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**Research Report**

## Living standards, poverty and inequality in the UK: 2017

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# Living standards, poverty and inequality in the UK: 2017

Jonathan Cribb  
Andrew Hood  
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# **Living Standards, Poverty and Inequality in the UK: 2017**

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**Robert Joyce**

**Agnes Norris Keiller**

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**The Institute for Fiscal Studies**

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# Preface

The Joseph Rowntree Foundation has supported this project as part of its programme of research and innovative development projects, which it hopes will be of value to policymakers, practitioners and service users. The facts presented and views expressed in this report are, however, those of the authors and not necessarily those of the Foundation. Neither are the views expressed necessarily those of the other individuals or institutions mentioned here, including the Institute for Fiscal Studies, which has no corporate view. Co-funding from the ESRC-funded Centre for the Microeconomic Analysis of Public Policy at IFS (grant number ES/M010147/1) is also very gratefully acknowledged.

Data from the Family Resources Survey were made available by the Department for Work and Pensions, which bears no responsibility for the interpretation of the data in this report. The Households Below Average Income data prior to 1994–95 were constructed from the Family Expenditure Survey. These data are available from the UK Data Service.

The Labour Force Survey (LFS) data are Crown Copyright and reproduced with the permission of the Controller of HMSO and Queen's Printer for Scotland. The Annual Survey of Hours and Earnings (ASHE) data are produced by the Office for National Statistics, are Crown Copyright and may not exactly reproduce National Statistics aggregates. Understanding Society is an initiative funded by the Economic and Social Research Council and various government departments, with scientific leadership by the Institute for Social and Economic Research, University of Essex, and survey delivery by NatCen Social Research and Kantar Public. The LFS, ASHE and Understanding Society data were all made available through the UK Data Service.

The authors would like to thank Paul Johnson for his helpful comments. Any errors and all views expressed are those of the authors.

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# Contents

<b>1. Introduction</b>	<b>7</b>
<b>2. Living Standards</b>	<b>9</b>
2.1 Average living standards in the UK	11
2.2 Determinants of average income growth in recent years	13
2.3 Trends in living standards by age group	18
2.4 Households' experience of changing living standards	21
2.5 Conclusion	25
<b>3. Inequality</b>	<b>26</b>
3.1 Income inequality in the UK	27
3.2 Trends in inequality	30
3.3 Inequality between the top 1% and the rest	35
3.4 Income inequality between and within regions and nations	37
3.5 Conclusion	41
<b>4. Poverty</b>	<b>43</b>
4.1 Recent trends in income poverty and material deprivation	46
4.2 Poverty in a longer-run context	50
4.3 How persistent is poverty in the UK?	53
4.4 Conclusion	59
<b>5. In-Work Poverty among Families with Children</b>	<b>60</b>
5.1 The characteristics of working families with children	61
5.2 Living standards and poverty rates for children in working families	65
5.3 Explaining the stagnation in incomes among one-earner couples with children	68
5.4 Conclusion	75
<b>Appendix A. The Households Below Average Income (HBAI) methodology</b>	<b>77</b>
<b>Appendix B. Additional figure for Chapter 3</b>	<b>83</b>
<b>Appendix C. Additional table and figure for Chapter 4</b>	<b>84</b>
<b>References</b>	<b>86</b>

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# 1. Introduction

This report examines changes in the distribution of household incomes in the UK, and the determinants and consequences of recent trends. This includes analysing not only changes in average living standards, but also inequality in household incomes and measures of income poverty and deprivation.

The analysis is based on data from two main UK household surveys. The first is the Family Resources Survey (FRS), a survey of more than 20,000 households a year, which contains detailed information on different sources of household incomes. We use household income variables derived from the FRS by the UK government's Department for Work and Pensions (DWP). These measures of incomes underlie the DWP's annual statistics on the distribution of income, known as 'Households Below Average Income' (HBAI). The FRS/HBAI data are available for the years from 1994–95 to 2015–16. This is supplemented by HBAI data derived from the Family Expenditure Survey (FES) for the years up to and including 1993–94.

In addition, we use information from Understanding Society. This is a longitudinal survey that follows the same people from one wave to the next, which allows us to examine changes in individual households' incomes and economic circumstances. Robust data on household incomes in Understanding Society are available from 2010–2011 to 2014–2015.

The main outcomes of interest in this report are measures of household income. We use the measure of income that is used in the Households Below Average Income statistics. Further details regarding the methodology of HBAI can be found in Appendix A, but a few key points are worth summarising here:

- Income is measured at the household level, i.e. as the total income of all individuals living in the same household. A household for these purposes is not the same as a family, which is defined simply as a single adult or couple and any dependent children they have. For instance, young adults living together (other than as a couple) would be classified as in the same household but not in the same family.
- Income is rescaled ('equivalised') to take into account the fact that households of different sizes and compositions have different needs.
- Income is measured after deducting income tax, employee and self-employed National Insurance contributions, and council tax, and it includes income from state benefits and tax credits.
- Income is measured both before housing costs have been deducted (BHC) and after they have been deducted (AHC).
- All cash figures are presented in 2015–16 prices and all income growth rates are given after accounting for inflation. We adjust for inflation using measures of inflation based on the Consumer Prices Index, which are the same measures as are used by DWP in the government's official HBAI statistics.

Although it is derived from a different survey, the measure of household income in Understanding Society is measured in broadly the same way as in the HBAI data, although there is no comparable measure of income after housing costs have been deducted in Understanding Society.

Because the data on household incomes are produced and released with some lag, we complement the results using two other data sets – the Annual Survey of Hours and Earnings (ASHE) and the Labour Force Survey (LFS), for which the latest available data cover 2016 and 2016–17 respectively. Although these data sets do not measure household income, they provide high-quality information on the UK labour market, trends in which are key in determining living standards. They allow us to present results that are more up-to-date than those using household income data alone.

Since all the analysis is based on a sample from the population, all estimated statistics are subject to sampling error. Therefore it is important to gauge whether changes are large enough that we can be confident they reflect real changes in the population as a whole, rather than random variation in the sample from one year to another. We therefore frequently test whether estimated changes are ‘statistically significant’. In our analysis, being ‘statistically significant’ implies that an estimate is statistically significantly different from zero at the standard 5% significance level.

The rest of this report proceeds as follows. Chapter 2 contains our analysis of changes in living standards, the determinants of recent trends, and which households have experienced bigger and smaller changes in incomes in recent years. Chapter 3 analyses how changes in incomes have differed across the income distribution, with a particular focus on changes in inequality across the regions of the UK. Chapter 4 analyses changes in income poverty and in measures of deprivation that are not based on income. It also examines determinants of persistent poverty, where families experience low incomes for extended periods of time. Chapter 5 focuses in particular on in-work poverty amongst families with children. In-work poverty is most common for children whose parents are a one-earner couple, so the chapter focuses in particular on the drivers of living standards for this group.

## 2. Living Standards

### Key findings

#### Median net household income has grown relatively slowly since the post-recession recovery started in 2011–12.

The latest available household income data, for 2015–16, estimate that median income is only 3.7% above its pre-recession (2007–08) level and has grown at an annual average of 1.5% since the recovery began in 2011–12.

#### The poor performance of earnings has been the primary reason for the malaise in living standards.

Although the number of people in work has risen, earnings growth has been so weak that employment income in the UK in 2015–16 was still lower than prior to the recession (even including income from self-employment). Offsetting this drag on total household income have been increases in investment and private pension income, and falls in direct tax payments.

#### Trends in living standards for different age groups have been very different.

By 2015–16, median income for those aged 60 and over was 10% higher than it was in 2007–08, but for adults aged 22–30 it was still 4% lower. These differences are primarily due to the negative labour market impacts of the recession, which were far more pronounced among younger people. Real earnings for this group were still 12% lower in 2015–16 than before the recession (and still 9% lower by 2016–17, according to more recent data from the Labour Force Survey).

#### There is large variation in the changes in living standards experienced by individuals over recent years.

Using data that follow the same people over time between 2010–2011 and 2014–2015, we see that 87% of individuals saw their household income rise or fall by at least 5%: 37% saw a fall and 50% saw a rise. Large changes in income were particularly associated with a member of the household moving into or out of paid work. Almost half of those seeing their income fall by at least 50% saw a reduction in the number of people in the household in paid employment.

**Recent projections imply little or no growth in living standards over the next two years.**

This is the result of falling real wages (due to higher inflation caused by the depreciation of sterling after the Brexit vote), less potential for strong employment growth, and continued cuts to working-age benefits.

This chapter analyses trends in the living standards of UK households by looking at changes in average household incomes. We use the Households Below Average Income (HBAI) data, which go up to 2015–16, to document how average incomes have changed in recent years, whilst also drawing on the Labour Force Survey (LFS) to give us up-to-date information on the state of the labour market. To explain these trends, we analyse how different sources of income, such as labour earnings and state benefits, have contributed to changes in total income. We then highlight how incomes have evolved differently for different age groups and investigate the causes of these trends.

To complement our analysis of trends in average household incomes, we also draw on data from Understanding Society. Unlike the HBAI data, these allow us to follow the incomes of the same sample of individuals over time. Hence we can examine how income changes have varied across individuals, rather than just broad population groups.

There are several points worth noting about the measures of household income we focus on throughout this chapter. Unless otherwise stated, all figures relate to ‘net’ income, which measures income including state benefits and tax credits after income tax, National Insurance contributions and council tax have been paid. Household income can be measured either before or after housing costs have been deducted (referred to respectively as ‘BHC’ and ‘AHC’). Unless otherwise stated, we report incomes on a BHC basis. When using income as an indicator of household living standards, it is important to account for differences in household size and composition. We therefore focus on ‘equivalised’ incomes and express all cash amounts as the equivalent amount for a childless couple. The measures of income available in the Understanding Society data attempt to replicate the HBAI methodology as closely as possible and a more in-depth explanation of the methodology that underpins the HBAI statistics is provided in Appendix A. Unless otherwise stated, all statistics in this chapter relate to the United Kingdom.

If prices are increasing, the living standard that can be afforded with a given level of cash income is falling. Following the Department for Work and Pensions (DWP), we therefore express all cash amounts in average 2015–16 prices after adjusting for inflation using a measure based on the Consumer Prices Index (CPI). All income growth rates are reported after accounting for inflation. We use the same inflation measure in our analysis of Understanding Society but here express incomes in January 2015 prices, which again follows DWP methodology.

There are two major differences between the Family Resources Survey (FRS), which underpins the HBAI statistics, and the Understanding Society survey. First, the FRS sample changes each year, whereas Understanding Society aims to collect information on the same people over time. However, some Understanding Society respondents only appear

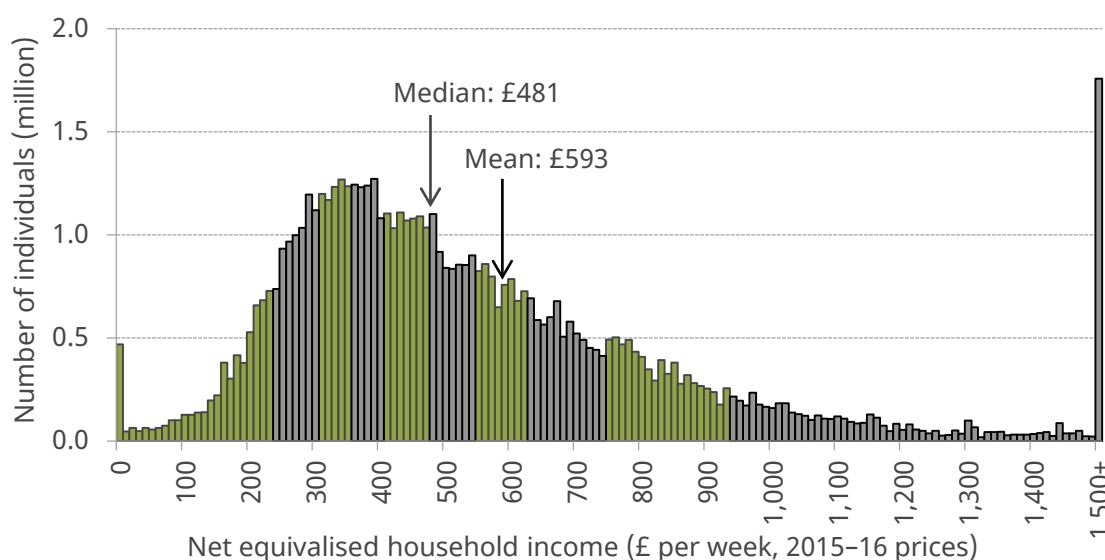
in the data temporarily (for example, they may stop responding to the survey after one year of participating). We ignore such temporary respondents and restrict our analysis of Understanding Society to a ‘balanced panel’ sample, which only includes individuals who are observed in all of the five most recent releases of Understanding Society data. Second, the two surveys differ in the time period they cover. While each release of the HBAI statistics covers a single financial year, each release of Understanding Society data (referred to as a ‘wave’) spans two calendar years. In this chapter, we use the five most recent waves of Understanding Society data, which represent 2010–2011 through to 2014–2015.

Section 2.1 provides an overview of UK living standards in 2015–16 and shows how they have evolved over the recent past. Section 2.2 explains these trends by examining the performance of the UK labour market and looking at changes in different sources of income. Section 2.3 highlights marked differences in the experience of different age groups. Section 2.4 analyses changes in individuals’ living standards between 2010–2011 and 2014–2015. Section 2.5 concludes.

## 2.1 Average living standards in the UK

Figure 2.1 shows the distribution of income in the UK in 2015–16. A childless couple needed £481 per week to be at the median or £593 to be at the mean,<sup>1</sup> but of course there is much variation around these averages. The figure groups individuals according to their weekly income and plots the number of individuals in each £10 income band. An exception is the right-most bar, which plots the number of individuals with a weekly income of £1,500 or more (approximately 1.8 million).

**Figure 2.1. The UK income distribution in 2015–16**



Note: Incomes have been measured before housing costs have been deducted. The right-most bar represents incomes of at least £1,500 per week.

Source: Authors’ calculations using the Family Resources Survey, 2015–16.

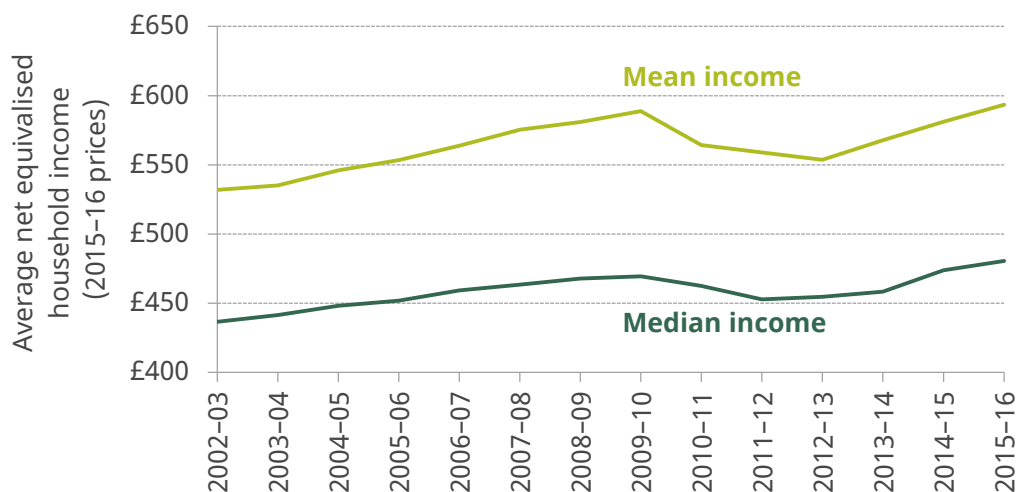
<sup>1</sup> A single person without children would be at the median (mean) if they had an income of £322 (£397), while a couple with two children aged under 14 would require an income of £674 (£831).

The alternate green and grey shading aggregates the £10 income bands into 10 income deciles, which each contain the same number of individuals.<sup>2</sup> The shading highlights the high density of incomes around the middle (the income deciles here span a relatively narrow range) and the fanning out of incomes further from the middle, especially at the top end.

To examine trends in living standards, Figure 2.2 shows how average incomes have changed since 2002–03, which is the earliest year for which consistent data for the whole of the UK are available. Average incomes grew slowly between 2002–03 and 2007–08 (following a period of very strong growth during the late 1990s). Despite the onset of the recession in 2008–09, income growth continued at a slow rate up until 2009–10. The impact of the recession on average living standards was not avoided, however, and median incomes fell by 3.5% between 2009–10 and 2011–12. The recovery was slow, with weak growth in 2012–13 and 2013–14, before stronger growth in 2014–15. The most recent data show that income growth was slightly slower in 2015–16 than in the previous year. Median income grew by 1.4% while mean income grew by 2.1%.

These figures show that average incomes are higher than ever before. There are, however, two significant caveats to this apparently good news. First, we generally expect incomes to grow over time and therefore living standards to almost always be higher than ever before. The rate of progress is a more challenging, and arguably more relevant, metric. On that front, the recent past has been very poor. Average incomes are now only a few percent higher than they were before the recession. Median income in 2015–16 was 3.7% higher than its level in 2007–08 while mean income was only 3.1% higher.

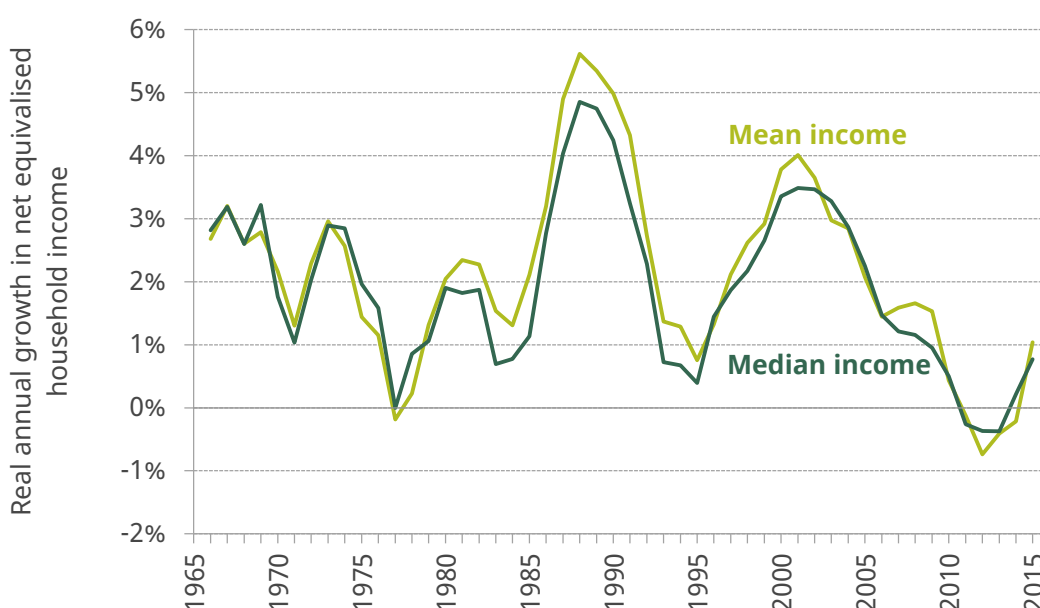
**Figure 2.2. Average UK household income (measured BHC) since 2002–03**



Note: Incomes have been measured before housing costs have been deducted and are expressed in 2015–16 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple.

Source: Authors' calculations using the Family Resources Survey, various years.

<sup>2</sup> In the HBAI data, the incomes of households with negative incomes – due, for example, to losses in self-employment income – are set to £0. According to the 2015–16 HBAI data, approximately 429,000 individuals had a negative household income, which represents 0.67% of the entire population.

**Figure 2.3. Growth in mean and median household BHC income (GB)**

Note: Incomes have been measured before housing costs have been deducted and are expressed in 2015–16 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Average annual growth rates are calculated over the five years up to and including the year plotted on the horizontal axis.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

Figure 2.3 puts recent trends in a historical perspective by showing growth rates in average incomes over the last five decades. To smooth year-to-year volatility, the figure plots average growth rates over a rolling five-year period. This emphasises just how weak growth in average incomes has been in recent years, with growth well below the pre-recession historical average.

Of course, trends in average incomes among the entire UK population may obscure the extent to which living standards have changed differently for different groups. In Section 2.3, we highlight marked differences across age groups, while Chapter 3 examines how income growth varies across the entire income distribution.

## 2.2 Determinants of average income growth in recent years

Earnings from employment are the most important source of income for households, on average.<sup>3</sup> We therefore first examine recent trends in pay and employment, before examining their role alongside trends in other forms of income in driving changes in living standards in recent years.

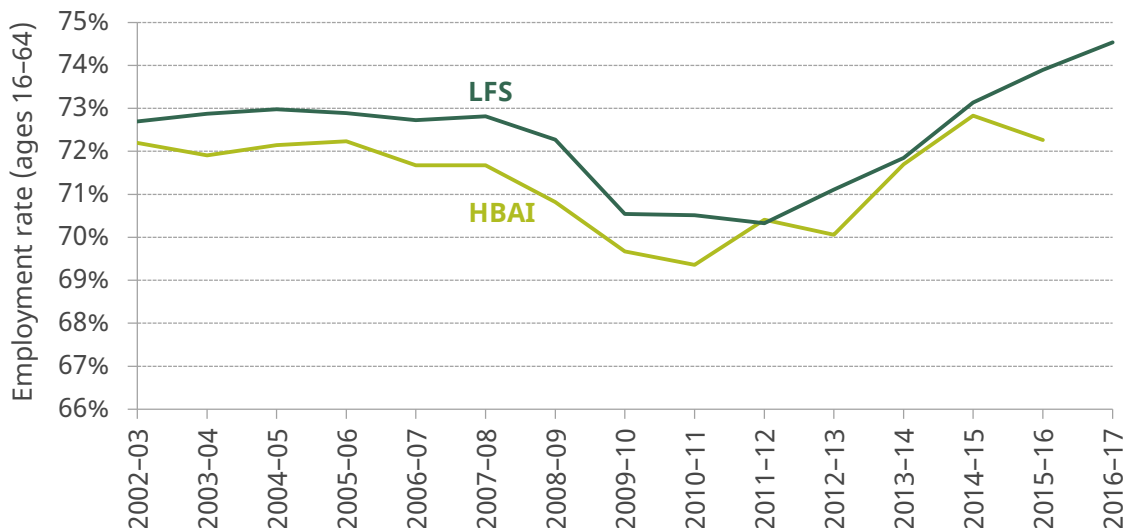
Figures 2.4 and 2.5 present Labour Force Survey and HBAI data on the working-age employment rate and median earnings of employees. Figure 2.4 shows that the two surveys have recorded broadly similar trends in employment. The data show that the

<sup>3</sup> Throughout this chapter, earnings from employment refer to employees' take-home pay and are therefore net of employee pension contributions.

proportion of people aged between 16 and 64 in employment has recovered from its recent lows in the recession, rising substantially since 2011–12, to reach 74.5% in the LFS in 2016–17, well above the pre-crisis employment rate.

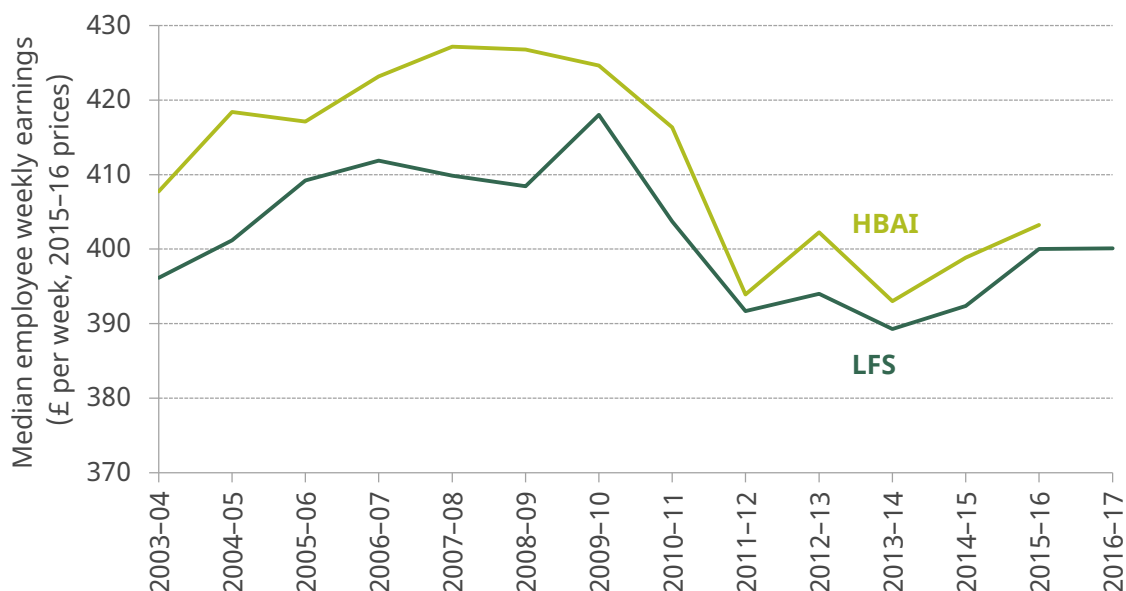
There was a slight divergence in the employment rate between the two surveys in 2015–16 (the last year for which HBAI data are available).<sup>4</sup> Because the LFS is considerably larger

**Figure 2.4. Employment rate (ages 16–64) in HBAI and LFS (UK)**



Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, various years.

**Figure 2.5. Real median weekly earnings of employees in HBAI and LFS (UK)**



Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, various years.

<sup>4</sup> Employment in the LFS continued to grow strongly in 2015–16, rising by 0.8 percentage points (ppt), whereas the HBAI data record a modest fall of 0.6ppt. This difference is the combined effect of moderate differences in full-time employment growth, which increased by 0.2ppt in the HBAI data and 0.7ppt in the LFS, and more pronounced differences in the part-time employment rate. While part-time employment increased by 0.1ppt in 2015–16 according to the LFS, it fell by 0.8ppt in the HBAI data.



than the FRS and is specifically designed to measure labour market trends, we would generally be inclined to favour it as the more reliable indicator of the employment rate. We expect that income growth recorded in the HBAI in 2015–16 would have been slightly stronger had employment observed in the FRS grown similarly to that observed in the LFS.

Figure 2.5 shows how real median earnings among those in employment have changed since 2003–04. As with employment, the two data sets display broadly similar trends and have tracked each other relatively closely over recent years, with both the LFS and the HBAI data recording median earnings growth of between 1% and 2% in 2015–16. Both data sets show that average earnings have clearly failed to recover to the highs observed before the impacts of the recession materialised, and this is the principal reason why average living standards are only slightly above pre-recession levels despite the large increase in employment observed over the last five years. While the HBAI data only go up to 2015–16, the LFS suggests that in 2016–17 real median earnings growth stalled completely. This was in part because inflation began to rise throughout late 2016 following the large depreciation in the value of sterling after the vote to leave the EU.

To understand the combined effect that these trends in pay and employment have had on household incomes, alongside the effects of trends in other sources of household income, Table 2.1 splits total household income into several components. We separately examine each component of gross (pre-tax) ‘private’ income (such as employee earnings), alongside state benefits and deductions such as direct taxes and council tax.<sup>5</sup>

The first two rows of Table 2.1 show that gross employee earnings are by far the largest income component, representing 84% of total net income (or 64% of total gross income). Incomes from self-employment, savings, investments and private pensions, and state benefits add 12% (9%), 15% (11%) and 18% (14%) respectively, while direct taxes and other deductions reduce total net (gross) income by 32% (24%).

The remainder of Table 2.1 shows how the different income sources have contributed to net income growth over several periods, all ending in 2015–16. There are three main points to draw from these comparisons.

First, unsurprisingly, changes in gross employee earnings are an important determinant of mean income growth across all periods. Despite growing by 3% since 2011–12, gross employee earnings are still 2% below their pre-recession levels (note that this is amongst all individuals, not just employees, so includes the impact of rises in the proportion employed). Even when you include income from self-employment (which has grown in importance in recent years), average gross income from employment in 2015–16 is lower than in 2007–08. Essentially this tells us that the performance of earnings for those in work has been so poor that it has more than offset the robust growth in employment. As is shown in the next chapter, the earnings of higher-paid individuals have done worse than those of lower-paid individuals in recent years, meaning that this picture is driven to a significant extent by particularly weak earnings growth for high earners.

<sup>5</sup> The figures in all columns except the last are calculated using a subsample of the HBAI data that excludes a small fraction of individuals – those in households with negative total income. This is because negative incomes are set to zero in the HBAI data and therefore total income does not equal the sum of income components for these individuals. Because deductions are presented separately, the net income shares of the gross income components sum to more than 100%.

**Table 2.1. Changes in income sources and contributions to mean income growth (UK)**

	Gross employee earnings	Gross self-employment income	Benefits to pensioner families	Benefits and tax credits to working-age families	Gross income from savings, investments and private pensions	Other income	Direct taxes and other deductions from income	Total net income	Mean HBAI income
Share of net income (2015–16)	84.3%	12.0%	8.7%	9.5%	14.6%	3.2%	–32.3%	100.0%	
Share of gross income (2015–16)	63.7%	9.0%	6.6%	7.2%	11.1%	2.4%	–24.4%	75.6%	
<b>2014–15 to 2015–16</b>									
Growth of income source	2.0%	4.5%	1.4%	–1.1%	3.9%	11.2%	2.8%	2.2%	2.1%
Contribution to total income growth	1.7ppt	0.5ppt	0.1ppt	–0.1ppt	0.6ppt	0.3ppt	–0.9ppt	2.2ppt	
<b>2011–12 to 2015–16</b>									
Growth of income source	3.1%	15.0%	3.5%	–8.5%	16.9%	34.3%	1.6%	6.3%	6.1%
Contribution to total income growth	2.7ppt	1.7ppt	0.3ppt	–0.9ppt	2.2ppt	0.9ppt	–0.6ppt	6.3ppt	
<b>2007–08 to 2015–16</b>									
Growth of income source	–1.5%	2.3%	9.6%	0.1%	6.9%	29.8%	–4.2%	2.9%	3.1%
Contribution to total income growth	–1.4ppt	0.3ppt	0.8ppt	0.0ppt	1.0ppt	0.8ppt	1.5ppt	2.9ppt	
<b>2002–03 to 2015–16</b>									
Growth of income source	5.8%	9.4%	20.6%	11.3%	41.1%	35.8%	9.6%	11.6%	11.6%
Contribution to total income growth	5.2ppt	1.1ppt	1.7ppt	1.1ppt	4.8ppt	0.9ppt	–3.2ppt	11.6ppt	

### Note and Source to Table 2.1

Note: All columns except the last relate to a subsample of households in HBAI that excludes those with negative incomes. All incomes have been equivalised and are measured at the household level and before housing costs have been deducted. 'Benefits to pensioner families' are defined as benefits received by households containing at least one pensioner. This will include some benefits that can also be received by working-age people (for example, housing benefit) and some benefits actually received by working-age individuals who live with pensioners.

Source: Authors' calculations using the Family Resources Survey, various years.

Second, despite the falls in overall gross employment income since 2007–08, overall net income is higher than prior to the recession. One important reason for that has been strong growth in income from savings, investments and private pensions. This has been driven by increases in the number of individuals drawing income from occupational pensions (partly simply because of an ageing population), increases in the average payments from these occupational schemes, and strong growth in investment incomes. This reflects somewhat longer-term trends. Since 2002–03, the number of individuals receiving income from an occupational pension has grown by 14.4%, the mean occupational pension payment has increased by 35.8% and mean income from investments (excluding occupational pensions) across the whole population has increased by 40.4%. In addition, direct tax payments were still 4.2% lower in 2015–16 than in 2007–08 (caused in part by decreases in the amount of pre-tax employment income, as well as some cuts to direct taxes such as the increase in the personal income tax allowance), which has also acted to support net household income growth since the recession.

Third, growth in benefits and tax credits paid to working-age families has diverged from growth in benefits paid to pensioners over time. In particular, government policies that have reduced the amounts of several widely claimed working-age benefits after adjusting for inflation have caused working-age benefit income to fall since 2011–12, reducing total income growth by 0.9 percentage points over this period, whereas pensioner benefits have continued to rise (although some of this is driven by an ageing population). Despite these reductions in generosity, however, working-age benefit income across the entire population remains 11.3% higher than it was in 2002–03.

Lags in the release of the data that underpin this chapter mean that, while we can examine changes in the labour market up to 2016–17, we are only able to analyse changes in living standards as measured by net household incomes up to 2015–16. Given that employment continued to grow during 2016–17, it is likely that incomes overall will have continued to rise a little, as was projected in March by Hood and Waters (2017). But the pace of income growth was likely to have been modest given that the real earnings of employees were flat (according to the LFS) or grew only slightly (according to the ONS's Average Weekly Earnings measure). The same projections by Hood and Waters also imply no income growth at all at the median between 2016–17 and 2018–19, as rising inflation and cuts to working-age benefits suppress income growth. With unemployment having returned to less than 5%, it will also be harder for substantial employment growth to boost incomes in the next few years.

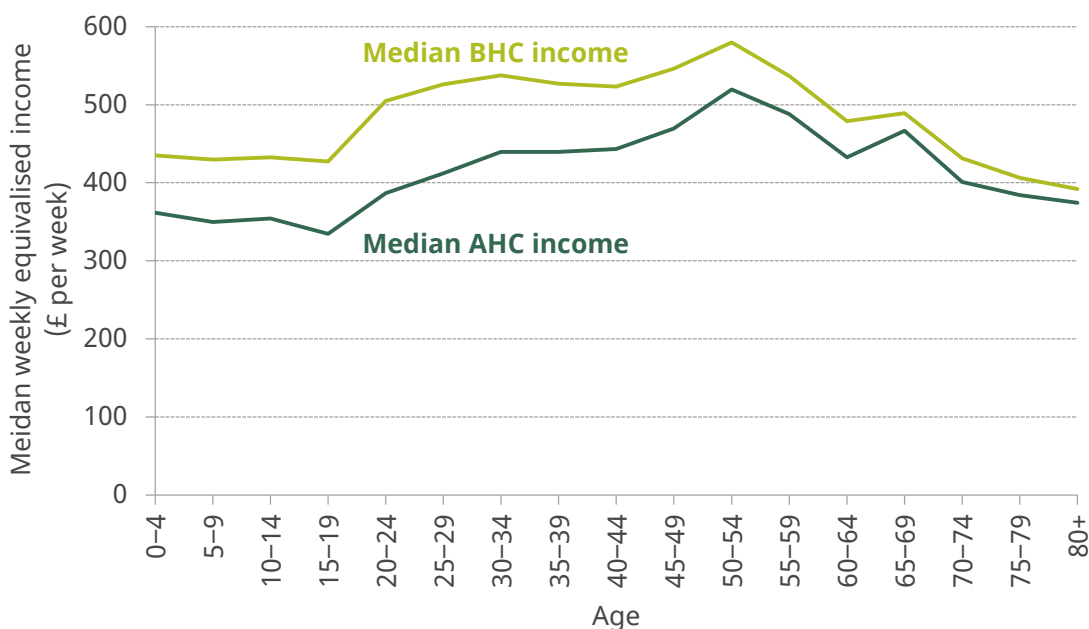
## 2.3 Trends in living standards by age group

The analysis so far has focused on changes in average living standards across the entire UK population. However, these may not be representative of the changes observed among different parts of the population. In this section, we focus on how average living standards have changed for different age groups.

Figure 2.6 shows the median weekly incomes (measured BHC and AHC) by age in the most recent year of HBAI data (2015–16). On average, household incomes are shown to be higher for working-age adults than they are for children. Median income is highest for those in their late 40s and 50s, and is lower for pensioners than for those in late working age. Accounting for housing costs makes a much bigger difference for children and younger people than for older individuals. This is because a much larger proportion of older individuals own their homes outright or with a very small outstanding mortgage and therefore face very low interest repayments on their mortgage.

To examine how the average living standards of different age groups have changed over time, Figure 2.7 plots real median BHC and AHC incomes for three groups (22- to 30-year-olds, 31- to 59-year-olds and those aged 60+) indexed to 2007–08 levels. This reveals striking differences between age groups. The average income of those aged 60 and above has grown strongly and consistently since 2002–03.<sup>6</sup> The average income of young adults aged 22–30, by contrast, has developed particularly poorly since the onset of the recession. While average incomes across the entire population have reached

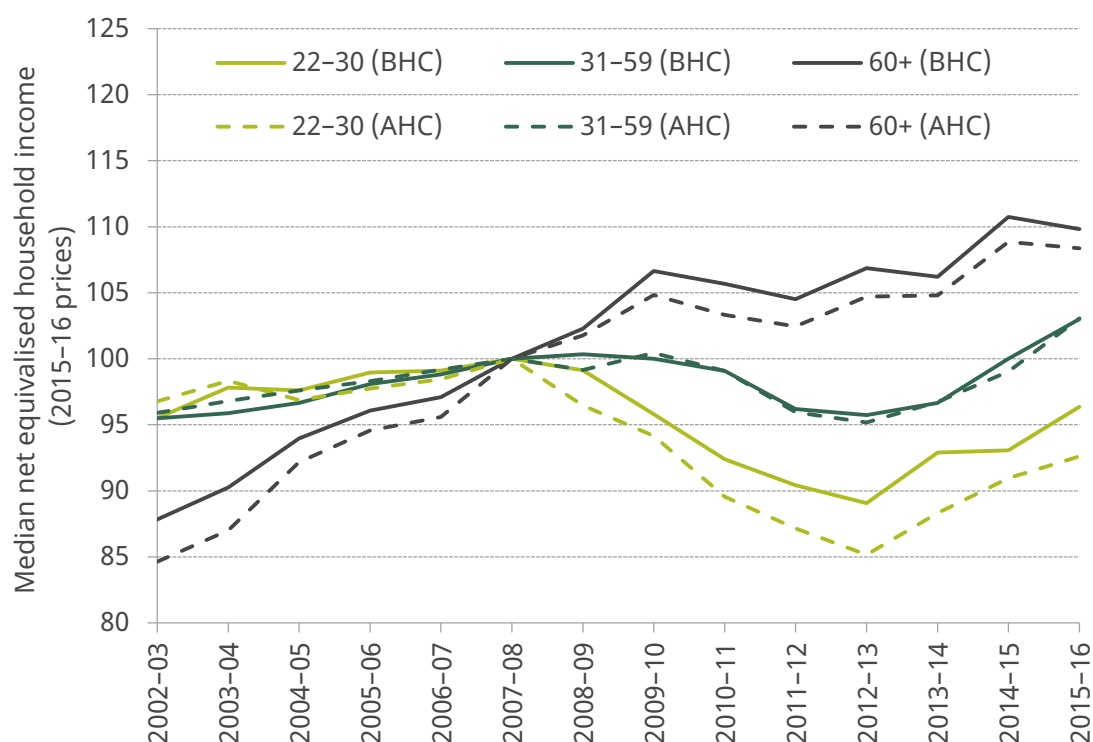
**Figure 2.6. Median household income in 2015–16 (UK), by age group**



Note: All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple.

Source: Authors' calculations using Family Resources Survey, 2015–16.

<sup>6</sup> Income growth has been particularly high for 60- to 69-year-olds (some of whom are working longer due to the higher state pension age for women), but the growth in median income of those aged 70+ has also been much stronger than that of either 22- to 30-year-olds or 31- to 59-year-olds.

**Figure 2.7. Real median household income since 2002-03 (UK), by age group**

Note: All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple.

Source: Authors' calculations using Family Resources Survey, various years.

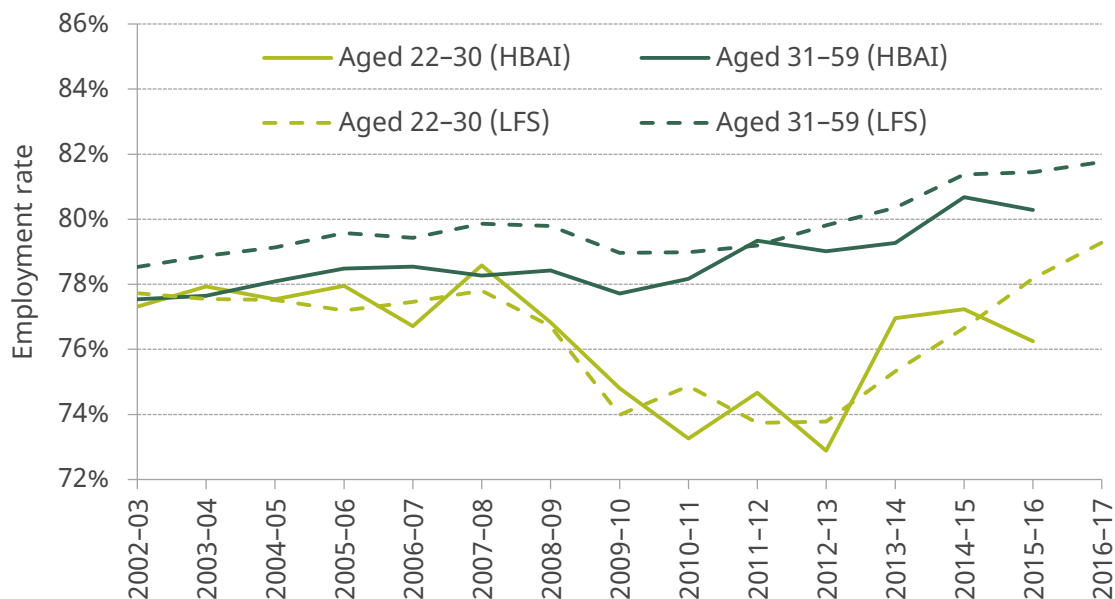
unprecedented highs, the BHC incomes of younger individuals remain 4% below their pre-recession peak. Trends in their AHC incomes are even worse: not only is average income according to this measure 7% below the high reached in 2007-08, but it is also 4% lower than it was in 2002-03.

The changes in income components discussed in Section 2.2 help us understand why average incomes have evolved so differently for the different age groups. Earnings from employment are by far the most important source of income for those of working age, whereas pensioner benefits and income from savings, investments and private pensions are a much more significant determinant of incomes for individuals aged 60 and over. The strong performance of average income among the older age group is largely due to sizeable increases in private pension incomes – as successive generations of retirees tend to be entitled to higher occupational pensions than their predecessors – alongside more modest increases in pensioner benefits and employment. The relatively poor income growth observed for working-age individuals, by contrast, is the result of exceptionally weak growth in employee earnings.

Why have the incomes of those aged 22-30 performed so badly, even relative to other working-age adults? Figure 2.8 shows that the recession had a far greater negative impact on the employment rate of young adults. According to the LFS, employment among young adults fell by 4.0 percentage points between 2007-08 and 2012-13 whereas the employment rate of those aged 31-59 fell by only 0.1ppt. Since then, the employment rate of 22- to 30-year-olds has recovered to around its pre-crisis level, although the

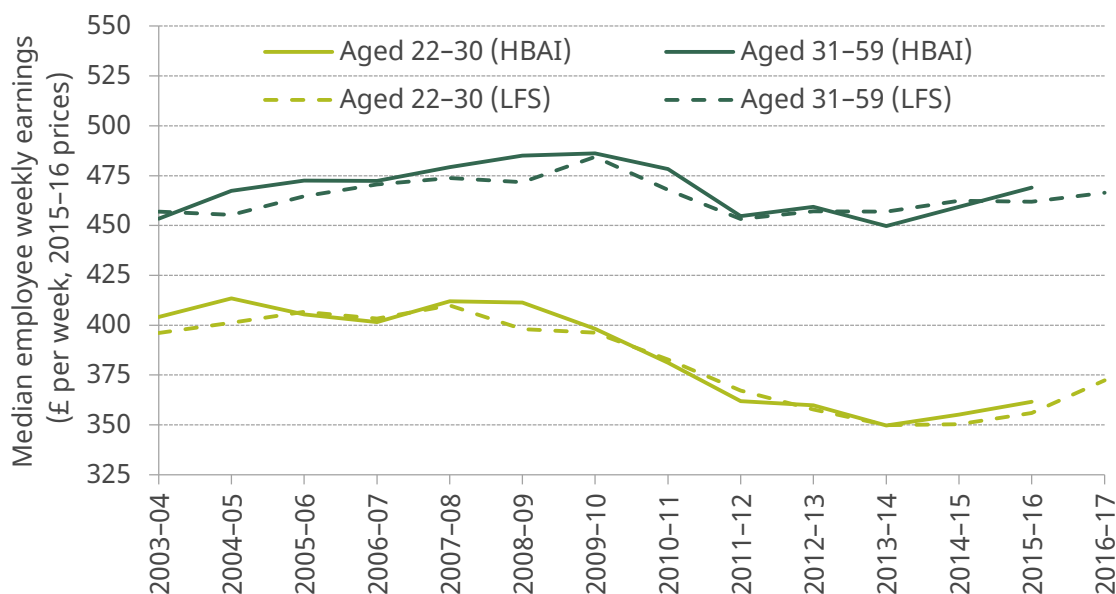
employment rate for 31- to 59-year-olds is well above its pre-recession level. Figure 2.9 shows that the relative weakness in the labour market of younger workers has exerted considerable downward pressure on their earnings, with median earnings of employees aged 22–30 falling far more following the recession compared with those for employees aged 31–59. Although employment among those aged 22–30 has grown strongly since 2012–13, a similar rebound has not occurred in their real earnings, with the result that real earnings of employees aged 22–30 are over 12% below their 2007–08 level. In comparison, real earnings of employees aged 31–59 are ‘only’ around 2% lower than in 2007–08. The

**Figure 2.8. Employment rate in HBAI and LFS (UK), by age group**



Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, various years.

**Figure 2.9. Real median earnings of employees in HBAI and LFS (UK), by age group**



Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, various years.

more recent LFS data, for 2016–17, show earnings remain 9% below pre-recession levels for the 22–30 group and 2% below for the 31–59 group.

Of course, these figures look at the median pay among those in work in each year, but employment has risen in recent years so the kinds of people who are in work may have changed, meaning that these comparisons are not quite ‘like-for-like’. One possible story is that as previously unemployed people enter work, this may pull down average earnings without meaning that anyone has become worse off, because they are less highly skilled than those who were already in work. In its February 2016 Inflation Report, the Bank of England suggested that the changing composition of the workforce had indeed depressed earnings growth in 2014 and 2015, but that the changing composition of the workforce actually acted to increase earnings between 2007 and 2013.

## 2.4 Households’ experience of changing living standards

So far this chapter has focused on changes in average living standards among the entire population and different demographic groups. These averages are useful as they reflect broad trends in living standards over time and allow us to examine which groups have fared more or less well. They do not, however, directly tell us about the changes in living standards experienced by individual people and households as they move through their lives. For example, it would be possible for average income to rise over a period when more than half of the population saw their living standards fall, or vice versa. Whether individuals see income increase or decrease is likely to depend in part on what stage in their life they are at. For example, young adults may expect to experience significant income growth as they move through their 20s because they often see substantial increases in pay as they gain experience in the labour market. On the other hand, people retiring may experience falls in their income.

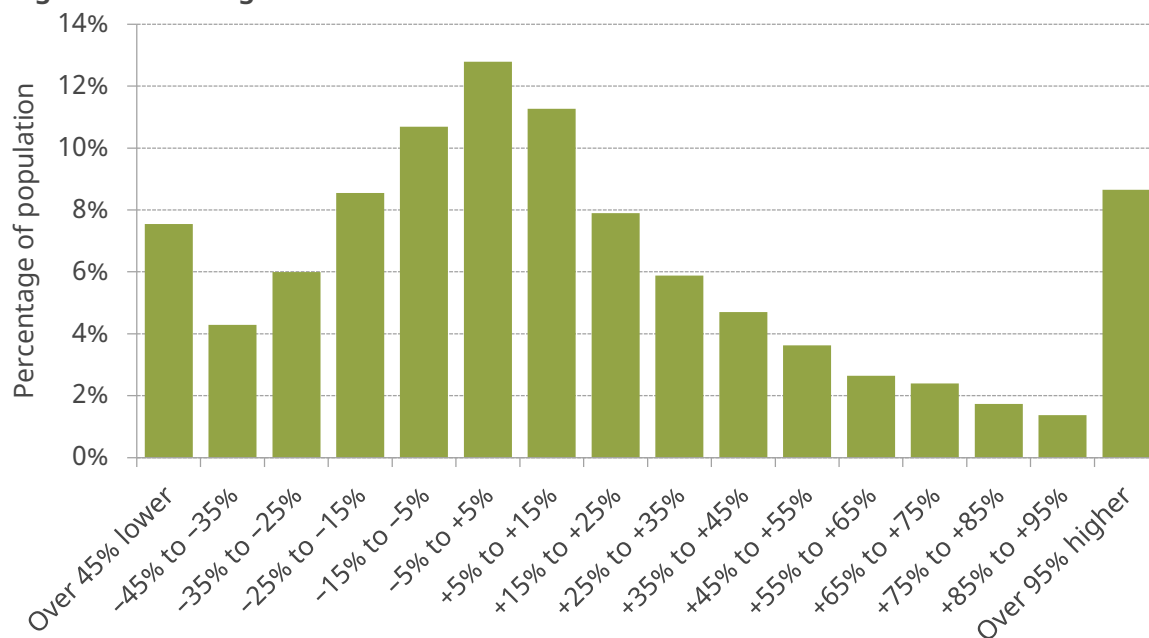
Individual changes in incomes cannot be observed in data sets such as the Family Resources Survey, which gather information on a different sample of people every year. In this section, we therefore use Understanding Society – a ‘panel’ data set that follows the same group of people over time – to examine changes in individuals’ household incomes over the most recent five years of data. We emphasise that this analysis does not provide a ‘better’ or ‘more accurate’ depiction of trends in living standards over recent years: it is a fundamentally different kind of analysis. Rather it should be regarded as a useful complement to the FRS data, allowing us to examine how changes in incomes at the level of broad population groups are the product of a variety of experiences at the individual level.

Median BHC income measured in Understanding Society grew by 6% between 2010–2011 and 2014–2015 (a little higher than the growth of 4% over essentially the same period<sup>7</sup> in the HBAI data). Looking at changes in individuals’ income over this period, however, reveals considerable variety in the personal experiences that lie behind this change in the average. While the median change in income was 5%, a quarter of people saw their income fall by more than 15% and another quarter saw their income grow by at least 35%.

<sup>7</sup> There is a very small difference in the periods being compared here, because HBAI spans financial years whereas Understanding Society spans (pairs of) calendar years.

Figure 2.10 summarises the whole distribution of changes in individuals' household incomes by showing the percentage of the population that experienced an income change within each of the ranges plotted on the horizontal axis. The highest bar shows that 13%

**Figure 2.10. Change in real household net income between 2010–2011 and 2014–2015**



Change in real household net income, 2010–2011 to 2014–2015

Note: Incomes have been measured before housing costs have been deducted and are equivalised using the modified OECD equivalence scale. The left-most bar represents a reduction in income of more than 45%. The right-most bar represents an increase in income of more than 95%.

Source: Authors' calculations using Understanding Society, waves 2–6.

**Table 2.2. Income in 2014–2015 compared with 2010–2011**

2014–2015 income compared with 2010–2011 income	Percentage of population with given change in income	Cumulative percentage
More than 50% lower	6%	6%
50% to 20% lower	16%	22%
20% to 5% lower	15%	37%
5% lower to 5% higher	13%	50%
5% to 20% higher	16%	65%
20% to 50% higher	16%	82%
50% to 100% higher	10%	92%
More than 100% higher	8%	100%

Note: Incomes have been measured before housing costs have been deducted and are equivalised using the modified OECD equivalence scale. Figures may not sum because of rounding.

Source: Authors' calculations using Understanding Society, waves 2–6.

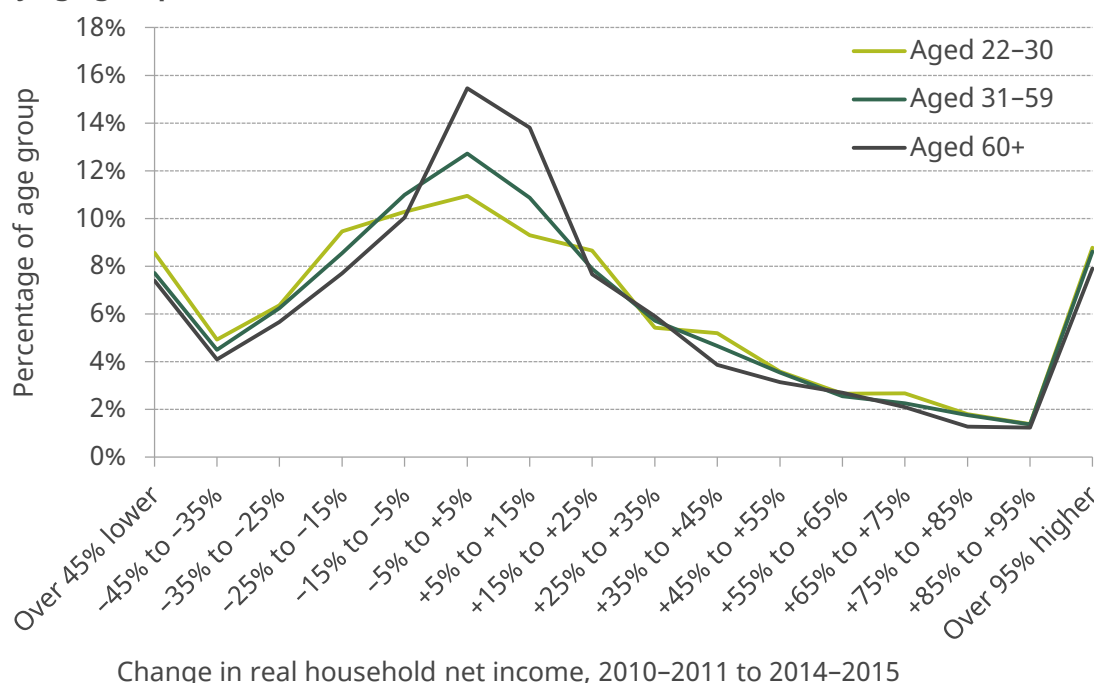


of the population saw their real household income fall by less than 5% or rise by less than 5% between 2010–2011 and 2014–2015. In other words, fully 87% of people saw their income change by at least 5% over the four-year period. Table 2.2 shows that this 87% breaks down into 37% who saw their net household income fall by more than 5%, and 50% who saw their net household income rise by more than 5%. Together, Figure 2.10 and Table 2.2 emphasise just how much diversity there is in income growth at the individual level.

Looking at income changes at the individual level for particular age groups shows that average income changes in recent years have been broadly similar for older and younger individuals. People who were aged between 22 and 30 in 2010–2011 subsequently saw their income grow by an average of 5% by 2014–2015, which is the same as the equivalent figure for those who were aged 60 and older in 2010–2011. Unfortunately, we are unable to look at how this compares with the immediate post-recession period when, as we saw in Section 2.3, average incomes for younger adults did far worse than those for older adults (due to a lack of longitudinal income data spanning that period).

Looking at the entire distribution of individual-level income changes does, however, reveal some differences between age groups. Figure 2.11, which groups people according to their age at the start of the period (2010–2011), plots the distribution of income changes for each group. The figure highlights that individuals aged 60 and over are more likely to experience small, positive income changes than younger individuals. The distribution of income changes among young adults, by contrast, is more dispersed, which means this

**Figure 2.11. Change in real household net income between 2010–2011 and 2014–2015, by age group in 2010–2011**



Note: Incomes have been measured before housing costs have been deducted and are equivalised using the modified OECD equivalence scale. The left-most point on each line represents a reduction in income of more than 45%. The right-most point represents an increase in income of more than 95%.

Source: Authors' calculations using Understanding Society, waves 2–6.

**Table 2.3. Changes associated with large income changes**

	<b>Percentage of individuals with an income increase of:</b>		<b>Percentage of overall population</b>
	<b>20%-50%</b>	<b>more than 50%</b>	
Increase in number of workers in household	30%	41%	21%
Change in household composition that reduces equivalised income	18%	18%	18%
	<b>Percentage of individuals with an income decrease of:</b>		<b>Percentage of overall population</b>
	<b>20%-50%</b>	<b>more than 50%</b>	
Decrease in number of workers in household	33%	48%	19%
Change in household composition that increases equivalised income	32%	24%	27%

Note: Incomes have been measured before housing costs have been deducted and are equivalised using the modified OECD equivalence scale.

Source: Authors' calculations using Understanding Society, waves 2-6.

group is more likely to experience both very large falls and very large increases in income. This is perhaps what one should expect: major potential causes of large income changes, such as labour market shocks or family structure changes, are less prevalent among pensioners.

In light of this, Table 2.3 investigates two factors that may result in sizeable changes in income: the number of adults in the household in paid work and the household's size or composition. The latter is particularly important given that we 'equivalise' household incomes to account for different needs. For example, the birth of a child increases the amount of income a household needs to achieve the same standard of living, so it would, all else equal, reduce the equivalised income of the household. The table shows the percentage of individuals affected by each factor, both among those who see large income changes and in the overall population.

Table 2.3 shows that changes in the number of people working in a household are much more prevalent among those who experience large income changes. Two-fifths (41%) of individuals who saw their total household income rise by more than half were in households that saw an increase in the number of workers (compared with only 21% of the overall population). Changes in the number of workers in a household are even more pronounced among those who experience large reductions in income. Almost 48% of those who saw their income fall by more than half were in households that saw a decrease in the number of workers (more than double the proportion in the overall population). By contrast, the table also shows that changes in household composition are no more common among individuals who experience large changes in income than in the overall population.

Overall, this suggests that changes in employment are the principal driver of the extreme income changes we observe. Reductions in employment are particularly important in causing large falls in income. It is important to note that, while some households will experience reductions in the number of working members because of involuntary job loss, for others it will be due to individuals choosing to retire or care for children. These different reasons are likely to have different implications for the actual changes in living standards experienced by households, not captured by income alone (for example, because voluntary retirement is likely to have been planned for, whereas involuntary job loss is not).

## 2.5 Conclusion

Average living standards have been growing modestly since the recovery in living standards started in 2011–12. The most recent HBAI data, covering 2015–16, show that median household income was 3.7% above its pre-crisis level (in 2007–08). Drawing on new data, we have been able to examine the individual-level changes in average living standards. Despite the relatively small overall changes in average incomes in recent years, between 2010–2011 and 2014–2015 almost 9 in 10 people saw their household incomes change by at least 5%: 37% saw real falls in income of at least 5%, and 50% saw increases in income of at least 5%. The improvements in living standards in recent years were primarily caused by increases in employment and rising real earnings for those in work, and supported by strong growth in income from savings, investments and occupational pensions. Despite growth over recent years, however, employee earnings remain below pre-recession levels. Even when you combine the effects of higher employment and lower earnings, average income from employment across the whole population is still lower than before the recession. The reason why incomes have nevertheless risen above their 2007–08 level is that other income sources – notably, investments and private pensions – have grown and direct tax payments have fallen.

While it is hard to predict the path of living standards over the coming years, it seems likely that there will be very little income growth over the next two years. The projections of Hood and Waters (2017) imply no income growth at the median between 2016–17 and 2018–19. Rising inflation is currently eroding the real value of wages, while continued cuts to working-age benefits suppress income growth further. Their projections also suggest relatively weak growth through to 2021–22, though there is considerable uncertainty around these, not least as the likely outcome of the Brexit negotiations – and the impact of any such outcome – is currently unclear.

### 3. Inequality

#### Key findings

**Income inequality in the UK changed little in 2015–16, meaning inequality remains lower than before the Great Recession.**

Since 2007–08, incomes have grown by 7.7% at the 10<sup>th</sup> percentile and 3.7% at the median (50<sup>th</sup> percentile), but have fallen by 0.6% at the 90<sup>th</sup> percentile. The reduction in income inequality largely occurred between 2007–08 and 2011–12, due to rising benefit income and falling real earnings. Since then, income growth has been relatively even across all levels of income, leaving inequality largely unchanged.

**Overall inequality is no higher than in 1990, though the top 1% continued to pull away until the Great Recession.**

According to the Gini coefficient, inequality is around the same level as it was 25 years ago, albeit considerably higher than in the 1960s and 1970s. This stability is the result of two offsetting factors: inequality across most of the population has fallen slightly since 1990, but the share of income going to the top 1% continued to rise. Trends in top incomes since the recession are less clear, but there are reasons to think they may have fallen back in recent years.

**Median income in the highest-income region of Great Britain (South East) is around 25% higher than that in the poorest region (West Midlands).**

This means average incomes in the West Midlands (and in the East Midlands, the North and Wales) are no higher than incomes were in the South East in the late 1990s. Looking over the last 40 years, it is the Midlands where average income growth has been weakest – moving the region from above the Great Britain average to below. The bigger picture though is that differences in average incomes between regions and nations explain less than 5% of overall income inequality: differences within regions are much more important.

**Income inequality is likely to increase over the next few years.**

If real earnings grow as the Office for Budget Responsibility forecasts, high-income households will benefit more than lower-income ones. And if benefit cuts proceed as planned, they will act to significantly reduce the incomes of low-income working-age households.

Chapter 2 focused on trends in average incomes in the UK and sought to explain those trends by examining changes in the different sources of income, and in particular trends in the labour market. We also highlighted considerable differences in the development of average incomes among different age groups. In this chapter, we continue to focus on differences in living standards across the UK but instead investigate changes in the incomes of lower- and higher-income households, documenting income growth across the entire income distribution and examining how these trends have influenced income inequality.

For this chapter, we confine our attention to a relative notion of inequality. This means we focus on how many times greater the incomes of high-income individuals are than the incomes of low-income individuals, rather than looking at absolute differences in income. If the incomes of low-income individuals rose by 10%, for example, the incomes of higher-income individuals would also have to rise by 10% for inequality to remain unchanged. This can be somewhat counterintuitive, as it means that individuals with higher incomes can see greater absolute increases in their income without inequality rising.

There are several summary measures of income inequality that attempt, in different ways, to collapse the whole income distribution into a single number that is indicative of the level of inequality. We examine summary measures such as the Gini coefficient when looking at changes over the long run, but for the most part we simply focus on how incomes have changed at each part of the income distribution rather than relying on summary measures. This allows us to provide a more detailed and intuitive description of how inequality has changed.

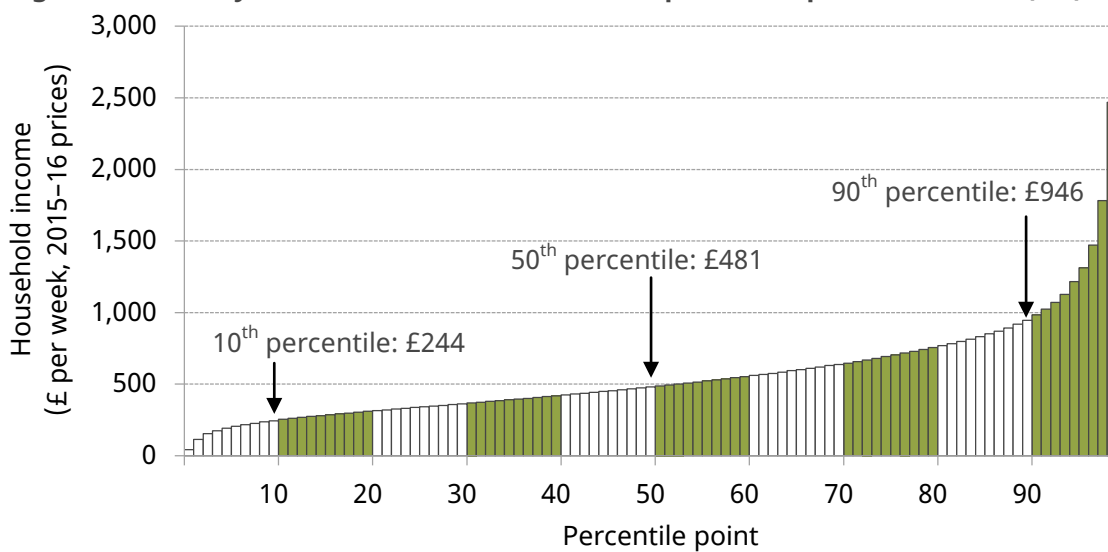
An important limitation of the Households Below Average Incomes (HBAI) data is that they do not provide robust, detailed information on the distribution of incomes among the very highest-income households.<sup>8</sup> This constrains us to focus primarily on inequality within the bottom 99% of the UK household population for the majority of this chapter, rather than the much-discussed top 1%. We do, however, draw on a different data source to examine how the very highest earners have fared since the recession.

Section 3.1 uses the most recent year of HBAI data (2015–16) to describe income inequality in the UK and examine how the sources of income vary between low-income and high-income households. Section 3.2 looks at how inequality has evolved over time, while Section 3.3 focuses on the ‘top 1%’. Section 3.4 looks at inequality between and within different regions and nations, and Section 3.5 concludes.

### 3.1 Income inequality in the UK

Figure 3.1 shows net equivalised household income at every percentile point of the UK income distribution in 2015–16. This provides a detailed description of the level of income inequality observed in the most recent data. The fact that the income at the 10<sup>th</sup> percentile is roughly half income at the median, for example, means that 10% of the population have an income less than half median income. We also see that income at the 90<sup>th</sup> percentile is

<sup>8</sup> The HBAI methodology includes an adjustment designed to get average incomes (but not the distribution of income) within approximately the top 1% of the income distribution right, by using information from personal tax records (see Appendix A). For a discussion of the limitations of this adjustment and a suggestion of a more comprehensive use of tax records, see Burkhauser et al. (2016).

**Figure 3.1. Weekly net household income at each percentile point in 2015–16 (UK)**

Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Cash figures are equivalents for a childless couple.

Source: Authors' calculations using the Family Resources Survey, 2015–16.

approximately double income at the median, which means that 10% of the population have an income more than double median income.

The figure also highlights the especially large inequality within the top 10% of the population. For example, an individual would only need to increase their household income by 7% (£35 a week) to move from the 50<sup>th</sup> to the 55<sup>th</sup> percentile, whereas to move from the 90<sup>th</sup> to the 95<sup>th</sup> percentile would require a 29% (£271 a week) increase in income. While income at the 90<sup>th</sup> percentile is twice that at the median, income at the 97<sup>th</sup> percentile is more than three times median income, and income at the 99<sup>th</sup> percentile is five times median income. There is also enormous inequality *within* the top 1% of the population which cannot be seen in Figure 3.1 (and is not observed in the HBAI data). Given these data, it would not be surprising if those with merely moderately high incomes felt rather more similar to middle-income households than to those at the very top.

The measure of income we discuss throughout this report adjusts for differences in household size, as described in Chapter 2 and Appendix A. To illustrate the incomes that different types of households need to have to be at particular points of the income distribution, Table 3.1 shows the annual net (after-tax) income at selected percentile points for several example households. The table highlights that larger households require higher net incomes to be at a given point on the distribution: a childless couple with a net income of £25,000, for example, would have higher living standards than 50% of the population according to the equivalised income measure we use, whereas a couple with two young children would need a net income of £35,000 to be in the same position in the overall distribution. This is because the bigger a household, the more expensive it is to achieve a given standard of living for all household members.

Table 3.1 also shows the income threshold that different household types need to exceed to be in the 'top 1%'. Of course, to reach these net income thresholds, their gross earnings need to be substantially higher. For example, a single earner with a spouse and two

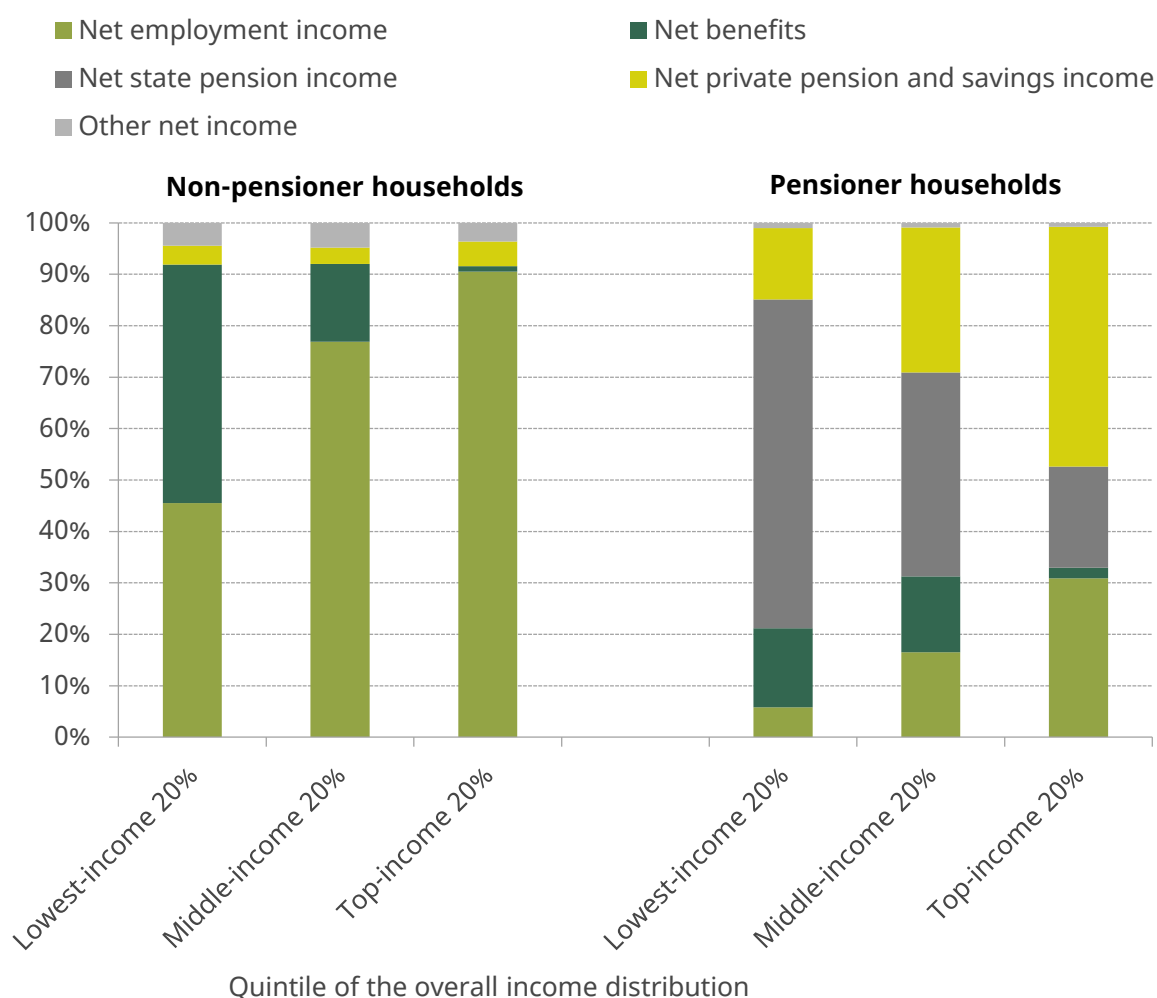
**Table 3.1. Annualised net household income at different percentile points of the 2015–16 distribution (UK)**

Percentile	Single individual	Couple with no children	Couple with two children under 14
10 <sup>th</sup>	£8,500	£12,700	£17,800
50 <sup>th</sup>	£16,700	£25,000	£35,000
90 <sup>th</sup>	£33,000	£49,200	£68,900
99 <sup>th</sup>	£86,000	£128,400	£179,800

Note: Figures rounded to the nearest £100.

Source: Authors' calculations using the Family Resources Survey, 2015–16.

**Figure 3.2. Weekly net household income at each percentile point in 2015–16 by source (UK)**



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Some deductions from income, of which council tax is the largest, are not included in this figure. Percentiles 1 and 98–100 are excluded because it is not possible to decompose net income for those with zero income or those with the highest incomes affected by the SPI adjustment (see Appendix A).

Source: Authors' calculations using the Family Resources Survey, 2015–16.

children under 14 needs to earn around £320,000 before tax to be in the top 1% of equivalised household net income. Nevertheless, while the amounts shown in the table are high, they are below the very large sums that one might typically associate with the 'super-rich'. This highlights that the 'super-rich' who often feature in public debate around inequality make up far less than 1% of the household population.

The total net incomes of households come from a variety of sources, which differ in their relative importance at different points of the income distribution and between pensioners and non-pensioners. Figure 3.2 illustrates this by decomposing net household income into net (after-tax) employment income, net benefit income (excluding state pensions), net state pension income, net income from private (occupational and personal) pensions, savings and other investments, and other minor sources of net income. The figure shows how the fraction of total net income that comes from each income source varies between pensioner and non-pensioner households in the bottom, middle and top of the overall income distribution.

Employment income is the largest income source for the majority of non-pensioner households, accounting for 46%, 77% and 91% of total income among non-pensioner households in the bottom, middle and top of the overall income distribution respectively. As one would expect, benefits make up a large fraction of income for low-income non-pensioner households and become less important further up: benefits (excluding the state pension) represent 46% of total income among non-pensioner households in the bottom income quintile, with this share falling to 15% among those in the middle income quintile and only 1% among those in the top income quintile. The state pension and other benefits are by far the largest income source for low-income pensioner households, accounting for 79% of total income in the bottom quintile and 54% in the middle quintile. By contrast, private pension and savings income and employment income are more important for high-income pensioner households.

Because different sources of income can grow at different rates (for example, earnings can grow faster than benefits), these differences in the composition of income across the distribution are important for understanding changes in inequality over time. We consider this in greater detail below.

## 3.2 Trends in inequality

### Inequality since the recession

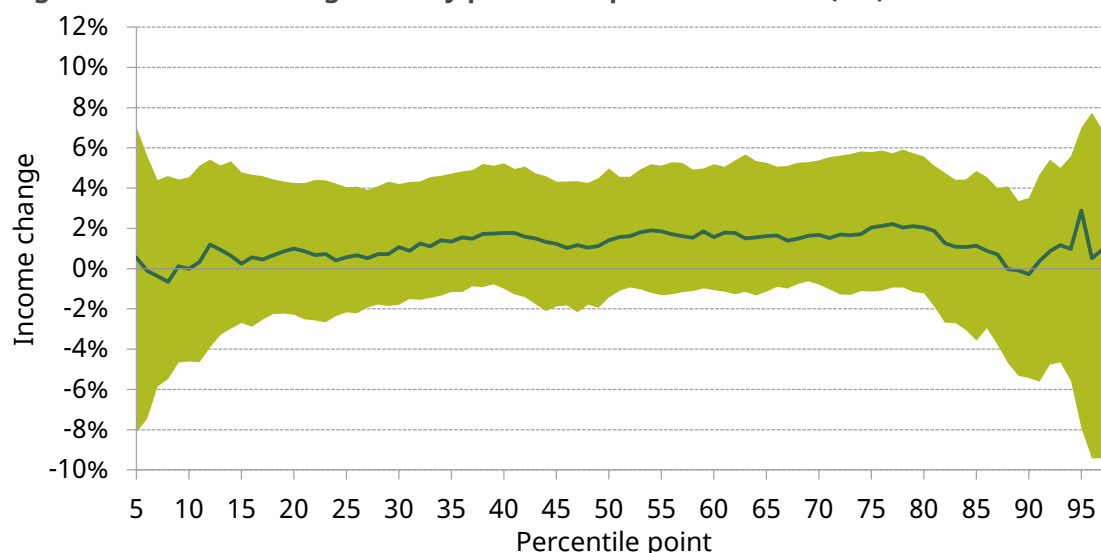
Comparing income at each percentile point over time provides a comprehensive picture of how inequality has changed. To this end, Figure 3.3 shows the change in real income between 2014–15 and 2015–16 at each percentile point. The solid line plots the growth rate recorded by the HBAI data, while the shaded area depicts the 95% confidence interval around these figures. Overall, the figure shows that inequality remained broadly unchanged between 2014–15 and 2015–16. Point estimates of real income growth are slightly higher at percentiles between the 55<sup>th</sup> and 80<sup>th</sup> than in the bottom half and the top of the distribution, but the changes in income at different percentile points are not statistically significantly different from one another (or from zero).

The changes in income across the distribution between 2014–15 and 2015–16 are similar to those observed in each year since median income stopped falling in 2011–12, with the



overall result being little change in inequality over that period of recovering incomes. To illustrate this, the dark green line in Figure 3.4 plots cumulative income growth at each percentile between 2011–12 and 2015–16. This shows that incomes between the 20<sup>th</sup> and 80<sup>th</sup> percentiles have recovered at relatively similar rates, although growth has been weaker for the upper and lower ends of the distribution.

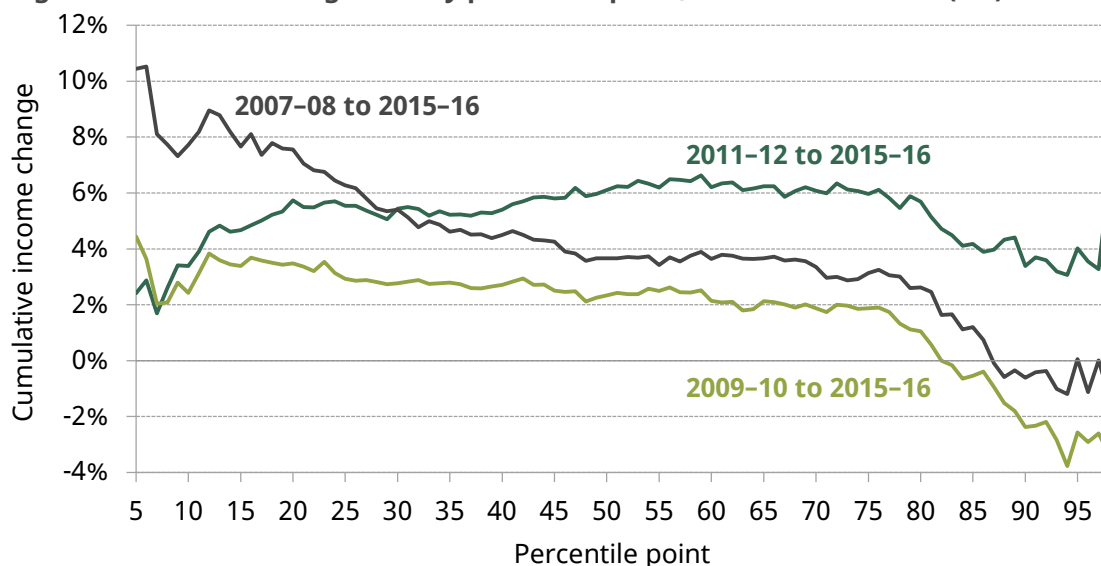
**Figure 3.3. Real income growth by percentile point in 2015–16 (UK)**



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.

Source: Authors' calculations using the Family Resources Survey, 2014–15 and 2015–16.

**Figure 3.4. Real income growth by percentile point, 2007–08 to 2015–16 (UK)**



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.

Source: Authors' calculations using the Family Resources Survey, various years.

Figure 3.4 also shows income growth at each percentile since 2009–10, when median income reached its peak, and since 2007–08, the last year before the recent recession. Once we look back this far, we find that income inequality has fallen, due to a narrowing of inequality between 2007–08 and 2011–12 which has not been unwound in the recovery since. Overall, since 2007–08, incomes have grown by 7.7% at the 10<sup>th</sup> percentile and 3.7% at the median (50<sup>th</sup> percentile) and have fallen by 0.6% at the 90<sup>th</sup> percentile.

The relative importance of different income sources at different points of the income distribution is key to understanding these changes in income inequality over recent years. As shown in Figure 3.2, benefits account for a large fraction of income for low-income households, whereas earnings from employment are a more important income source for mid- and high-income households. Real increases in benefit income (mainly between 2007–08 and 2009–10) therefore led to strong income growth for low-income households, while large falls in real earnings (mostly between 2009–10 and 2011–12) mainly affected incomes at the middle and top of the income distribution. Together, these two effects were the key explanation for the fall in inequality between 2007–08 and 2011–12.

Since 2011–12, however, these inequality-reducing trends have reversed: real earnings have grown (albeit slowly), while the rates of many working-age benefits (for example, tax credits) have risen more slowly than prices – due to caps on nominal increases since April 2013, along with other cuts in generosity. Despite this, the dark green line in Figure 3.4 shows that income growth over the period of recovery has been roughly equal between the 20<sup>th</sup> and 80<sup>th</sup> percentiles of the income distribution, leaving inequality largely unchanged. In some ways, the fact that inequality has not risen during the recovery is more surprising than what happened during and immediately after the recession itself. Based on macroeconomic forecasts produced at the time by the Office for Budget Responsibility (OBR), Brewer et al. (2013) projected that all of the falls in inequality between 2007–08 and 2011–12 would be unwound by 2015–16.

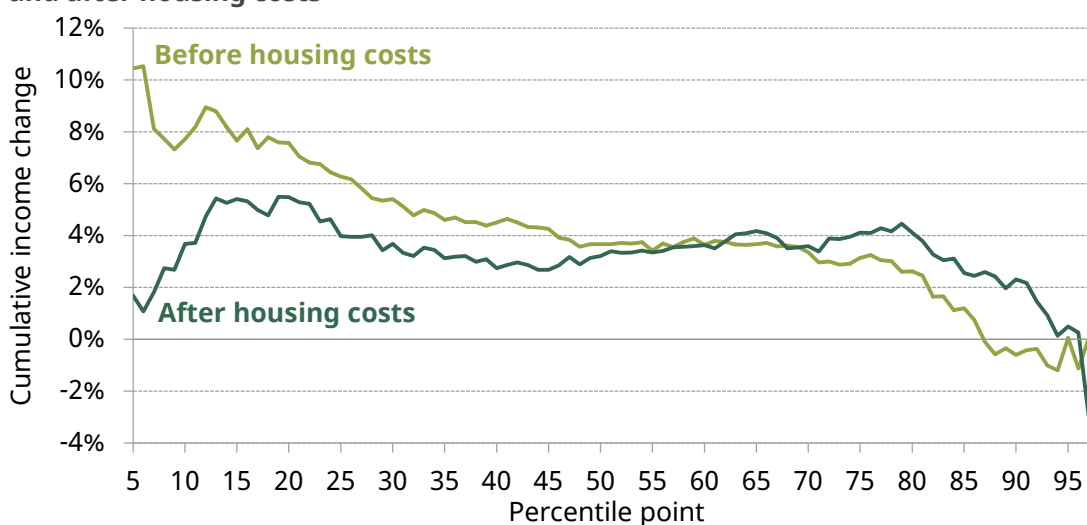
There are at least three reasons why this did not happen. First, average earnings growth has turned out weaker than expected. This means that the incomes of households who receive most of their income from earnings (who tend to be towards the top of the income distribution) have not pulled away from the incomes of households who receive more of their income from benefits, as they would have done if their earnings had grown more strongly. Second, employment growth has been stronger than expected. This has largely boosted the incomes of lower-income households, as they were less likely to already have all adults in work. Third, inequality in employee earnings has fallen since 2011–12, largely because of a recovery in the hours worked by those with low hourly wages (after falls during the recession).<sup>9</sup>

This chapter has so far focused exclusively on the distribution of incomes before housing costs are deducted (BHC). But housing costs have changed very differently for different kinds of households in recent years. This has affected inequality in the incomes that households have left over to spend on everything else. In particular, the sharp falls in mortgage interest costs between 2007–08 and 2009–10 led to a large reduction in the housing costs of owner-occupiers, and these tend to be relatively high-income households. To illustrate how different trends are for incomes after housing costs are

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<sup>9</sup> A more in-depth examination of changes in inequality since 2011–12 is provided in Section 3.2 of Belfield et al. (2016).

**Figure 3.5. Real income growth by percentile point, 2007–08 to 2015–16 (UK): before and after housing costs**



Note: Incomes have been measured net of taxes and benefits. Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.

Source: Authors' calculations using the Family Resources Survey, 2007–08 and 2015–16.

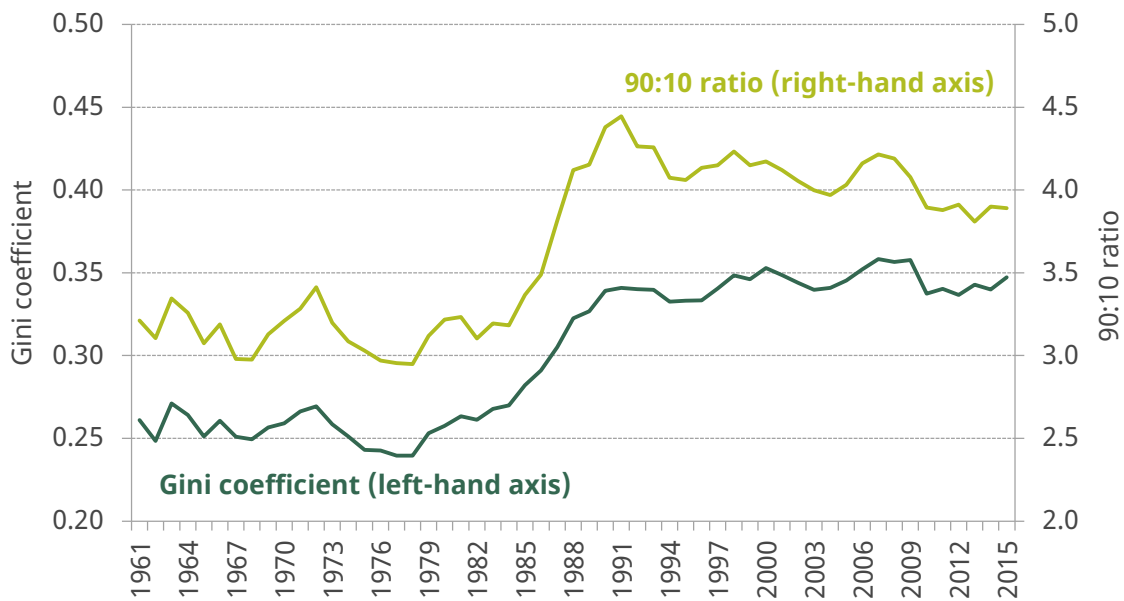
deducted (AHC), Figure 3.5 plots the change in income at each percentile point between 2007–08 and 2015–16 for both income measures. This shows that, although AHC income inequality has also fallen since the recession, it has fallen by far less than BHC income inequality. AHC incomes grew by 3.7% at the 10<sup>th</sup> percentile, 3.2% at the median and 2.3% at the 90<sup>th</sup> percentile, whereas BHC incomes at the 10<sup>th</sup> percentile grew more than twice as fast as those at the median, and BHC incomes at the 90<sup>th</sup> percentile fell.

### Long-run trends in inequality

To place the recent changes in income inequality discussed above in historical context, we now turn to long-run trends in income inequality. When including figures from before 2002–03, we look at incomes in Great Britain (GB) only, since Northern Ireland was only included in the data from that date onwards.<sup>10</sup>

Figure 3.6 shows how two summary measures of income inequality have changed since 1961. The dark green line shows the Gini coefficient, which summarises inequality across the entire income distribution in a single figure between 0 and 1. The Gini would be equal to 0 if all individuals had the same income and 1 if a single individual held all income; hence, higher values of the Gini coefficient indicate greater inequality. The light green line shows the 90:10 ratio, which takes the individual with an income higher than 90% of the population and asks how many times greater their income is than that of someone with an income higher than only 10% of the population. This reflects inequality across the majority of the income distribution, but is not affected by changes in inequality between very high-income households and the rest of the population.

<sup>10</sup> The fact that Northern Ireland represents only a small fraction of the UK population (around 3%) and the similarity in economic trends between Northern Ireland and Great Britain mean that the difference between GB and UK figures is likely to be small.

**Figure 3.6. The Gini coefficient and 90:10 ratio (GB, BHC)**

Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

There are two main points to take from Figure 3.6. First, both the Gini coefficient and the 90:10 ratio increased sharply during the 1980s: the 90:10 ratio rose from 3.1 in 1979 to 4.4 in 1990, while the Gini coefficient increased from 0.25 to 0.34. This surge was partly due to divergence in the incomes of working and workless individuals and increases in earnings inequality. It has not been unwound in the decades since, with the result that inequality remains markedly higher than in the 1960s and 1970s.<sup>11</sup> Second, the two inequality measures have changed differently over the last 25 years. The 90:10 ratio has fallen back slightly, which shows that, contrary to popular perception, inequality across the majority of the population has fallen over the last 25 years. This is due to a number of trends, particularly tax and benefit changes, falls in worklessness and the catch-up of pensioner incomes.<sup>12</sup> The Gini coefficient, by contrast, has remained broadly unchanged (and in fact has risen slightly if pensioners are excluded<sup>13</sup>).

Why is the Gini coefficient roughly the same as it was 25 years ago despite falls in inequality across most of the distribution? The main reason is that inequality between very high-income households and the rest of the population – which affects the Gini coefficient but is not captured in the 90:10 ratio – has risen over the last 25 years. We now turn to examine this 'racing away' of top incomes directly.

<sup>11</sup> A more in-depth study of the factors that explain changes in income inequality since 1968 can be found in Brewer, Muriel and Wren-Lewis (2009).

<sup>12</sup> An in-depth analysis of changes in the 90:10 ratio between 1994 and 2014 can be found in Belfield et al. (2017).

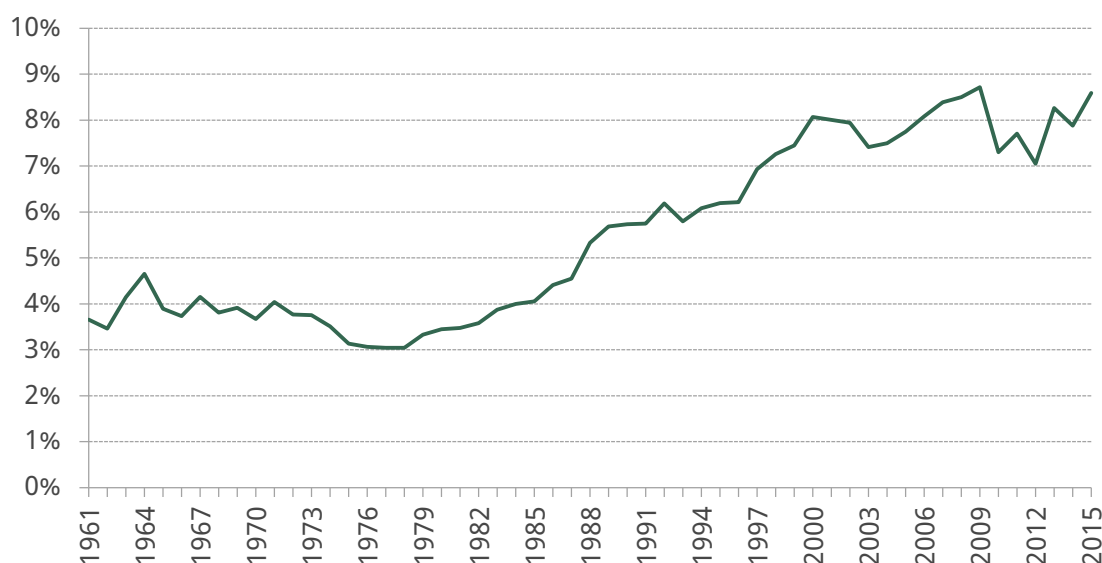
<sup>13</sup> See Section 3.2 of Belfield et al. (2015).

### 3.3 Inequality between the top 1% and the rest

Figure 3.7 shows how the share of total household income that is held by the highest-income 1% of the population has evolved over time. The figure shows that, after falling slightly during the 1960s and 1970s, inequality between the very top of the income distribution and the rest started to increase in the 1980s and continued to rise up until the onset of the Great Recession. Remember that, as we saw in the previous section, inequality in the rest of the income distribution was, if anything, falling from the early 1990s onwards. Overall, the top 1%'s income share more than doubled over 30 years, from 3.4% in 1980 to 8.7% in 2009–10. It should be noted that Burkhauser et al. (2016) suggest the method used to account for the under-reporting of high incomes in the creation of the HBAI data may lead the top 1% share to understate the true extent to which incomes are concentrated among the highest-income individuals.<sup>14</sup> Nonetheless, changes in this measure of inequality are still informative of the extent to which incomes have become increasingly concentrated at the very top of the income distribution over the last few decades.<sup>15</sup>

Figure 3.7 also suggests that the top 1%'s income share fell back during the recession and has since recovered. However, a combination of short-run responses to changes in the top rate of income tax and HBAI's use of projected tax records based on previous years' tax

**Figure 3.7. The top 1%'s share of income (GB, BHC)**



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey and a 'top incomes' adjustment using administrative tax data (see Appendix A), various years.

<sup>14</sup> Greater detail on this method is provided in Appendix A.

<sup>15</sup> Indeed, Burkhauser et al. (2016) show that trends since the mid 1990s in the HBAI data look broadly similar to those observed in administrative data (although the increase in inequality is slightly faster in administrative data).

data for the very highest-income households makes it very difficult to say anything conclusive about changes in the highest incomes since the recession.<sup>16</sup>

On the other hand, alternative sources of data provide good information on recent trends in employees' earnings for the highest paid. In the remainder of this section, we examine and discuss these trends using the Annual Survey of Hours and Earnings (ASHE).<sup>17</sup>

There are two key limitations associated with using the ASHE data. First, ASHE only covers employees and therefore we are unable to say anything about how incomes have changed for those high-income individuals who are instead self-employed or receive their income in the form of dividends, and can only provide a partial picture for those who are employees and also have other income sources. This is a significant omission when looking at individuals towards the very top of the distribution: administrative tax data suggest that employee earnings make up only around half of the total pre-tax income of households in the top few percentiles of the income distribution.<sup>18</sup> Second, although the measure of pay included in ASHE covers most types of employee compensation – including overtime and incentive pay, such as bonuses – some types of compensation such as deferred stock options are not included. Although the types of compensation we do not measure are only received by a very small number of employees, this means that we are unable to say with certainty whether the trends shown in Figure 3.8 are also true for total employee compensation. Nonetheless, earnings from employment are undoubtedly an important source of income for many top-income individuals and therefore trends in high pay are both interesting in their own right and may shed light on how the incomes of the top 1% have fared since the recession.

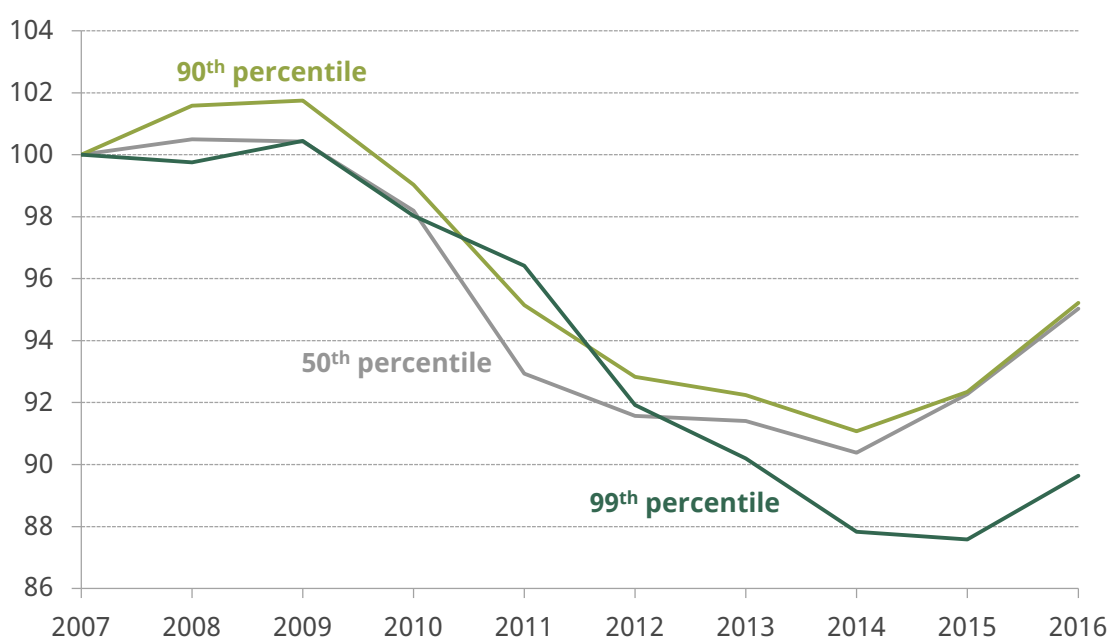
Figure 3.8 shows how changes at the top of the weekly earnings distribution since the recession compare with changes in average earnings. Comparing the grey and light green lines, we can see that earnings at the 90<sup>th</sup> percentile have evolved in a similar way to the median: both fell by around 8% between 2009 and 2012 but have recovered somewhat since then. There are two interesting points of contrast between these two lines and the dark green line, which shows changes in 99<sup>th</sup> percentile. First, real earnings at the 99<sup>th</sup> percentile have continued to fall since 2012, unlike earnings further down the distribution. Second, while both median and 90<sup>th</sup> percentile earnings grew between 2014 and 2015, the earnings of top earners did not, and only started to recover in 2016. The result is that earnings have fallen the furthest at the top of the distribution since the recession. While median earnings in 2016 were around 5% below their pre-recession level, earnings at the 99<sup>th</sup> percentile were around 10% below their pre-recession level. These trends have reversed moderate increases in upper-tail earnings inequality that occurred during the 2000s, leaving the 99:50 ratio at its lowest level since 2000.

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<sup>16</sup> In short, the SPI data (on which the adjustment is based) between 2009–10 and 2013–14 are affected by 'forestalling' or 'reverse forestalling' – high-income individuals moving incomes across tax years in response to changes in the top rate of income tax. Since the SPI adjustment for 2015–16 is based on a projection using the 2013–14 SPI data, it remains affected by this issue. See Box 3.1 of Cribb et al. (2013) for a more detailed discussion of this issue.

<sup>17</sup> ASHE is a large annual survey that covers approximately 1% of all employees in the country. Because information in ASHE is reported by employers on behalf of their employees, it is believed to provide accurate information on very high earners.

<sup>18</sup> This figure refers to households that contain an individual affected by the SPI adjustment (see Appendix A for details).

**Figure 3.8. Path of real employee earnings, 2007 = 100 (UK)**

Note: Years refer to the date of the ASHE survey, which is carried out in the April of each year.

Source: Authors' calculations using the Annual Survey of Hours and Earnings, various years.

Why have high earners fared so badly since the recession? Part of the answer may be found in the types of individuals found at the top of the earnings distribution. Nearly a quarter (24%) of the top 1% of earners work in finance or insurance, compared with only 4% of employees in the middle of the earnings distribution, which suggests that changes in pay in the financial sector following the financial crisis are likely to be a significant factor.

### 3.4 Income inequality between and within regions and nations

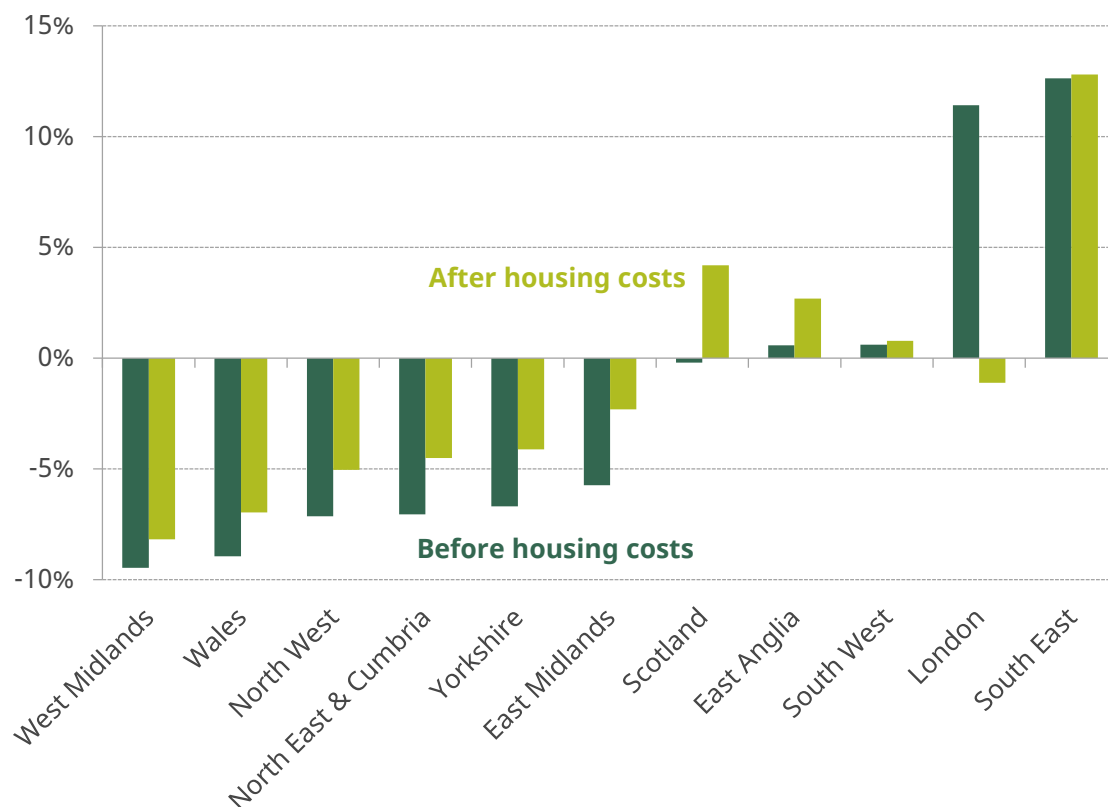
So far in this chapter, we have focused on trends in inequality across the whole country. In this section, we turn our attention to the geography of inequality – in particular, inequality between and within the regions and nations of Great Britain. In order to look at trends over the last 40 years or so, we exclude Northern Ireland (as data are only available from 2002–03 onwards) and use an older classification of English regions than the current 'government office regions'.<sup>19</sup>

Figure 3.9 shows the current level of income inequality across regions and nations, as measured by the percentage difference between median income in that region and in Great Britain as a whole (both before and after housing costs are deducted). On a BHC basis, there are three distinct groups visible from the figure, though accounting for housing costs changes some of the details in important ways:

<sup>19</sup> The two differences between our regional classification and 'government office regions' are that Cumbria is grouped with the North East rather than the rest of the North West, and Bedfordshire, Essex and Hertfordshire are grouped with the South East rather than East Anglia.

- *The North, the Midlands and Wales.* These regions all have median incomes (BHC) between 5% and 10% below the GB average. In all cases though, lower-than-average housing costs mean the gap between regional median income and overall median income is smaller on an after-housing-costs basis.
- *Scotland, East Anglia and the South West.* These areas have median income around the same level as the GB average (BHC). But Scotland's low housing costs mean that median AHC income in Scotland is actually 4% higher than the GB median and higher than in all English regions except the South East.
- *London and the South East.* As one might expect, both of these regions have median BHC income more than 10% higher than the GB median. If incomes are measured AHC, the position of the South East relative to GB as a whole is (surprisingly perhaps) unaffected while the relative position of London changes dramatically – after housing costs, median income in London is actually 1% lower than the GB median. This is not just the result of housing being more expensive in London – it also reflects differences in the mix of renting versus owner-occupation (including outright homeownership, where there are no mortgage payments). For example, while half of those in London live in rented accommodation, the figure is only 30% for the South East.

**Figure 3.9. Percentage difference between median income in each region and nation of Great Britain and overall median income, 2013–14 to 2015–16**



Note: Incomes have been measured net of taxes and benefits.

Source: Authors' calculations using the Family Resources Survey, various years.



It is worth noting that these income differences between regions and nations are not dramatic when looked at alongside the overall level of inequality in Great Britain. In fact, if average (mean) incomes were equalised across the regions and nations of Great Britain, overall inequality (as measured by the mean log deviation) would fall by less than 5%.<sup>20</sup> In other words, inequality *within* regions explains more than 95% of overall inequality in Great Britain.<sup>21</sup>

Nevertheless, the differences in median income across Great Britain are still substantial. One way of seeing this is to note that median BHC income in the South East (the highest-income region) is 24% higher than median BHC income in the West Midlands (the lowest-income region). This means that, with median income growth at around its long-run average (for Great Britain as a whole) of 2% a year, it would take the West Midlands over a decade for its median income to reach the same level as the South East enjoys now. In fact, slow income growth since the early 2000s (as documented in Section 2.1) means that median income in the West Midlands (and indeed in the East Midlands, across the North of England and in Wales) is no higher than median income in the South East was in the late 1990s.

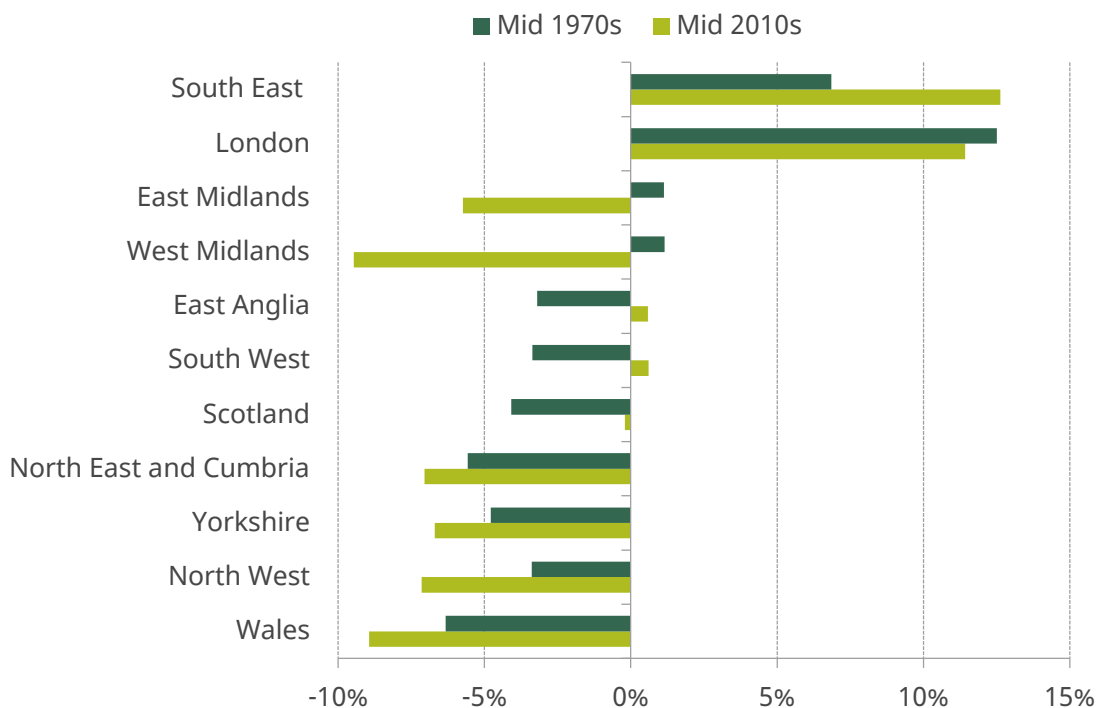
Figure 3.10 shows how the BHC incomes of regions and nations have evolved over the past 40 years, relative to each other. (The AHC equivalent is in Appendix B.) It compares the difference between median income in each region and the GB median in the mid 2010s (shown in Figure 3.9) with the differences in the mid 1970s. Starting at the top of the figure:

- London and the South East were significantly above average in the mid 1970s and remain significantly above average today. The gap between average incomes in London and the South East and the rest of the country has not changed much over the past 40 years. Median BHC income in London was 13% higher than the GB median in the mid 1970s, compared with 11% in the mid 2010s. After housing costs, median income in London has gone from being nearly 10% above the GB median in the mid 1970s to slightly below the GB median today.
- Median incomes in the Midlands were slightly above average in the mid 1970s (around 1% higher than the GB median) but are now substantially below average (almost 10% below in the case of the West Midlands). Most of this change occurred between the mid 1970s and the mid 1990s – median income growth in the Midlands has only been slightly slower than the GB average over the last 20 years.
- The North of England and Wales had lower-than-average incomes in the mid 1970s and have fallen slightly further behind since (though their relative position is roughly unchanged on an AHC basis). For example, median income in the North West was 3% below the GB median in the mid 1970s, but is 7% lower now. Again, most of the change took place between the mid 1970s and the mid 1990s; in fact, median income in the

<sup>20</sup> We use the mean log deviation measure because it can be simply and intuitively additively decomposed by population subgroup. The figure reported is from a formal decomposition of this measure following the methodology outlined in Shorrocks (1980). The decomposition is conducted for the sample of individuals with household incomes above the 1<sup>st</sup> percentile and below the 99<sup>th</sup> percentile of the overall distribution.

<sup>21</sup> This result does not simply reflect the fact that there are high- and low-income areas within each region. If we conduct the same analysis grouping local authorities into 10 deciles according to their index of multiple deprivation, the result is extremely similar.

**Figure 3.10. Percentage difference between median income in each region and nation of Great Britain and overall median income, 1972 to 1976 and 2013–14 to 2015–16 (BHC)**



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

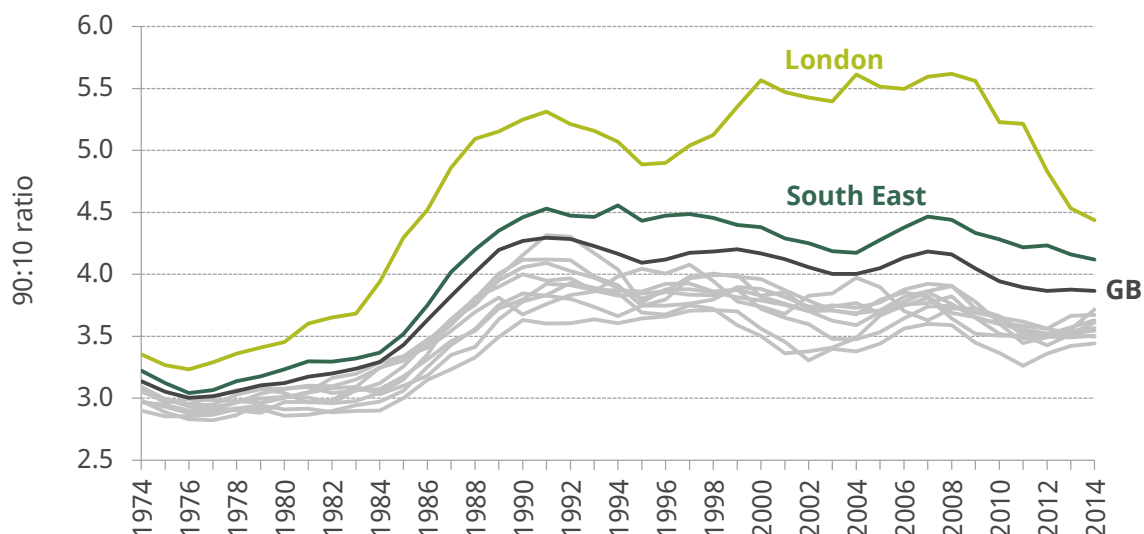
North East, Yorkshire and Wales has caught up slightly with the GB median over the last 20 years.

- Scotland, East Anglia and the South West had below-average incomes in the mid 1970s, but have since caught up with the rest of Great Britain. In the case of East Anglia and the South West, this 'catch-up' occurred mostly or entirely between the mid 1970s and the mid 1990s. Scotland went from 4% behind in the mid 1970s to 2% behind by the mid 1990s, before completing its 'catch-up' over the last 20 years.

So far in this section, we have examined trends in inequality between regions and nations by comparing average (median) incomes across regions. Figure 3.11 instead documents the trend in inequality within each region over the last 40 years as measured by the 90:10 ratio.

The figure shows that, outside of London and the South East, both the level of inequality and changes over the last 40 years are extremely similar in the different regions and nations. In the South East and (especially) London, on the other hand, inequality rose faster through the late 1980s than in the rest of Great Britain, and remains significantly higher than in all other regions (with 90:10 ratios of 4.1 and 4.4 respectively). This higher level of inequality in London and the South East is largely a result of those regions being over-represented among those with the highest incomes. While around a third of the total GB population live in London and the South East, more than half of those in the top 10% of the income distribution live in those two regions.

**Figure 3.11. The 90:10 ratio in each region and nation of Great Britain over the last 40 years (BHC)**



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards. Figures are five-year rolling averages until 1994–95 and three-year rolling averages thereafter to ensure sufficient sample sizes.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

However, Figure 3.11 also shows that inequality in London, as measured by the 90:10 ratio, has fallen dramatically in recent years, from a peak of 5.6 in the late 2000s (2007–08 to 2009–10) to 4.4 in the latest three years of data. Incomes at the 10<sup>th</sup> percentile in London have risen by over 10% since the late 2000s, while incomes at the 90<sup>th</sup> percentile have fallen by over 10%. This reflects, at least in part, the fact that the inequality-reducing combination of rising employment and falling real earnings has been particularly pronounced in London. The employment rate rose by 5.2 percentage points (ppts) between 2007 and 2016 (compared with an average increase across the UK of 1.5ppts), while real median earnings fell by 10.2% over that period (compared with a UK average fall of 5.5%).<sup>22</sup>

### 3.5 Conclusion

Income growth in 2015–16 was modest and evenly spread across the majority of the distribution, with higher-income households experiencing similar growth rates to lower-income households. This continues a trend that has been observed since average incomes started to recover in 2011–12, with the result that income inequality remained broadly unchanged over that period. This means inequality remains lower than before the recession, as a combination of strong employment growth and weak earnings growth has meant falls in inequality that occurred between 2007–08 and 2011–12 are yet to be unwound. Income inequality has also been held back in recent years by a reduction in earnings inequality among those in work, as the recession had a particularly large negative impact on the highest earners.

<sup>22</sup> Source: Annual Population Survey and Annual Survey of Hours and Earnings statistics, accessed from <https://www.nomisweb.co.uk/>.

Changes in income inequality over recent years, however, are small in comparison with the large increases that occurred in the 1980s. This surge still dominates trends in inequality over the last 50 years, with summary measures such as the Gini coefficient remaining roughly constant over the last 25 years at a level considerably higher than was observed in the 1960s and 1970s. However, the relative stability since 1990 conceals two offsetting trends. Income inequality across the majority of the distribution, as measured by the 90:10 ratio, has fallen slightly over the last two decades, while the share of all income held by the top 1% rose steadily until the onset of the recession. However, the earnings of the highest-paid employees have fallen the furthest since the financial crisis, providing some reason to think the incomes of those at the top may have fallen back somewhat relative to the rest of the population in recent years.

Differences in affluence between different regions and nations have been much discussed lately. Differences in income are certainly substantial. Median incomes in Wales, the Midlands and the North of England are no higher now than incomes were back in the late 1990s in the South East. The differences between regions widened somewhat through the 1980s (contributing to the overall increase in inequality), but have remained fairly steady over the last 20 years. While differences between different parts of the country are clearly significant, it is also important to see them in the context of income inequality more generally. In fact, differences in average income between the different regions and nations only explain about 5% of the inequalities in income across the country. In other words, income inequalities *within* those regions and nations are bigger than the inequalities between them. Income inequality within London and the South East is particularly high, thanks in part to those two regions being heavily over-represented at the top of the income distribution.

What can we say about how income inequality is likely to evolve over the next few years? Hood and Waters (2017) project that, if planned benefit cuts go ahead and earnings grow in line with Office for Budget Responsibility forecasts, inequality will start to rise, particularly if incomes are measured AHC. The main reason is that the real earnings growth forecast by the OBR would benefit high-income households more than low-income households. But planned cuts to working-age benefits would also act to increase inequality – the benefit freeze is now expected to reduce the value of affected benefits by 6%,<sup>23</sup> and housing benefit will often no longer cover rent increases faced by low-income private renters.

However, if earnings growth over the next few years were to turn out significantly below the OBR's forecasts (as it has over the last few years), then, all else equal, the rise in inequality would be smaller than the central projection of Hood and Waters (2017), as shown in that report. This not only illustrates the significant uncertainty associated with any projection of trends in inequality, but reinforces an important point about the relationship between real earnings growth and inequality. The falls in inequality described in this chapter and the weak growth in living standards detailed in Chapter 2 are two sides of the same coin – they are both the result of falls in real earnings, followed by a weak recovery. For the same reason, given the downwards pressure on lower incomes exerted by planned benefit cuts, if inequality does not rise over the next few years that may well reflect a story that is not entirely good news – namely, further weak growth in real earnings.

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<sup>23</sup> See Hood and Waters (2017).

## 4. Poverty

### Key findings

**In 2015–16, the official absolute poverty rate in the UK was 20%, measuring incomes after housing costs.**

This was unchanged from 2014–15, and only 2 percentage points lower than 10 years previously in 2005–06.

**We typically expect to see rising incomes and falling absolute poverty; but recent progress has been slow, and much slower than in the preceding decade.**

Slowdowns in the reduction in child and pensioner poverty have been particularly marked: between 1995–96 and 2005–06 child poverty fell by 21ppt and pensioner poverty fell by 33ppt, whereas between 2005–06 and 2015–16 the falls were just 3ppt and 4ppt respectively. That is because incomes have barely changed, and for absolute poverty to fall incomes must rise.

**Poverty among children and working-age adults is more concentrated in deprived areas than is pensioner poverty.**

The most deprived tenth of local authorities contain 13% of all pensioners in poverty, but almost a quarter of all children in poverty. This is at least partly because employment and earnings – key drivers of poverty in the non-pensioner population – vary a lot across the country, while pension and benefit levels – which are the key drivers of pensioner poverty – are set nationally.

**Over the long term, we have seen a dramatic change in the types of individuals who are likely to be in poverty.**

In 1961 around 4 in 10 individuals in relative poverty were pensioners whereas in 2015–16 this had fallen to just over 1 in 10. By contrast, falls in worklessness mean that non-pensioners in working households now account for around 60% of those in relative poverty compared with just 40% in 1961.

**Low income is more likely to be persistent for some groups than for others.**

Comparing rates of persistent poverty (defined as being in income poverty in three of the last four years) and rates of single-year poverty shows that low income is more likely to be a long-lasting experience for groups such as pensioners, households with more than three children and lone parents, and more likely to be a temporary experience for working households and those with savings.

**Persistently low earnings and persistent worklessness are equally important in explaining persistent child poverty.**

Whereas 7% of children in a currently working household are in persistent poverty, this applies to 34% of children in a currently workless household. However, because the majority of children belong to households that are consistently in work, children in persistently working households account for 38% of persistently poor children – around the same proportion as children from persistently workless households.

The previous chapters have examined changes in living standards and inequality across the whole population. We now focus specifically on low-income households and investigate how their living standards have changed. We look at the types of individuals who have the lowest incomes and how this has changed over time, with a particular focus on long-run trends in pensioner and in-work poverty. We also use longitudinal data to examine how many and what types of individuals have experienced persistently low incomes and how this compares with those who experience low income in a single year.

Poverty can be measured in several ways. Throughout this chapter, we refer to two main income-based measures of whether a household is in poverty at a point in time. The first is the ‘absolute poverty rate’, which measures the fraction of individuals who live in a household with an income below a fixed (in real terms) poverty line. The precise level of this poverty line is inevitably somewhat arbitrary, but we follow the Department for Work and Pensions (DWP)’s official Households Below Average Income (HBAI) statistics and define the absolute poverty line as 60% of median income in 2010–11. As with all income amounts referred to in this report, we uprate the absolute poverty line in line with a measure of inflation based on the Consumer Prices Index (CPI). The second income-based measure of poverty is the ‘relative poverty rate’. This measures the fraction of individuals whose household income in that year is lower than 60% of median income in that year.

Incomes are adjusted (‘equivalised’) to account for differences in the size and composition of households, which means the level of the poverty line depends on household type. To give a sense of monetary amounts, in 2015–16 the absolute poverty line (after housing costs) for a single person was £138 per week, while it was £332 for a couple with two children (aged under 14). The relative poverty lines were £144 and £347 respectively. Table

C.1 in Appendix C shows the weekly net household income that different-sized families would need to avoid being classified as in poverty under the different definitions.

While the current poverty lines are similar, absolute and relative poverty are very different concepts, and they can provide importantly different information about changes in the living standards of low-income households. For example, absolute poverty rises when the incomes of low-income people are falling in real terms, meaning that more people are living in households below the fixed poverty line. In contrast, relative poverty can rise even if there is no change in the real incomes of low-income households, if median income rises.

We think it is useful to track both absolute and relative measures of poverty. Because society's view about what is an acceptable standard of living evolves over time, it is particularly appropriate to use a relative poverty measure when looking at long-run trends. In the short run, however, there is also interest in whether people are getting better or worse off in absolute terms and therefore changes in the absolute poverty rate are important when focusing on trends over recent years. For these reasons, we focus on absolute poverty when looking at short-run trends and relative poverty when examining how poverty has changed over several decades. Official income poverty rates are calculated using incomes measured both before housing costs are deducted (BHC) and after housing costs are deducted (AHC). Our analysis focuses on poverty measured AHC as, for a number of reasons, we believe changes in AHC poverty provide a more accurate indication of recent changes in the prevalence of those facing very low living standards.<sup>24</sup>

As well as the different definitions mentioned above, measures of poverty can also vary depending on the length of period that is considered. The vast majority of analysis of income poverty is based on 'snapshot' poverty rates – the incomes of households are recorded at one point in time, and that information is used to determine whether the household is in poverty. However, it is also interesting to consider the 'persistence' of low income, for two reasons. First, one might expect low income to be less likely to lead to low living standards – which is closer to what 'poverty' is normally intended to mean – if it is temporary. For example, if I had a high income last year, I may have put some of that income aside, which I can draw on this year when my income is lower. Second, lower living standards may be a greater cause for concern if they are experienced on a long-term basis than just temporarily. Assessing 'persistent' poverty involves measuring the incomes of the same households at multiple times, and assessing how much of the time they have a low income. Comparing snapshot and persistent poverty measures allows us to highlight how poverty is more likely to be temporary for groups that experience greater variability in their incomes, with potentially important implications for policy.

The main sections in this chapter are as follows. Section 4.1 analyses recent trends in absolute poverty and material deprivation. Section 4.2 then looks further back to examine changes in poverty over the long run, with a particular focus on changes in the types of individuals in poverty. Section 4.3 compares persistent poverty and snapshot measures. Section 4.4 concludes.

<sup>24</sup> A more in-depth explanation of why we focus on AHC poverty is provided in Belfield et al. (2015).

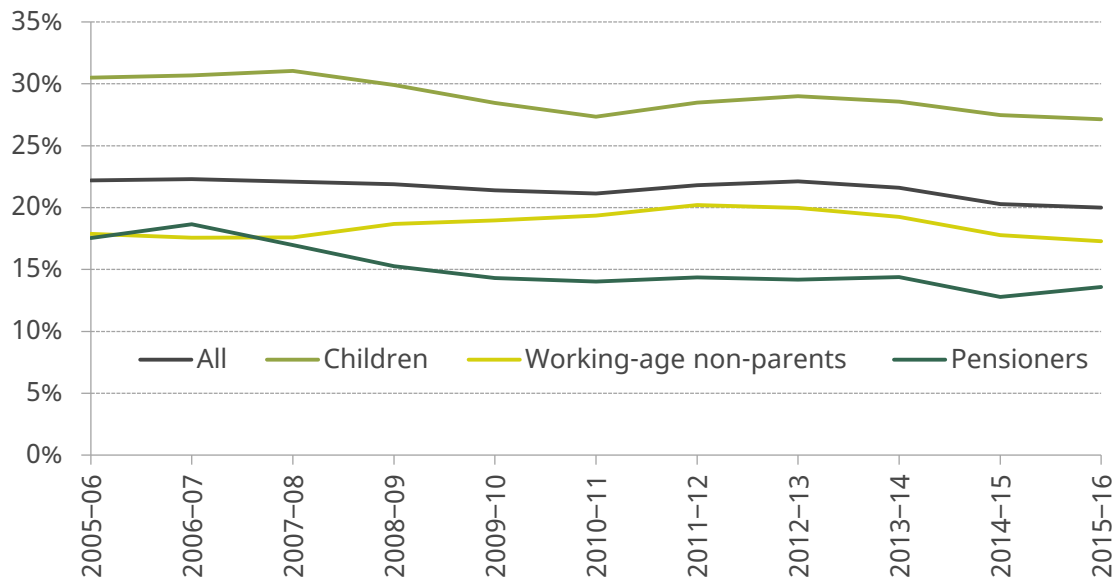
## 4.1 Recent trends in income poverty and material deprivation

Figure 4.1 shows how absolute AHC poverty rates have changed between 2005–06 and 2015–16 (the latest year of available data), both for the population as a whole and for different demographic groups.<sup>25</sup> The figure shows that there has been very little change in poverty over the last decade. Using the official poverty line, absolute poverty across the entire population stood at 20% in 2015–16 compared with 22% 10 years earlier, with slightly greater reductions in poverty among children and pensioners (at 3 and 4 percentage points respectively).

The reductions in poverty that have occurred over the last decade are undoubtedly welcome. However, we normally expect poverty to fall over time, and the magnitude of recent falls is far smaller than we would normally expect. This is shown in Figure 4.2, which plots the reduction in absolute poverty that occurred in each 10-year period since 1965. To compare reductions in absolute poverty in different decades, we define the absolute poverty line in each 10-year period as 60% of median income in the middle year of the period. For example, the absolute poverty line for the 2005–2015 period is set at 60% of median income in 2010–11. Of all the periods we consider, 2005–06 to 2015–16 saw the smallest decline in overall poverty.

Figure 4.2 also reveals that this disappointing decade follows a period of especially large reductions in absolute poverty, with the poverty rate falling by 17 percentage points between 1995–96 and 2005–06. The large declines over this period were largely driven by changes in welfare spending under the Labour government that specifically targeted

**Figure 4.1. Absolute poverty rates (AHC) since 2005–06**

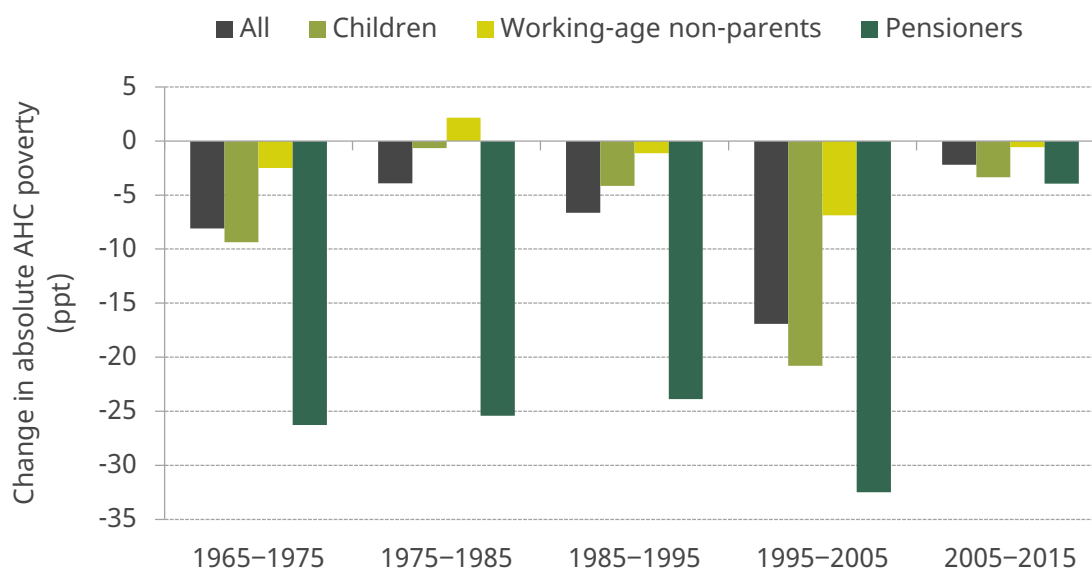


Note: The absolute poverty line is defined as 60% of median income in 2010–11.

Source: Authors' calculations using the Family Resources Survey, various years.

<sup>25</sup> We exclude working-age parents from this graph and others in the chapter as trends for this group are very similar to trends for children.



**Figure 4.2. Change in absolute poverty rates (AHC) by 10-year period**

Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards. Figures are presented for GB up until 2001–02 and for the whole of the UK from 2002–03 onwards. The absolute poverty line is defined as 60% of median income in the middle year of each 10-year period.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

children and pensioners in lower-income households, as well as significant real earnings growth for those in work.<sup>26</sup>

IFS research suggests that we should expect the overall absolute poverty rate to remain broadly unchanged between 2016–17 and 2021–22. Absolute child poverty is projected to rise over this period, with all of the projected rise explained by the impact of benefit reforms currently in the pipeline. The reforms with the biggest projected impact include the cash-terms freeze of many working-age benefits (which is expected to result in those benefits being 6% lower in real terms by 2019–20 than if they had been uprated in line with inflation), cuts to child tax credit (including the limit to two children for new births and some new claims) and the introduction of the less generous universal credit.<sup>27</sup>

Household income is clearly a major determinant of living standards and one would expect levels of deprivation to be closely linked to the prevalence of low incomes. However, the link is not perfect, so it is useful to complement income-based measures with more direct indicators of material deprivation. For example, households might have different levels of essential costs (for example, those associated with disability), might be able to maintain their living standards despite low incomes if they only have a low income temporarily or might misreport their income.<sup>28</sup> The measure of material deprivation here involves asking families directly whether they can afford a certain set of goods; essentially,

<sup>26</sup> See table 2.1 of Browne and Phillips (2010).

<sup>27</sup> See Hood and Waters (2017).

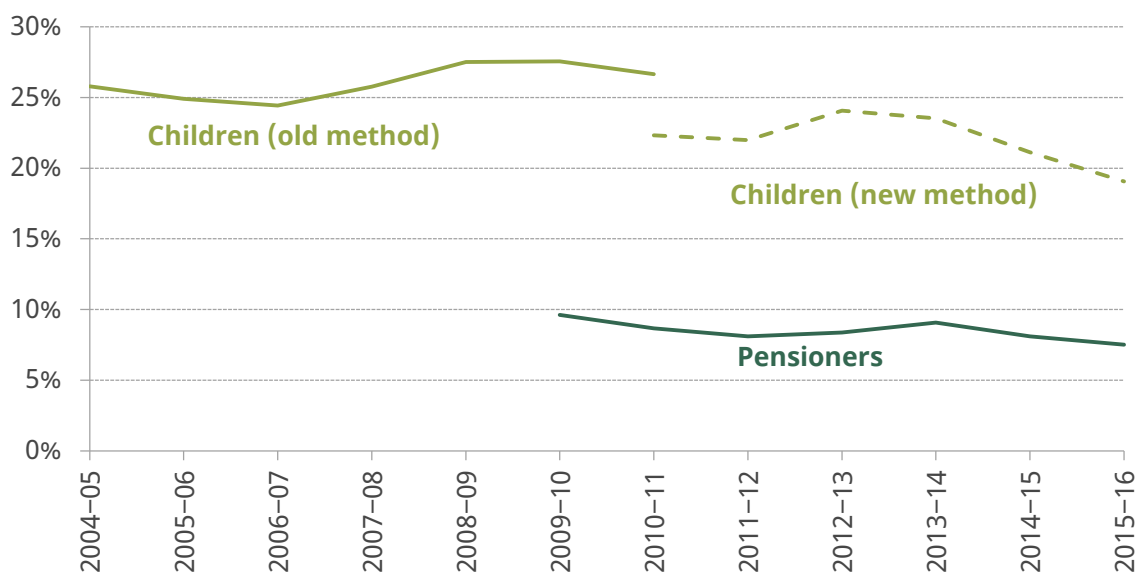
<sup>28</sup> See Brewer, Etheridge and O'Dea (2017).

it identifies materially deprived households as those who cannot afford a certain number of these items.<sup>29</sup>

Figure 4.3 shows trends in material deprivation rates calculated in this manner.<sup>30</sup> It reveals that material deprivation has declined in recent years, whereas absolute AHC poverty has remained broadly unchanged. Reductions in material deprivation have been particularly marked among children, with child material deprivation now statistically significantly lower than it was in 2012–13. Material deprivation among pensioners is now lower than in 2009–10, although this is not a statistically significant change.

The analysis so far focuses on UK-wide poverty. However, there is significant variation in poverty rates across the UK. To investigate the extent of this variation, one might ideally compare poverty rates between fairly small regions such as local council areas. This approach requires data with an adequate sample for each of the UK's 391 local authority areas, which are not available on a year-to-year basis. But we can instead group local authorities by their level of deprivation and examine how poverty rates vary across more and less deprived local areas. We measure deprivation using the Index of Multiple Deprivation (adjusted to be consistent across the UK nations), which looks at different aspects of local deprivation – such as income, employment, education, housing,

**Figure 4.3. Child and pensioner material deprivation rates**

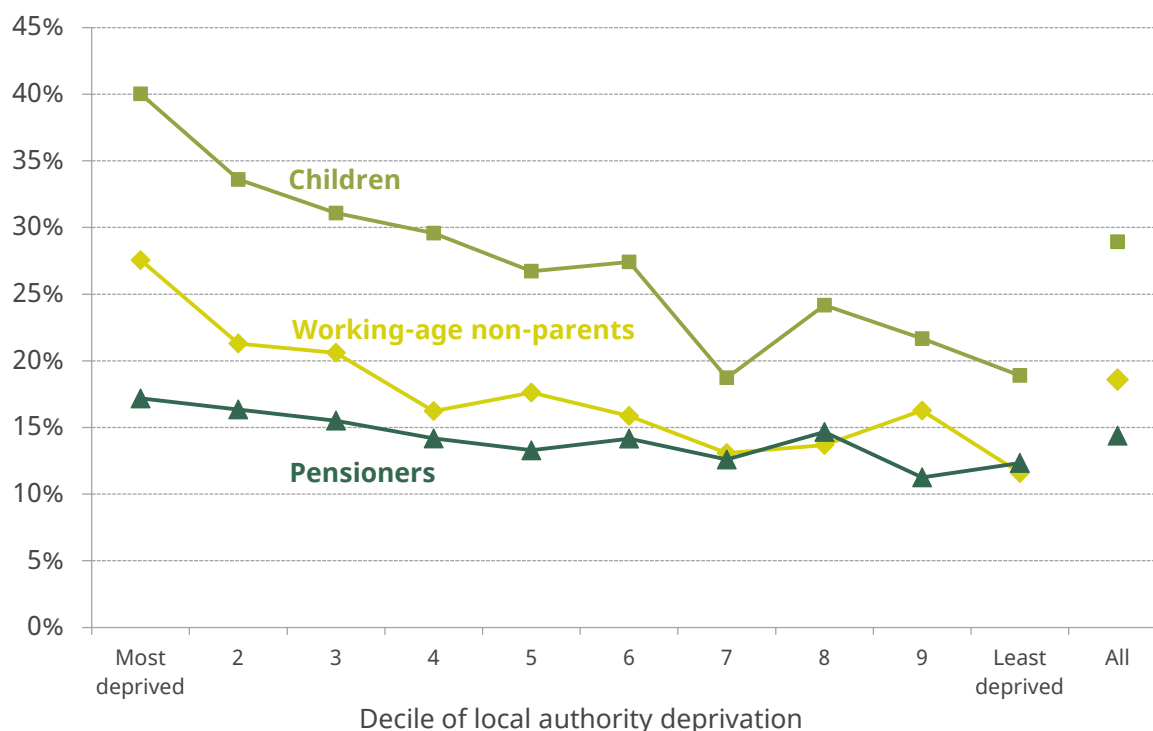


Source: Authors' calculations using the Family Resources Survey, various years.

<sup>29</sup> Interested readers can find more details on the construction of these measures in chapter 5 of Belfield et al. (2015) and chapter 6 of Cribb, Joyce and Phillips (2012).

<sup>30</sup> This figure should be interpreted with particular care for two reasons. First, child and pensioner rates should not be compared as pensioners and working-age families with children are asked a different set of questions regarding what they can afford. Second, the methodology underlying the calculation of child material deprivation changed in 2010 (the material deprivation questions referred to a different set of items in 2009–10 and before), and therefore child material deprivation rates are not directly comparable before and after this date.

**Figure 4.4. Absolute poverty rates (AHC), 2012–13 to 2015–16 average (GB), by local authority deprivation index decile**



Note: The absolute poverty line is defined as 60% of median income in 2010–11.

Source: Authors' calculations using the Family Resources Survey, various years, and UK deprivation indices from Abel, Barclay and Payne (2016).

environment, crime and health – and aggregates them into one index. The map in Appendix C shows how this varies across Great Britain.<sup>31</sup>

Figure 4.4 shows how the absolute AHC poverty rates of different demographic groups vary by decile of local area deprivation. The figure reveals there are large differences in both child and working-age non-parent poverty between more and less deprived areas.<sup>32</sup> Both child and working-age non-parent poverty in the most deprived local authorities is 1.4–1.5 times as high as in GB as a whole, whereas in the least deprived areas it is only 0.6–0.7 times the overall rate. Although qualitatively the same is true of pensioner poverty, the difference between more and less deprived areas is less marked, with rates in the most and least deprived areas at 1.2 and 0.9 times the overall rate respectively.

These differences mean that pensioner poverty is less geographically concentrated than poverty among children and working-age non-parents. Whereas the most deprived tenth of local authorities contained 13% of all pensioners in absolute AHC poverty, they contained almost a quarter of all children in poverty. This finding is also seen in other measures of deprivation, with both BHC income poverty and material deprivation being more geographically concentrated among children than pensioners. Perhaps this is to be

<sup>31</sup> Unfortunately, we have been unable to include the 11 district council areas in Northern Ireland in this analysis.

<sup>32</sup> Figure C.1 in Appendix C shows a map of Great Britain shaded according to decile of local area deprivation.

expected: employment and earnings are a key driver of poverty in the non-pensioner population, and both of these vary markedly across the country. State pensions and pensioner benefits, by contrast, are set at the national level and as these make up a substantial share of pensioner incomes – particularly among low-income pensioners (as shown in Figure 3.2) – there is likely to be less variation in the prevalence of low-income pensioners across different areas of Great Britain.

While poverty rates vary substantially between more and less deprived parts of the country, changes in income poverty rates over the last 20 years have on average been similar between more and less deprived localities. One likely reason for this is that much of the change in poverty at the national level over the past 20 years – particularly the large reductions between the mid 1990s and mid 2000s – has been due to tax and benefit reforms that affect low-income households regardless of where they live.

## 4.2 Poverty in a longer-run context

We now turn to long-run trends in poverty and look at how the types of people with the lowest incomes have changed over the last five decades.<sup>33</sup> We argued at the start of this chapter that relative poverty is more relevant for analysing poverty over such a long time period, so we focus on relative (AHC) poverty in this section.

Figure 4.5 shows how relative (AHC) poverty has evolved since 1961 across the entire population and within different demographic groups. There are two main points to draw from this figure. First, the overall poverty rate increased sharply during the 1980s, rising from around 15% to reach a high of 25% in the mid 1990s. This was driven by increases in poverty across all groups as income growth among low-income households did not keep pace with strong growth in average incomes over this period – a result of the large increase in inequality discussed in Chapter 3. Second, the relative prevalence of poverty among demographic groups has changed markedly over the last five decades. Pensioners used to be by far the most impoverished section of the population whereas now they have the lowest relative poverty rate. This decline is due to essentially the same factors that have led to strong income growth among older individuals, as discussed in Section 2.3: rises in private pension entitlements and increases in the generosity of pensioner benefits.

Unlike pensioner poverty, relative poverty among children and working-age adults remains substantially higher than in the 1960s and 1970s with the result that non-pensioners now make up nearly 90% of those in poverty in the UK. Among this group, low household income is almost always explained by one of two things – worklessness or low earnings. A major change in the nature of income poverty in the UK over the last 20 years is the declining importance of worklessness and increasing importance of low earnings in explaining poverty among working-age families. In 1995–96, excluding pensioners, 45% of those in relative poverty belonged to a working household, whereas by 2015–16 this had risen to 66%.

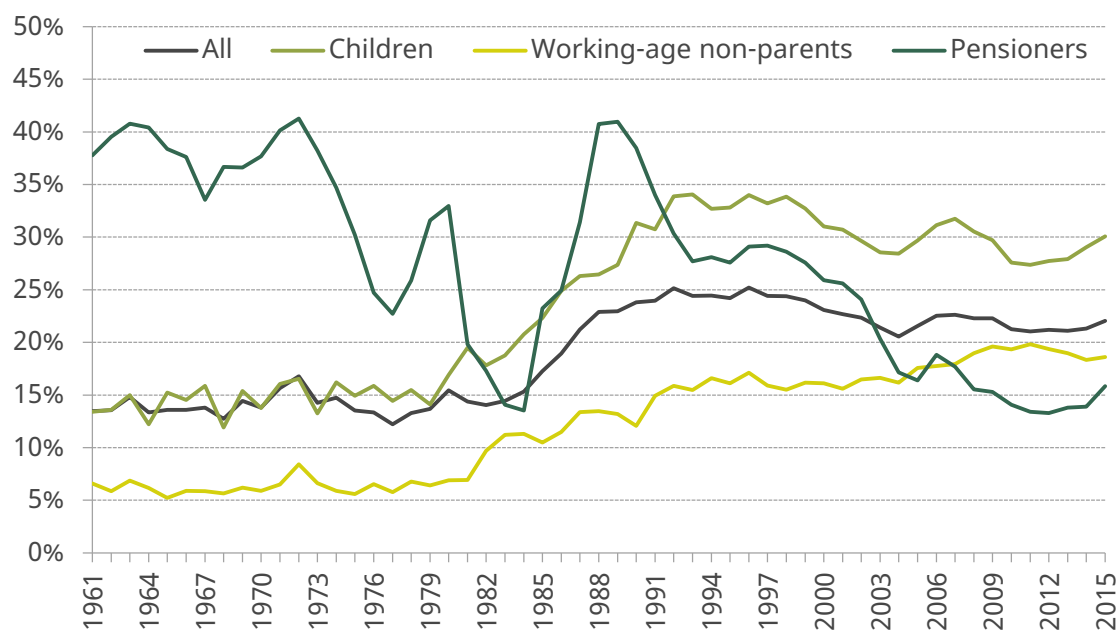
Two factors explain the increased prevalence of in-work poverty over the last two decades. First, Figure 4.6 shows that the percentage of non-pensioners living in a workless

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<sup>33</sup> A more in-depth analysis of the trends we highlight here can be found in chapter 6 of Cribb et al. (2013).

household has declined substantially since the 1990s, falling from 18% in 1995–96 to 12% in 2015–16, although it is still well above the levels seen in the 1960s and 1970s. This reduction coincided with increases in employment that occurred in the late 1990s. A particularly key component of this was increasing employment among lone parents, at least in part as a result of large increases in the generosity of in-work benefits targeted at this group.<sup>34</sup>

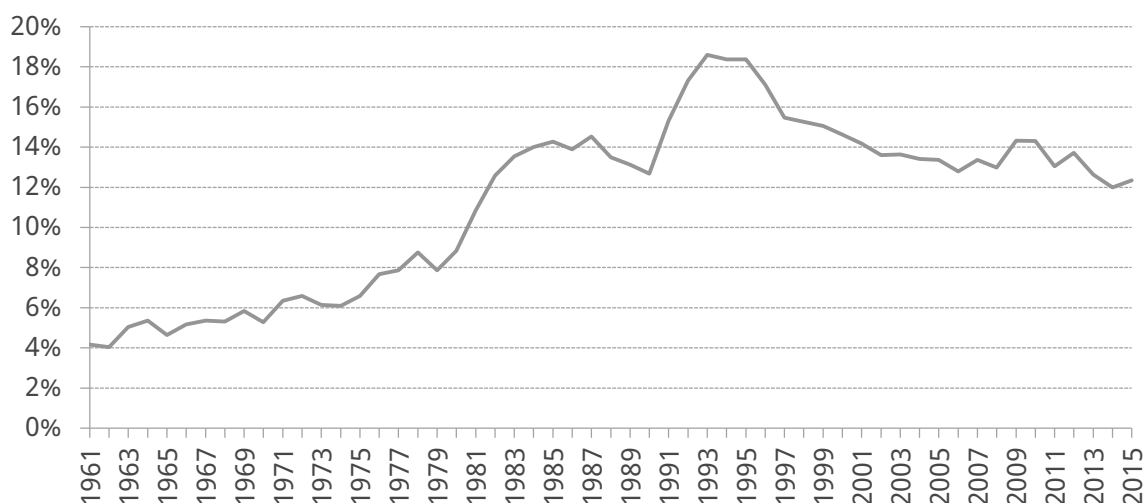
**Figure 4.5. Relative poverty rates (AHC) since 1961 (GB)**



Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

**Figure 4.6. Percentage of non-pensioners in a workless household since 1961 (GB)**

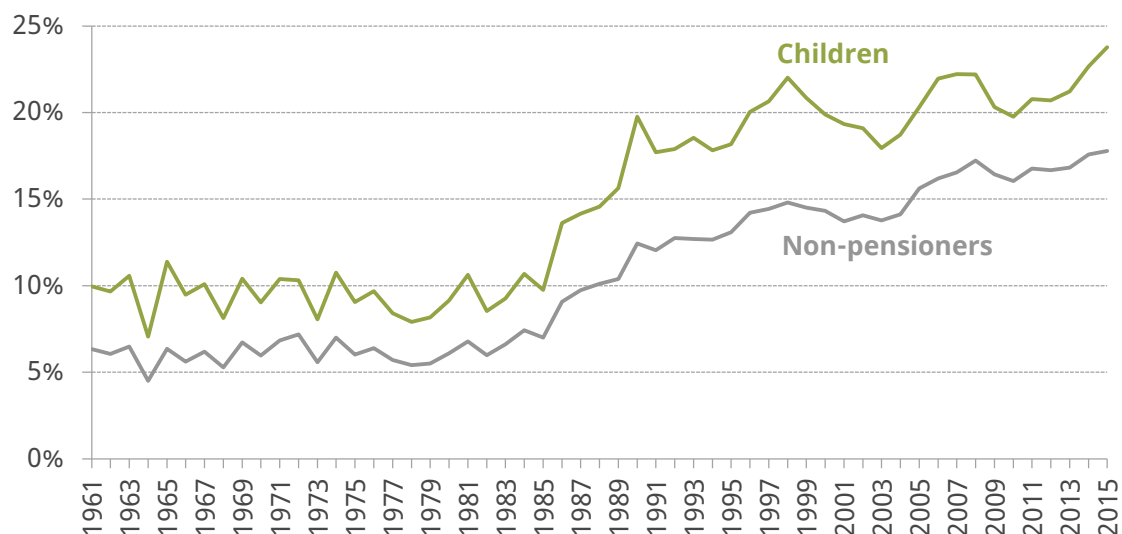


Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

<sup>34</sup> See, for example, Blundell and Hoynes (2004).

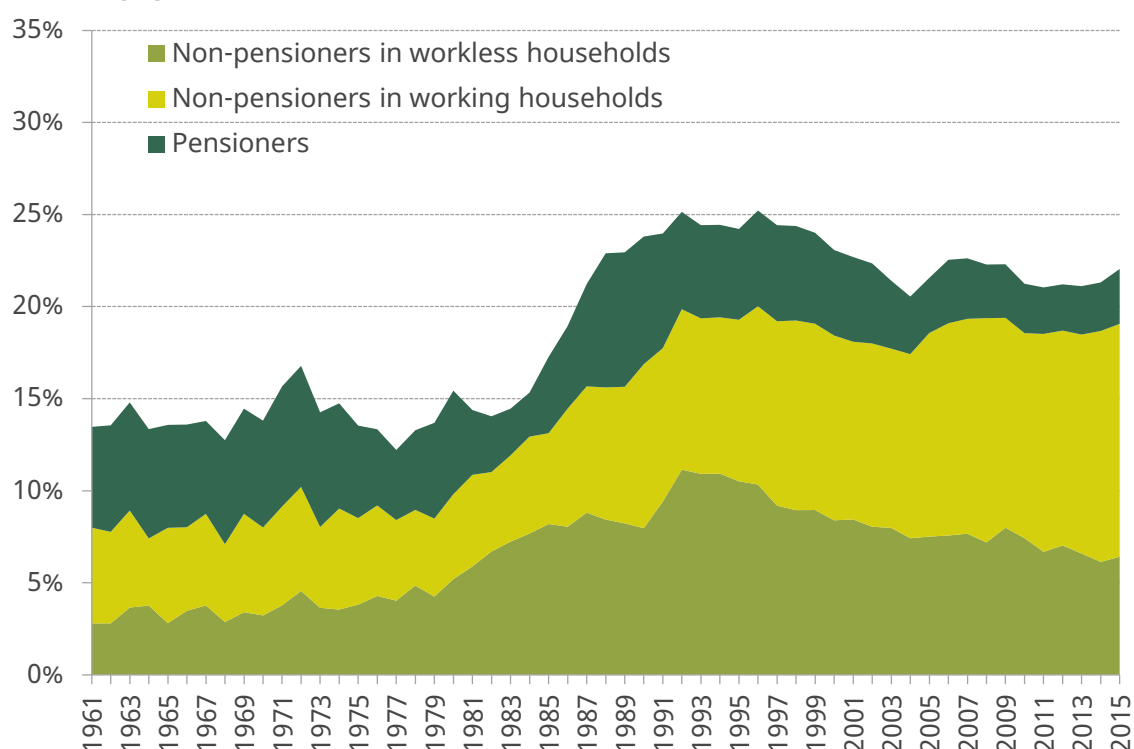
**Figure 4.7. Relative poverty rates (AHC) among individuals in working households since 1961 (GB)**



Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

**Figure 4.8. Number of individuals of different types in poverty (AHC), as a percentage of total population, since 1961 (GB)**



Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

Second, as shown in Figure 4.7, the relative poverty rate among working households has been rising. Following the sharp increases of the late 1980s, the figure shows there has been an upward trend in in-work poverty since. For example, poverty among children in working families has risen from 20% in 1990 to 24% in 2015–16. Therefore, while an increasing fraction of working-age households have someone in work, it has become less assured that a household's earnings will be sufficient to put them above the poverty line.

In summary, the last five decades have witnessed dramatic changes both in the overall rate of poverty and in the types of individuals who are likely to be in poverty. Sharp increases in relative poverty across all demographic groups during the 1980s have not been fully unwound in the decades since, with the result that relative poverty in 2015–16 stood at 22% in comparison with 13% in 1961. Substantial reductions in pensioner poverty have resulted in a marked decline in the proportion of those in poverty that are pensioners, despite a markedly ageing population: in 1961 pensioners accounted for over 40% of those in poverty (compared with 14% of the population), whereas in 2015–16 pensioners accounted for only 14% of those in poverty (compared with 19% of the population). By contrast, relative poverty among children and working-age adults has increased and, over the past 20 years or so, has increasingly become an in-work phenomenon due to declines in worklessness, low earnings growth and widening earnings inequality. The combined result of these trends is shown in Figure 4.8: those in poverty today are far more likely to be children or adults in working households, and far less likely to be pensioners, than was the case in previous decades.

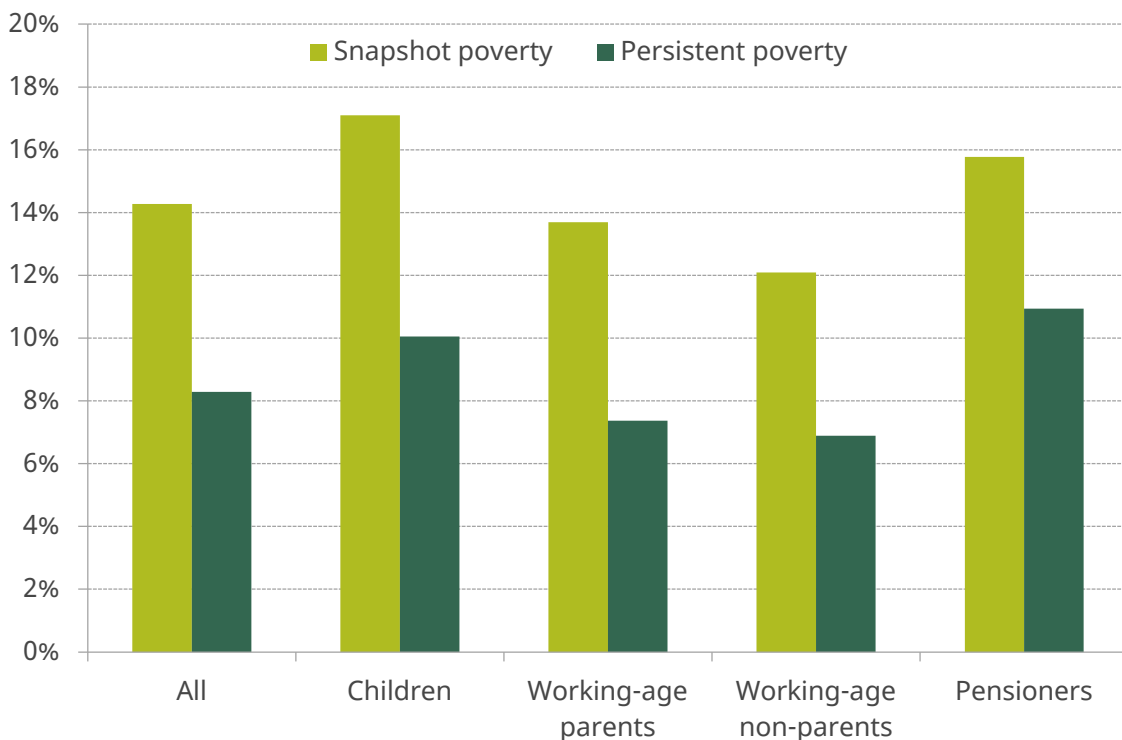
### 4.3 How persistent is poverty in the UK?

So far, this chapter has focused on measures of 'snapshot' poverty, where poverty is defined as having income below a certain threshold in a single year. In this section, we examine how common it is for households to be persistently in income poverty. Following DWP, this is defined as being in poverty for at least three of the last four years. We examine how the prevalence and characteristics of the persistently poor compare with those of households in snapshot poverty.<sup>35</sup> Throughout this section, we confine our attention to BHC poverty as the Understanding Society data used to measure persistent poverty do not contain a measure of housing costs comparable to that observed in the HBAI data.

Figure 4.9 shows snapshot and persistent BHC poverty rates for the entire population and for different demographic groups.<sup>36</sup> The figure shows that, because households' incomes often fluctuate, markedly fewer households are in persistent poverty than in snapshot poverty. Snapshot poverty across the entire population stood at an average rate of 14% over the most recent four years of data, whereas persistent poverty over the same period (i.e. the proportion of people in poverty for at least three out of those four years) was 6 percentage points lower at 8%. In other words, many individuals with a low income in a particular year move out of poverty within the next three years for example, suggesting that a substantial fraction of snapshot poverty is caused by temporary rather than

<sup>35</sup> This is in accordance with the definition used in DWP's official Income Dynamics statistics (Department for Work and Pensions, 2017b). Appendix A provides further details on the precise methodology used.

<sup>36</sup> We define demographic groups in this section according to individual characteristics in the first and last years of the four-year period used to measure persistent poverty. For example, 'children' are defined as individuals who are children in both 2012 and 2015.

**Figure 4.9. Absolute poverty rates, 2012–2015 (BHC), by demographic group**

Note: Years refer to the second year of each Understanding Society survey wave. The absolute poverty line is defined as 60% of median income in Understanding Society, wave 2. The snapshot poverty rate gives the average rate over Understanding Society, waves 3–6.

Source: Authors' calculations using Understanding Society, waves 2–6.

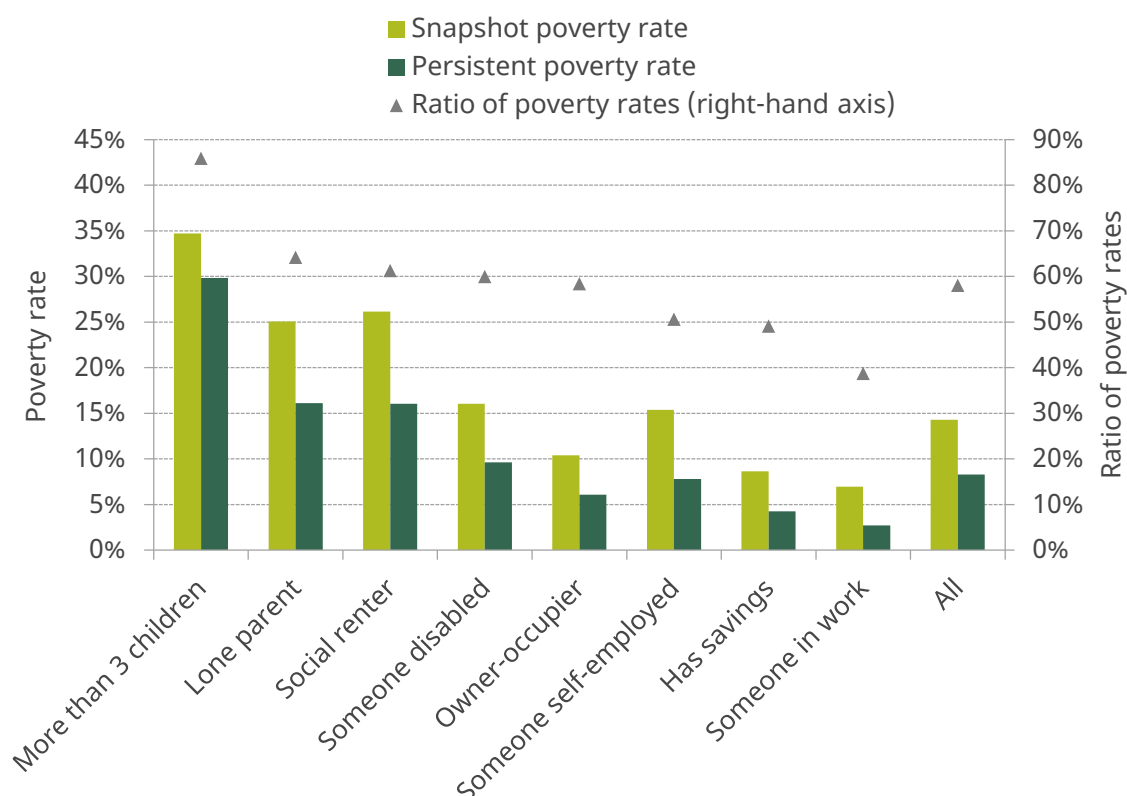
persistently low income. Comparable figures from across the EU (produced using slightly different definitions) have shown that the difference between snapshot and persistent poverty rates in the UK is particularly large relative to other countries, suggesting that the incomes of low-income households here are relatively volatile.<sup>37</sup>

Figure 4.9 also shows that the snapshot and persistent poverty rates are somewhat closer together for pensioners. This makes sense, as it is what one would expect from a group whose income fluctuates relatively little from year to year (as shown in Figure 2.11) and among which key sources of income fluctuations, such as changes to household composition or to employment, are less prevalent. As a result, while the risk of snapshot poverty is now highest among children, pensioners remain most at risk of persistent poverty (though bear in mind that here we are only able to look at BHC poverty – the relative position of pensioners with regard to snapshot poverty looks considerably better on an AHC basis).

The main demographic groups shown in Figure 4.9 are fairly broad. Figure 4.10 plots snapshot and persistent poverty rates, and the ratio between the two, for several smaller subgroups. It reveals considerable variation in the ratio between persistent and snapshot poverty rates. While the overall persistent poverty rate is 58% of the overall snapshot

<sup>37</sup> See Office for National Statistics (ONS) statistical release at <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/articles/persistentpovertyintheukandeu/2015>.



**Figure 4.10. Absolute poverty rates, 2012–2015 (BHC), by household characteristics**

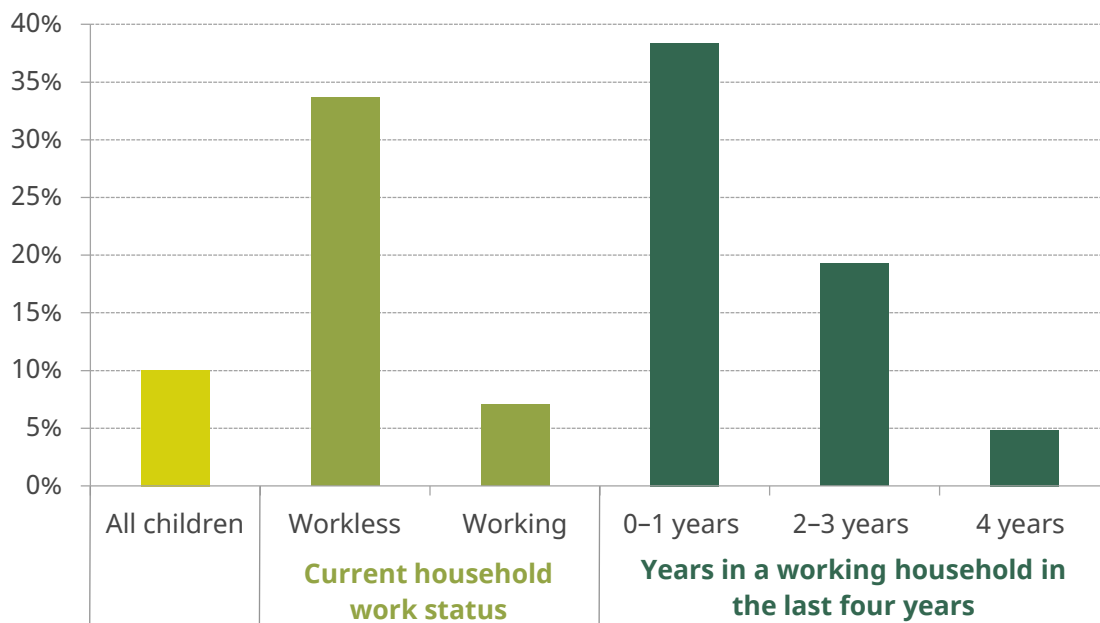
Note: Households with savings are identified as those who receive any income from savings and investments. Years refer to the second year of each Understanding Society survey wave. The absolute poverty line is defined as 60% of median income in Understanding Society, wave 2. The snapshot poverty rate gives the average rate over Understanding Society, waves 3–6.

Source: Authors' calculations using Understanding Society, waves 2–6.

poverty rate, this is as high as 86% for individuals living in households with more than three children and as low as 39% for households containing someone in work. Other groups for whom low income is relatively likely to be a persistent phenomenon include social renters and lone parents, whereas households with savings (proxied by receiving income from savings or investments) are relatively likely to find that snapshot poverty does not translate into persistent poverty.

In the previous section, we highlighted that snapshot poverty among children has increasingly become an in-work phenomenon over the past 20 years. In 2015–16, over two-thirds of children in snapshot absolute poverty (on both an AHC and BHC basis) lived in working households. But does worklessness play a more important role (relative to low earnings) in explaining persistent poverty than is the case for snapshot poverty? The answer will depend on the persistence of low earnings for those in work and the persistence of worklessness for those out of work.

Figure 4.11 plots the absolute persistent child poverty rate overall and for different groups according to the employment status of the adults in the household. This reveals two key points about the relationship between persistent poverty and work. First, focusing on current work status, the figure shows that children in households with no adults currently

**Figure 4.11. Absolute persistent child poverty rates, 2012–2015 (BHC), by household work status**

Note: Years refer to the second year of each Understanding Society survey wave. The absolute poverty line is defined as 60% of median income in Understanding Society, wave 2.

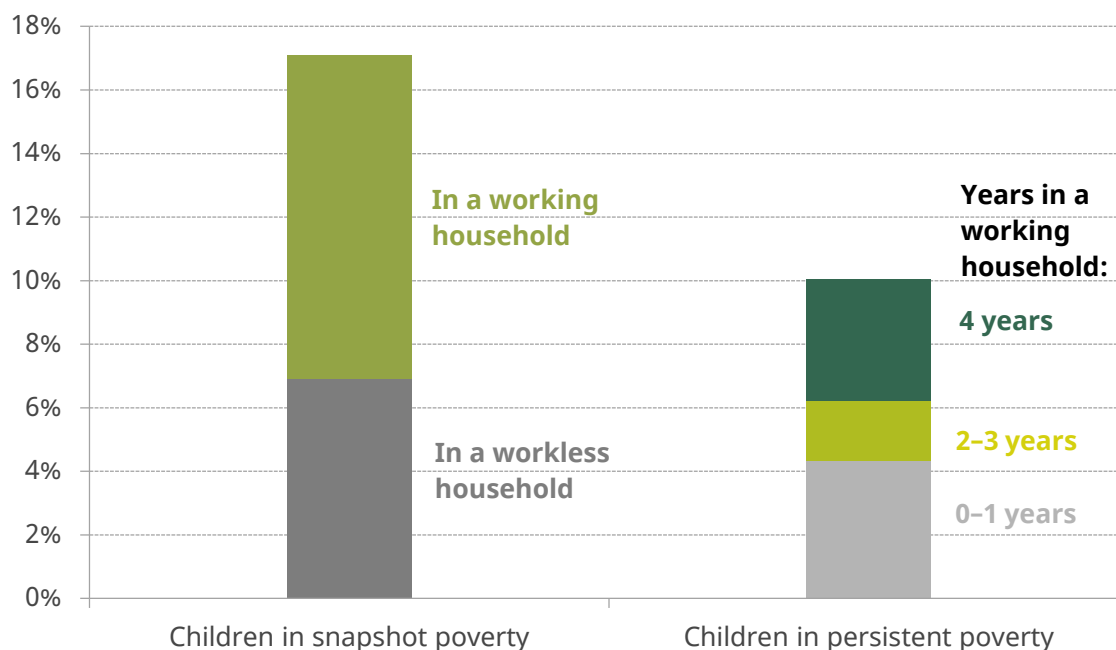
Source: Authors' calculations using Understanding Society, waves 2–6.

in work are almost five times as likely to be in persistent poverty as children in working households. This is partly due to the fact that children in workless households are more likely to be in snapshot poverty in any given year than children in working households. On top of this, poverty is more likely to be persistent for those in workless households: looking at children in poverty in a given year, 44% of those in currently working households will find that poverty is persistent, compared with 54% of those in currently workless households.

Second, the relationship between persistent poverty and work is, unsurprisingly, stronger still when we consider work status over the entire four-year period that is used to measure persistent poverty. While 10% of all children are in persistent poverty, this rate is only 5% among children in households that have had someone in work in each of the last four years, and is 38% among children in households that have been workless for at least three of the last four years. In other words, children in households that are strongly attached to the labour market face a substantially lower risk of being in persistent poverty.

However, this does not mean that persistent worklessness is the main cause of persistent poverty. This is because many more children live in persistently working households than persistently workless ones. Figure 4.12 looks directly at this question. The left bar of the figure shows that the majority of children in snapshot poverty belong to households with someone in work – a result that confirms the analysis of Section 4.2. The right bar shows the composition of the population of persistently poor children. Children in households that have had someone in work in each of the last four years account for just under 40% of all children in persistent poverty. On the other hand, children in households that have had no one in work for at least three of the last four years account for slightly over 40%. In

**Figure 4.12. Absolute child poverty rates, 2012–2015 (BHC): household work status composition**



Note: Years refer to the second year of each Understanding Society survey wave. The absolute poverty line is defined as 60% of median income in Understanding Society, wave 2. The snapshot poverty rate gives the average rate over Understanding Society, waves 3–6.

Source: Authors' calculations using Understanding Society, waves 2–6.

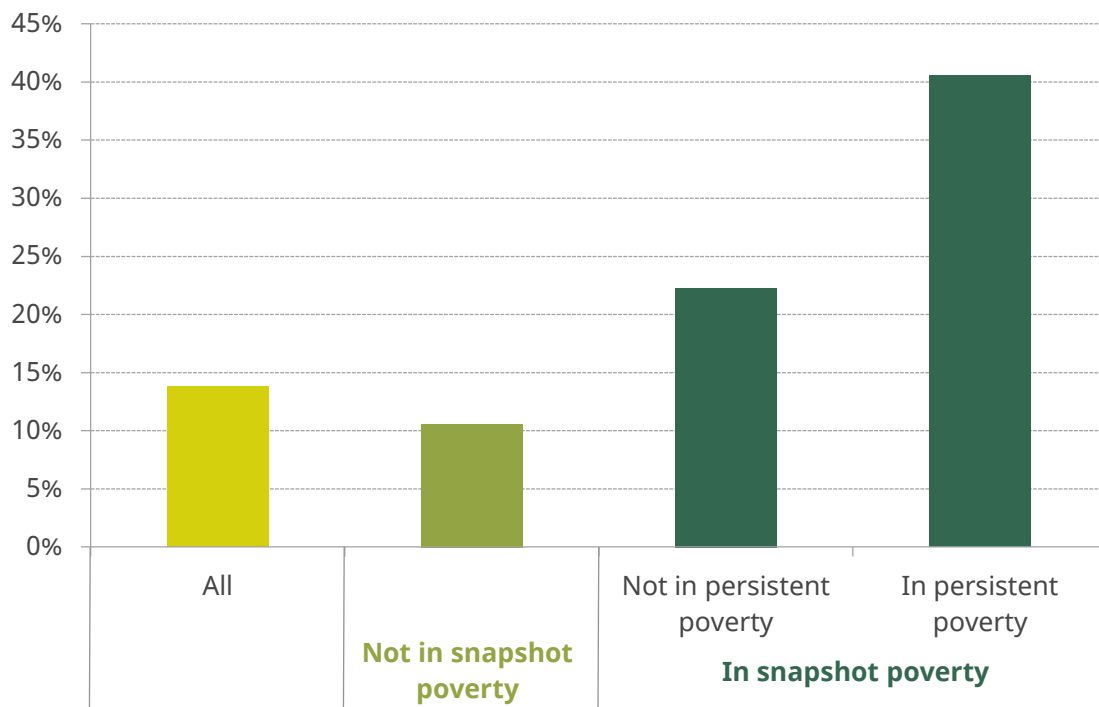
other words, persistently low earnings and persistent worklessness explain approximately equal amounts of the persistent child poverty we see in the UK. Eliminating persistent worklessness entirely would, on its own, reduce persistent child poverty by less than half (and probably considerably less than that<sup>38</sup>). Efforts to address persistent poverty, then, should look to address persistently low earnings as a key component.

This section has highlighted interesting differences between snapshot and persistent poverty. Some groups with low income – such as lone-parent households and families with more than three children – are more likely to experience poverty on a persistent basis than others; and while the majority of individuals in snapshot poverty belong to working households, households with strong and weak labour market attachment account for roughly equal shares of the population in persistent poverty.

One reason why policymakers and others might care about all this is if those in persistent poverty are more likely to be experiencing low living standards than those in snapshot poverty (who may be more able to sustain their living standards during a short spell of low income).

Figure 4.13 aims to shed some light on whether this is the case, by using material deprivation as a more direct proxy for low current living standards, and comparing this

<sup>38</sup> This is because it is highly likely that the earnings of persistently workless households, were they to move into work, would be lower than the earnings of households who are already more attached to the labour market.

**Figure 4.13. Child material deprivation rate in 2014–2015, by poverty status**

Note: The absolute poverty line is defined as 60% of median income in Understanding Society, wave 2 (so BHC). The snapshot poverty rate gives the average rate over Understanding Society, waves 3–6.

Source: Authors' calculations using Understanding Society, waves 2–6.

with the snapshot and persistent measures of low income.<sup>39</sup> The figure shows that having a low household income, even on a temporary basis, is associated with a markedly higher probability that a child is materially deprived. Whereas 14% of all children are materially deprived, the rate is 11% among children who are not in snapshot poverty and 22% among children in snapshot poverty but not in persistent poverty. The risk of being materially deprived increases even more dramatically for children who are in poverty on a persistent basis, with over 40% of children in this group being materially deprived. More formal statistical analysis finds that, looking at households with below average income, their income in the three years prior to the current period is predictive of current material deprivation, even when comparing people with the same current income.

Overall, Figure 4.13 is consistent with the hypothesis that persistently low income has a more severe impact on current living standards than temporarily low income. There may well be additional reasons to care more about persistent low incomes than temporarily low incomes. For example, the adverse effects of low material living standards on other outcomes that we might care about, such as health, may be more severe when experienced on a long-term basis than just temporarily. And we probably simply care more about how well off someone is over their lifetime as a whole – or more generally over longer periods – than at just one point in time. For all these reasons, policymakers should recognise that snapshot and persistent poverty affect different groups of individuals.

<sup>39</sup> The overall child deprivation rate is lower than that presented in Section 4.1, as we are using data from Understanding Society and this records a different rate from the FRS.

## 4.4 Conclusion

2015–16 saw little change in poverty. After rising slightly during the aftermath of the recession, poverty rates are now slightly below pre-recession levels. For example, overall absolute AHC poverty stood at 22% in 2007–08 compared with 20% in 2015–16. While these reductions in poverty are undoubtedly welcome, they are small by historical standards, particularly compared with the large declines in poverty that occurred between 1995–96 and 2005–06. The coming years look set to be worse in this regard, largely because of cuts to working-age benefits that are expected to cause an increase in absolute child poverty.

Looking behind the national averages reveals large differences in the prevalence of poverty between more and less deprived areas. These differences are particularly marked in working-age households. The most deprived tenth of local authorities in Great Britain contain almost a quarter of all children in poverty.

The past five decades have witnessed dramatic changes both in the poverty rate and in the types of people in poverty. Surges in income inequality that occurred during the 1980s led to large increases in relative poverty across all demographic groups, which have not been fully unwound in the decades since. As a result, relative poverty remains markedly higher than during the 1960s and 1970s, with relative poverty in 2015–16 of 22% compared with 13% in 1961. Although the UK's population contains a greater share of pensioners than ever before, they have gone from being the largest demographic group among those in poverty to the smallest. As a result, non-pensioners now account for a far greater fraction of those in poverty than in the past. Among this group, a sustained decline in worklessness has caused a steady increase in the prevalence of in-work poverty: in 2015–16, almost 60% of individuals in relative poverty were non-pensioners in working households, compared with just 40% in 1961.

Drawing on longitudinal data, we have also been able to compare how the types of individuals in poverty differ between those who are in poverty in a given year and those who are in poverty over several years. Comparing the 'snapshot' and 'persistent' poor reveals that poverty is likely to be more long-lasting for certain groups, such as pensioners, households with more than three children and lone parents. While the majority of children in snapshot poverty belong to working households, households with strong and weak labour market attachment make up roughly equal shares of all children in persistent poverty. This means that efforts to reduce persistent child poverty need to address both extended periods of worklessness and extended periods of low earnings.

## 5. In-Work Poverty among Families with Children

### Key findings

**One-third of children living in poverty in 2015 were the children of one-earner couples.**

43% of children of one-earner couples live in relative (AHC) poverty in 2015. This compares with 24% among all children in working families, 33% for children of working lone parents and 11% for children of two-earner couples.

**Median family earnings (before tax) in one-earner couples with children are 11% lower in real terms than 20 years ago.**

It is only due to increases in benefits and tax credits that the incomes of these families are any higher than 20 years ago; and since 2002–03 their incomes have not grown at all.

**This is a consequence of a broader trend: the extremely poor growth in male earnings over an extended period.**

85% of one-earner couples with children are reliant on male earnings. Median weekly earnings among men with dependent children have risen by only 0.3% per year since 1994 (compared with 2.2% for working mothers); and the earnings of working fathers in a one-earner couple have done even worse than other fathers’.

**Raising living standards and reducing poverty rates among one-earner couples with children could prove challenging.**

The vast majority of the working parents in these families already work full-time. The non-working partners often look a long way from the labour market: only 12% are actively seeking work, and a third have been out of paid work for at least five years. And increasing the generosity of benefits in a way that was targeted at one-earner couples would be likely to weaken the financial incentives for the second adult to find paid work.

The previous chapter focused on the changing patterns of poverty in the UK and showed that, whether you measure poverty on a snapshot or on a persistent basis, the majority of children in poverty are in working families. One reason for this is that worklessness in families with children, while an important cause of poverty, has fallen significantly over the last 20 years. In addition, the relative poverty rates for children living in working families have risen over that period. As a result, the risk of poverty is more similar for children in working and non-working households now than it was 20 years ago. Earnings are still well below their levels seen prior to the 2008 recession, increasing the risk that simply having someone in work is not enough to take families out of poverty.

The aim of this chapter is to investigate further how the living standards and poverty rates of working families with children have changed and what has driven these changes. In order to do this, we examine the relationship between parents' economic activity, their earnings and their living standards. Throughout this chapter, we focus on Great Britain, as data on Northern Ireland are only available from 2002–03 onwards.

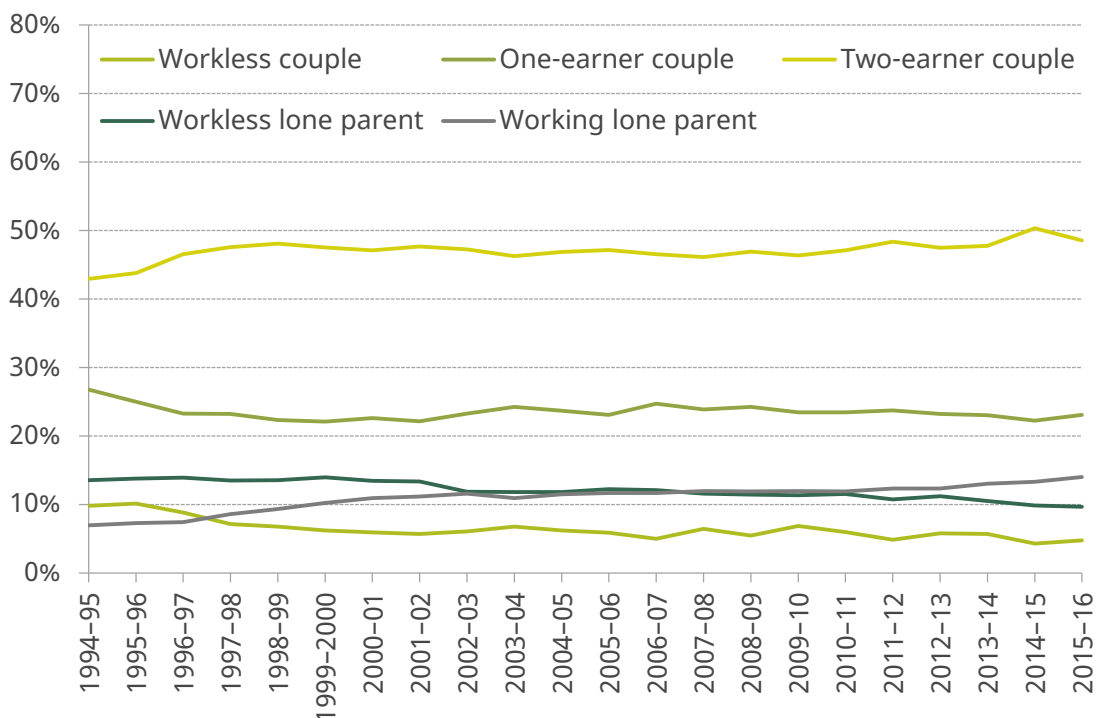
Section 5.1 starts by setting out the characteristics of different types of working families with children. Section 5.2 compares their incomes, poverty rates and material deprivation rates. It shows that the group for which we have seen by far the least favourable trends in poverty over the past 20 years is the children of one-earner couples. Section 5.3 then looks carefully at the drivers of those trends by examining in detail the changes in the earnings of the working parents. Section 5.4 concludes by discussing potential policy lessons for a government concerned with reducing the number of children growing up in working poverty.

## 5.1 The characteristics of working families with children

In 2015–16, 86% of children lived with at least one working parent and almost 50% of children lived in a family in which two parents were working. Figure 5.1 provides a more detailed breakdown and shows how things have changed over the past 20 years. The proportion of children living with dual-earning parents and with single-earner couples has stayed relatively constant since the late 1990s. This might seem surprising given continued rises in rates of female employment. The explanation is that those rises have been driven largely by older women and by lone parents. Indeed, the figure shows a steady increase in the proportion of children living with a working lone parent, reaching 14% in 2015–16, and a fall in the proportion living with workless lone parents. The proportion of children living with a workless couple has declined further from an already low level. The increase in the number of children living in working families has been shown to have reduced income inequality and poverty in childhood over the last 20 years.<sup>40</sup>

Focusing on children who live in working families, Table 5.1 shows that their characteristics differ substantially between one-earner couples, two-earner couples and working lone parents. One-earner couples are significantly more likely to have a large number of children and to have a young child (two things that often, of course, go together). Over 20% of one-earner couples have three or more children, compared with less than 10% of two-earner couples and working lone parents. More than half of one-earner couples have a child aged under 5, compared with 42% of two-earner couples and only 22% of working lone parents.

<sup>40</sup> See Belfield et al. (2016).

**Figure 5.1. Percentage of children in each family type**

Source: Authors' calculations using the Family Resources Survey, various years.

These differences between one-earner and two-earner couples are fairly intuitive. Having more children and having young children can reduce the attractiveness of having a second adult in paid work for a variety of reasons including higher childcare costs, a greater value placed on time spent at home caring for children, and (in the case of the number of children) potentially more means-tested benefits to lose. Working lone parents are more likely to have older children at least in part because couples are more likely to have split up by the time children are older and because working as a lone parent with very young children may be particularly difficult (and there are no work-search conditions in the benefit system for those with very young children).

There are also differences in the education levels of parents across these different types of working families. Working lone parents are the most likely to have left education at 16. Within couples, fathers' education levels are very similar irrespective of whether their partner works or not, but mothers in one-earner couples are more likely to have left school at 16 than mothers in dual-earning couples. Hence there is a likely role for low earnings potential in explaining why some one-earner couples do not have a second adult in paid work.

Table 5.1 also shows that two-earner couples with children are disproportionately from white ethnic backgrounds, with 86% of this group being white compared with 81% of working lone parents and 70% of one-earner couples. In contrast, 20% of one-earner couples with children have at least one adult of Asian ethnicity, compared with 8% of two-earner couples and only 4% of working lone parents. Given the higher child poverty rates among one-earner couples (shown in Figure 5.5 later), this helps to explain why the



relative AHC child poverty rate in families with at least one Asian adult is 40%, compared with 25% among families where all adults are white.<sup>41</sup>

The over-representation of non-white (particularly Asian) families in the one-earner-couple group is a consequence of the differences in mothers' employment rates shown in

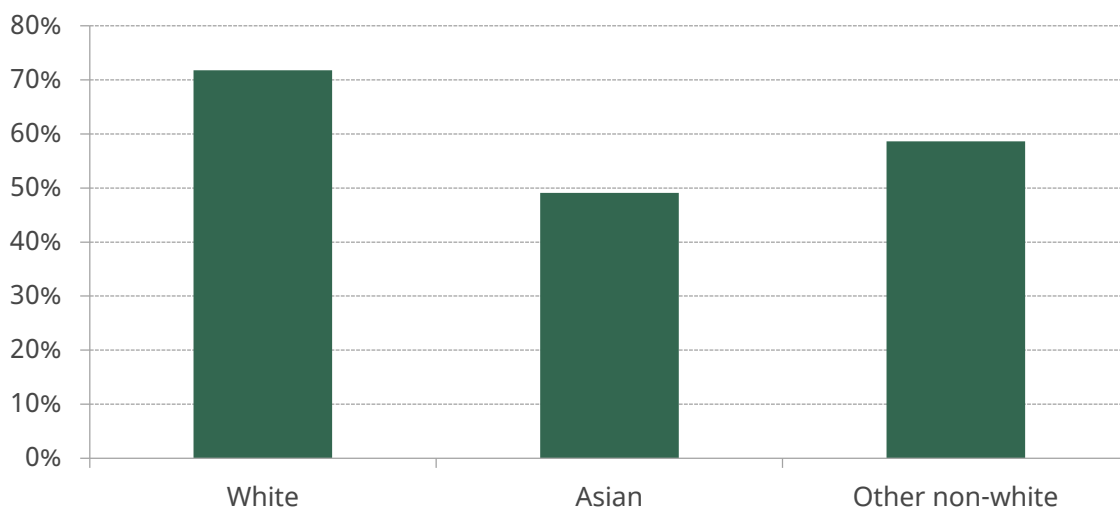
**Table 5.1. Characteristics of working families with children, 2013–14 to 2015–16 (GB)**

	One-earner couples	Two-earner couples	Working lone parents
<b>Number of children</b>			
1	40%	48%	61%
2	38%	42%	30%
3	15%	8%	7%
4 or more	6%	1%	2%
<b>Age of youngest child</b>			
0 or 1	27%	21%	8%
2–4	26%	21%	14%
5–10	25%	29%	33%
11 or older	22%	29%	45%
<b>Education of parents</b>			
Mother left education at 16	33%	26%	46%
Father left education at 16	38%	37%	48%
<b>Ethnicity</b>			
White	70%	86%	81%
Asian	20%	8%	4%
Other non-white	10%	6%	15%
<b>Immigrant status</b>			
Mother born outside the UK	35%	18%	15%
Father born outside the UK	33%	17%	11%

Note: For lone-parent families, ethnicity is simply the ethnicity of the sole adult in the family. For couples, ethnicity is 'Asian' if at least one adult in the couple is of Asian ethnicity. 'Other non-white' includes couples where neither member is of Asian ethnicity but at least one member is non-white. 'White' includes all other couples.

Source: Authors' calculations using the Family Resources Survey, various years. Statistics on being born outside the UK are from authors' calculations using the Labour Force Survey.

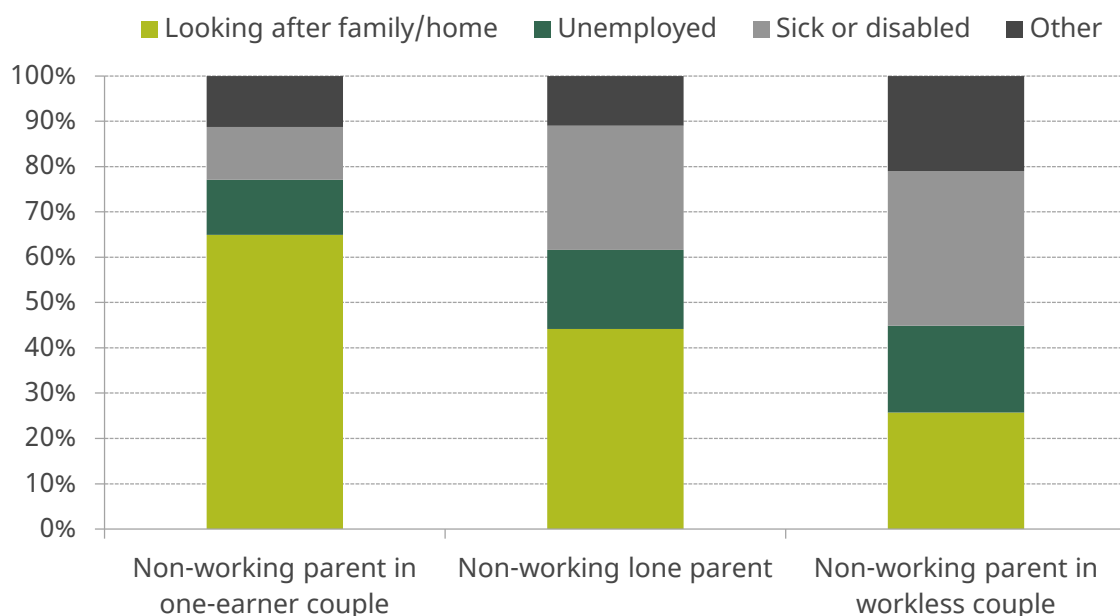
<sup>41</sup> On the same measure, the child poverty rate among other families containing a non-white adult is 44%.

**Figure 5.2. Employment rate of mothers by ethnicity, 2013–14 to 2015–16 (GB)**

Source: Authors' calculations using the Family Resources Survey, various years.

Figure 5.2. While 72% of white mothers are in work, that figure is only 49% for mothers of Asian ethnicity and 59% for other non-white mothers. These differences are also broadly unaffected by controlling for education levels, the age of the youngest child and the number of children. Cultural expectations around mothers and work or discrimination could be playing a role, as discussed at length by Heath and Cheung (2006). In addition, Table 5.1 shows that around one in three fathers and mothers in one-earner couples were born outside the UK, compared with only 17–18% of those in two-earner couples.

For two of the three working family types (two-earner couples and working lone parents), all of the adults in the family are in work. However, for one-earner couples, there is one

**Figure 5.3. Economic activity of the non-working parents, 2013–14 to 2015–16 (GB)**

Source: Authors' calculations using the Family Resources Survey, various years.

parent who is not in paid work. Figure 5.3 looks at whether these non-workers are actively seeking work and unable to find it, or are choosing not to work, and compares them with other non-working parents (those in workless couples, and workless lone parents). Around two-thirds of non-working parents with a working partner report that their main economic activity is looking after their family or the home (i.e. they are not seeking work). Only 44% of non-working lone parents and 26% of those in workless couples with children say they are not working for this reason. Conversely, fewer non-earners in one-earner couples say they are sick or disabled, or actively seeking work and unable to find it, than is the case for non-working parents or parents in workless couples. Note also that for many of the non-workers in single-earner parent families, it has been a long time since they were in work – around two-thirds have been out of work for at least a year and around a third have been out of work for at least five years.

In summary, there are considerable differences between the characteristics of different types of working families with children, in terms of the age and number of children, their education levels and their ethnicity. Many of these differences are broadly to be expected given that they can influence the constraints and preferences that families have with respect to paid work. We have also shown that the non-workers within these families look very different from other non-working parents. In the next section, we show how the incomes and poverty rates of different types of working families with children have changed over the last 20 years.

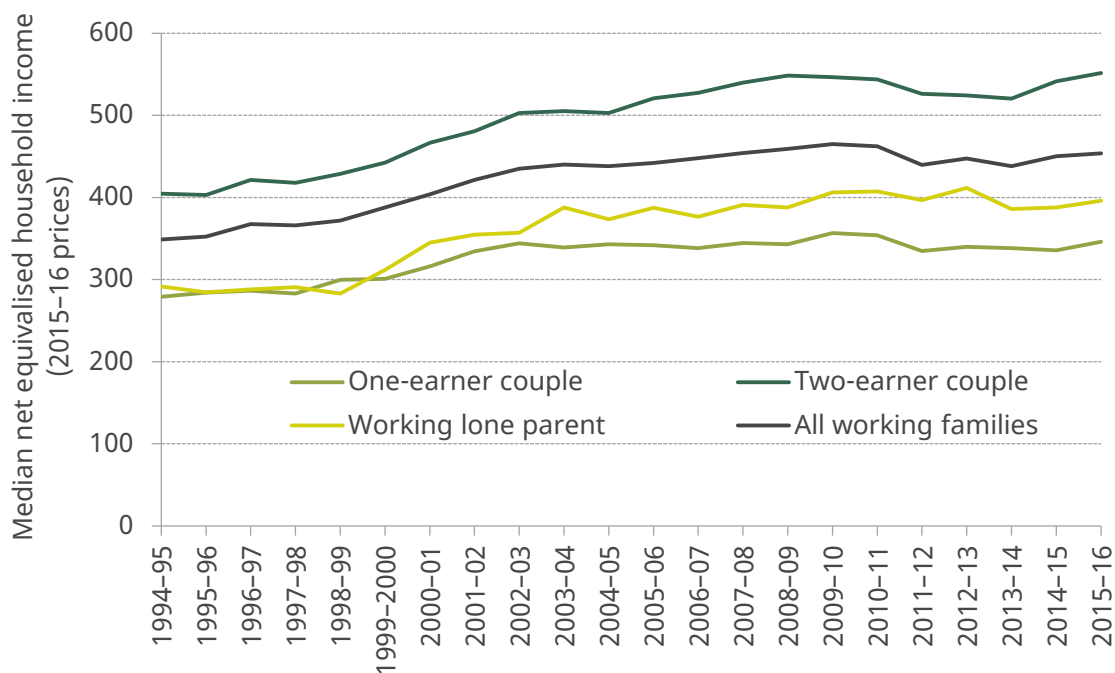
## 5.2 Living standards and poverty rates for children in working families

Before looking at the risk that children living in different types of working families have of living in poverty, we first set the scene by looking at their average incomes. Figure 5.4 shows median equivalised household income for children living in working families, split out into the three types of working families considered in the previous section. Consistent with the rest of this report, income is adjusted for differences in household size and composition (equivalised) and we express all cash amounts as the equivalent amount for a childless couple.

Children with two working parents have the highest average household incomes, whereas children of one-earner couples have the lowest average incomes of the three groups. Median income for children whose parents are a one-earner couple is 37% below that for children with two working parents and 13% below those with a working lone parent.<sup>42</sup> Of course, this may not reflect differences in actual living standards due to differences in childcare and other costs – a point we return to below. But these income differentials have not always existed. During the mid and late 1990s, median (equivalised) incomes for children of one-earner couples and of working lone parents were very similar. However, median income for children of one-earner couples is 24% higher than in 1994–95, compared with 36% for working lone parents and two-earner couples. More strikingly, median income for the one-earner-couple group is essentially the same as it was in 2002–

<sup>42</sup> Before adjusting for household size and composition, in 2015–16 the median household income of a child with a working lone parent was 16% lower than that for a child of a one-earner couple. However, the differences in household size and composition (most obviously the extra adult in the family for a couple compared with a lone parent) mean that, after adjusting for the different needs of the households, the median equivalised household income for children of lone parents is higher than that for children of one-earner couples.

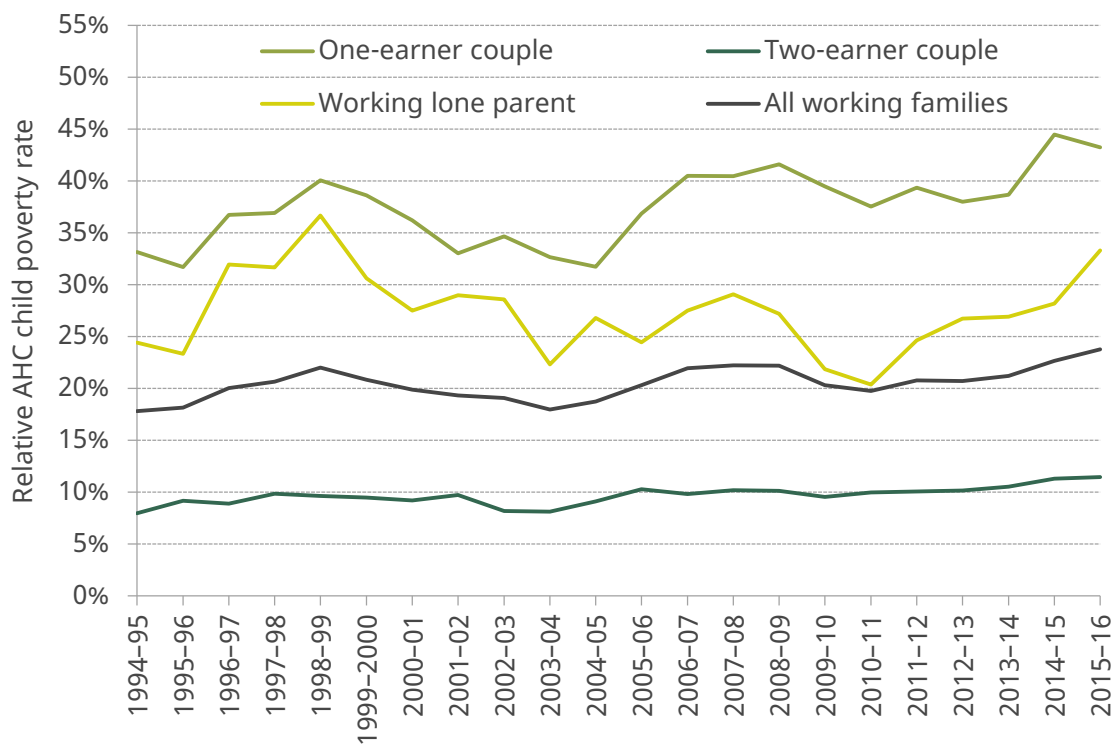
**Figure 5.4. Median net household income (per week) of children living in a working family, by family type**



Note: Great Britain only.

Source: Authors' calculations using the Family Resources Survey, various years.

**Figure 5.5. Poverty rate (relative, AHC) for children living in working families**



Source: Authors' calculations using the Family Resources Survey, various years.

**Figure 5.6. Percentage of children classified as materially deprived, 2013–14 to 2015–16**



Source: Authors' calculations using the Family Resources Survey, various years.

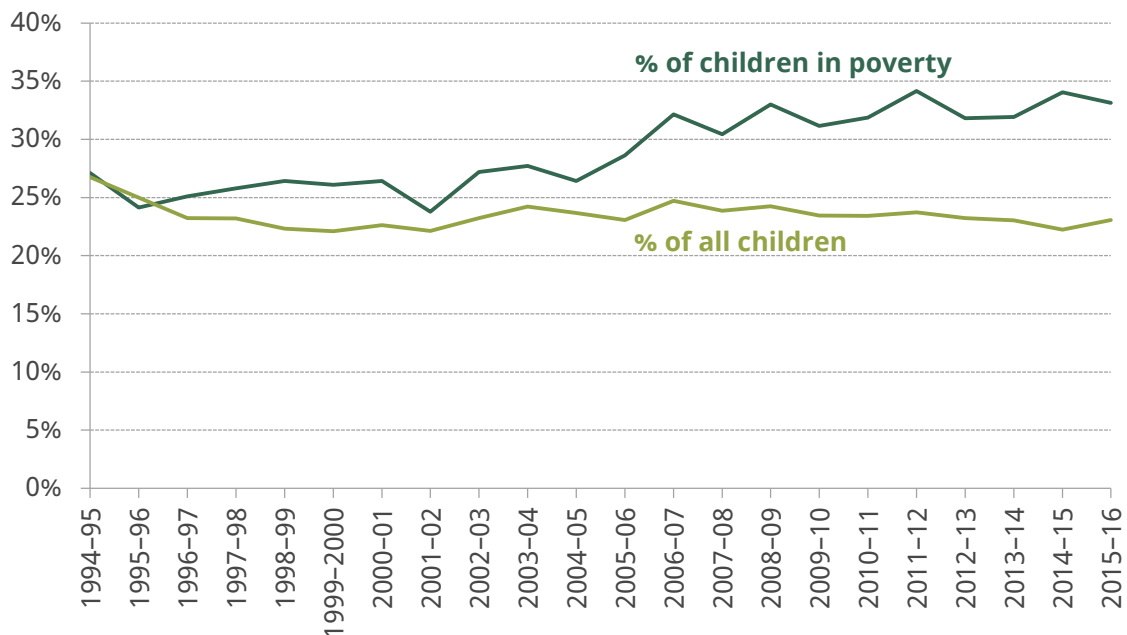
03. In comparison, for two-earner couples with children, median income is 10% higher than it was in 2002–03.

Figure 5.5 splits children into the same groups as Figure 5.4, but shows the percentage of children living in relative AHC income poverty. As well as having the lowest average incomes, children of one-earner couples face the highest income poverty rates – 43% in 2015–16 compared with 33% for children of working lone parents and 11% for children of two-earner couples. In addition, the gap has widened over the last 20 years, particularly since 2004 (though there has been a particularly large increase in the relative poverty rate of working lone parents since 2010).

Although they have higher income poverty rates, one-earner couples may benefit from the fact that they have one non-working adult who can undertake childcare, whereas families with two working parents (or where the lone parent is working) must often purchase it. Given this (and potentially other costs such as commuting costs), simply looking at income poverty rates may not be the best way to measure low living standards. As a complement, we therefore also look at material deprivation rates (as discussed in Chapter 4) in Figure 5.6, which compares these rates across children in working families and also presents deprivation rates specifically for those in income poverty.

The figure shows that children of working lone parents look worse off than children of one-earner couples when we look at material deprivation rather than low income, with material deprivation rates of 29% and 20% respectively. However, it is still the case that children living in one-earner-couple families have higher rates of material deprivation than children living in two-earner-couple families, where only 6% of children are categorised as materially deprived. When looking only at those who are in income poverty, children of one-earner couples also have higher rates of material deprivation than children of two-earner couples, but lower rates than those with a working lone parent.

**Figure 5.7. Number of children whose parents are a one-earner couple, as a percentage of all children and as a percentage of children in poverty**



Note: Child poverty measured as relative AHC poverty.

Source: Authors' calculations using the Family Resources Survey, various years.

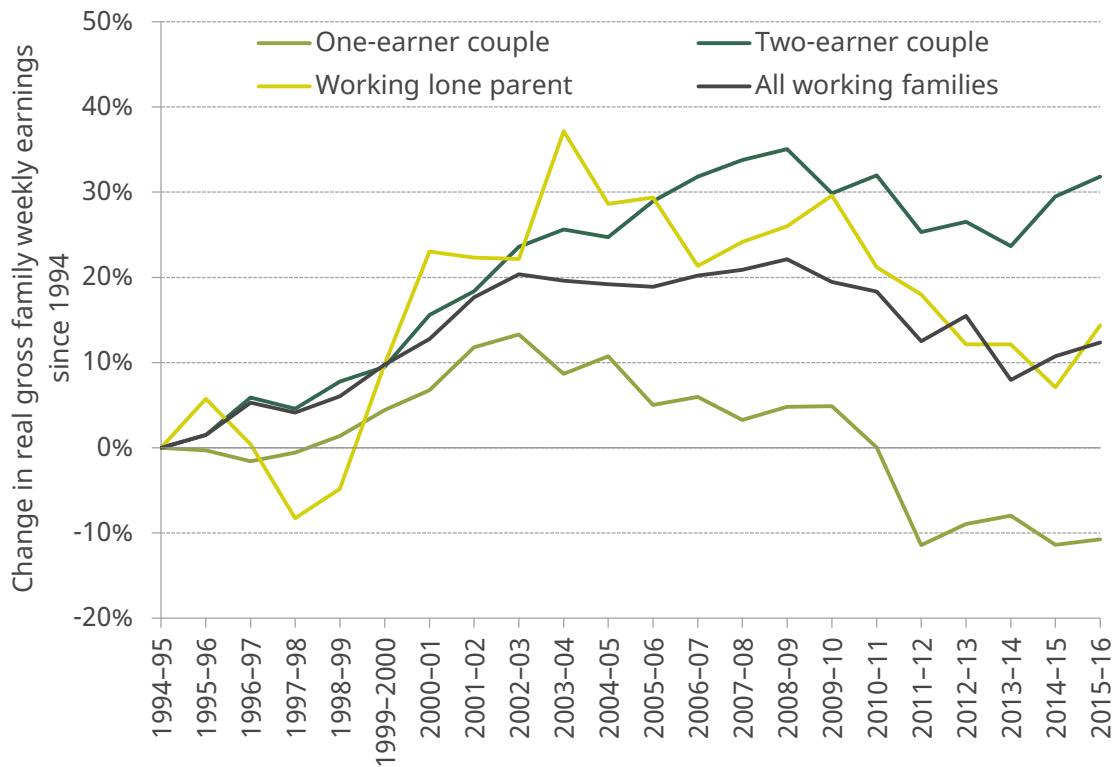
The relatively high, and rising, poverty rate for children of one-earner couples is particularly significant for child poverty because a large fraction of children – around a quarter, as shown in Figure 5.1 – are in this group. As a consequence, a third of children in relative income poverty (measured AHC) are now in a one-earner-couple family, up from around a quarter in the mid 1990s. This is shown in Figure 5.7 and means that children of one-earner couples now make up roughly as big a share of children in income poverty as children in workless families do.

These trends invite the question of why one-earner couples with children have seen such poor income growth over the last 20 years, with the result that nearly half of children in such families are in income poverty and that they account for one-third of all child poverty. In order to investigate this, Section 5.3 looks at the trends in earnings for different types of working families.

### 5.3 Explaining the stagnation in incomes among one-earner couples with children

Earnings from employment are the most important source of income for working families with children, and are an important explanation for why the living standards of one-earner couples with children have performed so poorly in recent decades. Figure 5.8 plots the median gross (pre-tax) family earnings from employment for children living in different types of working families. After adjusting for inflation, the median pre-tax earnings of one-earner couples with children was 11% lower in 2015 than it was in 1994, compared with those of working lone parents being 14% higher and of two-earner couples with children being 32% higher. The weak performance of earnings for this group is not just a very

**Figure 5.8. Change since 1994 in median gross family earnings (per week) for children living in a working family, by family type**



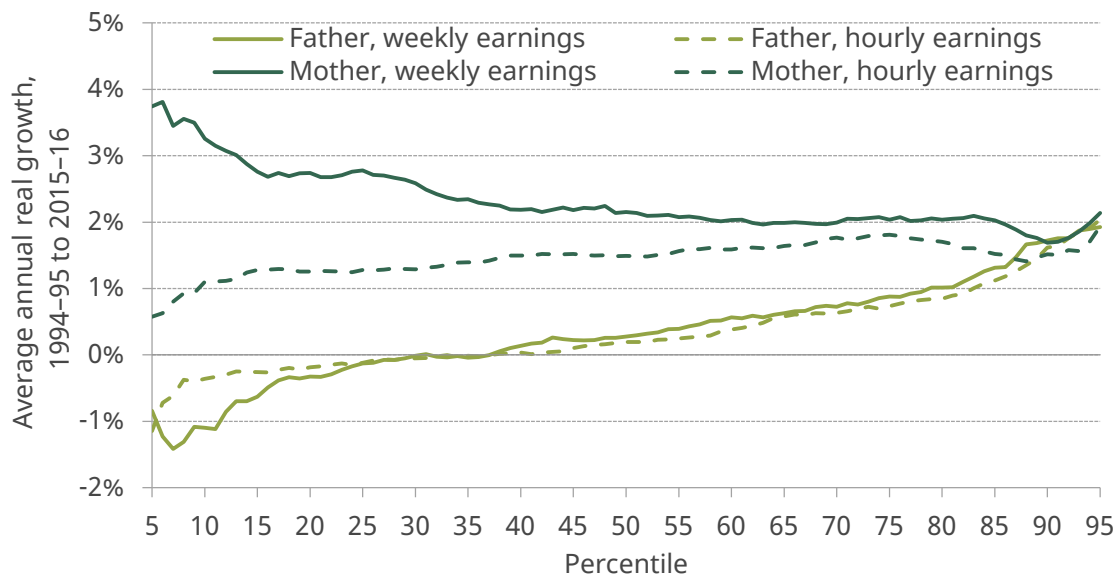
Note: Includes employee earnings and self-employment income.

Source: Authors' calculations using the Family Resources Survey, various years.

recent phenomenon. Even when real earnings were growing during the late 1990s and early 2000s, they rose less quickly for one-earner couples. However, since 2002, earnings for this group have been on a steady downward trend, whereas significant declines in earnings for working lone parents and two-earner couples have only occurred since the Great Recession.

It is worth recalling here that the proportion of children who live with one-earner couples rather than two-earner couples has been fairly stable over this period. These huge differences in earnings trends are highly unlikely to be driven simply by 'compositional changes' within the groups that prevent us from really comparing like-with-like over time. As we now explain, much of the differential can be explained far more simply than that.

To understand the trends in Figure 5.8, we examine how the earnings of working mothers and fathers have changed in the last 20 years. Figure 5.9 shows the average annual growth at each percentile point of the distribution of the hourly and weekly earnings of working fathers and working mothers since 1994–95. Across nearly the whole distribution, the hourly earnings of working mothers have increased more than those of fathers. The difference in weekly earnings growth between men and women is even larger than that for hourly pay growth, particularly towards the bottom of the distribution (which is most relevant for poverty). This is because of big increases in average hours of work for working mothers (in part driven by big increases in their likelihood of undertaking full-time paid work).

**Figure 5.9. Average real growth in the earnings of working mothers and fathers, 1994-95 to 2015-16**

Note: Includes employee earnings and self-employment income in all measures of earnings. Growth at percentiles 1-4 and 96-99 are not reported.

Source: Authors' calculations using the Family Resources Survey, various years.

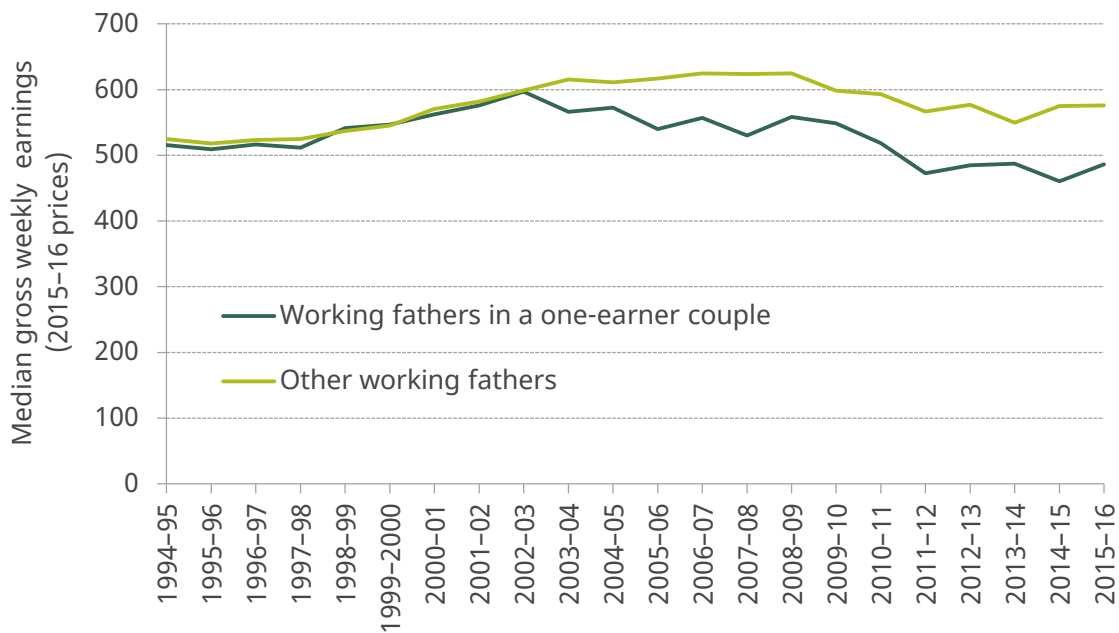
At the median, working mothers' weekly earnings have risen by an average of 2.2% per year (after adjusting for inflation) since 1994, compared with a mere 0.3% per year for working fathers. There is little difference between the growth in hourly and weekly pay for fathers, with the exception of the very bottom of the earnings distribution, where lower hours have caused weekly pay to fall more than hourly pay.<sup>43</sup> A related fact is that, as in the mid 1990s, most fathers in work are full-time employees (80%), with 15% self-employed and only 5% part-time employees; hence there is limited scope for an increase in hours worked that would boost fathers' weekly earnings.

Growth in fathers' earnings has been especially weak towards the bottom of the distribution. In fact, the lowest third of fathers' earnings are no higher (or in fact lower) than they were two decades ago. Given that most one-earner couples with children are composed of a working father and a non-working mother (85%), the poor performance of fathers' earnings is the key explanation for the difference between this group and other working families. This is really part of a wider story of a remarkable lack of growth in male earnings in recent history (not just fathers' earnings), as is shown in Belfield et al. (2017). What this highlights is that this broad trend has had large impacts not just on rates of in-work poverty but on the types of family most at risk of it.

While fathers' weekly earnings have, on average, grown (albeit very slowly) since the mid 1990s, Figure 5.8 showed a decrease in average family earnings in one-earner couples. Figure 5.10 shows that one reason for this is that the earnings of fathers with a non-working spouse have done even worse over the last 20 years than the earnings of other working fathers. The figure shows there has been a divergence since 2002, with larger falls for working fathers with a non-working partner than for other working fathers.

<sup>43</sup> For more detail on this trend, see Belfield et al. (2017).



**Figure 5.10. Median gross earnings (per week) of working fathers**

Note: Includes employee earnings and self-employment income.

Source: Authors' calculations using the Family Resources Survey, various years.

Why have trends in the earnings of fathers who have a non-working spouse looked even worse than those for other fathers? Again, one might wonder about the role of compositional changes here: perhaps fathers with a non-working spouse now are simply different kinds of people from fathers with a non-working spouse 20 years ago. Immigration could be a reason for this possibility. Figure 5.11 examines the percentage of working fathers in a one-earner couple and of other working fathers who were born outside the UK (a proxy – though an imperfect one – for immigrants available in the Labour Force Survey).<sup>44</sup> The figure shows that since the mid 1990s, the proportion of working fathers in one-earner couples who were born outside the UK has risen very sharply, by 20 percentage points from 15% to 35%. The fraction rose particularly steeply after the accession of 10 new members to the European Union in 2004. The fraction of other working fathers who were born abroad also rose substantially (though from a lower level), from 7% to 16%, over the same period.

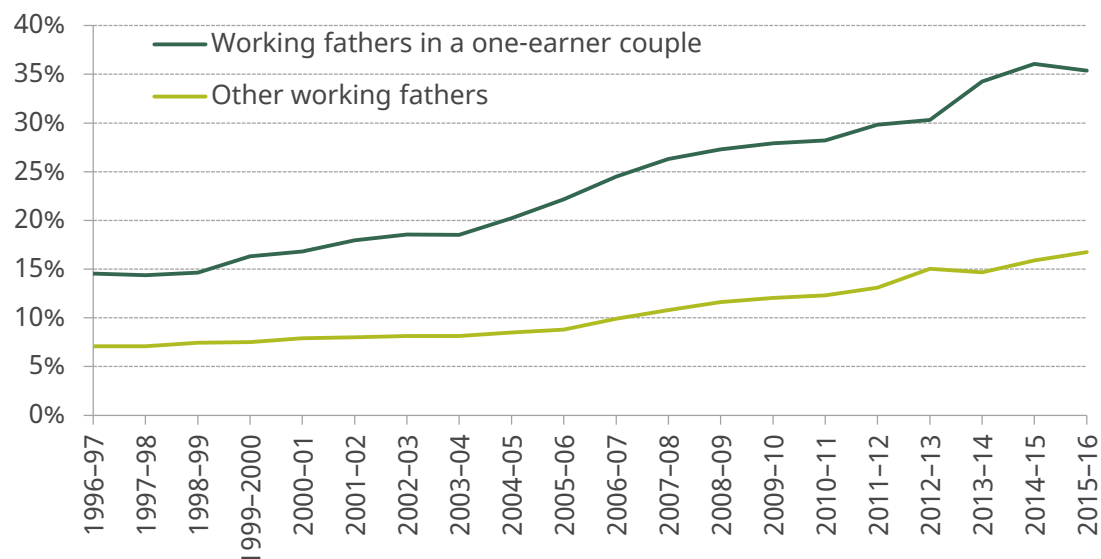
One possibility is that immigrants – who tend to earn less than similarly qualified people born in the UK<sup>45</sup> – have joined the group of one-earner couples with children, and made earnings trends among that group look worse than they have been for those born in the UK. Figure 5.12 uses the Labour Force Survey (LFS) to look at the earnings of working fathers in one-earner couples and of other working fathers (unlike Figure 5.10, though, it does not include self-employment income), examining whether the trends differ if we focus entirely on those who were born in the UK. Figure 5.12 shows that immigrants have had a direct impact on the figures: if you exclude those born abroad, the average earnings of fathers with a non-working spouse have not performed quite as badly over the last 20

<sup>44</sup> We use the Labour Force Survey as it has data since 1996–97 on whether individuals were born abroad. The Family Resources Survey only contains that measure since 2008–09.

<sup>45</sup> See Dustmann and Fabbri (2005) and Anderson (2015).

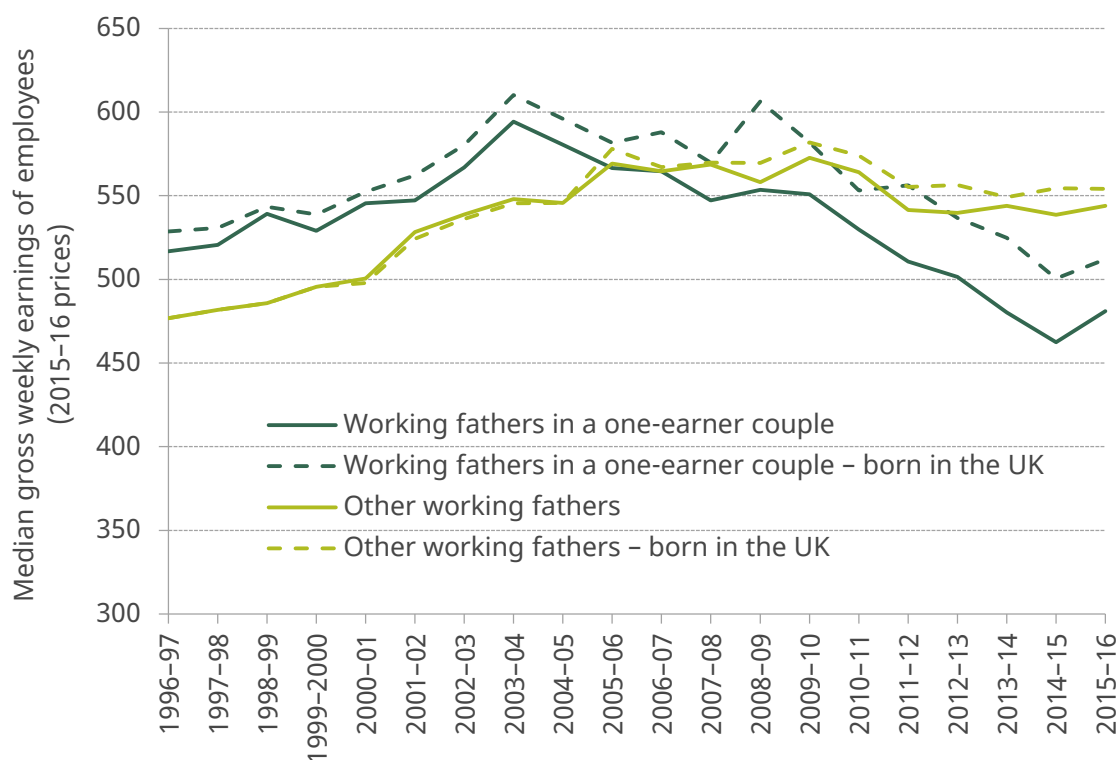
years as if you include those born abroad. However, it is not the main explanation: even looking only at fathers born in the UK, earnings levels for those in one-earner couples are lower than they were 20 years ago and have done worse than the earnings of other fathers.

**Figure 5.11. Percentage of working fathers who were born abroad**



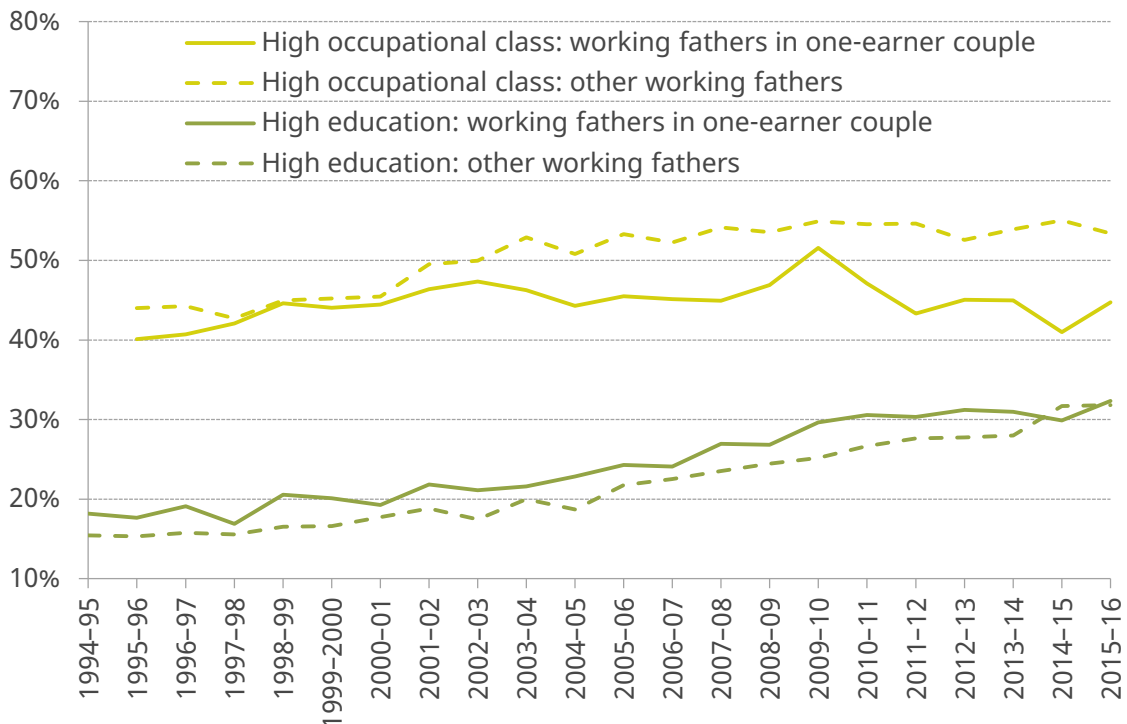
Source: Authors' calculations using the Labour Force Survey, various years.

**Figure 5.12. Median weekly gross earnings of fathers who are employees**



Note: Only includes employee earnings and therefore excludes self-employment income.

Source: Authors' calculations using the Labour Force Survey, various years.

**Figure 5.13. Characteristics of working fathers**

Note: High education is defined as leaving education at age 21 or over. High occupational class is defined as being a manager, professional or associate professional as classified by the Standard Occupational Classification.

Source: Authors' calculations using the Family Resources Survey, various years.

Figure 5.13 documents trends in two other characteristics of working fathers, split once more by whether or not they are in a one-earner couple. Trends in education levels have been very similar for the two groups, with steady increases in those with high education in both cases. However, there are some differences regarding the types of job that these fathers are undertaking. In the mid 1990s, fathers in a one-earner couple were only slightly less likely to work in a 'high occupational class' job than other working fathers.<sup>46</sup> By 2015, there was a bigger gap, with fathers in one-earner couples 9 percentage points less likely to be in such a job than other working fathers. Further analysis using the LFS shows that while immigration again explains a small part of this change, it is mostly due to changes in the occupational class of UK-born working fathers. These changes in occupational class, then, have played a role in explaining the different earnings trends between the two groups of working fathers in couples. The reasons for these differential trends in occupation, though, are not entirely clear and would be an interesting topic for future research.

To summarise, the main reason why the earnings of one-earner couples with children have performed so badly is that these families are typically reliant on male earnings, and male earnings growth has been extremely weak over the last 20 years. A secondary factor is that working fathers in these families have seen even weaker earnings growth than other working fathers since the early 2000s, alongside a relative deterioration in their

<sup>46</sup> These 'high occupational class' jobs include managerial and professional jobs (such as lawyers, teachers, nurses and scientists) and also 'associate professional' jobs (such as science/engineering/IT technicians, junior police officers and artistic occupations).

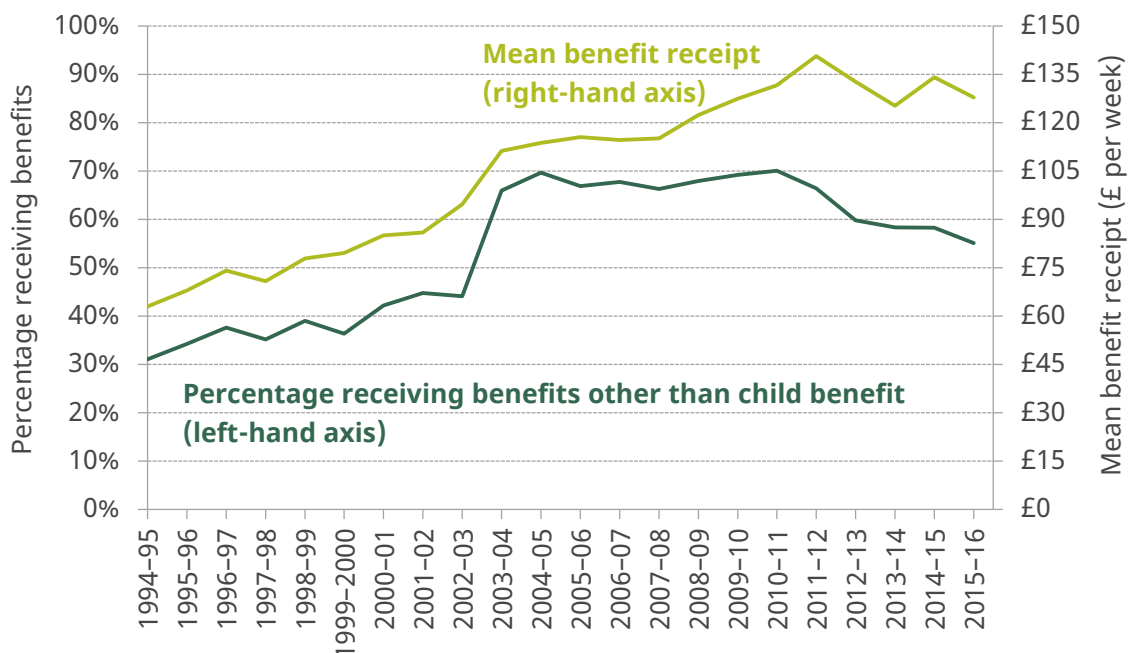
occupational class. Big increases in the proportion of working fathers in one-earner couples who were born abroad, who tend to earn less than similarly qualified workers born in the UK, have reinforced these patterns a little, but the basic stories apply even if looking purely at those born in the UK.

Despite family earnings from employment being lower, average net incomes for one-earner couples with children are 24% higher than they were 20 years ago (but to a lesser extent than for other working family types). The primary reason for this is large increases in the amounts of benefits and tax credits paid to low-income working families since the mid 1990s. Figure 5.14 shows the percentage of one-earner couples with children who receive benefits or tax credits (other than child benefit). Currently a little over half do. That figure has fallen from around 70% in 2010–11, as would be expected due to cuts in the generosity of tax credits for higher-income recipients, but remains significantly higher than in 1994–95, when only around 30% of one-earner couples with children received any benefits other than child benefit.

Figure 5.14 also shows that the average amount of income that one-earner couples receive from benefits and tax credits is far higher than it was 20 years ago. Mean weekly benefit and tax credit income (including child benefit) has doubled from just over £60 per week in 1994–95 to just under £130 per week today. This is an average across the whole group – including those who receive no benefits at all.

As ever, there are trade-offs with expansions of means-tested support. One consequence here is that with more one-earner families receiving significant amounts of means-tested benefits, there is a higher risk of weak financial incentives for the non-working parent to

**Figure 5.14. Benefit receipt among one-earner couples with children**



Note: Benefits include all benefits and tax credits received by the family. They are reported in 2015–16 prices and are not equivalised.

Source: Authors' calculations using the Family Resources Survey, various years.

move into work because there are more benefits to potentially lose by doing so. Adam and Browne (2010) have shown that tax and benefit changes between the late 1990s and 2010, including the introduction of the current tax credit system, substantially weakened financial work incentives faced by individuals with children and a working partner. These incentives are known to affect some people's choices about whether or not to work. Brewer et al. (2006) estimated that the introduction of working families' tax credit reduced the labour supply of mothers in couples by 0.6 percentage points. So more means-tested support has undoubtedly been an important factor in maintaining at least some income growth among one-earner couples with children over the past 20 years; but it is not costless, either fiscally or in terms of the incentives it creates.

## 5.4 Conclusion

The rise of in-work poverty has become increasingly prominent in commentary and policy debates, as pay levels have done so badly while employment levels have done so well. In this chapter, we have examined this basic story in more detail to shed more light on precisely how in-work poverty among families with children is changing. A key underlying trend that turns out to be very important in this context is the extremely slow growth in men's pay levels, not just since the recession but over the past two decades. The type of family most affected by this is one-earner couples with children (85% of whom are reliant on male earnings). A third of children in relative income poverty now live with one working and one non-working parent (as many as live in a workless family). Over two-fifths (43%) of children of one-earner couples live below the relative (AHC) poverty line. Average income for this type of family was no higher in 2015–16 than in 2002–03. On the other hand faster growth in female earnings, driven to a large degree by increases in rates of full-time paid work among women, have boosted the incomes of two-earner couples and working lone parents.

There are a number of angles that policymakers might consider in response to this. One answer is, of course, to focus on increasing the earnings of the (usually male) working parent. This looks like a big challenge. The scope for simply increasing the amount of paid work they do is limited. Very few of them (around 5%) are part-time employees, and it is not falls in hours worked that have led to weak growth in weekly earnings for most of these men. For the vast majority of these fathers, what is needed is higher hourly wages: the median hourly wage of working fathers has risen by only 0.3% a year over the last 20 years. In the long run, the key way to sustain higher hourly wages is higher productivity. This area is therefore just one more example of where solving the much wider challenge of the UK's productivity puzzle would help enormously.

Another way to boost the incomes of these families would be for the non-working partner to find paid work. Many mothers (and it is mainly mothers) choose to spend some years out of the labour force to care for children and will decide that, taking both financial and non-financial considerations into account, they are better off with one working and one non-working parent than with both parents in paid work. Radically changing this would be tough, especially given that many of the non-workers in those families do not look very close to the labour market: only 12% are actively seeking paid work, and a third have been out of paid work for at least five years. But governments might want to consider their role in addressing some of the constraints that affect the employment rates of this group, whether they are weak financial incentives (including the cost of childcare), cultural barriers to maternal employment, discrimination or other difficulties re-engaging in the

labour market after a break due to childbirth. One example could be using the extension of work-search requirements and support under universal credit to offer similar support (and, where deemed appropriate, exert similar pressure) to that currently offered to, for example, non-working lone parents.

Of course, a government concerned about the incomes of one-earner couples could choose to increase their incomes directly by increasing the generosity of means-tested benefits. That is in fact what has happened over the last 20 years: tax credits, received by more than half of one-earner couples with children, are one big reason why the net incomes of one-earner couples are slightly higher than they were 20 years ago, despite their pre-tax earnings being lower. But there are inescapable trade-offs there too, not just in terms of exchequer cost but in terms of incentives: targeting additional support specifically at one-earner couples would tend to mean making it more financially attractive to be a one-earner couple rather than a two-earner couple – and there is plenty of evidence that those incentives will affect some parents' decisions. This trade-off is in fact illustrated by the design of universal credit: it will increase the generosity of benefits for one-earner couples relative to other families, while weakening the financial work incentives of those with a working partner on average.<sup>47</sup>

In summary, one-earner couples with children may not conform to the stereotype of modern poverty, but they nonetheless represent a sizeable and growing proportion of poor families. As ever, there are unlikely to be very easy wins in terms of policy responses, but it is a challenge that any government wanting to improve the living standards of low-income children needs to consider.

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<sup>47</sup> See Browne, Hood and Joyce (2016).

# Appendix A. The Households Below Average Income (HBAI) methodology

## Income as a measure of living standards

Most people would consider that well-being consists of more than a simple measure of material circumstances. However, even if we wanted to, it would be extremely hard to define an objective index of well-being, let alone to measure it. The main approach to measuring living standards taken in the government's HBAI document (and in this report) is to focus solely on material circumstances and, for the most part, to use household income as a proxy for that.

For families with children and pensioners, 'material deprivation' indicators are also used, to complement the information on living standards provided by income. These indicators are based on questions that effectively ask people whether they can afford to do particular things, with the precise procedure differing between families with children and pensioners. Chapter 4 provides analysis of changes in material deprivation according to these indicators.

Even as a measure of material living standards, the HBAI income measure has some important limitations. There is some evidence of under-reporting of income in the HBAI data, particularly among those households with extremely low reported incomes.<sup>48</sup> Even for those households whose income is measured correctly, HBAI provides a 'snapshot' measure – reflecting actual, or in some cases 'usual', income at around the time of the Family Resources Survey interview. Measuring income in this way means the HBAI income statistics capture both temporary and permanent variation in income between individuals, but the latter would generally be regarded as a better measure of their relative welfare. For example, having a temporarily low income is unlikely to have severe consequences for current material living standards if individuals are able to draw on previously accumulated wealth. Statistics based upon current incomes will attribute the same level of welfare to people with the same current income, regardless of how much savings or other assets they have, or how much they spend. Consumption would arguably make a better measure of material well-being, but reliable data can be harder and more expensive to collect. Using consumption as the measure of well-being can change our interpretation of who is 'poor' and how rates of poverty have changed over time.<sup>49</sup>

## The treatment of housing costs

The government's HBAI publication provides information on two measures of income. One measure captures income before housing costs are deducted (BHC) and the other is a measure after housing costs have been deducted (AHC). The key housing costs captured in the HBAI data are rent payments and mortgage interest payments, but they also include water rates, community water charges, council water charges, structural insurance

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<sup>48</sup> See Brewer, Etheridge and O'Dea (2017).

<sup>49</sup> See Brewer, Goodman and Leicester (2006), Brewer and O'Dea (2012) and Brewer, Etheridge and O'Dea (2017).

premiums for owner-occupiers, and ground rents and service charges. Mortgage capital repayments are not included, on the basis that these represent the accumulation of an asset (they increase net housing wealth) and are therefore better thought of as a form of saving than as a cost of housing. Costs such as maintenance, repairs and contents insurance are also not included.

When looking at changes in average living standards across the population as a whole, there is usually a strong case for focusing on income measured BHC. This is because most individuals exercise a considerable degree of choice over housing cost and quality, at least in the medium and long term, and for those individuals housing should be treated as a consumption good like any other (i.e. the amount that households choose to spend on it should not be deducted from income). For instance, consider two households with the same BHC income, one of which decides to spend a larger fraction of that income on a larger house in a better neighbourhood, while the other has different preferences and chooses to spend the difference on other things. On an AHC basis, the former household would be considered poorer, but their living standards may be comparable.

There are, however, a number of reasons to focus on income measured AHC in certain circumstances.

First, income measured AHC may provide a better indicator of the living standards of those who do not face genuine choices over their housing, particularly if housing cost differentials do not accurately reflect differences in housing quality. This is likely to be the case for many in the social rented sector, where individuals tend to have little choice over their housing and where rents have often been set with little reference to housing quality or the prevailing market rents.

Second, the existence of housing benefit means that measuring income AHC has an advantage over BHC as a measure of living standards for housing benefit recipients. This is because housing benefit reimburses individuals specifically for their rent. Consider a household with no private income whose rent increases by £10 per week. This might trigger a £10 increase in housing benefit entitlement to cover the rent increase. Hence, AHC income would remain unchanged but BHC income would increase by £10 per week. Therefore, where rent changes do not reflect changes in housing quality – for example, when they simply reflect changes in the rules governing social rents – the subsequent changes in BHC (but not AHC) income can give a misleading impression of the change in living standards of households on housing benefit.

Third, measuring income AHC may be more appropriate than BHC when comparing households that own their home outright (and so pay no rent or mortgage interest costs) with those that do not. On a BHC basis, an individual who owns their house outright will be treated as being as well off as an otherwise-identical individual who is still paying off a mortgage; an AHC measure, though, would indicate that the former was better off.<sup>50</sup> This is particularly important when comparing incomes across age groups – pensioners are much more likely to own their homes outright than working-age adults.

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<sup>50</sup> A conceptually better solution to this problem would be to impute an income from owner-occupation and add this to BHC income. Unlike the AHC measure, this would also capture the benefits to individuals of living in better-quality housing. See Brewer and O'Dea (2012) for an example of such an imputation procedure.



Fourth, comparing changes in AHC incomes may provide better information about relative changes in living standards when some households have seen large changes in their housing costs that are unrelated to changes in housing quality. This is particularly relevant when looking at the period between 2007–08 and 2009–10, as rapid falls in mortgage interest rates reduced the housing costs of those with a mortgage significantly, while the housing costs of those who rent their homes (or own them outright) were not directly affected. When incomes are measured BHC, changes over time in the incomes of all households are adjusted for inflation using a price index that accounts only for *average* housing costs. This will understate the effect of falling housing costs on living standards for those with a mortgage and overstate it for those without a mortgage. Changes in income measured AHC do not suffer from this issue, since changes in housing costs are accounted for by subtracting each household's actual housing costs from its income. This difference is important to bear in mind when looking at changes in poverty and inequality. Those towards the bottom of the income distribution (around the poverty line), as well as the youngest and oldest adults, are less likely than average to have a mortgage.

## Income sharing

To the extent that income sharing takes place within households, the welfare of any one individual in a household will depend not only on their own income, but also on the incomes of other household members. By measuring income at the household level, the HBAI statistics implicitly assume that all individuals within the household are equally well off and therefore occupy the same position in the income distribution. For many households, this assumption provides a reasonable approximation – for example, many couples benefit roughly equally from income coming into the household, no matter who the income is paid to. For others, it is unlikely to be appropriate. Students sharing a house are one probable example. Perfect income sharing is by no means the only 'reasonable' assumption that one could make: for example, one could effectively assume that there is complete income sharing *within* the different benefit units<sup>51</sup> of a household but not *between* them, by measuring incomes at the benefit unit level rather than at the household level (and making an assumption about how housing costs are split across benefit units). However, given the data available, perfect income sharing is one of the least arbitrary and most transparent assumptions that could be made.

## Comparing incomes across households

Controlling for household size and structure is important when comparing living standards across households. If two households, one composed of a single adult and the other composed of a couple with two children, both have the same total income, the living standard of the couple with children will usually be significantly lower than that of the single adult, as the larger household normally has a greater need for material resources. Therefore, if household income is to reflect the standard of living that household members experience, and if we are to compare these incomes across different household

<sup>51</sup> Benefit units are the level at which benefits are paid to people. A benefit unit can be either a single person or a couple, plus any dependent children of that single person or couple. For this reason, a benefit unit is frequently described as a 'family'. However, people living together who are related can be in two separate benefit units. For example, a household composed of a couple living with one of their parents would be two separate benefit units, as would a household composed of two adult siblings living together.

**Table A.1. Modified OECD equivalence scales**

	<b>BHC equivalence scale</b>	<b>AHC equivalence scale</b>
First adult	0.67	0.58
Spouse	0.33	0.42
Other second adult	0.33	0.42
Third and subsequent adults	0.33	0.42
Child aged under 14	0.20	0.20
Child aged 14 and over	0.33	0.42

types, then some method is required to adjust incomes for the different needs that different households face.

The official HBAI income statistics currently use the modified OECD equivalence scale for BHC incomes, and an AHC variant from the Department for Work and Pensions (DWP), shown in Table A.1. These equivalence scales are used to adjust incomes on the basis of household size and composition. For example, when income is measured before housing costs, the OECD scale implies that a single person would require 67% of the income that a childless couple would require to attain the same standard of living. So, to get the equivalent income of that single person, we divide their actual income by 0.67. This process is referred to as 'income equivalisation'. Having equivalised household incomes, cash income figures are expressed as the equivalents for a childless couple, i.e. a household's income is expressed as the amount that a childless couple would require to enjoy the same standard of living as that household.

The modified OECD scale only takes into account the ages and number of individuals in the household, but there may be other characteristics affecting a household's needs. An important example of these would be the disability or health status of household members. The conventional methodology in HBAI would place a household receiving disability benefits higher up the income distribution than an otherwise-equivalent household without such benefits. But if this higher level of income only compensates the household for the greater needs it has or the extra costs it faces, then the standard of living of this household may be no higher.<sup>52</sup>

### Sample weighting, and adjusting the incomes of the 'very rich'

The incomes analysed in this report are derived from the Family Resources Survey (FRS) and, prior to 1994–95, the Family Expenditure Survey (FES). These surveys are designed to provide a broadly representative sample of households in Great Britain until 2001–02, and in the whole United Kingdom from 2002–03 onwards. However, because they are voluntary surveys, there is inevitably a problem of non-response, which may differ according to family type and according to income. Such non-response bias is dealt with in two ways. First, weights are applied to the data to ensure that the composition of the sample (in terms of age, sex, partnership status, region and a number of other variables)

<sup>52</sup> See also section 5.3 of Brewer et al. (2008).

reflects the true UK population.<sup>53</sup> For example, if there are proportionately fewer lone parents in the sample than there are in the population, then relatively more weight must be placed upon the data from those lone parents who actually do respond.

Second, a special adjustment is applied to correct for the particular problems in obtaining high response rates from individuals with very high incomes and the volatility in their reported incomes. This adjustment uses projected data from HMRC's Survey of Personal Incomes (SPI) – a more reliable source of data for the richest individuals based on income tax returns.<sup>54</sup> Individuals with an income above a very high threshold are assigned an income level derived from the SPI, which is an estimate of the average income for people above that threshold in the population (the threshold and replacement income value are set separately for pensioners and non-pensioners). Note that this procedure will therefore not capture the *inequality* within the very richest section of the population. The weights are also adjusted to ensure that the number of households containing very high-income individuals in the weighted data is correct. There is no corresponding correction for non-response, or for misreporting of incomes, at the lower end of the income distribution, meaning caution should be used when considering those with the very lowest incomes.

## Adjusting for inflation

All of the description of the HBAI methodology so far sets out how we, following the government's HBAI methodology, measure living standards in any one year. However, because of inflation, the same cash incomes do not bring the same purchasing power over time. It is therefore necessary to adjust for inflation and express all figures in real terms, which we do in the prices of the latest year of data (2015–16 in this report).

We account for inflation using variants of the Consumer Prices Index (CPI). For comparing BHC measures of income over time, we use a variant of the standard CPI that includes owner-occupiers' housing costs (mortgage interest payments, and insurance and ground rent for owner-occupiers); for AHC measures, we use a variant of the CPI that excludes all housing costs (including rent and water costs, which are part of the standard CPI). These variants are available from the Office for National Statistics back to 1996 and 2000 respectively.<sup>55</sup> Before that, we use an approximation to those indices generated by combining RPI-based indices that are available back to 1961 with an estimate of the historic 'formula effect' (the amount by which the Retail Prices Index overstates inflation).<sup>56</sup>

## The income measure summarised

In the analysis in this report, our main measure of living standards is *household equivalised income after deducting taxes and adding benefits and tax credits*, expressed as the equivalent

<sup>53</sup> See Department for Work and Pensions (2017a).

<sup>54</sup> See Burkhauser et al. (2016) for an analysis of the limitations of this adjustment and a discussion of alternatives.

<sup>55</sup> See <https://www.ons.gov.uk/economy/inflationandpriceindices/adhocs/005567dwpdeflatorsrequest>.

<sup>56</sup> For more details on the construction of this series, see Department for Work and Pensions (2016). The resulting 'deflators' are available online at [http://www.ifs.org.uk/uploads/HBAI\\_inflation.xlsx](http://www.ifs.org.uk/uploads/HBAI_inflation.xlsx).

income for a couple with no dependent children and in average 2015–16 prices. For brevity, we often use this term interchangeably with ‘income’.

## Measuring household income in Understanding Society

In Chapters 2 and 4 of this report, we also use data on household income from Understanding Society (USoc), a longitudinal household survey. We use a measure of net household income in USoc that is broadly similar to the HBAI methodology outlined above. Here we briefly summarise the measure of income in USoc, noting where it differs slightly with the HBAI methodology.

Consistent with the HBAI methodology, income is measured at the household level. We equivalise household income using the modified OECD equivalence scale and deflate income based on the month and year of the household interview (using the same before-housing-costs variant of the CPI described above). However, the measure of housing costs available in USoc is not comparable to the measure of housing costs in the HBAI data owing to differences in the way mortgage repayments are calculated. Because of this, we only use the USoc data to analyse BHC incomes. Unlike the SPI adjustment in the HBAI data, there is no adjustment made to incomes in USoc to account for under-coverage of very high-income individuals. This is not a significant concern as we do not use USoc to examine trends in mean income, summary measures of inequality or high-income individuals (all of which require accurate information on the top of the income distribution).

When measuring income poverty in USoc, we define the absolute poverty line as 60% of median income in USoc wave 2 (which covers the years 2010–2011). Income is measured before housing costs are deducted. The sample used to calculate median income in this case consists of all households in wave 2 for whom net income, household composition and interview date are all observed. Median income is then calculated using the cross-sectional survey weight to account for differences in sampling probability.

For all other analysis of the USoc data, we restrict our sample to households for whom we observe income, household composition and interview date in all of waves 2–6. We weight this sample using the wave 6 longitudinal weight, which accounts for differences in sampling probability and for attrition that occur across the waves. The sample restrictions and the use of weights we use are consistent with the methods underlying DWP’s official Income Dynamics statistics.<sup>57</sup>

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<sup>57</sup> For more information on the Income Dynamics methodology, see Department for Work and Pensions (2017b).

## Appendix B. Additional figure for Chapter 3

**Figure B.1. Percentage difference between median income in each region and nation of Great Britain and overall median income, 1972 to 1976 and 2013–14 to 2015–16 (AHC)**



Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted.

Source: Authors' calculations using the Family Expenditure Survey and Family Resources Survey, various years.

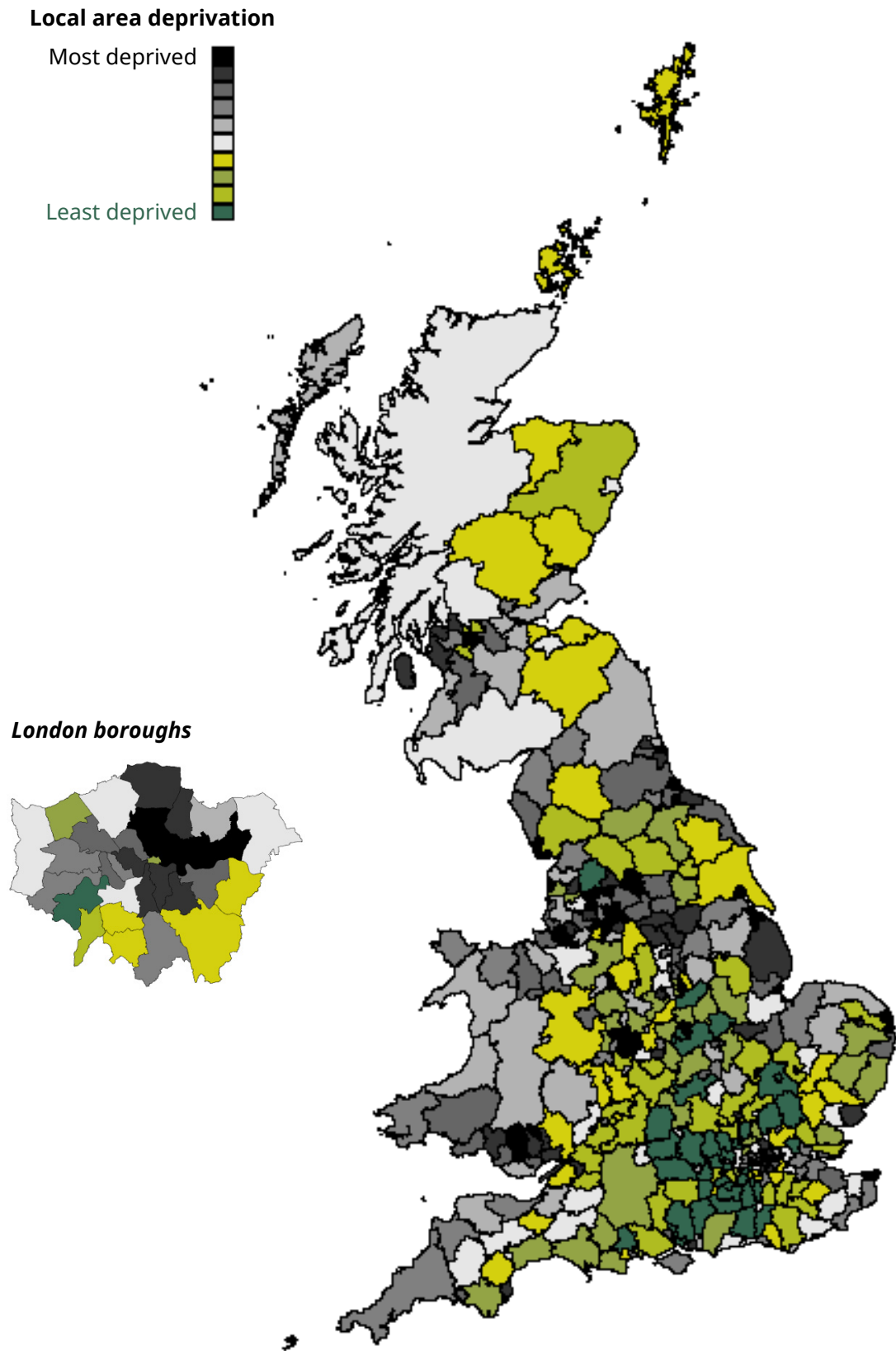
## Appendix C. Additional table and figure for Chapter 4

**Table C.1. Cash values of poverty lines for example families in 2015–16 (£ per week)**

	Childless couple	Single adult	Lone parent, one child	Couple, one child	Couple, two children
<b>AHC</b>					
Absolute poverty line	237	138	185	285	332
Relative poverty line	248	144	193	297	347
<b>BHC</b>					
Absolute poverty line	278	186	242	333	389
Relative poverty line	288	193	251	346	404

Note: The children in these example families are assumed to be aged 13 or younger. For families with older children, the poverty lines are slightly higher. The absolute poverty line is defined as 60% of median income in 2010–11 and the relative poverty line as 60% of median income in 2015–16.

Source: Authors' calculations using the Family Resources Survey, various years.

**Figure C.1. Local council areas of Great Britain, by deprivation index decile**

Source: Authors' calculations using UK deprivation indices from Abel, Barclay and Payne (2016).

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