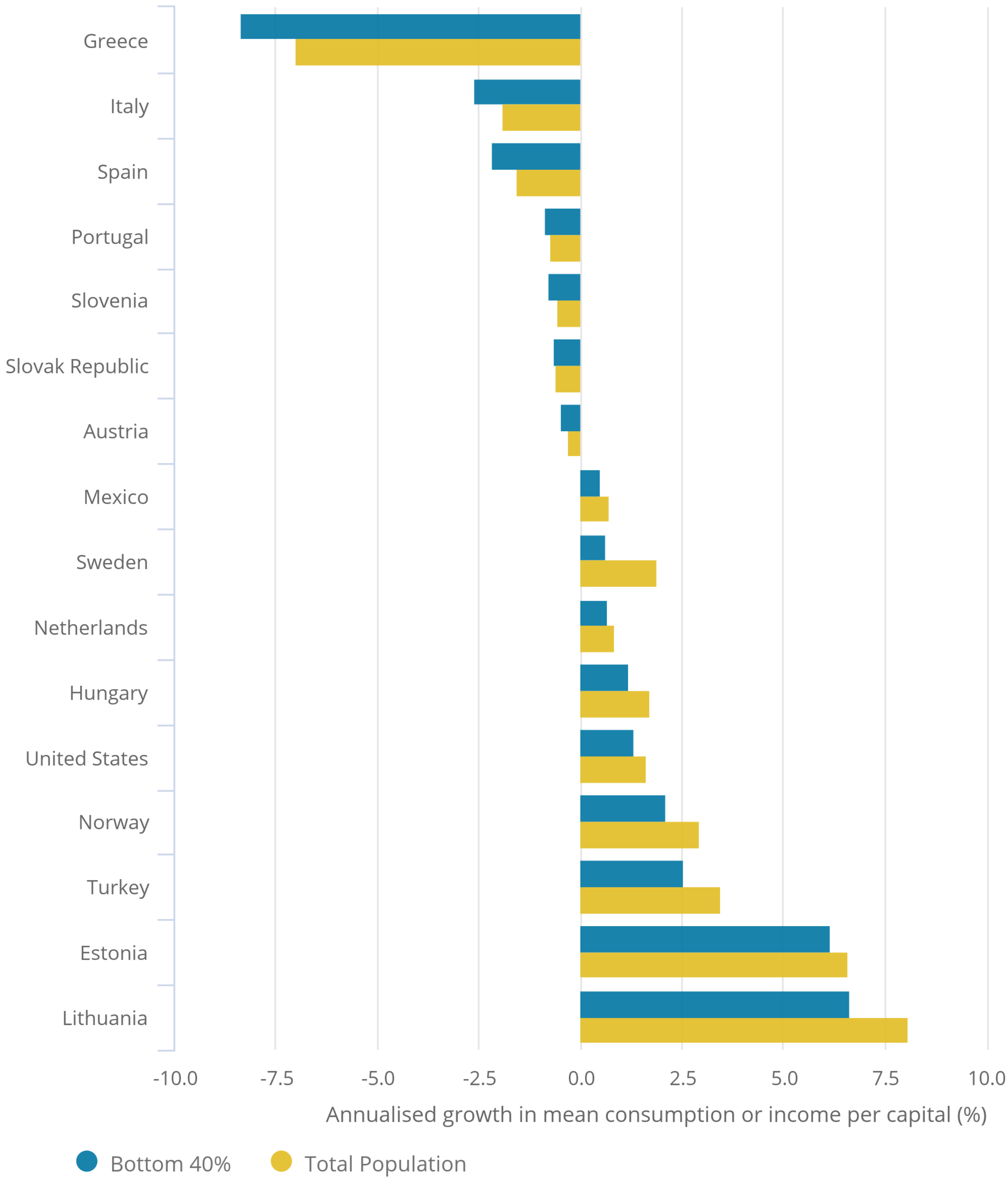
Approximately 2010 to 2015



Source: World Bank EU Survey for Income and Living Conditions

Notes:

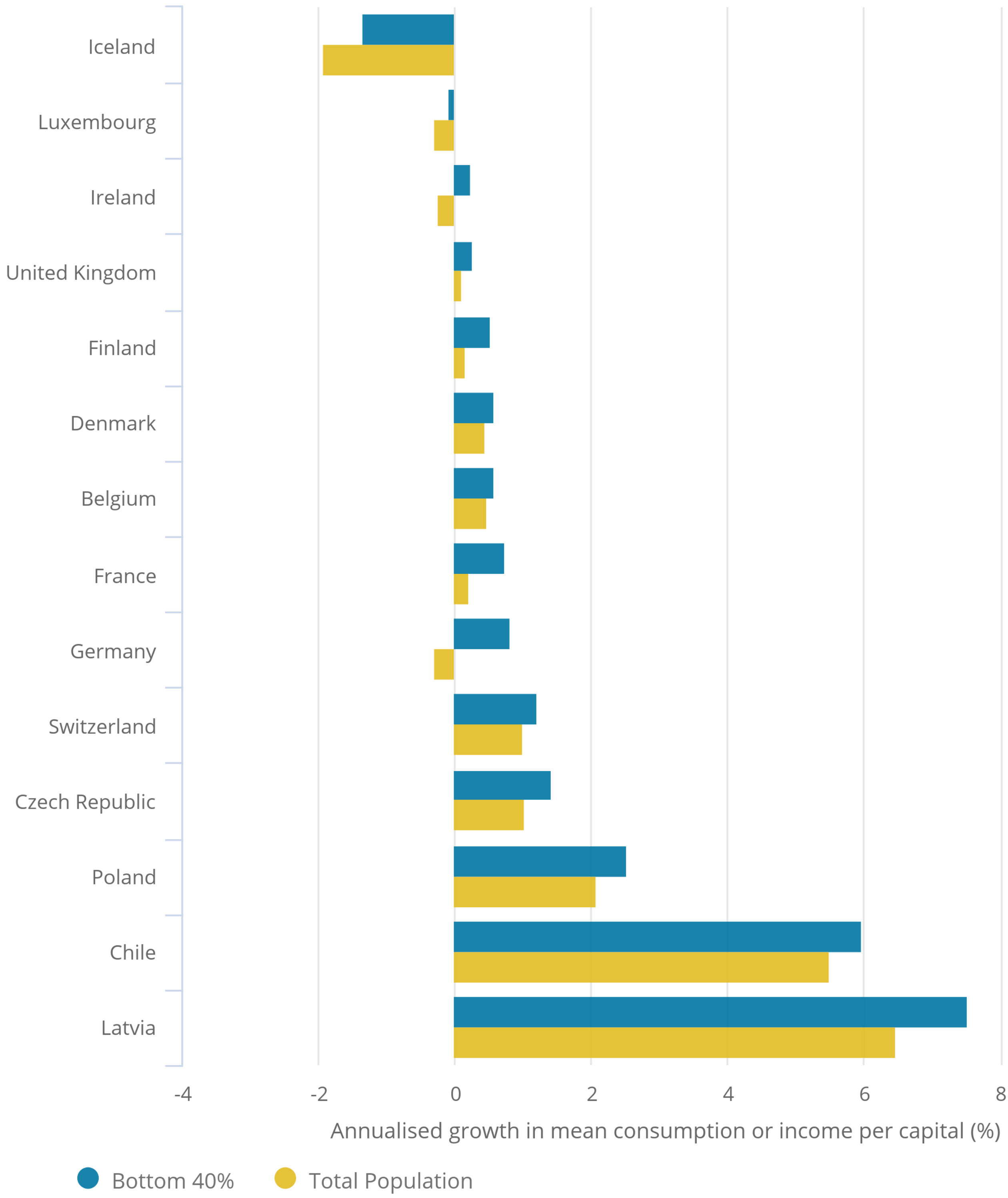
1. No data available for Japan, Australia, Republic of Korea, Canada, New Zealand and Israel. Data refer to income or expenditure growth, for the time period approximately 2010 to 2015

Figure 5: OECD member countries where five-year average income or expenditure growth rates among the bottom 40% was faster than the five-year national average

Approximately 2010 to 2015

Figure 5: OECD member countries where five-year average income or expenditure growth rates among the bottom 40% was faster than the five-year national average

Approximately 2010 to 2015



Source: World Bank EU Survey for Income and Living Conditions

Notes:

1. No data available for Japan, Australia, Republic of Korea, Canada, New Zealand and Israel. Data refer to income or expenditure growth, for the time period approximately 2010 to 2015

Faster income growth amongst the poorest 40% does not necessarily mean that a country was more prosperous, as there are nine OECD countries amongst the 30 that experienced negative growth rates. For example, Luxembourg shows a faster than average income growth rate for the bottom 40%, but an overall negative growth rate for both total population (negative 0.28%) and poorest 40% (negative 0.09%).

Notes for: UK amongst 14 OECD countries where income growth among the bottom 40% was faster than average

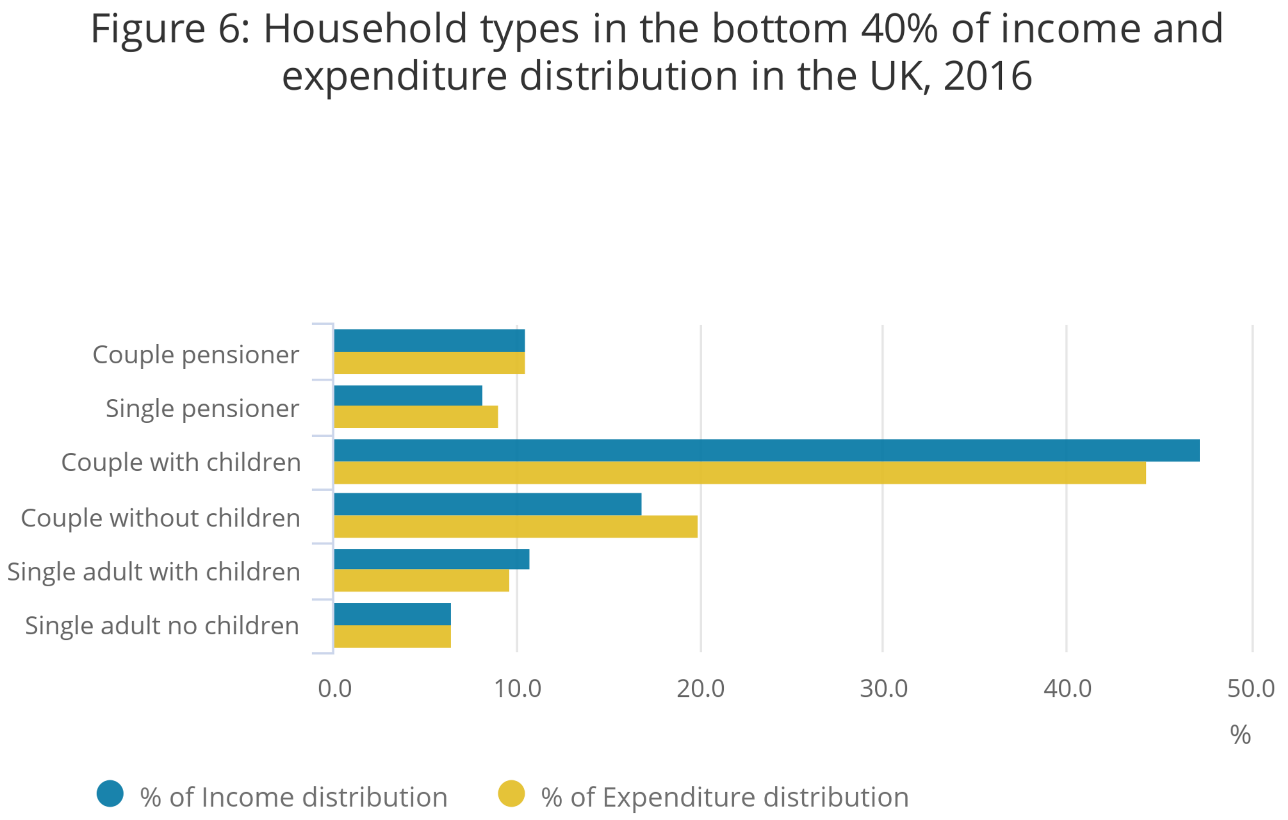
1. See the Things you need to know about this release section for explanation of World Bank data.
2. Data include the 30 OECD member countries with World Bank data available. Japan, Republic of Korea, Australia, New Zealand, Canada and Israel are not included.

9 . Characteristics of the bottom 40%

Figure 6 shows the proportion of different types of household composition in the bottom 40% of both income and expenditure in the UK in 2016.

Couples with children made up the highest proportion of the bottom 40% in 2016, by at least double compared with all other household types.

Figure 6: Household types in the bottom 40% of income and expenditure distribution in the UK, 2016

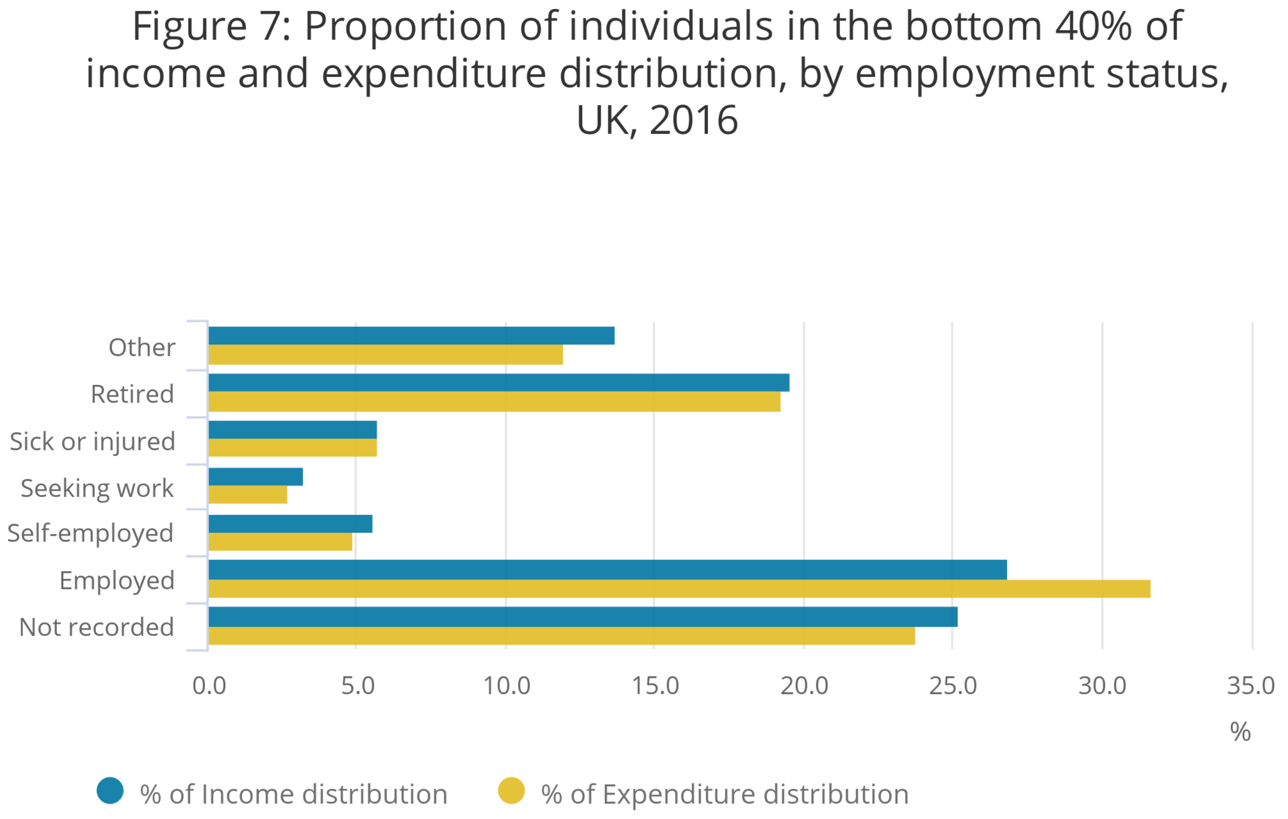


Source: Office for National Statistics

Figure 7 shows the employment status of people in the bottom 40% of the income and expenditure distributions, in 2016.

In the same year, individuals who were employed appear to be the only group that made up a higher proportion of the bottom 40% of expenditure distribution (31.7%) than income distribution (26.9%).

Figure 7: Proportion of individuals in the bottom 40% of income and expenditure distribution, by employment status, UK, 2016



Source: Office for National Statistics

It is important to understand that these charts do not represent households that are most at risk of poverty, rather the proportion of household types and the employment statuses of individuals in those households, that make up the bottom 40% of income and expenditure distributions in the UK in 2016.

Poverty in the UK is often measured as households with an income or expenditure that is 60% below the national median, although there is no standard measure or definition of poverty. This method is a relative poverty measure that compares a household's income or expenditure with other households. The rationale for this approach comes from a definition of poverty that considers individuals' capacity to fully participate in society.

Poverty is another measure of the Sustainable Development Goals (SDGs), under Goal 1, which aims to eradicate poverty by 2030. UK progress against Goal 1 indicators is available at our National Reporting Platform, along with all 17 SDGs.

By understanding who is also at risk of poverty, we can make some additional observations about economic inequalities. Poverty draws attention to the potential of unequal distribution of the means that people seek to be able to "meet their needs and pursue their goals" (Kabeer, 2015).

Recent Office for National Statistics (ONS) research on expenditure and income poverty measures highlighted who was at most risk of experiencing poverty. Data show that, in 2017:

- children were more likely to be experiencing both expenditure and income poverty than working age adults and pensioners
- single parent households with children were most likely to be experiencing income and expenditure poverty
- those who are sick or injured, or those who are seeking employment were more likely to be experiencing income and expenditure poverty

10 . Conclusions

Economic inequalities can have impacts across many aspects of life. The Organisation for Economic Co-Operation and Development (OECD, 2015) argues that they can reduce social mobility and can impact on people' s health and well-being. Goal 10 of the Sustainable Development Goals (SDGs) calls for reducing economic inequalities as well as those based on age, sex, disability, race, ethnicity, religion or other status within a country. The Goal also addresses inequalities among countries, including those related to representation, migration and development assistance.

Goal 10 will be reviewed in depth at the United Nation's High Level Political Forum (HLPF) in 2019. The HLPF is the UN's main platform for monitoring progress and reviewing the SDGs at a global level and at the same time, the UK will be presenting its Voluntary National Review on progress made towards achieving the SDGs.

In this article, we have shown UK progress against SDG target 10.1, nationally and internationally. In the UK, we are meeting the target for 10.1, of goal 10, and sustaining a higher than average income growth rate for the bottom 40%, but it is unclear whether this will continue.

Internationally, the UK was among 14 OECD countries achieving the target. However, the UK is also among other richer countries that have seen a widening in income inequality between the richest and poorest households. Whilst from an economic perspective it could be seen to be sensible to improve at least some incomes, wider economic inequality does not make economic sense if it means that the capacity of the bottom 40%, to improve their and their children's position in the future, is reduced (OECD, 2015).

The SDGs not only have an overarching focus on inequalities, but also have a unifying aim to "leave no one behind". Therefore, it is crucial to understand who may be left out in policy, data and development. By exploring the growth in income or expenditure in the bottom 40% of the income or expenditure distribution compared with the national average, we can draw some conclusions about the extent to which those with the lowest incomes or expenditure are catching up or being left behind.

11 . References

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