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**Research Report**

## Living standards, poverty and inequality in the UK: 2016

IFS Report, No. R117

**Provided in Cooperation with:**

The Institute for Fiscal Studies (IFS), London

*Suggested Citation:* Belfield, Chris; Cribb, Jonathan; Hood, Andrew; Joyce, Robert (2016) : Living standards, poverty and inequality in the UK: 2016, IFS Report, No. R117, ISBN 978-1-911102-17-5, Institute for Fiscal Studies (IFS), London, <https://doi.org/10.1920/re.ifs.2016.0117>

This Version is available at:

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# Living Standards, Poverty and Inequality in the UK: 2016

Chris Belfield  
Jonathan Cribb  
Andrew Hood  
Robert Joyce

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**The Institute for Fiscal Studies**

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*Published by*

**The Institute for Fiscal Studies**

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London WC1E 7AE

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Email: [mailbox@ifs.org.uk](mailto:mailbox@ifs.org.uk)  
Website: <http://www.ifs.org.uk>

*Printed by*

Pureprint Group, Uckfield

© The Institute for Fiscal Studies, July 2016

ISBN 978-1-911102-17-5

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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 Labour Force Survey (LFS) data were supplied through the UK Data Archive. The data are Crown Copyright and reproduced with the permission of the Controller of HMSO and Queen's Printer for Scotland. 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 Archive.

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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# 1. Introduction

The focus of this report is the distribution of household income in the UK. We assess the changes to average incomes, income inequality and poverty that occurred in the latest year of data (2014–15), and put these in historical context using comparable data spanning the last 50 years.

The analysis draws upon the data underlying the latest figures from the Department for Work and Pensions (DWP)'s Households Below Average Income (HBAI) series, published on 28 June 2016. The HBAI series is derived from the Family Resources Survey (FRS), a survey of more than 20,000 households in the UK that asks detailed questions about income from a range of sources.<sup>1</sup> Further details regarding the methodology of HBAI can be found in Appendix A, but a few key points are worth summarising here:

- It uses a household measure of income, i.e. 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 2014–15 prices and all income growth rates are given after accounting for inflation. We adjust for inflation using measures of inflation based on the Consumer Price Index, which are the same measures as are used by DWP in the government's official HBAI statistics.

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.

Our analysis of the latest HBAI data begins in Chapter 2 with a look at average living standards and how they have changed over time. Chapter 3 analyses how changes in

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<sup>1</sup> This is supplemented by data from the Family Expenditure Survey (FES) for the years up to and including 1993–94. Incomes are measured in a consistent way across the data sets.

incomes have differed across the income distribution, focusing in particular on the factors affecting inequality during the recent recovery in living standards. Chapter 4 examines in more detail how income inequality in childhood has changed over the last 20 years. Finally, Chapter 5 analyses changes in income poverty and in measures of deprivation that are not based on income. It also examines the role falling worklessness has played in reducing child poverty and discusses the relationship between incomes and measures of financial difficulties.

## 2. Living Standards

### Key findings

**Median net household income in the UK grew strongly in 2014–15, increasing by 3.4% after adjusting for inflation.**

This followed weak growth in 2012–13 and 2013–14. It leaves median income (statistically significantly) higher than its pre-recession (2007–08) level and just above its 2009–10 peak.

**Mean income growth in 2014–15 was 2.3%.**

This followed growth of 2.6% in 2013–14. Mean income is now estimated to be at around the same level as in 2008–09.

**Average income growth in 2014–15 was driven by a recovering labour market.**

According to the Labour Force Survey, the rate of employment growth was faster than in any year since 1988–89: the proportion of (working-age) people in work rose by more than 1 percentage point (ppt), driven in particular by the private sector. The earnings of those in work also grew in real terms as inflation was very low.

**Growth in income from employee earnings of 2.1% pushed up mean income in 2014–15.**

However, average gross employment income (across the whole population, including non-workers) was still lower than prior to the recession.

**The differences in trends in living standards since the recession between different age groups continue.**

Median income for those aged 60 and over is now 11% above its 2007–08 level, for 31- to 59-year-olds it has returned to its 2007–08 level, but for 22- 30-year-olds it is still 7% below (despite growing by 4.5% in the last two years as the labour market has recovered).

### Key findings continued

**In light of the vote for Brexit, prospects for living standards over the next few years have got worse but are very uncertain.**

Virtually all serious analysis suggests that the uncertainty over the UK's future relationship with the EU will lead to a smaller economy and hence lower living standards over the next few years than we would otherwise have had. But precisely how this will feed through into employment, earnings, and tax and benefit policy is impossible to predict with confidence.

In this chapter, we analyse recent changes in average household incomes in the UK - a common measure of households' living standards. We primarily use data from the official Households Below Average Income (HBAI) series, the latest version of which covers the financial year 2014–15. We set out trends in living standards and seek to explain them, in particular by analysing growth in the different sources of income, such as income from employment and state benefits and tax credits, and to assess how different these trends are for different types of families, such as pensioners and families with children.

It is worth setting out some key information about how the figures are calculated and presented. Household income can be measured either before or after housing costs have been deducted (abbreviated, respectively, as 'BHC' and 'AHC'). Unless stated otherwise, incomes in this chapter are measured on a BHC basis. All household incomes have been 'equivalised' to account for variation in household size and composition, and all cash amounts are expressed as the equivalent amount for a childless couple so that they can be used to compare living standards across families of different types. Unless stated otherwise, incomes are measured 'net' - that is, after income tax, National Insurance and council tax have been paid and after benefits and tax credits have been received. A longer explanation of the methodology underpinning the HBAI statistics can be found in Appendix A. Throughout this report, some statistics will be presented on a United Kingdom (UK) basis while some (mainly those looking at longer-term trends) will be presented on a Great Britain (GB) basis. This is because Northern Ireland is included in the HBAI data only from 2002–03.

When using income data to compare living standards over time, it is crucial to account for inflation - the same nominal income in two different years will not generally bring the same purchasing power, due to changing prices. All monetary values here are expressed in average 2014–15 prices. We account for inflation using measures of inflation based on the Consumer Prices Index (CPI). These measures are the same as those now used by the Department for Work and Pensions (DWP) in the publication of the official HBAI statistics (Department for Work and Pensions, 2016). Prior to this year, DWP's official statistics adjusted for inflation using the (now discredited) Retail Prices Index (RPI). Given that RPI

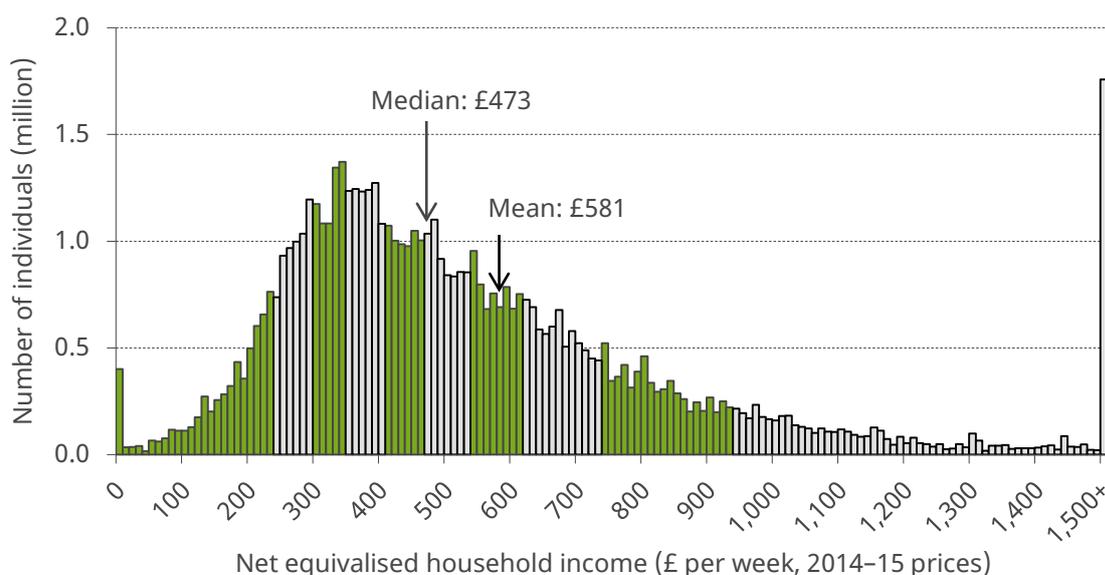
inflation is generally higher than CPI inflation, this means that trends in living standards now look more favourable than did previous versions of the government's statistics.<sup>2</sup>

Section 2.1 summarises average living standards in the UK and how they have evolved over time. Section 2.2 analyses the determinants of household incomes and what has driven changes in average incomes over recent years, while Section 2.3 discusses the prospects for living standards in the coming years. Section 2.4 concludes.

## 2.1 Average living standards in the UK

According to the HBAI data, median household income in the UK in 2014–15 was £473 per week and mean household income was £581.<sup>3</sup> As always, there is a wide distribution around these average figures. Figure 2.1 shows the UK income distribution in 2014–15. It shows the number of individuals living in households with different (equivalised) income levels, grouped into £10 weekly income bands, except we group the long tail of 1.8 million individuals in households with an income of over £1,500 per week into one band.<sup>4</sup> The alternate green and grey shading on the figure represents the 10 equally-sized income

**Figure 2.1. The UK income distribution in 2014–15**



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 2014–15.

<sup>2</sup> Last year's edition of this report (Belfield et al., 2015) adjusted for a measure of inflation very similar to that used by the DWP this year, based on the CPI.

<sup>3</sup> As described above, these are the equivalents for a childless couple. For a single person without children to be at the median (mean), they would require a weekly income of £317 (£389), while a couple with two children aged under 14 would require £663 (£813).

<sup>4</sup> The figure also shows that there are 400,000 people whose income is between £0 and £10 per week (in the HBAI data, the incomes of households with negative incomes – due, for example, to losses in self-employment income – are set to £0).

**Table 2.1. Average UK household income (measured BHC) since 2002–03**

	<i>£ per week in 2014–15 prices (equivalents for childless couple)</i>		<i>Growth since previous year</i>	
	<b>Median</b>	<b>Mean</b>	<b>Median</b>	<b>Mean</b>
2002–03	£436	£531	–	–
2003–04	£441	£535	1.2%	0.6%
2004–05	£448	£545	1.5%	2.0%
2005–06	£451	£553	0.8%	1.4%
2006–07	£459	£563	1.7%	1.9%
2007–08	£463	£575	0.9%	2.1%
2008–09	£467	£580	0.9%	0.9%
2009–10	£469	£588	0.4%	1.4%
2010–11	£462	£564	–1.5%	–4.2%
2011–12	£452	£558	–2.1%	–0.9%
2012–13	£454	£553	0.4%	–1.0%
2013–14	£458	£567	0.8%	2.6%
2014–15	£473	£581	3.4%	2.3%

Note: Incomes have been measured before housing costs have been deducted. HBAI data for the whole UK are only available from 2002–03 onwards; therefore growth in UK mean and median income is not available for 2002–03.

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

decile groups. This highlights the wide dispersion of incomes around the average: the deciles widen markedly towards the bottom, and particularly the top, of the distribution.

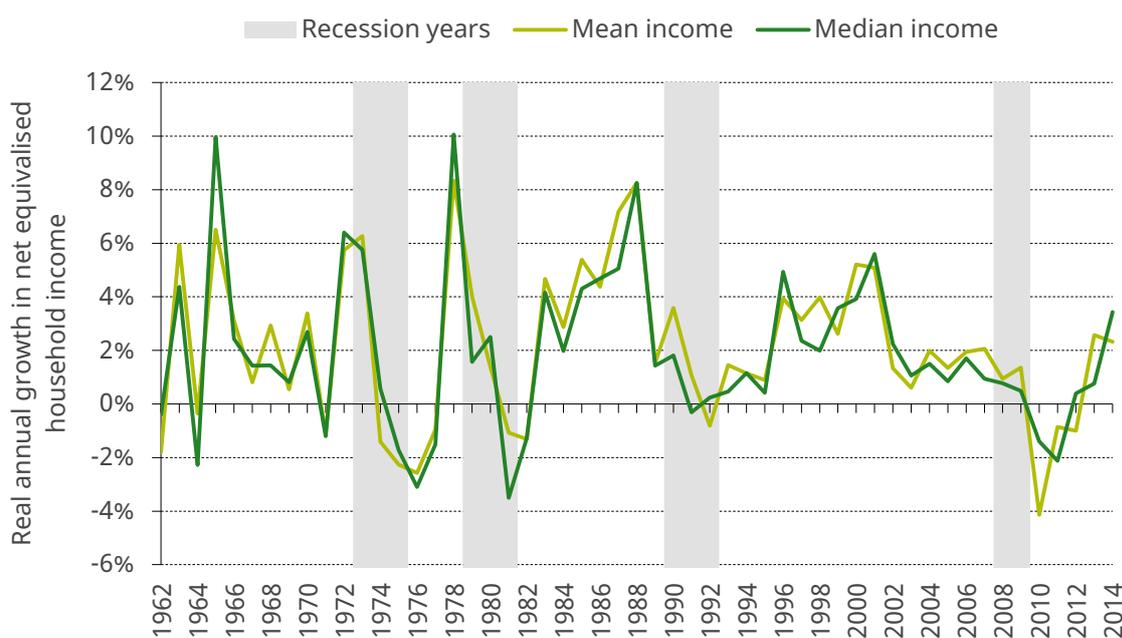
Table 2.1 shows trends in measures of average UK living standards over the last 13 years (since Northern Ireland was included in the data). Real median income grew by 3.4% in 2014–15 (a statistically significant change), while mean income grew by 2.3% (although this was not statistically significant). Since their post-recession troughs in 2011–12 and 2012–13 respectively, median income has grown by 4.6% and mean income by 5.0%. Both rises are statistically significant. This recovery means that median income is now 2.2% above its pre-recession (2007–08) level and at a similar level to its previous peak in 2009–10.

The level of mean income in HBAI is back to around its level in 2008–09. In reality, 2014–15 may be the first year since 2008–09 in which the level of mean income is not significantly distorted by 'income shifting' by very high-income individuals, in response to the introduction of, and changes to, the additional rate of income tax for individuals with incomes over £150,000 (in 2010–11 and 2013–14 respectively). In practice, we should still be cautious about inferring what has happened to incomes at the very top of the distribution, however (and therefore mean income). This is because the adjustment made to top incomes in the official HBAI data in 2014–15 is based on data from the 2012–13

Survey of Personal Incomes (a data set of individuals' tax records),<sup>5</sup> combined with a projection about how top incomes have changed since then. Hence it is driven by assumptions about what has happened to top incomes over the last two years (which is highly uncertain), rather than actual data on incomes in 2014–15 as for the rest of the income distribution.

Figure 2.2 places the recent changes in average household incomes in a historical context, showing mean and median income growth each year since comparable data began in 1961. Periods of recession are shaded in grey. The figure makes it clear that household incomes have grown at markedly different rates during different periods of recent British history. In particular, there were periods of strong income growth during the mid 1980s and (to a slightly lesser extent) the mid-to-late 1990s. These have been punctuated not just by recessions but also by a period of sluggish growth in the mid 2000s, before the Great Recession. Figure 2.3 presents the levels of mean and median income since the early 1960s. This shows that median income in Great Britain is 6% higher than it was 10 years ago in 2004–05 (£449 per week), 39% higher than it was 20 years ago (£342 p.w.) and 164% higher than it was 50 years ago (£180 p.w.).

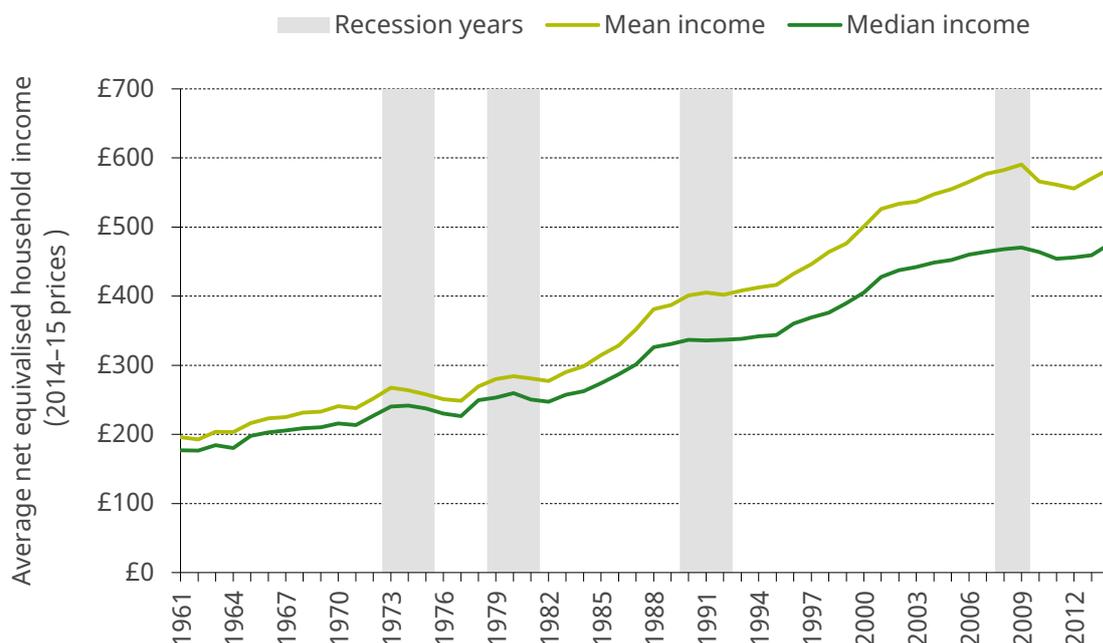
**Figure 2.2. Growth in mean and median household BHC income (GB)**



Note: Incomes have been measured before housing costs have been deducted and are expressed in 2014–15 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Resources Survey and Family Expenditure Survey, various years, and Muriel and Sibieta (2009).

<sup>5</sup> For details of this adjustment, see Appendix A.

**Figure 2.3. Mean and median household BHC income (GB)**

Note: Incomes have been measured before housing costs have been deducted and are expressed in 2014–15 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

Source: Authors' calculations using the Family Resources Survey and Family Expenditure Survey, various years, and Muriel and Sibieta (2009).

## 2.2 Determinants of average income growth in recent years

To better understand the changes in average living standards in recent years, Table 2.2 splits household income into its component sources and examines how these sources have changed and contributed to overall income growth in recent years. We analyse separately each component of gross (pre-tax) 'private' income (such as employee earnings or self-employment income), as well as state benefits received and the effect of direct taxes paid. As a result, the components of income *before* direct taxes sum to more than 100%. Gross employee earnings are easily the most important income source (84% of net income), although incomes from self-employment (12%), state benefits (19%), and savings, investments and private pensions (14%) are also significant, as are the deductions from income in the form of direct taxes (–32%). Note that these figures exclude households whose income components sum to a negative amount (due, for example, to self-employment losses). The incomes of these households are set to zero in the HBAI data, so they do not equal the sum of the components.

Table 2.2 presents the changes in income between various prior years and 2014–15. We consider the change in the latest year (since 2013–14), since median income reached its post-recession trough in 2011–12, since the previous peak in income in 2009–10 and since the year before the recession, 2007–08. Examining first the change in the most recent year, almost all (1.8 percentage points) of the 2.3% mean income growth can be explained

Table 2.2. Change 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 income	Mean HBAI income
Share of net income (2014–15)	84.4%	11.7%	8.8%	9.8%	14.4%	3.0%	-32.1%	100.0%	
<b>2013–14 to 2014–15</b>									
Growth of income source	2.1%	3.4%	0.4%	-2.7%	0.4%	15.4%	0.1%	2.4%	2.3%
Contribution to total income growth	1.8ppt	0.4ppt	0.0ppt	-0.3ppt	0.1ppt	0.4ppt	0.0ppt	2.4ppt	
<b>2011–12 to 2014–15</b>									
Growth of income source	1.0%	10.1%	2.1%	-7.5%	12.5%	20.8%	-1.2%	4.0%	3.9%
Contribution to total income growth	0.9ppt	1.1ppt	0.2ppt	-0.8ppt	1.7ppt	0.5ppt	0.4ppt	4.0ppt	
<b>2009–10 to 2014–15</b>									
Growth of income source	-3.5%	-5.1%	-2.5%	-10.3%	8.4%	7.2%	-6.2%	-1.6%	-1.3%
Contribution to total income growth	-3.0ppt	-0.6ppt	-0.2ppt	-1.1ppt	1.1ppt	0.2ppt	2.1ppt	-1.6ppt	
<b>2007–08 to 2014–15</b>									
Growth of income source	-3.5%	-2.1%	8.1%	1.2%	2.9%	16.8%	-6.9%	0.7%	1.0%
Contribution to total income growth	-3.1ppt	-0.3ppt	0.7ppt	0.1ppt	0.4ppt	0.4ppt	2.4ppt	0.7ppt	

Note: All columns except the last relate to a subsample of households in HBAI, which excludes those with negative incomes. All incomes have been equivalised and are measured at the household level and before housing costs have been deducted.

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

by rises in income from employees' gross earnings, which are partly due to a rising employment rate and partly due to growth in the real earnings of those in work. A rise in income from self-employment accounted for most of the rest of the growth in mean income.

The contributions of other income sources to mean income growth in 2014–15 were small, though real state benefit income paid to working-age families fell by 2.7% (depressing mean income by 0.3%). This is not surprising, given that the government uprated most working-age benefits by 1% in 2014–15 – slightly less than the rate of inflation – and that recovering private incomes generally reduce working-age benefit receipt because most working-age benefit spending is means-tested.

Table 2.2 also examines what has driven income growth since 2011–12 (when median income reached its trough). Although employee earnings are (by far) the largest source of household income on average, they contributed only 0.9 percentage points (ppt) to income growth.<sup>6</sup> A similar contribution came from increases in self-employment income (in part driven by growth in the number of self-employed people).<sup>7</sup> Growth in income from savings, investments and private pensions pushed mean income up by 1.7% over the three years, making a similar contribution to that of employment income, but this is a relatively volatile series so we caution against inferring too much from it about short-term trends.

Extending the analysis back further and examining changes since 2007–08, before the recession hit, we find that average income is now higher than back then despite income from employment still being lower (due to lower earned income among those in work, which more than offsets higher employment). This is principally because of falls in direct taxes and other deductions from income (the largest of which is council tax), which have boosted incomes by 2.4% since 2007–08. This is partly a mechanical effect: a significant portion of the lost employment income would have been taxed, so households' net incomes are reduced by less than their gross incomes. But policy changes, such as real reductions in council tax and large increases to the income tax personal allowance, will have contributed too. Increases in state benefits paid to pensioners have also pushed up average incomes somewhat over the same period.

Given the overall importance of income from employment in determining the path of average living standards, it is useful to corroborate the trends seen in the HBAI data with other sources of information on the UK labour market. In particular, it is instructive to compare the HBAI data with the Labour Force Survey (LFS), another large-scale household survey which is larger than the Family Resources Survey and focuses purely on the labour

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<sup>6</sup> This growth was smaller than the growth between 2013–14 and 2014–15 alone, due to a 2.6% fall in mean gross income from employee earnings in 2012–13, which was in part due to artificial shifting of income by high-income individuals out of 2012–13 in order to avoid paying the 50% additional rate of income tax, which was reduced to 45% in April 2013.

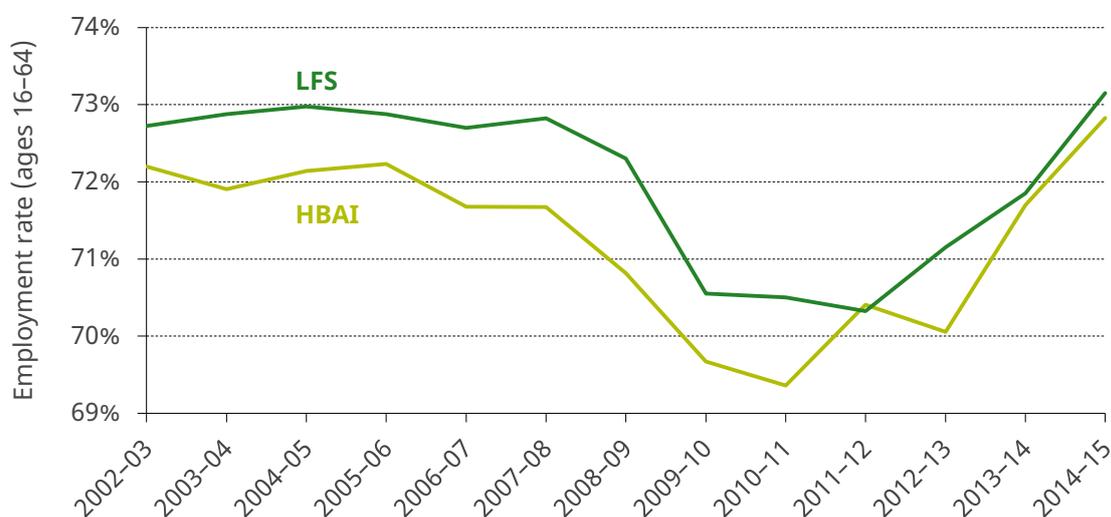
<sup>7</sup> One should be careful when interpreting this growth in self-employment income. This type of income fell very quickly in the aftermath of the recession and has now bounced back, but self-employment incomes are effectively measured with a lag (the survey asks people about profits in the last full accounting period).

market activities of UK households.<sup>8</sup> Figure 2.4 shows the employment rates of 16- to 64-year-olds in the LFS and HBAI data, and Figure 2.5 shows real median weekly earnings of employees. Comparing the employment rates in the LFS and HBAI series shows that, in the latest year, employment growth was very similar, at 1.3ppt and 1.1ppt respectively. The employment rate has grown more quickly in HBAI than in the LFS since 2010–11, however (though in part this seems to be a closing of the gap between the two data sources that was visible previously).

It is worth underlining quite how strong employment growth was in 2014–15. According to the LFS, the employment rate grew by 1.3ppt, which was the fastest annual growth in the employment rate recorded since 1987–88 and 1988–89 (when it grew by 1.5ppt and 2.0ppt respectively).<sup>9</sup> Growth in employment was also disproportionately due to growth in full-time work in 2014–15. According to our calculations using Office for National Statistics (ONS) figures, full-time work accounted for 73% of employment in 2013–14, but for 81% of the growth in employment over the subsequent year.

The growth in the employment rate was mainly driven by an increase in the number of employees in the private sector, and was similar for men and women (though over the past few years as a whole employment growth has been stronger for women). In general, the employment rates of older workers have been increasing particularly quickly in recent years, but in 2014–15 it was individuals aged 31–49 who saw particularly strong employment growth (rising by 1.2ppt in the LFS and 1.5ppt in the FRS).

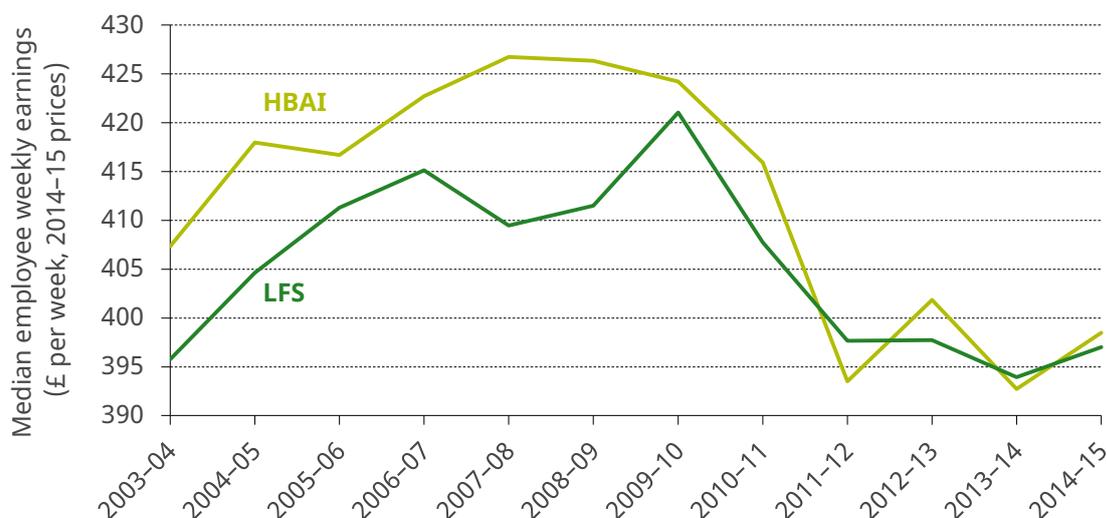
**Figure 2.4. Employment rate (ages 16–64) in HBAI and LFS (UK)**



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

<sup>8</sup> The LFS is the data source that records earnings in the most similar way to the FRS, though response rates to the earnings questions in the LFS can be low. It is also worth noting that the earnings trends in the LFS have sometimes differed from those in other data sources, such as the Annual Survey of Hours and Earnings and the Average Weekly Earnings series (see Cribb and Joyce (2015)).

<sup>9</sup> The growth in the employment rate was the second highest in the FRS since 2002–03 (when Northern Ireland was introduced into the survey). The only year it grew faster in the FRS was 2013–14, when the employment rate rose by 1.6ppt, compared with 1.1ppt in 2014–15.

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

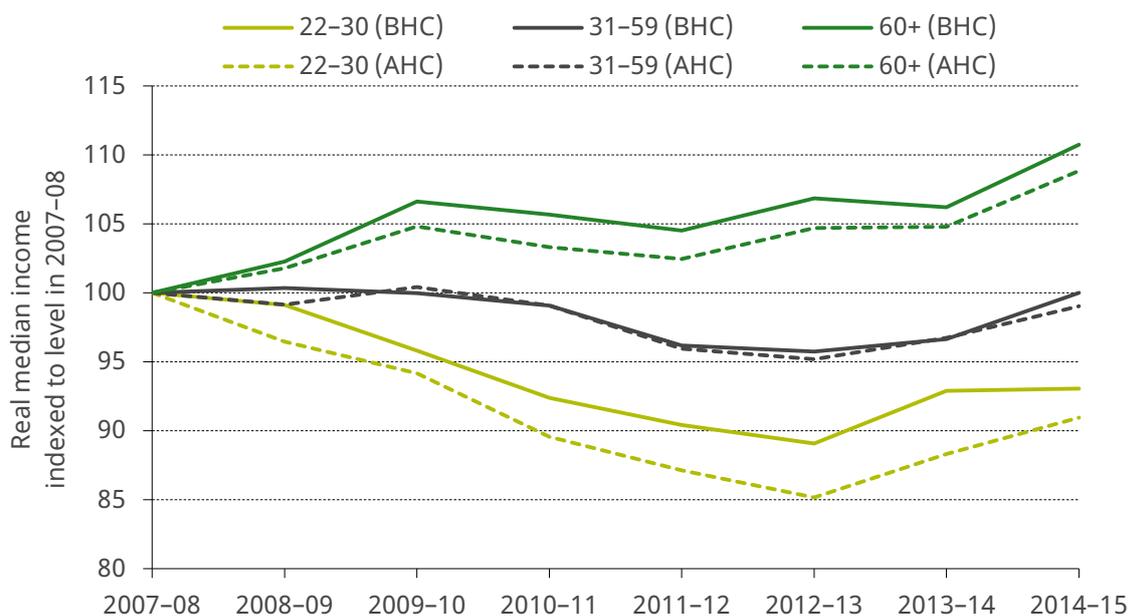
Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, various years.

Figure 2.5 shows that real median employee weekly earnings grew in both the LFS and HBAI data in 2014-15. More broadly, despite some year-to-year differences, the two measures have tracked each other closely in recent years: they show falls in real earnings of 5.7% and 6.1% respectively since 2009-10. (For longer-term comparisons, which are of less interest here, the relationship between the two data sets is slightly less tight.)

Of course, incomes can change very differently for different groups. In Chapter 3, we examine in detail how changes for richer and poorer households have affected income inequality. But here we look briefly at how incomes have changed for adults of different ages, which has been a key source of variation in fortunes of late. Figure 2.6 shows how different trends in income were for young adults (aged 22-30), 31- to 59-year-olds and those aged 60 and over, since before the recession hit. It indicates that, measured BHC, the median income of individuals aged 60+ is 11% higher than in 2007-08 (although over 6ppt of that growth occurred by 2009-10). The increase is driven by strong growth in pensioner benefits (Table 2.2 showed 8.1% growth since 2007-08), as well as by real growth in private pensions and increases in employment among older people.

For those aged 31-59, median BHC income is essentially now back to its pre-recession level, having grown by 4.4% between 2012-13 and 2014-15. The trends still look worst among the youngest adults. Despite something of a recovery in the last two years, median income for 22- to 30-year-olds is still 7% below its 2007-08 level, driven by much weaker labour market outcomes for younger people since the recession (see Cribb and Joyce (2015)). The trends in median AHC income are, overall, quite similar to those measured BHC.

Given the continued recovery in the labour market in 2014-15 and the fact that employment among young people tends to be particularly cyclical, it is perhaps surprising that median income for 22- to 30-year-olds did not rise faster during the year than the 0.2% observed in the HBAI data. This looks likely to reflect year-to-year sampling variation:

**Figure 2.6. Real median household income since 2007-08 (UK), by age group**

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

the employment rate of 22- to 30-year-olds rose by considerably less according to the FRS than according to the LFS, with the opposite having been true in 2013-14. The two-year change is probably a more reliable guide: between 2012-13 and 2014-15, median income for 22- to 30-year-olds rose by 4.5% (essentially the same as for 31- to 59-year-olds).

### 2.3 Prospects for living standards

The statistics on household incomes in HBAI are released with a lag of over a year, so we are currently only able to analyse changes in income up to the financial year 2014-15.

We can use other indicators of living standards, and information on the evolution of major income sources, to provide a rough indication of the likely path of living standards in 2015-16.

In 2015-16, real GDP grew by 2.2% (a little lower than the 2.8% growth in 2014-15),<sup>10</sup> and the employment rate of 16- to 64-year-olds increased by 0.7ppt to 73.9%.<sup>11</sup> The average earnings of employees continued to grow in real terms: nominal 'Average Weekly Earnings' grew by 2.4% in 2015-16 (compared with 1.6% in the previous year), while CPI inflation fell to only 0.1%, driven by falling fuel and food prices in particular. Higher incomes from the labour market (due to more people in work and/or those in work earning more) are crucial in boosting household incomes. In addition, low inflation acted to lessen the real reductions in the value of most working-age benefits and tax credits in

<sup>10</sup> Real GDP figures are from the UK Economics Accounts (ONS series YBEZ). Data downloaded 23 May 2016. ONS data for GDP can be subject to revision.

<sup>11</sup> The employment rate is the official measure for 16- to 64-year-olds based on the Labour Force Survey (ONS series LF24) comparing the average rates in 2014-15 and 2015-16.

2015–16, which the coalition government froze in nominal terms, while the basic state pension rose by 2.5% in nominal terms in 2015–16 (as determined by the ‘triple lock’ policy), which translated into a real increase of 2.4%.

Overall then, we would expect the 2015–16 data to show continued real income growth on average. Indeed, in March 2016, Browne and Hood (2016) used previously-available data on components of household incomes, plus Office for Budget Responsibility (OBR) forecasts from Autumn Statement 2015 and known policy changes, to project real median income growth of 3.3% in 2015–16. However, one cannot fully capture all changes that might affect the income distribution, so such projections should only be taken as tentative and are best used as a guide to the likely direction of travel – indeed, the same authors simulated lower median income growth in 2014–15 than the central estimates from the HBAI data now suggest.

Looking further ahead, the path for living standards is even more uncertain than usual in light of the recent referendum vote for the UK to leave the European Union. The outlook is almost certainly worse than it was when the OBR last produced macroeconomic forecasts, in March 2016, when it expected real average earnings growth of between 1% and 2% per year between now and 2020. Earnings are likely to grow less than that, and employment levels may also suffer. At the same time, we do not know what decisions will be taken on tax and benefit policy in light of the vote.

## 2.4 Conclusion

The newly-released HBAI data, which cover the 2014–15 financial year, show strong real income growth of 3.4% at the median and 2.3% at the mean. This follows two years (in 2012–13 and 2013–14) of relatively weak median income growth. It brings the estimate of median income to (only just) above the previous peak reached in 2009–10, and is 2.2% above the pre-recession level in 2007–08.

Increases in living standards in 2014–15 were driven by an improving labour market, due to increases both in the employment rate and in the earnings of those in work (these trends look similar to those found in the Labour Force Survey). Nevertheless, employment income is on average still lower than before the recession, driven by the lower earnings of those in work. Looking at the period since the recession as a whole, incomes are higher now than they were then due to a combination of lower average tax payments, higher (pensioner) benefits, and higher incomes from savings, investments and private pensions.

These differing trends in sources of income have led to different evolutions of living standards for groups of different ages. The incomes of those aged 60 and over have benefited from real increases in the value of their benefits and higher incomes from savings and private pensions, as well as increased employment rates among younger pensioners. In contrast, median income for younger adults (aged 22–30) has performed the worst of any age group, as these people have seen larger falls in labour market income. The patterns of income changes in the recession and recovery have also differed for richer and poorer households. These changes, and their impact on income inequality, are the subject of the following chapter.

### 3. Inequality

#### Key findings

##### **Income inequality in the UK changed little in 2014–15.**

Real incomes grew by 1.1% at the 10<sup>th</sup> percentile, 3.4% at the 50<sup>th</sup> percentile (median) and 2.9% at the 90<sup>th</sup> percentile. The differences between these numbers are not statistically significant.

##### **Inequality has been stable over the three years of recovery in household incomes since 2011–12.**

This is despite the fact that employment income (which is relatively important for higher-income households) has risen while working-age benefits (which are relatively important for lower-income households) have fallen.

##### **Falls in the number of households with no one in work have been one factor acting to keep inequality down during the recovery.**

The share of people living in a workless household (excluding pensioners) is now more than 1 percentage point (ppt) lower than before the recession; at this point after the 1980s and 1990s recessions, it was at least 4ppt higher than before those recessions.

##### **Changes in household earnings among households with someone in work have also acted to reduce income inequality during the recovery.**

The addition of more jobs in households where someone was already employed has mostly benefited lower-income households. And earnings growth has been stronger for lower-earning individuals, as the hours worked by those with low hourly wages have begun to bounce back after the recession. Between 2011–12 and 2014–15, real individual weekly earnings grew by 4.4% at the 10<sup>th</sup> percentile and 1.3% at the median, and fell by 1.2% at the 90<sup>th</sup> percentile.

##### **Household earnings growth is now less likely to increase inequality than in the past.**

This is because earnings are now a much bigger share of income for low-income households than they used to be. Net employment income made up 50% of net income for the poorest fifth of working-age households in 2014–15, up from 45% in 2011–12 and 32% in 1994–95.

### Key findings continued

#### Income inequality in 2014–15 remained lower than before the Great Recession.

The Gini coefficient was 0.34, compared with 0.36 in 2007–08. More than half of the fall in inequality among non-pensioners between 2007–08 and 2011–12 was explained by the catch-up of workless with working households, as benefit incomes rose (between 2007–08 and 2009–10) and real earnings fell sharply (between 2009–10 and 2011–12).

#### Overall income inequality is at a similar level to 1990.

This masks two offsetting trends: inequality has fallen slightly across most of the distribution, but the share of income going to the top 1% has continued to increase (at least until the Great Recession). The ratio between incomes at the 90<sup>th</sup> and 10<sup>th</sup> percentiles in Great Britain fell from 4.4 to 3.9 between 1990 and 2014–15, but the share of income going to the top 1% rose from 5.7% to 7.9%. Inequality throughout the distribution remains much higher than it was before the rapid rise during the 1980s.

#### Trends in inequality over the next few years now look impossible to predict.

The vote for Brexit is highly likely to have a significant negative impact on national income over the next few years. But the impact on inequality will depend on which households' earnings and employment are most affected and on the government's tax and benefit policy response.

In Chapter 2, we looked at trends in average living standards in the UK and detailed the contribution of changes in the labour market and other sources of income to those trends. However, this kind of analysis cannot capture the variation in living standards across UK households and how different kinds of households have fared over different periods. In this chapter, we provide an analysis of income inequality in the UK – both its current level and how and why inequality has changed over time.

Throughout our analysis, we use a relative notion of inequality: if all incomes changed by the same proportion, we would conclude that income inequality was unchanged. It is important to note that, on this notion of inequality, a larger *absolute* increase in the incomes of higher-income households need not increase inequality. For example, we show later in this chapter that the 90:10 ratio (the ratio of income at the 90<sup>th</sup> percentile of the income distribution to that at the 10<sup>th</sup> percentile) is around 4. This means that if incomes grew four times as much in *absolute* terms at the 90<sup>th</sup> percentile than at the 10<sup>th</sup> percentile, we would conclude that inequality (on this measure) was unchanged.

Even after settling on a relative notion of inequality, there are many different measures, each of which puts different weights on inequality between different parts of the distribution. For this reason, while we do use summary measures of inequality such as the Gini coefficient to track changes in inequality over the long run, we primarily focus on how incomes have changed in each part of the income distribution. This enables us to present as full a picture as possible of changes in inequality.

One important limitation of our analysis is that the Households Below Average Incomes (HBAI) data are not a source of robust, detailed information on the distribution of incomes among the very highest-income households.<sup>12</sup> For this reason, the focus of this chapter is on inequality within the bottom 99% of the UK household population, rather than the much-discussed top 1%. We do, however, document the stark difference in inequality trends within the vast majority of the population, and trends in inequality between the highest-income households and the rest.

This chapter proceeds as follows. In Section 3.1, we begin by documenting income inequality in the UK in the latest year of data (2014–15), and how the composition of income varies between low-income and high-income households. We then describe how inequality has changed over the period since the recession and over the last 50 years. In Section 3.2, we provide a detailed explanation of changes in inequality during the recent recovery in incomes (2011–12 to 2014–15), focusing on the role of changes in employment and earnings. Section 3.3 provides a brief overview of likely future trends in inequality, before Section 3.4 concludes.

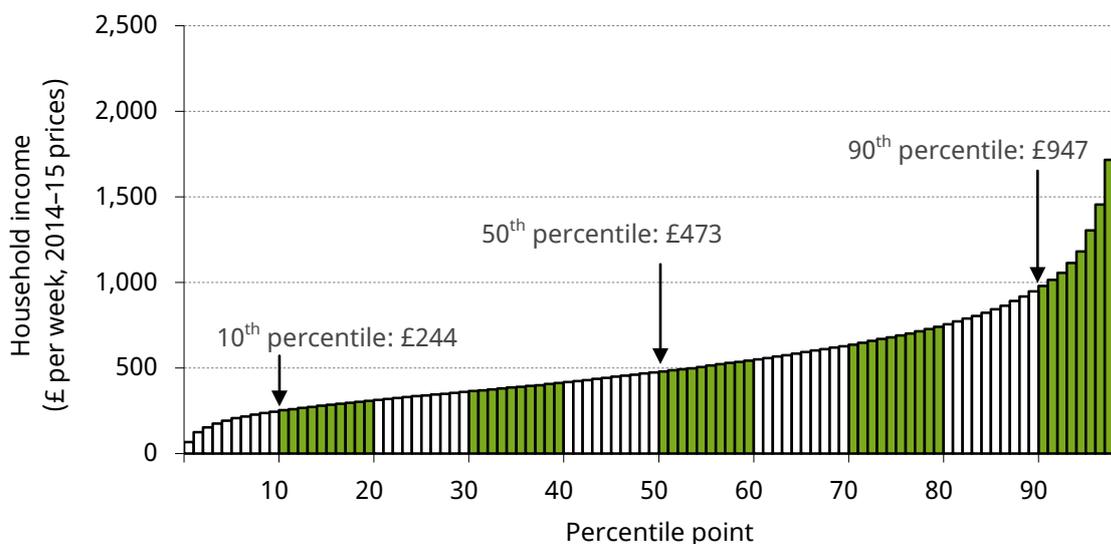
### 3.1 Income inequality across the whole population

Figure 3.1 shows net equivalised household income at each percentile point of the UK income distribution in 2014–15. This provides a comprehensive characterisation of the current level of income inequality. For example, the fact that income at the 10<sup>th</sup> percentile is around half of that at the median (50<sup>th</sup> percentile) means that 10% of the population have an income less than half of the median. Similarly, the fact that income at the 90<sup>th</sup> percentile is around double that at the median means that 10% of the population have an income more than twice that at the median.

Perhaps the most noticeable feature of Figure 3.1 is the sharp increase in inequality once one reaches the top 10% of the income distribution. 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. In addition, there is enormous inequality *within* the top 1% of the population which is not reflected by Figure 3.1 (or captured in the HBAI data). For example, in 2012–13, of the gross (pre-tax) income flowing to the top 1% of adults, over a third flowed to the top 0.1%.<sup>13</sup>

<sup>12</sup> The HBAI methodology does include 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).

<sup>13</sup> Source: <http://www.wid.world/#Database>, accessed 20 June 2016. Figures for more recent years were not available.

**Figure 3.1. Weekly net household income at each percentile point in 2014–15 (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, 2014–15.

To give a sense of the correspondence between different percentiles of the income distribution and monetary amounts, Table 3.1 shows the annualised<sup>14</sup> net (after-tax) income of example households at the 10<sup>th</sup>, 50<sup>th</sup> (median), 90<sup>th</sup> and 99<sup>th</sup> percentiles. Note that because the population is ordered according to their *equivalised* household income, the annual income required to be at a given point in the distribution is different for different household types: while a single individual needs a net income of £33,000 to have higher living standards (on this measure) than 90% of the UK population, a couple with two young children need a combined net income of nearly £69,000 to be at the same point of the distribution. The table also helps to illustrate that the group of 'super-rich'

**Table 3.1. Annualised net household income at different percentile points of the 2014–15 distribution (UK)**

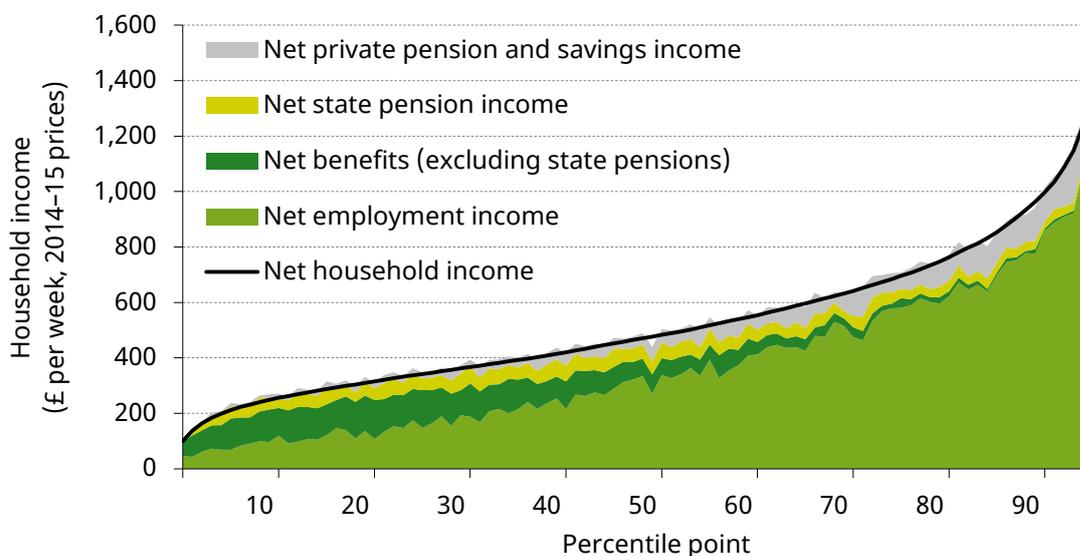
Percentile	Single individual	Couple with no children	Couple with two children under 14
10 <sup>th</sup>	£8,500	£12,700	£17,800
50 <sup>th</sup>	£16,500	£24,600	£34,500
90 <sup>th</sup>	£33,000	£49,200	£68,900
99 <sup>th</sup>	£82,100	£122,500	£171,500

Note: Figures rounded to the nearest £100.

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

<sup>14</sup> These are technically 'annualised' rather than 'annual' amounts, in that the FRS measures weekly income. In truth, the inequality in weekly incomes will be somewhat higher than the inequality in annual incomes, because some households' incomes fluctuate over a year.

**Figure 3.2. Sources of weekly net household income by percentile group in 2014–15 (UK)**



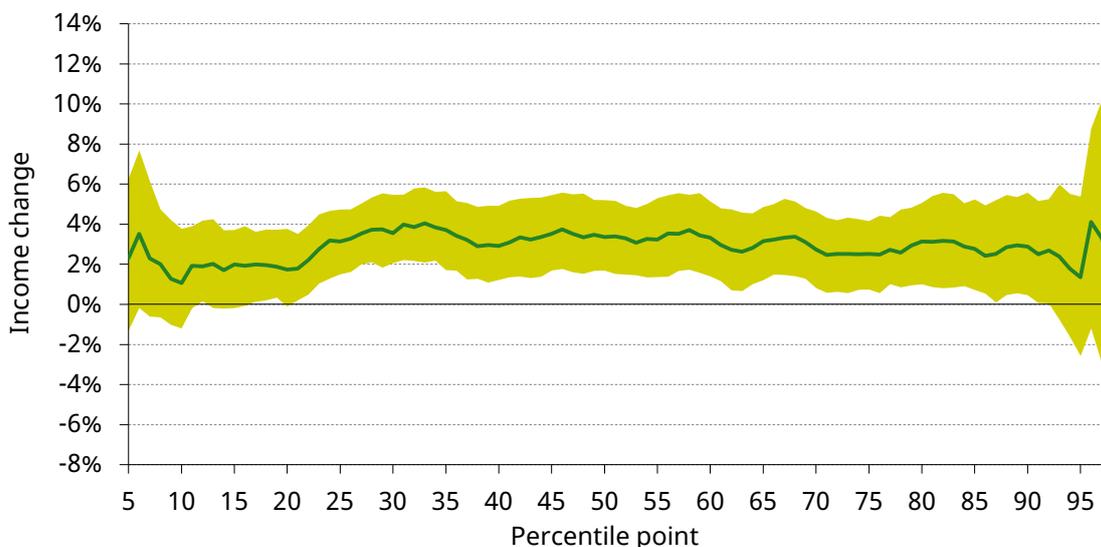
Note: All income sources are measured net of any taxes paid on them. Percentiles 1 and 98–100 are excluded because it is not possible to decompose net income for those with zero income or those with the highest incomes affected by the SPI adjustment (see Appendix A).

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

individuals around whom discussions of inequality often revolve is extremely small – incomes at the 99<sup>th</sup> percentile, while high, are well below our sense of what people typically have in mind when thinking about the ‘super-rich’, indicating that they make up much less than 1% of the household population.

Figure 3.2 illustrates how the relative importance of different sources of income changes across the income distribution, by decomposing net household income at each percentile point into net (after-tax) employment income, net benefit income (excluding state pensions), net state pension income and net income from private (occupational and personal) pensions, savings and other investments. (More minor additional sources of income account for the difference between the sum of those components and overall net household income as shown by the black line.) As one would expect, benefits provide a significant share of household income towards the bottom of the distribution, while net employment income makes up most of income for higher-income families. Benefits (excluding state pensions) make up around 45% of net household income around the 10<sup>th</sup> percentile of the distribution, around 15% in the middle of the distribution and only 1% around the 90<sup>th</sup> percentile. By contrast, net employment income makes up a little less than 40% of income around the 10<sup>th</sup> percentile, but nearly 70% in the middle of the distribution and roughly 80% at the 90<sup>th</sup> percentile. As we will discuss in more detail later in this chapter, this difference in the composition of income across the distribution is important for understanding the mechanisms behind changes in income inequality over time.

We can also compare income at each percentile point over time to provide a comprehensive picture of how inequality has changed. This is the object of Figure 3.3, which shows the real change in income at each percentile point between 2013–14 and

**Figure 3.3. Real income growth by percentile point in 2014–15 (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.

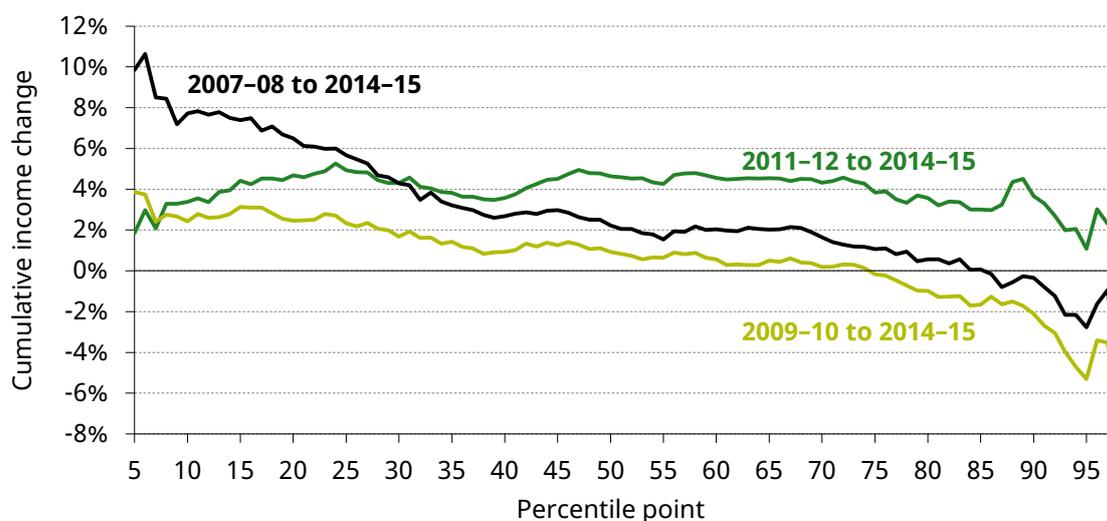
Source: Authors' calculations using the Family Resources Survey, 2013–14 and 2014–15.

2014–15 (the latest year of data). The 95% confidence interval for these estimates is indicated by the shaded area.

The broad picture given by Figure 3.3 is that inequality was roughly unchanged in 2014–15 as incomes rose across the distribution – by 1.1% at the 10<sup>th</sup> percentile, 3.4% at the median and 2.9% at the 90<sup>th</sup> percentile. These increases were statistically significant (at the 5% level) across the middle of the distribution, but not significant nearer the tails (due to greater uncertainty). If anything, income growth was slightly stronger towards the middle of the distribution than at either the top or the bottom, with an ambiguous effect on inequality, but the changes in income at different percentile points are not statistically significantly different from one another.

Changes in incomes in 2014–15 followed a similar pattern to the previous two years, which also saw little change in inequality. This is shown by the dark green line in Figure 3.4, which plots cumulative income growth at each percentile between 2011–12 (the point at which median income stopped falling) and 2014–15. Over that three-year period, incomes rose by 3.4% at the 10<sup>th</sup> percentile, 4.6% at the median and 3.7% at the 90<sup>th</sup> percentile, leaving inequality broadly unchanged. The reasons why inequality has not risen since 2011–12 at a time of increasing employment income and falling benefits are explored in detail later in this chapter.

Figure 3.4 also shows the cumulative change in income at each percentile point since 2009–10 (when median income reached its previous peak) and since 2007–08 (before the recent recession). Inequality has clearly fallen since 2009–10: while incomes at the 10<sup>th</sup> percentile rose by 2.4% over that five-year period, and median income rose by 0.9%, incomes at the 90<sup>th</sup> percentile fell by 2.1%. Over the period since 2007–08, the fall in

**Figure 3.4. Real income growth by percentile point (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.

inequality is even larger: incomes grew by 7.7% at the 10<sup>th</sup> percentile and by 2.2% at the median, and were roughly unchanged at the 90<sup>th</sup> percentile.

The key reason for the fall in inequality since the recession is the combination of real increases in benefit income (largely between 2007-08 and 2009-10) and large falls in real earnings (which mostly took place between 2009-10 and 2011-12). This led to falling inequality for three distinct but related reasons.

First, pensioners are less affected by falling earnings than the rest of the population, and gain more from increases in benefits and state pensions. As a result, their incomes 'caught up' significantly with those of the rest of the population between 2007-08 and 2011-12. The income of the median pensioner rose from 81% of the income of the median non-pensioner in 2007-08 to 89% in 2011-12 (and went from 93% to 101% on an after-housing-costs basis which, when comparing age groups, is arguably more relevant). Using the mean log deviation measure of inequality (which followed almost exactly the same trend as the Gini coefficient), the fall in inequality between pensioners and the rest of the population accounted for over 10% of the total fall in inequality between 2007-08 and 2011-12.<sup>15</sup>

Second, among non-pensioners, workless households 'caught up' with working households. Median income among those in workless households rose from 50% to 56% of the median income of those in working households over the same period. Again, this

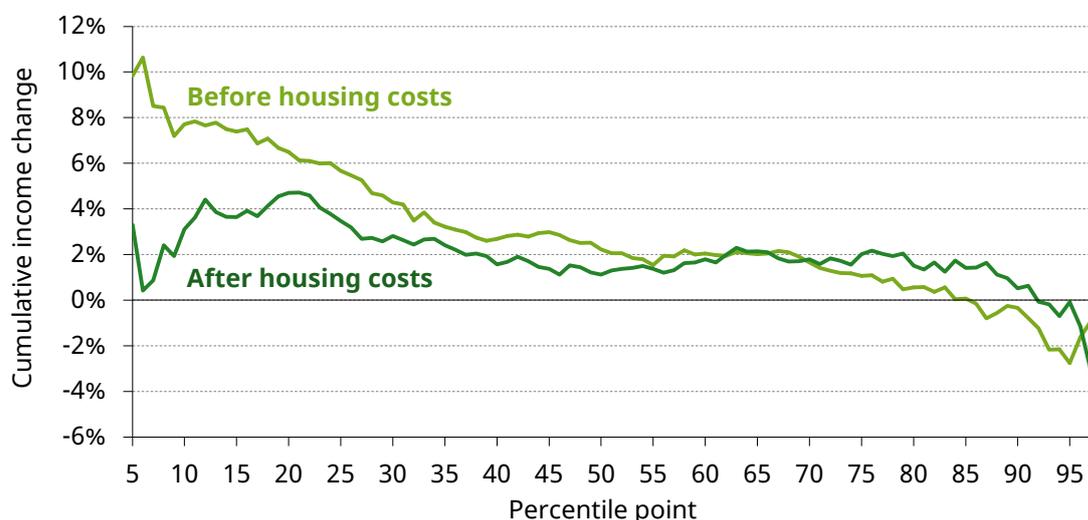
<sup>15</sup> We use the mean log deviation measure because it can be simply and intuitively additively decomposed by population subgroup. The figure reported is from a formal decomposition of the change in this measure following the methodology outlined in Mookherjee and Shorrocks (1982). The decomposition is conducted for the sample of individuals with household incomes above the 5<sup>th</sup> percentile and below the 99<sup>th</sup> percentile of the overall distribution (in line with Figures 3.3-3.5).

was because workless households were unaffected by falling earnings but gained more from increases in benefits. Looking only at inequality among non-pensioners, the fall in inequality between working and workless households accounted for *more than half* of the fall in inequality over that period.<sup>16</sup>

The third way in which rising benefits and falling earnings acted to reduce overall inequality was their effect on inequality within the population of working households. Section 3.2 of Belfield et al. (2015) showed that inequality fell slightly among working households, despite an increase in household earnings inequality. This pattern was driven by the fact that benefits are a much more important source of income for low-income working families than for those with higher incomes (on average). Earnings falls therefore have a much smaller proportional impact on the overall income of low-income working households. In addition, falls are in some cases partially offset by an increase in entitlement to means-tested benefits targeted at low-income working households (such as tax credits).

All of the analysis presented so far has looked at the distribution of incomes before housing costs are deducted (BHC). Figure 3.5 shows the change in income at each percentile point between 2007–08 and 2014–15 both before and after housing costs are deducted (AHC). While inequality is lower in 2014–15 than in 2007–08 in both cases, the fall in inequality is substantially smaller if incomes are measured AHC. Before housing costs, the 90:10 ratio (the ratio between income at the 90<sup>th</sup> percentile and income at the 10<sup>th</sup> percentile) fell from 4.2 to 3.9 over the period from 2007–08 to 2014–15. After housing

**Figure 3.5. Real income growth by percentile point, 2007–08 to 2014–15 (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 2014–15.

<sup>16</sup> Again, this figure is from a formal decomposition of the mean log deviation measure of inequality, with the same sample restriction as above.

costs, that ratio fell only slightly, from 5.2 to 5.1. This difference is entirely explained by differential trends in BHC and AHC incomes across the population between 2007–08 to 2009–10, driven by sharp falls in mortgage interest costs. Since high-income households are more likely to be owner-occupiers, they saw larger falls in average housing costs over that period, partly offsetting lower inequality in BHC incomes.

Finally, it is worth noting research elsewhere which has shown that the Great Recession and its immediate aftermath saw falls in household wealth inequality as well as in income inequality. Hills et al. (2015) find that total wealth (the sum of financial and physical wealth, property wealth and private pension wealth) rose by 45.6% in nominal terms at the 10<sup>th</sup> percentile between 2006–08 and 2010–12, compared with increases of 11.0% at the median and 16.8% at the 90<sup>th</sup> percentile. This fall in inequality was driven by stronger proportional growth in private pension wealth for lower-wealth households: non-pension wealth grew by 6.7% at the 10<sup>th</sup> and 7.8% at the 90<sup>th</sup> percentile. The authors do, however, note that due to the very low levels of wealth at the bottom of the distribution, small cash increases can lead to large percentage changes: the increase in total wealth at the 10<sup>th</sup> percentile corresponds to a rise of £4,100, compared with an increase of £131,800 at the 90<sup>th</sup> percentile.

### Inequality over the long run

To show how income inequality has changed over the last five decades, we use summary measures of inequality, which collapse the income distribution into a single number. 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>17</sup>

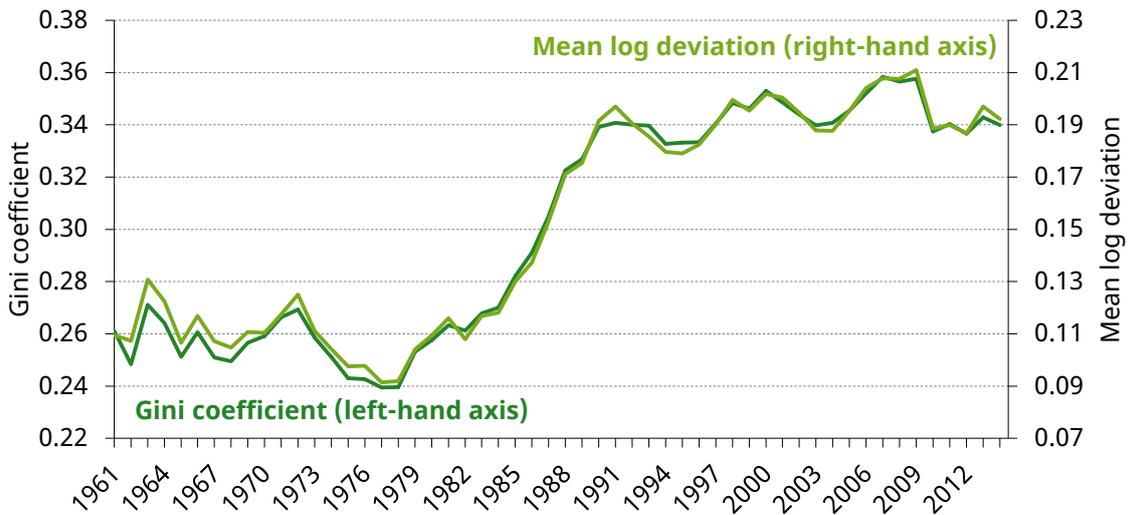
Figure 3.6 shows the evolution since 1961 of two summary measures of inequality designed to capture changes across the whole income distribution. The first is the Gini coefficient, which collapses the distribution into a single number between 0 and 1, where higher numbers mean greater inequality. The second is the mean log deviation, which again collapses the distribution into a single number, and where again higher numbers mean greater inequality. The Gini coefficient is the more popular measure, but changes in the mean log deviation are more satisfactorily decomposable into changes in inequality between and within different groups of the population (a property exploited in analysis earlier in this chapter). Both measures show extremely similar trends over time.

As one would expect given the changes in incomes across the distribution presented in the previous subsection, both the Gini coefficient and the mean log deviation record a fall in income inequality between 2007–08 and 2014–15: the Gini coefficient fell from 0.36 in 2007–08 to 0.34 in 2014–15. More surprising perhaps is the lack of change in overall inequality over the last 25 years. After rising sharply during the 1980s, summary measures of inequality have tended to fluctuate around a similar level since 1990.

However, this relative stability of overall income inequality since 1990 masks at least two important facts. First, as discussed in section 3.2 of Belfield et al. (2015), inequality among non-pensioners has continued to rise slightly since 1990 (albeit at a much slower rate than

<sup>17</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 mean log deviation (GB)**

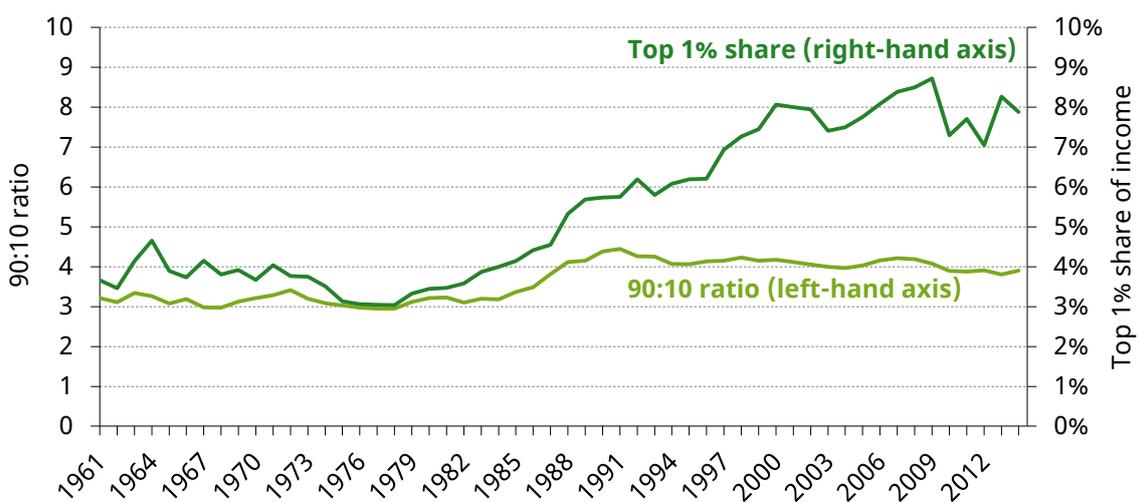


Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

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

during the 1980s). Overall inequality has been roughly unchanged because of the long-run 'catch-up' of pensioners, which has acted to reduce inequality. Second, there have been sharply different trends in inequality between different parts of the income distribution. These differences are drawn out by Figure 3.7, which shows two more measures of inequality. The first is the 90:10 ratio (the ratio of income at the 90<sup>th</sup> percentile to income at the 10<sup>th</sup> percentile). This broadly captures inequality between the two ends of the distribution, but is insensitive to changes in inequality between those with the very

**Figure 3.7. The 90:10 ratio and the top 1% share (GB)**



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.

highest incomes and the rest of the population. The second is the top 1% share: the share of income held by the highest-income 1% of individuals in the population. This solely captures inequality between the very top and the rest of the distribution. Burkhauser et al. (2016) suggest that, due to the limitations with the method employed to account for the under-reporting of top incomes in the HBAI data, these figures understate the true extent to which incomes are concentrated among the highest-income individuals. However, how this measure has changed over time is still informative of how the concentration of income at the top of the distribution has evolved.<sup>18</sup>

There are two main things to note from Figure 3.7. First, during the 1980s, both the 90:10 ratio and the top 1% share rose significantly. The 90:10 ratio went from 3.1 in 1979 to 4.4 in 1990, while the top 1% share rose from 3.3% to 5.7% over the same period. In other words, inequality increased across the income distribution through the 1980s, not just towards the top. Second, since 1990, inequality across most of the distribution has actually fallen, while the share of income going to the richest individuals continued to increase up until the financial crisis. Hence the stability in summary measures of inequality over the last 25 years reflects the offsetting effects of these two contrasting trends. In 2014–15, the 90:10 ratio in Great Britain stood at 3.9, down from 4.4 in the early 1990s. By contrast, the top 1% share peaked at 8.7% in 2009–10, 50% higher than the level in 1990, and it stood at 7.9% in 2014–15. Unfortunately, it remains unclear whether the stabilisation in the top 1% share in recent years reflects underlying economic trends or temporary responses to tax changes.<sup>19</sup>

### 3.2 Why has income inequality not increased during the recovery?

As discussed in the previous section, falling earnings and increased benefit income explained the fall in inequality between 2007–08 and 2011–12. Since 2011–12, we have seen the trends in those income sources reverse, but the falls in inequality have not been unwound. Table 2.2 showed that income from (pre-tax) employee earnings and self-employment income rose by 1.0% and 10.1% respectively between 2011–12 and 2014–15, while income from non-pensioner benefits fell by 7.5%. Yet inequality was roughly unchanged between 2011–12 and 2014–15, as shown in Figure 3.4. The aim of this section is to explain why.

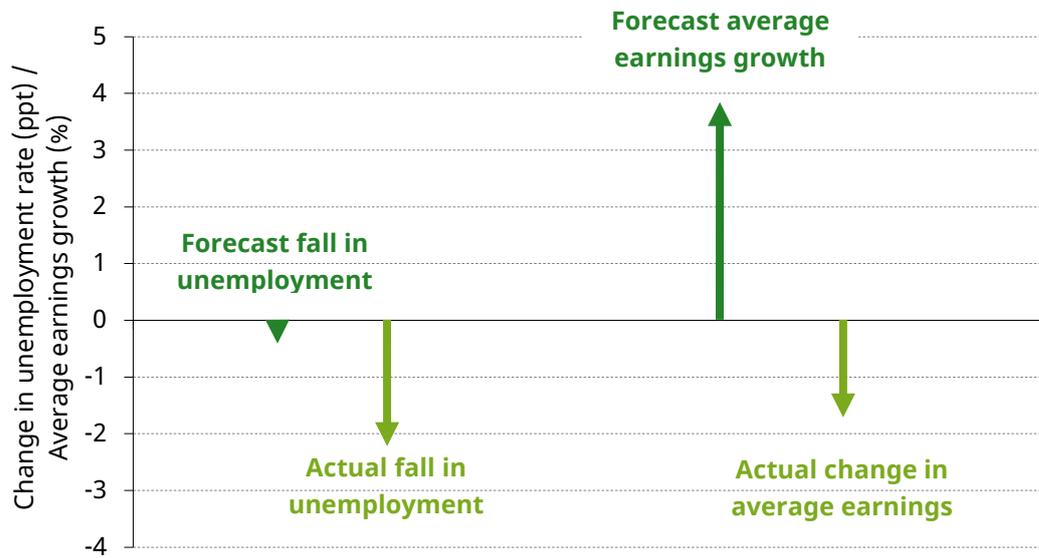
Our focus is on separating out (as far as possible) the effects of changes in the labour market on inequality. This is because one of the key characteristics of the recovery since 2011–12 has been weaker-than-expected earnings growth coupled with stronger-than-expected employment growth. Figure 3.8 compares the Office for Budget Responsibility (OBR) March 2012 forecasts for employment and earnings growth between 2011–12 and

<sup>18</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).

<sup>19</sup> The latest HBAI data rely on projections based on tax records from 2012–13 to estimate the incomes of the highest-income individuals. Income levels in those data are almost certainly affected by artificial ‘income shifting’ – individuals moving income from 2012–13 into 2013–14 in order to benefit more from the reduction in 2013 of the additional marginal rate of income tax to 45% – but the amount of this income shifting is uncertain. Hence the projections of top incomes in 2014–15 are based on assumptions rather than direct measures.

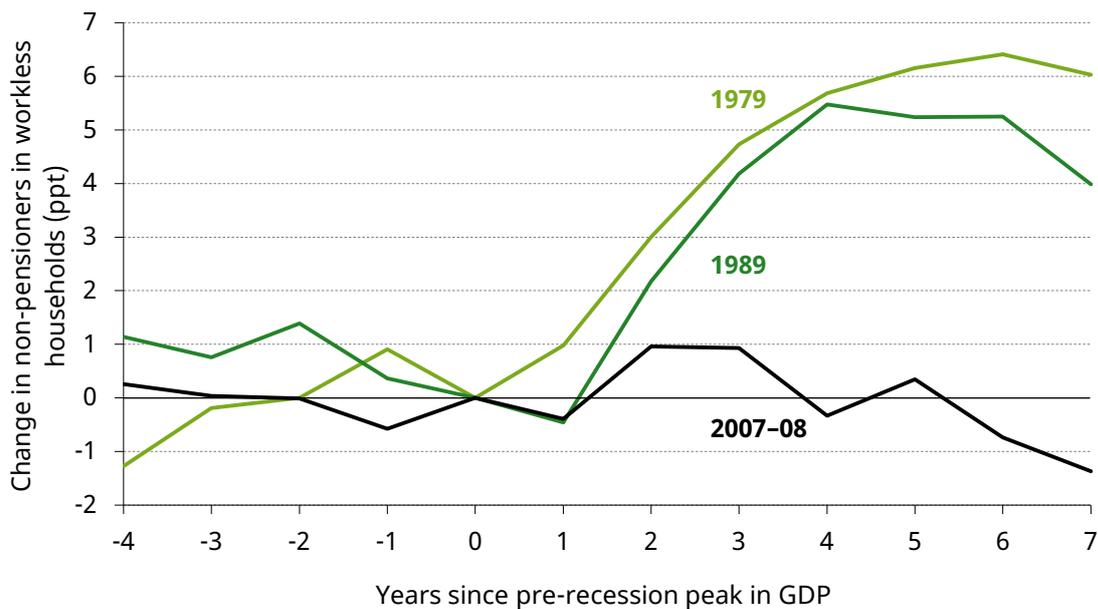
2014–15 with what actually happened. Real average weekly earnings among employees actually fell slightly on the OBR measure (by 1.7%), compared with expected growth of 3.9%. On the other hand, the unemployment rate fell by 2.3ppt over that period, compared with an expected fall of 0.4ppt.

**Figure 3.8. Forecast and actual changes in unemployment and average earnings, 2011–12 to 2014–15**



Source: OBR Economic and Fiscal Outlooks, March 2012 and March 2016 (Office for Budget Responsibility, 2012 and 2016).

**Figure 3.9. Change in percentage of non-pensioners living in a workless household around the last three recessions (GB)**



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

These unexpected falls in the individual unemployment rate in recent years have translated into extremely strong trends in the number of households with someone in work. Between 2011–12 and 2014–15, the proportion of non-pensioners living in a workless household fell from 13.0% to 12.0%, continuing a downward trend in household worklessness that was seemingly little affected by the recession.<sup>20</sup> As Figure 3.9 illustrates, this is very different from trends in household worklessness around the two previous recessions. The proportion of non-pensioners living in a workless household rose by over 4ppt in the first three years after the pre-recession peaks in GDP in 1979 and 1989, and in both cases was still 4ppt above its pre-recession level a further four years later. By contrast, household worklessness rose by only around 1ppt in the recent recession, was back to around pre-recession levels in 2011–12, and was more than 1ppt *below* its pre-recession level by 2014–15 (seven years after the pre-recession peak).

We analyse the effect on inequality of these changes in household employment, along with changes in household earnings, by extending the decomposition of net household income into different income sources presented in Chapter 2 in two different ways. First, rather than performing this decomposition of incomes for the population as a whole, we divide the population into five equally-sized groups according to income (quintiles) and

### **Box 3.1. Decomposing the contribution of net employment income into changes in household employment and household earnings**

In order to separately identify the contribution to income growth of changes in household employment and changes in the average earnings of working households, we employ a Shapley–Shorrocks decomposition.<sup>a</sup> For ease of exposition, we describe here how the growth in net employment income is decomposed, rather than its contribution to overall income growth, but the decomposition of the contribution is exactly the same in proportional terms (i.e. if 60% of the growth in net employment income is attributed to changes in employment, 60% of the contribution is also attributed to employment).

Applying the Shapley–Shorrocks method to this case involves taking the average of the results given by two exercises. The first exercise is to calculate the growth in mean net household earnings among working households over the period in question. This percentage change is then considered to be the contribution of household earnings to the change in net employment income, with the rest of the change in net employment income attributed to household employment changes. The second exercise is to calculate the proportional change in the share of individuals living in a working household. This percentage change is then considered to be the contribution of household employment to the change in net employment income, with the rest of the change in net employment income attributed to changes in household earnings. These methods usually yield very similar results but, given there is no reason for preferring one to the other, Shorrocks (2013) suggests taking the average of the two.

<sup>a</sup> This method was developed by Shorrocks (2013).

<sup>20</sup> See Section 5.2 of this report for more details on the long-run trends in household worklessness.

perform the decomposition separately for each group. This allows us to identify the contribution of different income sources to overall growth separately for different parts of the distribution.

Second, we separate the contribution of net employment income into that explained by changes in the proportion of individuals living in a working household and that explained by changes in household earnings among working households. Box 3.1 gives full details of the decomposition method used, but the broad idea is as follows. The observed change in net employment income in each quintile is the product of changes in household employment rates and changes in the average earnings of working households. We can therefore, for example, combine average household earnings among working households from 2011–12 with household employment rates from 2014–15, to estimate what net employment income would have been in 2014–15 had employment changed as it did, but with earnings remaining constant. The contribution of changes in the earnings of working households is calculated in a symmetric fashion: holding household employment at its 2011–12 level and looking solely at the impact of household earnings changes between 2011–12 and 2014–15.

The key limitation of the analysis in this section is that it is a mechanical decomposition of the contribution of different income sources, not a fully-fledged counterfactual analysis. This has two important consequences. First, we do not account for the ‘knock-on’ effects of labour market changes on other sources of income. For example, to the extent that higher employment and earnings reduce the amount of benefits that households are entitled to, the overall effect on their incomes may be smaller than the contributions shown here. Second, we do not account for the effect of changes in household employment on average household earnings. For example, if those households moving into employment have lower-than-average earnings (for their quintile), this would lead to a reduction in average earnings among working households, but it really reflects changes in employment. If this phenomenon is happening, our method would overstate the contribution of employment to income growth and understate the contribution of earnings. However, the total contribution of net employment income in each quintile would be unaffected.

In this analysis, we focus on households that do not contain a pensioner: changes in the incomes of pensioner households have had no effect on inequality over the period 2011–12 to 2014–15.

### **Changes in household employment**

Figure 3.10 shows the proportion of individuals in each quintile who are in a household where someone is in work, and how that changed as employment rose between 2011–12 and 2014–15. In 2011–12, 37% of individuals in the poorest quintile lived in a workless household, but by 2014–15 this had fallen to 34%. This continued a longer-run trend: back in 1994–95, 51% of individuals in the poorest quintile lived in a workless household.<sup>21</sup> In contrast, almost all households in the top two quintiles of the distribution have someone

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<sup>21</sup> Longer-run changes in worklessness by quintile are analysed in Chapter 4, in the context of understanding changes in the incomes of children.

**Figure 3.10. Percentage of individuals living in a working household by quintile, 2011–12 and 2014–15 (UK)**



Note: Households containing a pensioner, subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 2011–12 and 2014–15.

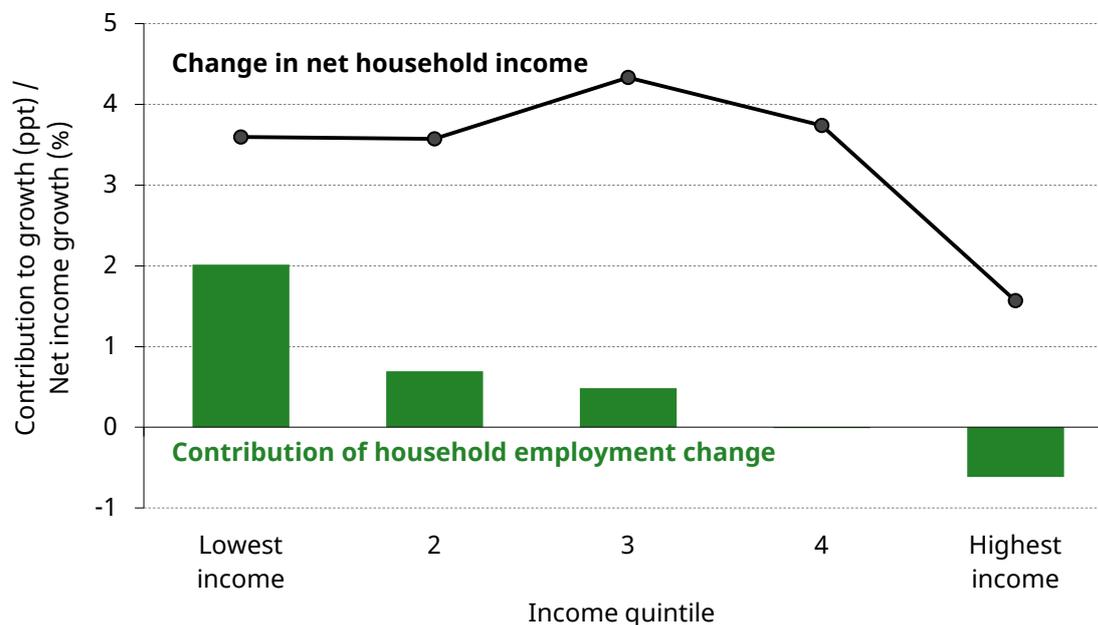
in work (recall that we are excluding pensioners from this analysis), so there is barely any scope for incomes in those quintiles to be boosted by rising household employment.

Figure 3.11 shows the contribution of these changes in household employment to mean income growth in each quintile of the distribution over that period, along with the overall change in net household income. The figure reveals that falling household worklessness acted to reduce income inequality to a significant extent. It contributed 2ppt to growth in net household incomes among the poorest fifth of the population, but had no effect (or a negative effect) on incomes in the top two quintiles of the population.<sup>22</sup>

Given the position of workless households in the income distribution, it is entirely unsurprising that falls in household worklessness act to reduce inequality. Changes in employment more generally, however, have an ambiguous effect on inequality. For example, if employment rose solely because some individuals who already have a high-earning partner moved into work, household income inequality would likely increase. An important question, therefore, is the extent to which the falls in household worklessness have been smaller or larger than one would expect given the change in the individual employment rate. An analytical framework for answering this question is provided by Gregg and Wadsworth (2001), who introduce the concept of 'excess' worklessness: the

<sup>22</sup> To the extent that falls in household worklessness lead to households moving to higher income quintiles (and being replaced by workless households in lower quintiles), these figures will actually understate the extent to which falling worklessness acted to reduce inequality.

**Figure 3.11. Contribution to income growth of changes in the percentage of individuals living in a working household by quintile, 2011–12 to 2014–15 (UK)**



Note: Households containing a pensioner, subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors’ calculations using the Family Resources Survey, 2011–12 and 2014–15.

difference between observed household worklessness and the rate one would see if employment were distributed evenly across households.

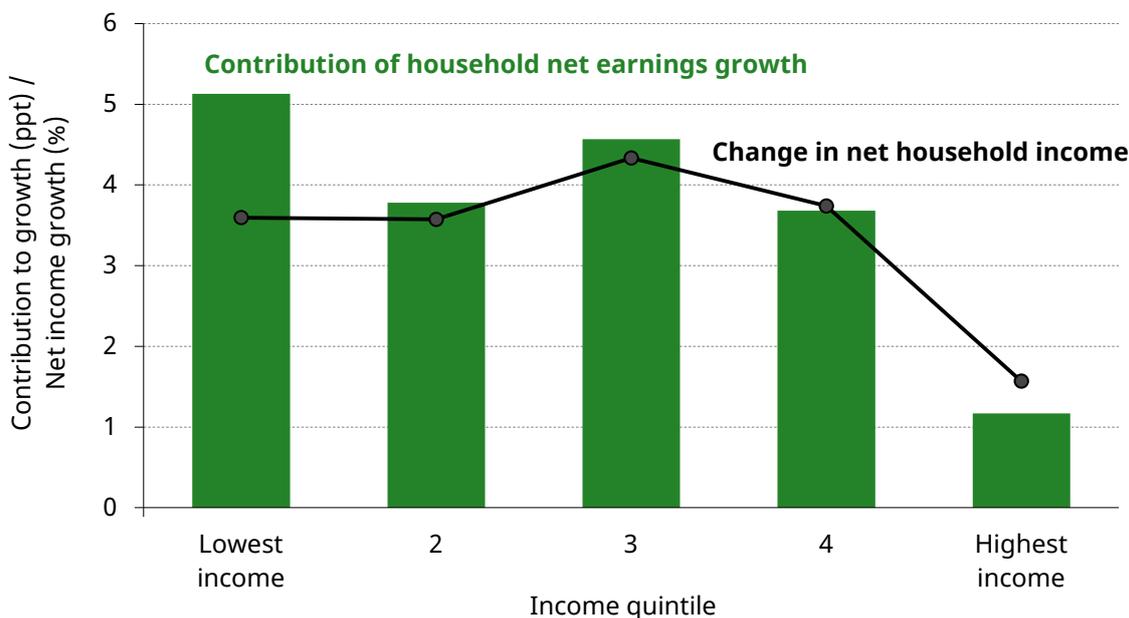
In 2011–12, 12.8% of individuals lived in a workless household, compared with 8.9% under a (hypothetical) even distribution of employment across households: ‘excess’ worklessness was 3.9%. By 2014–15, the actual worklessness rate had fallen to 12.1%, but increases in the individual employment rate had reduced the counterfactual rate to 8.1%, leaving ‘excess’ worklessness essentially unchanged at 4.0%. In other words, the fall in worklessness was roughly what one would expect given the change in individual employment – additional jobs were not particularly likely to be taken by previously workless households. On the other hand, these figures also mean that new jobs were no less likely to be taken by workless households than by working households.

### Changes in household earnings

Figure 3.12 shows the contribution of growth in household earnings among working households to changes in net household incomes in each quintile between 2011–12 and 2014–15, along with the overall change in their incomes. The similarity between the contribution of net household earnings and the overall change in income in each quintile shows that changes in household earnings explain most of the changes in income inequality seen over that period.<sup>23</sup> The figure shows that earnings growth among working

<sup>23</sup> Contributions can be larger than the overall change if they are partially offset by changes in other sources of income, such as falls in benefit income in the poorest quintile.

**Figure 3.12. Contribution to income growth of household earnings growth by quintile, 2011–12 to 2014–15 (UK)**



Note: Households containing a pensioner, subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 2011–12 and 2014–15.

households acted to reduce inequality between 2011–12 and 2014–15: household earnings growth contributed 5ppt to net income growth in the poorest quintile, compared with just 1ppt in the highest income quintile. On the face of it, this is quite surprising: household earnings growth typically acts to increase income inequality, because earnings make up a greater share of income for higher-income households (as shown in Figure 3.2). We explain below why it has had the opposite effect during the recovery.

Even if earnings growth had been the same in high- and low-income households, there are two reasons why the impact of the earnings growth seen since 2011–12 on income inequality would have been relatively muted:

- **Earnings growth was very weak.** Both the HBAI data and the Labour Force Survey (LFS) suggest that average (mean) gross employee earnings were unchanged in real terms between 2011–12 and 2014–15. The only reasons why net employment income increased at all for working households were 'added workers' within households (which we discuss in more detail below), increased self-employment income and lower direct taxes. Slow growth in average employment incomes leads to a relatively small difference in the contribution of earnings changes to income growth across the distribution, even though this source of income is more important for higher-income households. In other words, if earnings had grown as strongly as expected back in 2011–12, it is much less likely that they would have acted to reduce income inequality.
- **Employment income makes up an increasingly large share of net household income for poor households.** Net employment income made up 50% of net income

for the poorest quintile in 2014–15, up from 45% in 2011–12 and 32% in 1994–95. This is a large change, but makes sense in the context of falls in household worklessness (see Section 5.2).<sup>24</sup> As a result of this increase, low-income households now gain more from average earnings growth than they did in the past, again reducing the extent to which it acts to increase income inequality.

Hence, sluggish earnings growth and the increased importance of earnings for low-income households meant that a uniform rate of earnings growth across households would have pushed up inequality by less between 2011–12 and 2014–15 than in previous periods of recovery.

In addition, the pattern of earnings growth across households was not in fact uniform, but inequality-reducing. This was for two main reasons:

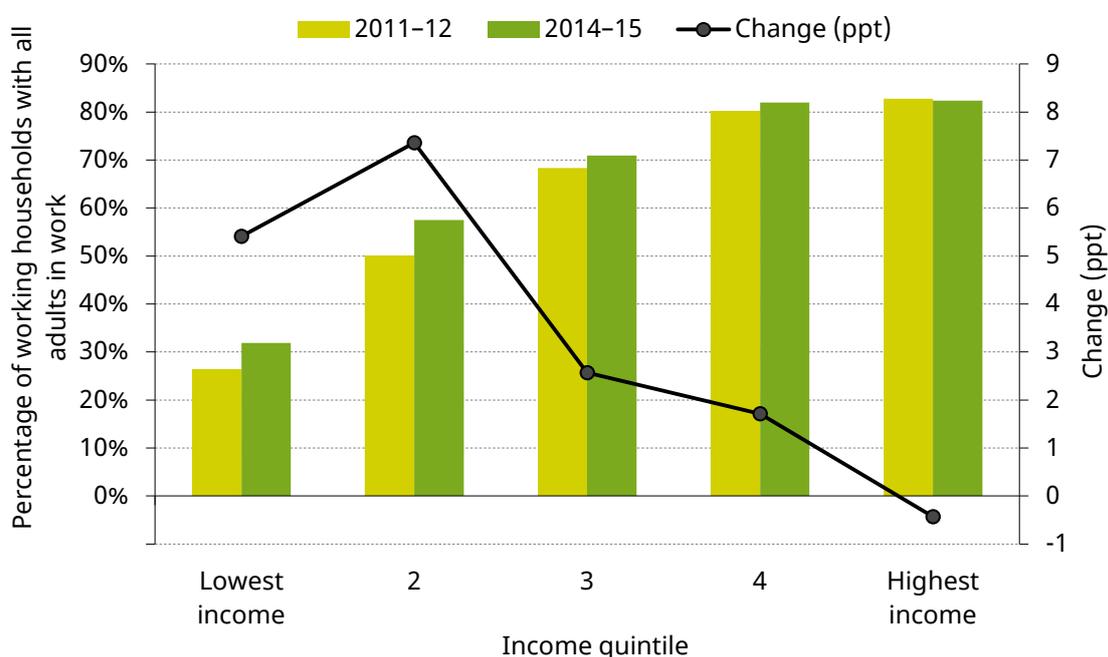
- **Additional employment *within* working households was inequality-reducing.** Figure 3.13 documents the proportion of working households in which all adults are in work by quintile, and how that changed between 2011–12 and 2014–15. The proportion of working households with ‘full employment’ rose from 26% to 32% in the poorest quintile and from 50% to 57% in the second quintile. This increase in employment rates within working households provided a significant boost to household earnings towards the bottom of the income distribution.<sup>25</sup> In the top two quintiles of the distribution, the proportion of working households with ‘full employment’ was essentially unchanged over those three years at around 80%: employment growth did almost nothing to increase household earnings.
- **Individual employee earnings inequality fell between 2011–12 and 2014–15.** Figure 3.14 shows the real change in individual earnings at each percentile point over that period, as recorded by the HBAI data and by the LFS. Both data sets show relatively similar earnings growth from the 20<sup>th</sup> percentile upwards, but much stronger growth towards the bottom of the distribution. According to the HBAI data, real earnings grew by 4.4% at the 10<sup>th</sup> percentile and by only 1.3% at the median, and actually fell by 1.2% at the 90<sup>th</sup> percentile. To the extent that low-earning individuals tend to live in low-income working households, this fall in earnings inequality is also part of the explanation for the inequality-reducing impact of household earnings growth.<sup>26</sup>

<sup>24</sup> Some of the increase between 1994–95 and 2011–12 is explained by rising benefits for non-working households pushing some working households towards the bottom of the distribution, rather than falls in worklessness among the lowest-income households. Since 2011–12, the share of income from employment has increased across the bottom half of the distribution.

<sup>25</sup> To the extent that increases in employment rates within working households lead individuals to move into higher quintiles of the distribution (and to be replaced in lower quintiles by working households with lower employment rates), the numbers in Figures 3.12 and 3.13 will understate the extent to which changes in household earnings acted to reduce inequality.

<sup>26</sup> Note that this pattern also holds if we look at male and female employees separately: reductions in individual earnings inequality have not simply been about women catching up with men (which would not necessarily act to reduce inequality in earnings measured at the household level).

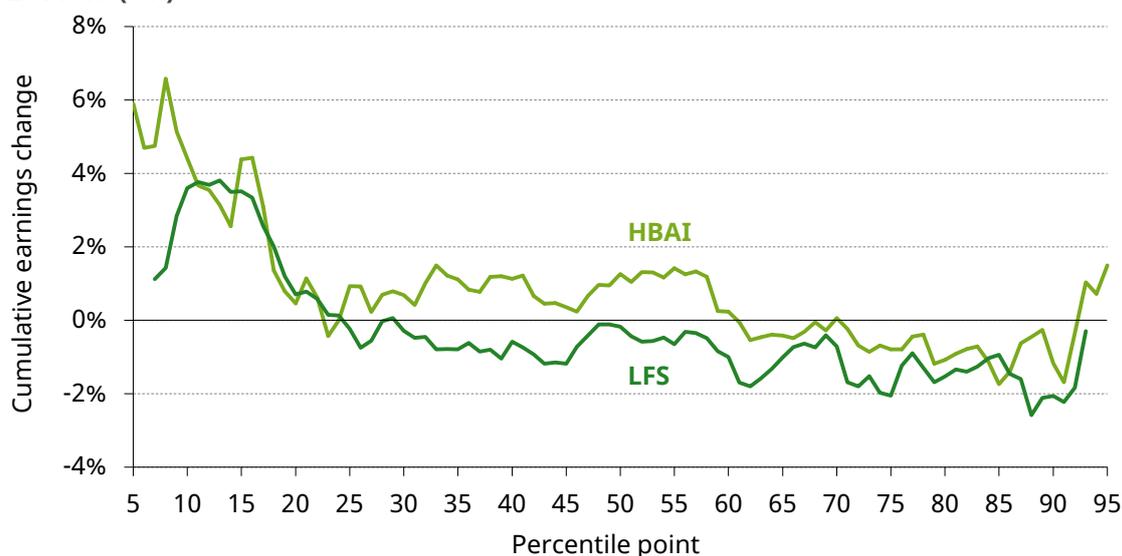
**Figure 3.13. Percentage of working households where all adults are in work by quintile, 2011-12 and 2014-15 (UK)**



Note: Households containing a pensioner, subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 2011-12 and 2014-15.

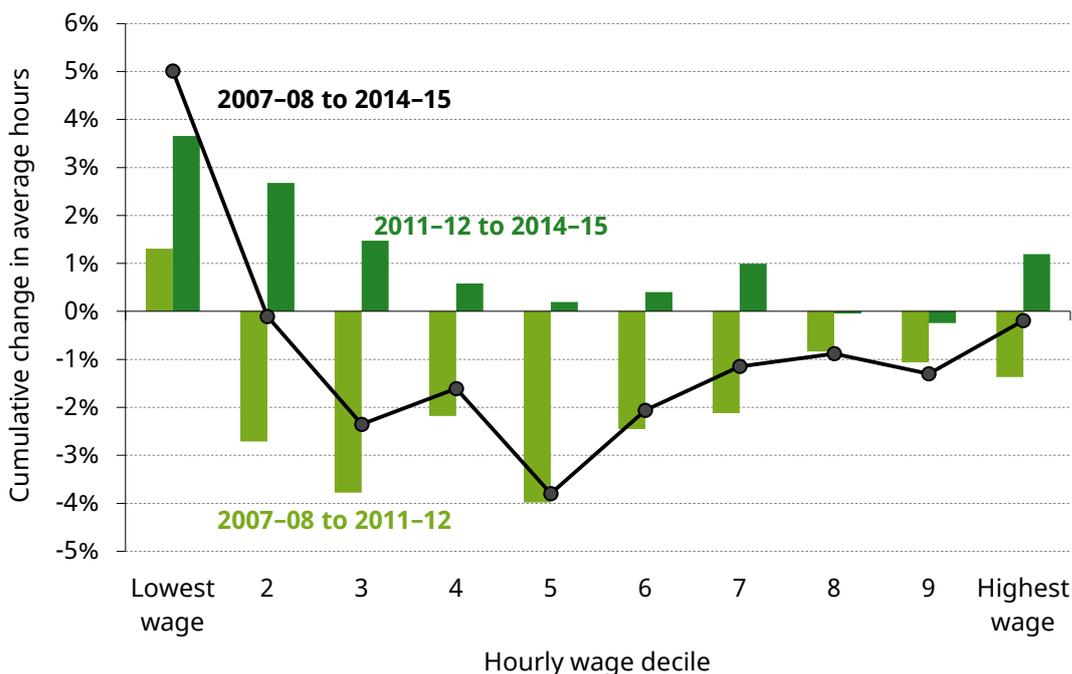
**Figure 3.14. Real individual weekly earnings growth by percentile point, 2011-12 to 2014-15 (UK)**



Note: LFS is a five-point moving average. The top and bottom five percentiles are not shown due to data quality issues.

Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, 2011-12 and 2014-15.

**Figure 3.15. Change in average hours by hourly wage decile**



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

The fall in weekly earnings inequality since 2011-12 has not been driven by changing inequality in hourly wages – the LFS records falls in real hourly wages of between 1% and 2% across most of the distribution. Instead, it was the result of a rise in the average hours worked by those with the lowest hourly wages. Figure 3.15 shows that, during the recovery (2011-12 to 2014-15), average weekly hours worked rose 2.7% in the second decile (tenth) of the hourly wage distribution and 1.5% in the third decile, but by no more than around 1% in higher wage deciles.<sup>27</sup> This is the explanation for the growth in weekly earnings towards the bottom of the distribution, and hence for the fall in earnings inequality. The figure also shows that this pattern represents a partial unwinding of changes associated with the Great Recession. Between 2007-08 and 2011-12, hours worked fell the most in the lower-middle of the wage distribution, increasing earnings inequality. Since 2011-12, a recovery in hours worked towards the bottom of the distribution has led to falling earnings inequality. Note, however, that because the falls in hours were more widespread than recent increases, average hours remain below their pre-recession levels across the middle of the wage distribution.

**Summary**

Figure 3.16 brings together the effects of the documented patterns in earnings and employment to explain why inequality did not increase between 2011-12 and 2014-15. It shows the contribution of net employment income to incomes in each quintile in three different scenarios. The first, shown by the light green line, is the hypothetical scenario where household employment was unchanged between 2011-12 and 2014-15 and

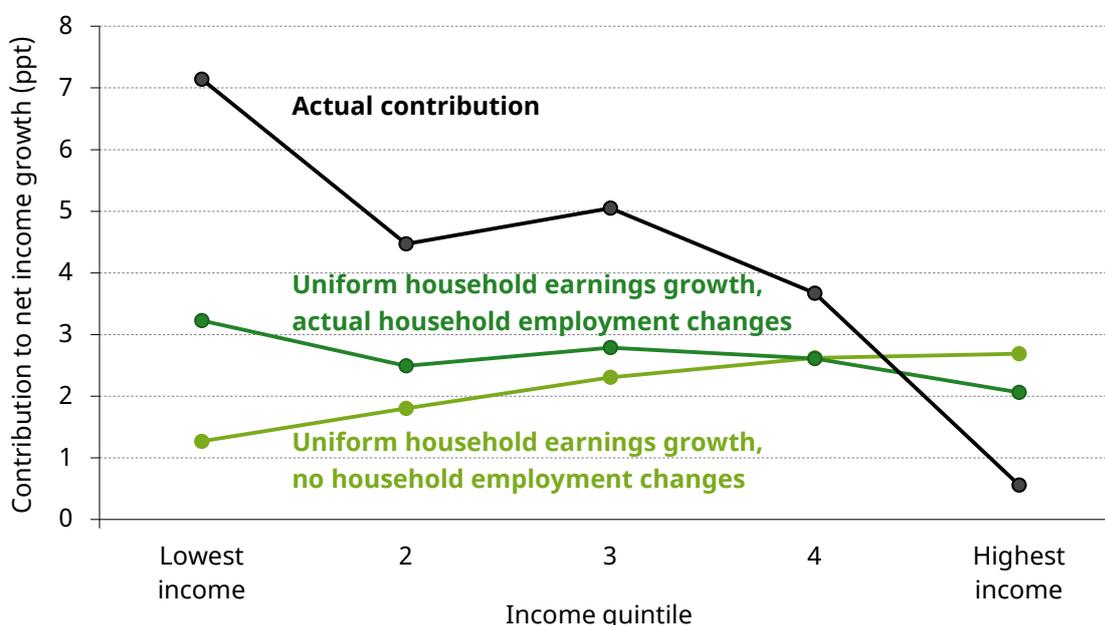
<sup>27</sup> Changes in hours in the bottom decile of the hourly wage distribution should be treated with caution, as measurement issues mean hours in that part of the distribution are very volatile.

average household earnings grew as in reality, but at the same rate across the income distribution. In this scenario, growth in employment income would have acted to increase income inequality, simply because employment income is a bigger share of total income for higher-income households. Combined with falling income from benefits, this would have led to an increase in overall income inequality.

The second scenario, shown by the dark green line, adds in the household employment changes between 2011–12 and 2014–15, but still assumes the same rate of household earnings growth across quintiles. Notably, changes in household employment alone are enough to lead to an inequality-reducing pattern of changes in net employment income, given the (slow) growth in average household earnings.

The third scenario, shown by the black line, documents the actual contribution of changes in net employment income to income growth in each quintile, combining both the effects of household employment changes and the pattern of growth in household earnings across the distribution. It shows that net employment income clearly acted to reduce inequality between 2011–12 and 2014–15, boosting net household income by 5ppt or more across the bottom half of the distribution but by less than 1ppt in the top quintile. The combination of strong employment growth and weak individual earnings growth has ensured that inequality has not risen in the recovery, despite falls in benefit income.

**Figure 3.16. Contribution to income growth of employment and net earnings growth by quintile, 2011–12 to 2014–15 (UK)**



Note: Households containing a pensioner, subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 2011–12 and 2014–15.

### 3.3 Prospects for inequality

Although the latest HBAI data provide information only up to and including 2014–15, we have alternative sources of data on key economic outcomes that will have affected inequality in 2015–16: changes in employment, earnings and prices. On the one hand, average earnings rose by 2.4%, compared with a 1% rise in most working-age benefits, probably acting to increase inequality.<sup>28</sup> On the other hand, according to the Labour Force Survey, the individual (aged 16+) employment rate rose from 59.7% in 2014–15 to 60.2% in 2015–16, with total employment increasing by 500,000. As was shown in the previous section, this increase in employment is likely to have acted to reduce inequality by boosting household incomes towards the bottom of the distribution. Hence, although the previous section demonstrated that the impact of labour market changes on inequality can be complex, it seems unlikely that inequality will change significantly in 2015–16.

When IFS researchers looked further forward, before the result of the Brexit vote was known, they predicted that inequality would increase over the course of this parliament if the OBR's macroeconomic forecasts prove roughly correct as a result of a combination of expected stronger earnings growth, weaker employment growth and cuts to benefit entitlements. The Brexit vote, though, means that these forecasts no longer stand. Both earnings growth and employment seem likely to turn out less strong than anticipated, and no doubt further choices will be made over benefit and tax policy. We therefore make no predictions about inequality beyond the present.

### 3.4 Conclusion

During the (sluggish) recovery in incomes since 2011–12, inequality has been stable. This is despite increases in income from employment and falling working-age benefit income, which in combination would tend, all else equal, to push inequality up. There are three main explanations. First, falls in household worklessness acted to boost the incomes of low-income households. Second, weak earnings growth meant higher-income households failed to pull away as previously expected. Third, earnings growth among working households was higher for those with lower incomes, as they experienced a larger increase in 'added workers' within the household and as individual earnings inequality fell.

Income inequality in 2014–15 remained significantly lower than in 2007–08, as a result of the large fall in inequality that took place between 2007–08 and 2011–12. The Gini coefficient stood at 0.34 in 2014–15, compared with 0.36 seven years earlier. This decline in inequality was driven by the combination of rising benefit incomes and falling real earnings, which allowed pensioners and workless households to catch up with the rest of the population and saw low-income working households (who receive a significant share of their income from benefits) catch up with those with higher incomes (who are more dependent on earnings).

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<sup>28</sup> The government imposed a nominal cap, but due to the drop in CPI inflation (to only 0.1%) most benefit entitlements actually rose in real terms, leading to the 1% increase.

The bigger picture is that income inequality has been roughly constant since 1990 – the Gini coefficient in 2014–15 was at a similar level to that 10 or even 20 years earlier – and hence remains much higher than it was before the 1980s. The overall stability since 1990 masks two counteracting trends. Inequality across most of the income distribution (as measured by the 90:10 ratio) has actually been on a slightly downwards trajectory since 1990, while the share of income held by the top 1% continued to rise until the Great Recession. It is the second of these trends – the ‘racing away’ of those with the very highest incomes – that tends to dominate discussion and debate of inequality in the UK, and it is entirely unsurprising that this is of great interest. But the decline in inequality across the vast majority of the distribution is at least as worthy of discussion and analysis.

## 4. Income Inequality in Childhood

### Key findings

**Household (BHC) income inequality among children has fallen since the mid 1990s.**

This was driven by falls in inequality between the middle and the bottom of the distribution. In 1994–95, the child at the median had a household income 80% higher than the child at the 10th percentile. By 2014–15, this had fallen to 70%. Most of this fall in inequality has occurred since the recession.

**Household income inequality is much lower among children than among working-age adults without dependent children.**

This is mainly due to the benefit and tax credit system supporting the incomes of low-income households with children.

**An important reason for falling child inequality has been a remarkable fall in the share of children living in a workless household.**

In 1994–95, 60% of the poorest fifth ('quintile') of children lived in a workless household. This fell to 47% by 2007–08 and 37% by 2014–15. These falls in household worklessness contributed significantly to the growth in incomes in the poorest two quintiles of the child income distribution and had no effect on other quintiles.

**The fall in the 50:10 income ratio for children since 1994–95 is not explained by changes in benefit incomes.**

This is despite large increases in entitlements. A key reason is that rising employment rates for poor parents acted to reduce their benefit entitlements. However, changes in benefit incomes have prevented an increase in inequality between middle-income and high-income children since 1994–95.

### Key findings continued

**The proportions of income from different sources for richer and poorer children have changed substantially in the last two decades.**

For the poorest fifth of children, the proportion of net income coming from employment is now 42%, up from 33% in 2007–08 and from 27% in 1994–95. The proportion coming from benefits has fallen from 73% to 61% over the 20 years. In contrast, middle-income children now get 30% of household income from benefits, compared with 22% in 1994–95, while the proportion coming from employment has fallen from 77% to 70%.

**There has been a big reduction in the disparity in income earned by men and women in households with children.**

This has occurred right across the distribution. For example, in 1994–95, 19% of household income for middle-income children came from women’s employment and 58% from men’s employment. By 2014–15, the proportion from women had risen to 26% and the share from men had fallen to 43%.

**Children in lower- and middle-income households are now much more likely to live in private rented accommodation than was the case 20 years ago.**

For the middle fifth of children, this was accompanied by a big fall, from 69% to 50%, in the proportion living in an owner-occupied house. For the poorest fifth of children, there was a big fall in the proportion in social housing (from 50% to 37% over 20 years).

When thinking about how resources are distributed in society, one aspect of distribution that people are particularly likely to care about is inequality across children in the resources available to their households. This is not only because children have clearly had no choice in determining their household’s income, but also because such differences during childhood could affect their ‘life chances’, including the jobs that they get and their health, education and wider well-being.

Despite a large amount of research and commentary focusing on child poverty measures and on overall income inequality in the UK, there has been much less on income inequality amongst children. Here we examine the level of income inequality in childhood, how it has changed (particularly over the last 20 years) and what has driven these changes.

It is worth being clear what we mean by ‘child income inequality’. Although most dependent children do not receive income from employment, state benefits or any other source directly, we can proxy the living standards of children by looking at the household income of the household in which they live, adjusting for the size and composition of the

household (known as ‘equivalising’).<sup>29</sup> In this chapter, we continue to measure incomes before housing costs are deducted. As ever, income is only a proxy for living standards, and of course there are a number of non-material factors, such as the wider family environment, that we cannot properly capture in data such as these but which are hugely important for children; this analysis is not intended to paint a comprehensive picture of inequality in children’s well-being or life chances.

One important factor – particularly for children’s life chances – that we cannot measure here is access to high-quality education. Previous work by IFS researchers (Belfield and Sibieta, 2016) has shown that, since the mid 1990s, financial resources have increased massively for schools with poorer children relative to schools with children from middle-income or affluent backgrounds. This occurred particularly in the late 1990s, but continued through the 2000s and 2010s too. There is also some evidence that, at least during the 2000s, there was a decrease in the gap between poor and rich children in terms of their probability of entering higher education (see Crawford and Greaves (2015)).

We should also note that, as in Chapter 3, most of this chapter focuses on inequality across the majority of the child income distribution, rather than looking at inequality at the very top or very bottom of the distribution. For example, we do not examine trends in incomes for the richest 1% of children. As in Chapter 3, this is primarily due to data quality issues.

The remainder of this chapter proceeds as follows. Section 4.1 provides a brief summary of the level of child inequality in Great Britain and summarises recent trends. Section 4.2 examines the reasons for changes in childhood income inequality over the last 20 years. Section 4.3 looks at other changing characteristics of richer and poorer households with children. Section 4.4 concludes.

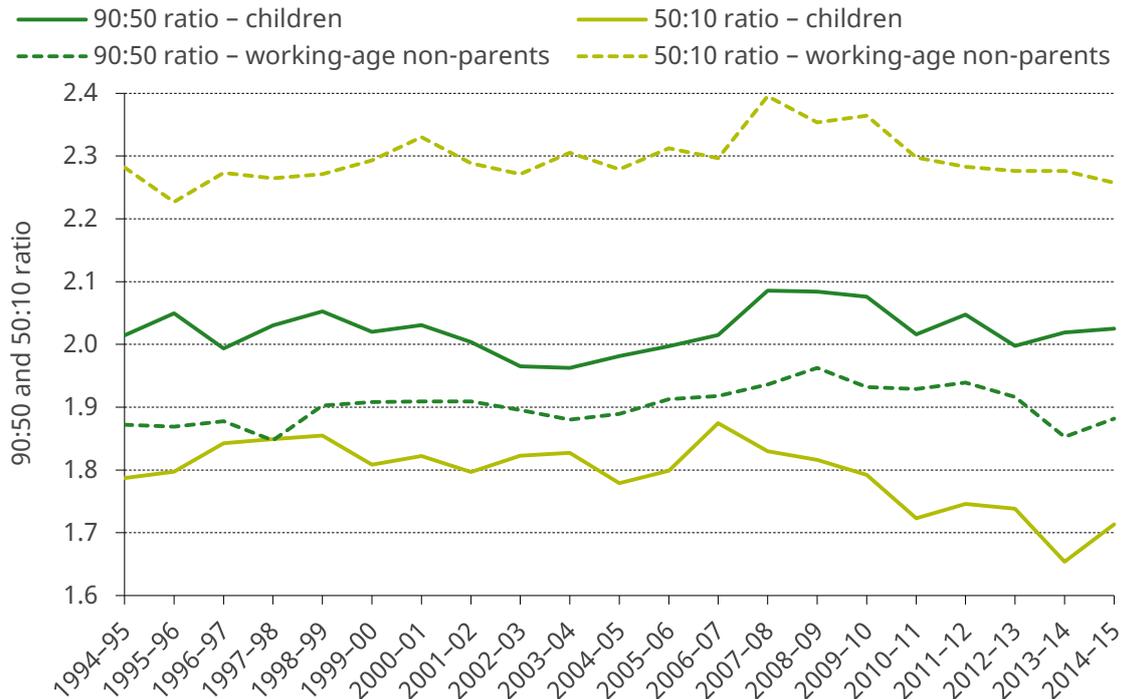
## 4.1 Trends in household income inequality in childhood

In this chapter, we analyse household income inequality amongst children (‘child income inequality’) in the same way as we analysed income inequality for the whole population in Chapter 3. Figure 4.1 shows two ratio measures of child income inequality that measure the difference between two percentile points of the distribution: the 50:10 ratio, which measures inequality between the middle and the bottom of the child income distribution, and the 90:50 ratio, which measures inequality between the top and the middle.<sup>30</sup> The figure shows the trends in these measures since 1994–95 and also compares them with the same measures for working-age adults who do not have dependent children (‘working-age non-parents’). To give a sense of monetary amounts, Table 4.1 shows the net income levels that different types of households with children would need to have to be at the different percentiles. Because needs differ greatly depending on household size, larger households need higher incomes to reach any given percentile.

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<sup>29</sup> We use the same definition of a child as in the HBAI data (and the government’s child poverty statistics): a child is any person aged 0–15, plus anyone aged 16–19 living at home and who is in full-time education.

<sup>30</sup> We use data since 1994–95 as that is the first year that the Family Resources Survey data were used to construct Households Below Average Income data.

**Figure 4.1. 90:50 and 50:10 ratios for children and working-age non-parents (GB)**

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

**Table 4.1. Annual (unequalised) net household income at different percentile points of the 2014–15 child income distribution, for different household types (GB)**

	10 <sup>th</sup> percentile	50 <sup>th</sup> percentile	90 <sup>th</sup> percentile
Single parent, one child	£10,900	£18,600	£37,700
Single parent, two children	£13,400	£22,900	£46,400
Couple, one child	£15,000	£25,700	£52,000
Couple, two children	£17,500	£30,000	£60,700
Couple, three children	£20,000	£34,300	£69,400

Note: Figures are rounded to the nearest £100. The children in these examples are all assumed to be under the age of 14.

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

Figure 4.1 shows that, in 2014–15, the 50:10 ratio for children was 1.7, meaning a middle-income child had an income 70% higher than a child at the 10<sup>th</sup> percentile of the child income distribution (i.e. a child with an income higher than only 10% of children). The 90:50 ratio for children was 2.0. The contrast with the income distribution among adults of working age who do not have children is instructive. For that group, the 50:10 ratio is 2.3 – clearly higher than for children. A key reason for lower levels of inequality for children than for working-age adults without children on this measure is that inequality between the middle and the bottom of the child income distribution is pulled down significantly by the existence of the benefit and tax credit system. Meanwhile, the 90:50 ratio for working-age non-parents is actually a little lower than that for children, at 1.9. This is at least in part

because high-earning adults are disproportionately likely to be of an age when they have dependent children.

The figure also shows how income inequality for children has changed over the last 20 years. Despite declines in the late 1990s and early 2000s, both inequality ratios were similar at the onset of the recession to their levels in 1994–95. There have been significant changes in recent years though. Since 2007–08, the child 50:10 ratio has fallen by 0.12, while the 90:50 ratio has fallen by less – by 2014–15, it was 0.06 below its 2007–08 level.

As has been shown elsewhere (for example, Belfield et al. (2014)), one of the main reasons for falling inequality since the recession was that benefit incomes were relatively stable at a time when workers' earnings fell sharply, and benefits are a more important income source for households with low incomes – although, as we show later, this is less true now than it was in the mid 1990s. Over the last 20 years as a whole, the fall in inequality between the middle and the bottom of the child income distribution is also larger than the equivalent fall for working-age non-parents.

Note that all of this analysis, in common with the analysis of inequality in Chapter 3, is undertaken using incomes measured before housing costs are deducted (BHC). Measures of after-housing-costs (AHC) income inequality for children have evolved a little differently, with the 50:10 ratio around the same level in 2014–15 as it was in 1994–95 (rather than lower, as for the BHC figure), having risen during the mid 2000s and fallen back since the recession.

## 4.2 Explaining trends in income inequality in childhood

It is important to understand what has driven changes in income inequality in childhood over the last 20 years. To do this, we focus on the role that changes in household worklessness and employment income have played in trends in inequality, alongside the role of changes in benefit incomes. We also look at how these have combined to change the composition of income for poor, middle-income and richer children.

### Household worklessness and employment income

Given that the most important component of income, on average, is earnings from the labour market, an important driver of income inequality among children is the existence of households without an adult in paid work ('workless households').<sup>31</sup> Table 4.2 shows how worklessness has changed over the last 20 years. It splits the population of children into five equally-sized groups based on their (equivalised) household income, called quintiles, where quintile 1 is the poorest 20% of children and quintile 5 is the richest 20% of children.

The table shows that, in 2014–15, 37% of the children in the poorest fifth of the child population lived in a workless household. This compares with only 10% of children in the middle fifth being in a workless household and less than 1% in the richest fifth. Given that most income comes from employment, this gradient is to be expected. However, the gradient has reduced in a dramatic way over the past two decades as worklessness has

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<sup>31</sup> Analysis in Chapter 5 focuses on the effect that changes in worklessness have had on poverty.

**Table 4.2. Household employment characteristics, by quintile of child income distribution (GB)**

Quintile of child income distribution	Lives in workless household	Mother in work	Father in work	Father in work (among those with father in household)
<b>1994-95</b>				
1 (poorest)	60%	16%	29%	40%
2	41%	31%	43%	70%
3	10%	59%	75%	91%
4	2%	74%	89%	98%
5 (richest)	0%	80%	95%	99%
All	23%	52%	66%	82%
<b>2014-15</b>				
1 (poorest)	37%	30%	46%	64%
2	22%	43%	57%	84%
3	10%	69%	67%	93%
4	3%	84%	84%	97%
5 (richest)	0%	85%	94%	98%
All	15%	62%	70%	89%

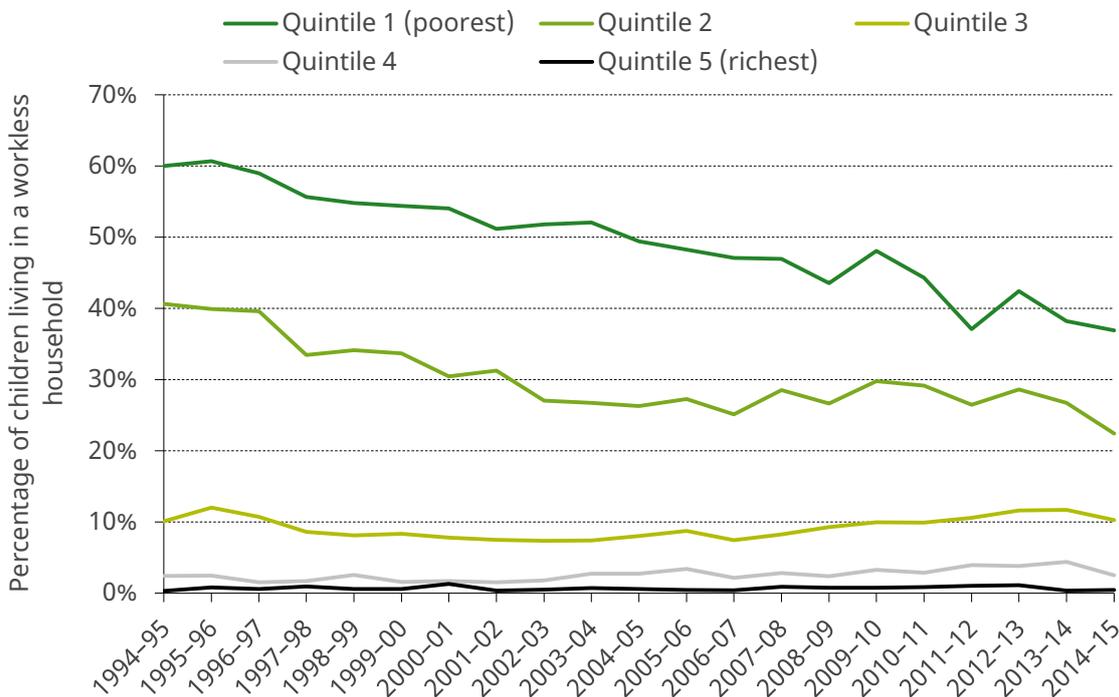
Source: Authors' calculations using the Family Resources Survey, 1994-95 and 2014-15.

declined. In 1994-95, 60% of the poorest fifth of children lived in a workless household – the worklessness rate in that quintile has fallen by 23 percentage points since then. In the second quintile, the worklessness rate has fallen from 41% to 22%. In the top three quintiles of the child income distribution, the household worklessness rate has stayed approximately constant (at a very low level).

The fall in household worklessness has been driven by increases in the employment rates of both mothers and fathers. The proportion of children in the bottom quintile with their mother in work has almost doubled from 16% to 30% over the last 20 years and the proportion with a father in work (and in the household) has risen from 29% to 46%. When we look only at households in the bottom quintile in which there is a father present, this proportion has risen from 40% to 64%. Employment rates of both mothers and fathers have also risen in the upper income quintiles, but this has not led to falls in household worklessness because it has instead increased the number of households with (at least) two adults in work.

Figure 4.2 shows that the large falls in worklessness for the poorest two quintiles are quite secular trends that have occurred almost continuously over the last 20 years. Worklessness in the poorest quintile fell from 60% in 1994-95 to 47% in 2007-08 and, despite a small increase during the recession, has fallen by a further 10ppt overall since 2007-08. A similar, albeit less dramatic, trend is seen in the second income quintile.

**Figure 4.2. Percentage of children living in a workless household, by quintile of child income distribution (GB)**



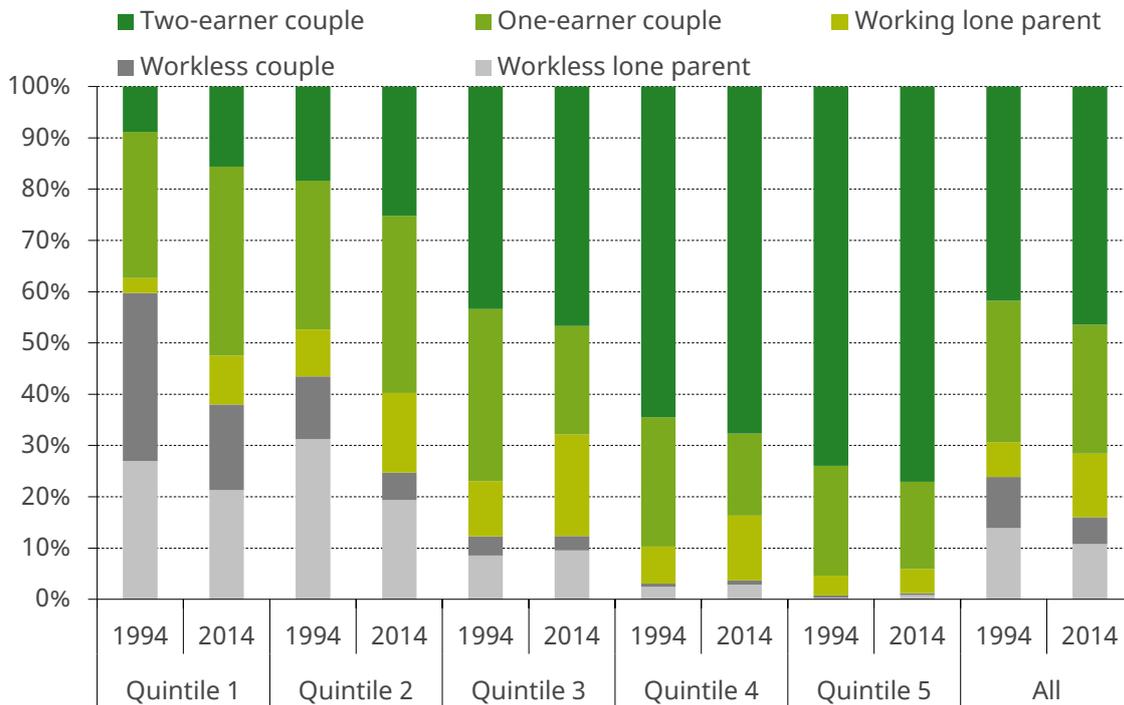
Source: Authors' calculations using the Family Resources Survey, various years.

Figure 4.3 looks more broadly at how patterns among families with children have changed across the income distribution, showing the proportion of children in each quintile who live in families with different numbers of workers and parents.<sup>32</sup> It is clear from the figure that falls in worklessness in the lower quintiles were driven by falls in the worklessness amongst both lone parents and couples. In terms of working families, the overall proportion of children living in a one-earner-couple family fell slightly from 28% to 25%, and these families moved significantly further down the income distribution: for example, the proportion of middle-quintile children living in a one-earner-couple family fell from 34% to only 21%, but in the poorest quintile this proportion rose from 29% to 37%. There was also a rise in the proportion of children with two working parents, from 42% to 46%; this rise occurred right across the income distribution.

To determine the extent to which falls in household worklessness have affected child income inequality, and to understand the other drivers of changing inequality, we can decompose income growth over the last 20 years in each quintile into that driven by changes in employment income, benefit and tax credit income and 'other' income (which is very small for households with children). In the same way as is done in Figures 3.11 and 3.12 in Chapter 3, we then split the change driven by net employment income into that driven by changes in household worklessness (shown in light green) and that driven by changes in the earnings of households with at least one adult in work (shown in dark

<sup>32</sup> Note that Figure 4.3 looks specifically at the work status of the parents of the child, whereas there could be other workers in the household who are not their parents.

**Figure 4.3. Percentage of children living in different types of family, by quintile of child income distribution, 1994-95 and 2014-15 (GB)**



Note: Years refer to financial years. Quintiles refer to quintile of the child income distribution.

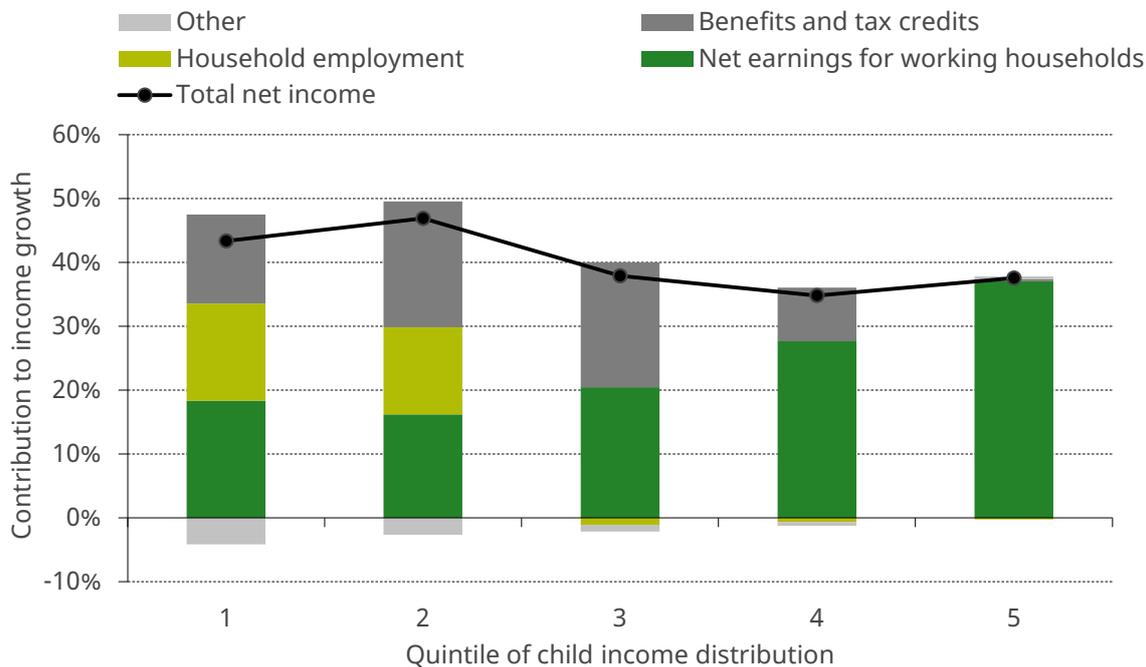
Source: Authors' calculations using the Family Resources Survey, 1994-95 and 2014-15.

green). As explained more fully in Chapter 3, this analysis is *not* a counterfactual analysis. For example, it does not show how total income would have grown in the absence of changes in employment, because for that one would need to account for the knock-on effects of increases in employment reducing entitlements to benefits. However, it does show how different sources of income have contributed to income growth in different parts of the income distribution and how this translates into changes in inequality. The result of this analysis is shown in Figure 4.4.

The black line in the figure shows that mean household income growth among children over the last 20 years has been 43% in the bottom quintile, 47% in the second quintile, and between 35% and 38% in the third, fourth and fifth quintiles. This is consistent with the falling 50:10 ratio and relatively stable 90:50 ratio seen in Figure 4.1.

Figure 4.4 shows that falls in worklessness have helped to reduce inequality between the bottom and the middle of the child income distribution. Falls in worklessness significantly contributed to income growth in the first and second quintiles, making contributions of 15ppt and 14ppt respectively. This has not been important for the middle and top of the income distribution. Put another way, falls in worklessness have contributed over a third of all income growth for the bottom quintile since 1994-95, 30% of the income growth in the second quintile and nothing for the upper quintiles, and they have been a major reason for the falls in the 50:10 ratio for children seen over the last 20 years.

**Figure 4.4. Decomposition of net income growth from 1994–95 to 2014–15, by quintile of child income distribution (GB)**



Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors’ calculations using the Family Resources Survey, 1994–95 and 2014–15.

### Changing benefit incomes and childhood inequality

Figure 4.4 also allows us to understand how changes in benefit incomes have affected child inequality. The contributions of benefits and tax credits to incomes in different parts of the distribution are very different from those of employment income. The fall in the 50:10 ratio measure of inequality – the gap between the bottom and middle – was not an artefact of changing benefit incomes. Since 1994–95, benefits and tax credits have accounted for 14ppt of overall income growth in the bottom quintile. This compares with 20ppt for both the second and middle quintiles, and nothing for the top quintile.<sup>33</sup>

This raises questions, given that previous work (for example, Browne and Hood (2015)) has shown that reforms to the tax and benefit system were targeted to boost in particular the incomes of poor children. Why does this analysis show that changes in benefit incomes have not acted to reduce inequality between the bottom and the middle of the child income distribution? There are at least two likely contributing factors.

First, the falls in household worklessness mean that poor children are now far more likely than in the past to have working parents. Given that most working-age benefits are means tested, large increases in employment income for the poorest families with children will have, all else equal, reduced the amount of benefits and tax credits that they

<sup>33</sup> One might think that a reason for the growth in benefit incomes in the middle quintile could be rises in rents, which lead to higher housing benefit payments. However, the vast majority of the growth in benefit income in the middle quintile (and the lower quintiles) is driven by increases in benefits other than housing benefit.

receive. This suppresses growth in benefit incomes in the bottom two quintiles of the child income distribution.

The second potential reason that changes in benefit incomes did not end up reducing inequality between the bottom and the middle of the child income distribution could be that increases in benefits for some groups moved them up towards the middle of the distribution. For example, the big increases in generosity of in-work support for lone parents would have moved those households further up the income distribution relative to working families who did not receive such large benefit increases. In so far as this acts to move children into the middle of the distribution, it need not act to reduce inequality between the middle and the bottom.<sup>34</sup>

Figure 4.4 also shows that changes in benefit income have had a significant impact on inequality between the middle and the top of the distribution. Changes in net employment income acted to increase household income inequality within the top half of the child distribution, as one would expect given that earnings grew over this period and they make up a greater share of income for the highest-income households, and that earnings inequality increased. But this effect was counteracted by the large growth in benefit incomes in the middle of the income distribution, leaving the 90:50 ratio roughly unchanged.

One important reason that growth in benefit incomes has helped to prevent a rise in inequality between the middle and the top of the child income distribution is the very large proportional growth in benefit incomes for working families with children. This is largely because some of the most significant increases in entitlements in the late 1990s and early 2000s were to in-work support (in particular, tax credits), and indeed some of the beneficiaries were groups who would previously have had no means-tested entitlements at all.

Figure 4.5 and panel A of Table 4.3 show the growth in average real benefit incomes since 1994–95 for different family types. The largest proportional increases in benefit incomes have been for working families with children, who generally have higher incomes than workless families. Figure 4.5 also shows that this pattern was driven by certain periods. In particular, average benefit incomes paid to one-earner and two-earner couples with children jumped in 2003–04, when working families' tax credit was replaced with working tax credit and child tax credit. Some of the growth in benefit incomes for children of working couples has been reversed in recent years, particularly for two-earner couples. This is to be expected given cuts that make child tax credit extend less far up the income distribution, as well as real cuts to working tax credit.

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<sup>34</sup> This is a case of the more general issue of 're-ranking' of households in the distribution, which cannot be observed with repeated cross-section data such as the FRS which do not follow the same households over time. See Jenkins and Van Kerm (2006) for an analysis of the effect that re-ranking can have on impressions of what has happened to the income distribution over time.

**Figure 4.5. Growth in mean equivalised benefit income for children, by family type (GB)**

Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

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

**Table 4.3. Mean household equivalised benefit income for children, by family type and by income quintile (GB)****A. By family type (based on work and number of parents)**

	Workless lone parent	Working lone parent	Workless couple	One-earner couple	Two-earner couple	All
1994-95	£194	£98	£166	£45	£24	£72
2014-15	£278	£164	£229	£95	£38	£104
% change	43%	67%	38%	111%	61%	44%

**B. By quintile of child income distribution**

	Quintile 1 (poorest)	Quintile 2	Quintile 3	Quintile 4	Quintile 5 (richest)	All
1994-95	£114	£118	£65	£39	£25	£72
2014-15	£135	£162	£123	£73	£28	£104
% change	19%	37%	90%	86%	9%	44%

Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded. Monetary figures have been rounded to the nearest £1. Cash numbers have been expressed as an equivalent for a childless couple.

Source: Authors' calculations using the Family Resources Survey, 1994-95 and 2014-15.

Overall, we can summarise the growth in average real benefit incomes by looking at the proportional growth in benefit incomes across the child income distribution. This is shown in panel B of Table 4.3. The highest proportional growth in benefit incomes was in the middle quintile, at 90% over the last 20 years. This compares with 37% in the second quintile and 19% for the poorest fifth of children. It is important to be clear that, on average, the level of benefits paid to lower-income children is much higher than that paid to middle-income children, as the monetary figures in Table 4.3 make clear. Figure 4.5 just shows the proportional growth, which for some middle-income families was high, but starting from a low base. Hence, as a driver of growth in overall income, benefit reforms were still most important for households with children that would otherwise have had the lowest incomes, as numerous analyses have shown (for example, Browne and Hood (2015)).

In summary, falls in household worklessness over the past two decades mean that inequality between low-income and middle-income children is lower than it used to be. Meanwhile, inequality between high-income and middle-income children has been stable because of two offsetting factors: earnings trends have pushed inequality up but middle-income households with children receive more benefits than they used to.

### The changing composition of household income for children

The trends documented above have had important implications for the proportion of household income coming from different sources for richer and poorer children. Table 4.4 allows us to see how much different income sources have grown, and what proportion of

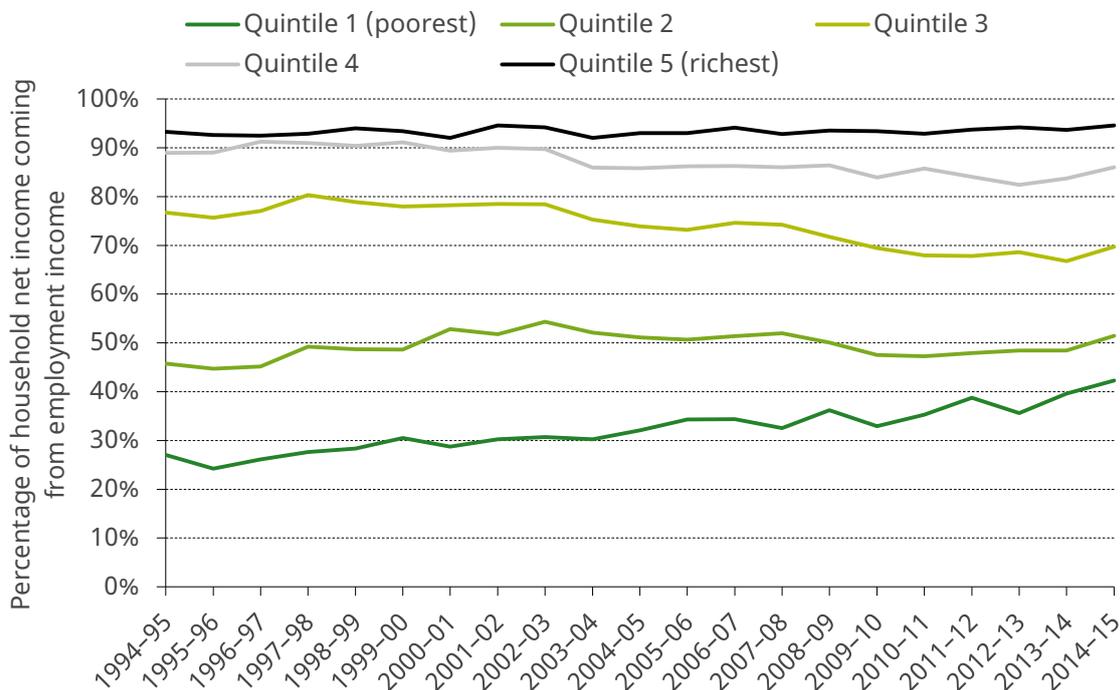
**Table 4.4. Components of household income, by quintile of child income distribution (GB)**

Quintile of child income distribution	Household net employment income	Female net employment income	Male net employment income	Benefits
<b>Share of household income in 1994–95</b>				
1 (poorest)	27%	7%	20%	73%
2	46%	11%	35%	53%
3	77%	19%	58%	22%
4	89%	23%	66%	10%
5 (richest)	93%	25%	69%	4%
<b>Share of household income in 2014–15</b>				
1 (poorest)	42%	15%	27%	61%
2	51%	16%	36%	49%
3	70%	26%	43%	30%
4	86%	31%	55%	14%
5 (richest)	95%	34%	61%	3%

Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

**Figure 4.6. Net employment income as a percentage of household income, by quintile of child income distribution (GB)**



Note: Children living in households subject to the SPI adjustment or with zero incomes have been excluded.

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

income is now composed of income from benefits and from employment (after taxes). The latter is also split into employment of men and of women. By 2014-15, 42% of the net household income of the poorest fifth of children came from employment – up from 27% in 1994-95. On the other hand, for middle-income children, the proportion of income coming from employment has fallen, from 77% to 70%. For the top quintile, it was almost unchanged at around 95%.

Figure 4.6 shows the fraction of household income coming from employment in each quintile for each year since 1994-95. The strong growth in the importance of employment income for the bottom quintile is a secular trend, as its share has increased in almost every year since the mid 1990s, mirroring the fall in worklessness for this quintile. However, the change in the importance of employment income for the poorest fifth of children has accelerated in recent years: the share has risen from 33% to 42% since 2007-08 alone. This is likely to be related to falls in earnings, which have pulled more working households down into the lower reaches of the income distribution (see Belfield et al. (2015)).

The trends for the second quintile show a different pattern. The share of income coming from employment rose quickly between 1994-95 and 2002-03 (from 46% to 54%), but gradually fell back from 2003-04 onwards to reach 47% in 2010-11. This is partly the result of no falls in household worklessness for this group between 2003-04 and 2010-11 (see Figure 4.2) and the large growth in benefits for working families shown in Figure 4.5. The

effect of the increases in benefits to working families in 2003–04 can be seen in the third and fourth quintiles, with the fraction of income from employment falling for both groups.

Table 4.4 also shows the decomposition of employment income into that from men and women. We see that for families with children, there has been a big reduction in the disparity in income earned by men and women in the household. Of course, quite apart from the impacts of changing male and female employment on inequality when measuring incomes at the household level, this kind of reduction in within-household inequality is in itself an important development. It has occurred across the distribution. To take the middle income quintile of children as an example, in 1994–95 only 19% of household income came from women’s employment, as opposed to 58% from men’s employment. By 2014–15, the proportion from women had risen to 26% and that from men had fallen to 43%.

Finally, the corollary to the changing relative importance of employment incomes has been changes in the relative importance of benefit incomes. Over the last 20 years, the fraction of income coming from benefits for the poorest **fifth** of children has fallen from 73% to only 61%, while the fraction coming from benefits for middle-income children has risen from 22% to 30%. It is broadly unchanged, at a very low level (3–4%), for the richest **fifth** of children.

It is crucial for the design of policy, and for the understanding of current and future trends in incomes among households with children, to be aware of these radical changes in the sources of income received by different kinds of household. Changes to benefit rates will now tend, on average, to affect children who are significantly further up the distribution than in the past (though, of course, it remains the case that they will tend to affect low-income children most), while earnings trends for parents have the potential to affect the poorest children to a far greater extent than would have been the case in the past.

### 4.3 Characteristics of rich and poor households with children

Section 4.2 showed that, compared with 20 years ago, there have been big changes in the composition of household income in different parts of the child income distribution. Here, we briefly document some of the other differences between richer and poorer children and how they have changed. This is important when thinking about how inequalities in income relate to other inequalities, such as in housing.<sup>35</sup> Table 4.5 shows some characteristics of households with children in each quintile of the (child) income distribution in 1994–95 and 2014–15.

Poor children are less likely to be in large families than they used to be. And the average age of children in the top and bottom quintiles is now essentially the same, whereas young children used to be over-represented in poorer families. This fits with Brewer et al. (2013), who showed that poverty reductions in the early 2000s were particularly concentrated in families with at least three children and among families with young children, in large part because they were relatively favoured by benefit changes.

<sup>35</sup> Note that there is much of interest that is not captured in the FRS data, such as health or access to high-quality education.

**Table 4.5. Characteristics of households with children, by quintile of child income distribution, 1994–95 and 2014–15 (GB)**

Quintile of child income distribution	No. of children in family	Child's age	Lives in lone-parent family	Social-rented home	Owner-occupied home	Private-rented/other home
<b>1994–95</b>						
1 (poorest)	2.8	7.6	30%	50%	40%	9%
2	2.4	7.8	40%	45%	43%	12%
3	2.1	8.2	19%	20%	69%	11%
4	2.0	8.4	10%	8%	85%	7%
5 (richest)	1.9	8.7	4%	3%	94%	4%
All	2.3	8.1	21%	25%	66%	9%
<b>2014–15</b>						
1 (poorest)	2.3	8.4	31%	37%	37%	26%
2	2.4	8.2	34%	35%	36%	29%
3	2.1	8.3	29%	22%	50%	27%
4	1.9	8.2	15%	10%	71%	19%
5 (richest)	1.8	8.3	6%	2%	87%	11%
All	2.1	8.3	23%	21%	56%	23%

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

The table also shows the housing tenure of richer and poorer households and how it has changed. As is well known, there has been a fall in homeownership. The proportion of children living in an owner-occupied home has fallen from 66% to 56% since 1994–95, with the biggest falls in the third and fourth quintiles. For example, in the mid 1990s, nearly 70% of middle-income children lived in owner-occupied housing and 30% in rented accommodation. By 2014–15, the proportions were 50:50.

Finally, Table 4.5 also shows that there have been big changes in the place in the income distribution of children living in lone-parent families. While there has been a fall in the proportion of the poorest 40% of children living in lone-parent families, there have been rises in the proportion of children who are living in a lone-parent family in each of the top three quintiles. This is due to the substantial income growth seen by children of lone parents compared with children of couples over the last 20 years: the median household income of children of lone parents was two-thirds (66%) of that of children of couple parents in 1994–95, but 77% in 2014–15. A key factor has been large employment increases among lone parents – according to the Labour Force Survey, lone mothers' employment rates rose from 43% in 1996 to 62% in 2014<sup>36</sup> – though benefit and tax credit increases

<sup>36</sup> [http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171776\\_388440.pdf](http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/dcp171776_388440.pdf).

have been important too (and there is evidence that tax credits contributed to the rise in lone-parent employment<sup>37</sup>).

Table 4.6 brings together the findings from Table 4.5 with some of those from earlier in the chapter, highlighting an interesting pattern. In key respects, poor and middle-income children look more similar to each other economically than they used to; while middle-income children look more different from high-income children than used to be the case. Not only is the 50:10 income ratio (measured BHC) lower in 2014–15 than it was 20 years previously. The rise in the importance of benefit income for the middle 20% and the rise in the importance of employment income towards the bottom mean that the sources of income between the two groups are much less different than they used to be as well. And the housing tenures of middle-income children are now much closer to those of the lowest-income children than to those of the highest-income children, whereas 20 years ago they were roughly midway between the two.

Of course, the incomes of each of these groups have changed significantly in absolute terms since 1994–95. Strong income growth in the late 1990s and early 2000s means that real median income for children has grown by 39% overall since 1994–95, although real median income for children was only 2% higher in 2014–15 than it was in 2007–08. Average income for middle-quintile children is now higher than it was for the fourth quintile in 1994–95. Hence, while middle-income children look more similar to low-income children than they were 20 years ago, today's middle-income children have income levels more akin to those of high-income children 20 years ago. On the other hand, homeownership

**Table 4.6. Changes in the composition of income and household owner-occupation rates for children in the poorest, middle and richest income quintiles (GB)**

Quintile of child income distribution	Percentage of income from employment	Percentage of income from benefits	Lives in owner-occupied home
<b>1994–95</b>			
1	27%	73%	40%
3	77%	22%	69%
5	93%	4%	94%
<b>2014–15</b>			
1	42%	61%	37%
3	70%	30%	50%
5	95%	3%	87%

Note: When considering incomes, children living in households subject to the SPI adjustment or with zero incomes have been excluded.

Source: Authors' calculations using the Family Resources Survey, 1994–95 and 2014–15.

<sup>37</sup> For example, see Blundell and Hoynes (2004).

rates really have fallen in absolute terms across the board, as well as becoming more similar between the middle and the bottom of the child income distribution.

## 4.4 Conclusion

This chapter has focused on trends in household income inequality among children – a topic likely to be of particular interest either in its own right or because of the effects that inequalities in childhood may have on the life chances of different children.

Inequality between the middle and the bottom of the distribution is significantly lower than it was 20 years ago. In 1994–95, the child at the median had an income 80% higher than a child at the 10<sup>th</sup> percentile. By 2014–15, median child income was only 70% higher than at the 10<sup>th</sup> percentile. A major reason for this measure of child inequality falling has been the remarkable fall in the share of children living in a workless household. The poorest fifth of children are now 20 percentage points less likely to live in a workless household. Given the government’s focus on household worklessness in its ‘life chances’ agenda, in Chapter 5 we investigate in more detail the potential for further falls in worklessness to reduce poverty.

Meanwhile, inequality between high-income and middle-income children has been stable because of two offsetting factors: earnings trends have pushed inequality up, but middle-income households with children get more benefits than they used to. The significant role of benefit income in holding down inequality between the middle and the top of the distribution is perhaps not the story one would have expected.

Not only are income differences smaller between poor and middle-income children than they were 20 years ago, but the composition of income is more similar too. It is, of course, still the case that poorer children’s households tend to get more of their income from benefits, and less from earnings, than higher-income households with children. But this disparity has changed markedly. It is crucial for the design of policy, and for the understanding of current and future trends in incomes among households with children, to be aware of these radical changes in the sources of income received by different kinds of household. For example, falls in household worklessness are likely to be a less powerful lever in helping the poorest children than was the case in the past. Benefit levels have the potential to affect middle-income households with children more than they used to. And trends in parental pay are now much more important in determining the plight of the poorest children (and slightly less important for children from middle-income households) than used to be the case.

## 5. Poverty

### Key findings

**In 2014–15, the official absolute income poverty rate in the UK was 20.3%, measuring incomes after housing costs.**

This was a (statistically significant) fall of 1.3 percentage points (700,000 people) from 2013–14, reflecting real income growth for low-income households. Overall, despite small fluctuations up and down, both absolute and relative income poverty are at roughly the same levels as in 2004–05, as are the separate measures of ‘material deprivation’ that are available for children.

**Relatively small changes in poverty since the recession began mask important counteracting trends.**

The net effect of labour market changes since 2007–08 was to push up the absolute poverty rate of non-pensioners by about 1.6 percentage points, as falls in real earnings outweighed lower household worklessness. But at a given level of household earnings, the risk of poverty for non-pensioners tends to be lower than in 2007–08, due largely to growth in benefits between 2007–08 and 2009–10. This acted to reduce their absolute poverty rate by 2.9 percentage points.

**Recent falls in household worklessness continued a now long-running trend.**

The proportion of children living in a workless household fell from 23% in 1993–94 to 13% in 2014–15. Focusing just on children in lone-parent households, the household worklessness rate fell from 65% to 39% over the same period.

**The share of low-income children who live in a workless household has fallen from 46% in 2003–04 to 33% in 2014–15.**

Half of this decline was driven by falling household worklessness, with the rest due to rising poverty rates in working households. Hence, the problem of income poverty in the UK is far less about worklessness than it used to be. Eliminating household worklessness entirely would reduce child income poverty by no more than 5 percentage points, from 28% to 23% (and probably less than that). To the extent that the government wishes to improve the current living standards of children (as well as their ‘life chances’), its heavy emphasis on worklessness looks somewhat narrow.

### Key findings continued

**There is much that household income does not tell us about which households have the lowest living standards.**

One way of seeing this is to compare material deprivation rates across different groups of families with children. For example, private renters above the poverty line are as likely to be deprived as owner-occupiers below the poverty line, and social renters above the poverty line are twice as likely to be deprived as owner-occupiers below the poverty line. The material deprivation of households with similar incomes also differs substantially according to worklessness, disability, lone-parent status and ethnicity.

**Families that report unsecured debt (e.g. credit cards) to be a 'heavy burden' are also much more likely to be materially deprived than others with the same household income.**

Looking at the second-lowest-income tenth of the population, 65% of those reporting that debt is a heavy burden are materially deprived, compared with 40% of other households in that income bracket. Of those in the top 40% of the income distribution who are also materially deprived, around half report that unsecured debt is a heavy burden.

The previous two chapters have focused on changes in income inequality. We now turn our attention specifically to changes in the living standards of poor households. We examine what has caused changes in income poverty in recent years and provide analysis of two important policy issues relevant to the debate on how to tackle poverty. In particular, we look at the extent to which falling worklessness has led to falling child poverty, and the capacity for it to drive future falls in child poverty; and we examine other measures of low living standards and particularly look at the relationships between income, saving, debt and deprivation. These are important to understand given the government's focus on problematic debt and encouraging saving among poorer families.

We refer to two main income-based measures of poverty. 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 is lower than 60% of median income in the current (contemporaneous) year. In both cases (absolute and relative), incomes are

adjusted for differences in household size and composition ('equivalised') to reflect that larger households need more income than smaller households to achieve the same standard of living. To give a sense of monetary amounts, in 2014–15, 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 £141 and £340 respectively. Table B.1 in Appendix B 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 cut-off points are similar, absolute and relative poverty are very different concepts, and they can give a very different impression of the level and trends in income poverty over time. For example, rising absolute poverty occurs 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, there can be a rise in relative poverty even if there is no change in the real incomes of low-income households: an increase in median income can lead to the relative poverty line (and therefore relative poverty) rising. We believe it is useful to track both absolute and relative measures of poverty. In the long run, society's view about what is an acceptable standard of living evolves, and it seems plausible that it evolves roughly in line with the level of resources available to society as a whole. Therefore it is appropriate for a poverty line to change over time in a way that relates to average income, as does the relative poverty line. However, in the short run, there is obviously interest simply in whether people are getting better or worse off in absolute terms. This has certainly been the case since the recession. More generally, it is doubtful whether society's views about what constitutes acceptable living standards change year to year as median income changes. Hence changes in the absolute poverty rate are important too and, because we tend to focus here on recent trends, we largely focus on trends in absolute poverty.

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, for a combination of reasons. First, large numbers of low-income households have most (if not all) of their housing costs covered by housing benefit. If rents rise for a reason not related to the quality of the housing and this entitles a household to higher housing benefit then, using a BHC measure of income, these households are measured as better off even though their actual standard of living has not changed. Using AHC measures of income and poverty mitigates this problem. Second, in recent years, BHC measures of poverty are problematic as they imply that falling mortgage interest costs simply benefit all households equally through lower inflation, whereas in fact relatively few poor households have mortgages. Once again, an AHC measure of poverty does not suffer from this problem as each household's actual housing costs are deducted from their income. A more detailed discussion of poverty measures is included in Appendix A.

The Family Resources Survey (FRS) and HBAI data allow us to look at other measures of deprivation or hardship besides income. We examine trends in rates of 'material deprivation' and look at how these measures compare with income-based measures of poverty. The FRS contains a suite of questions on what goods and services families feel able to afford. If the number of goods that a family says it cannot afford is large enough (where each good is weighted according to the overall share of families who say they can

afford it), that family is classified as ‘materially deprived’. The questions ask, for example, whether families can afford to heat their home properly or to save a small amount of their income each month for a rainy day. This measure is a useful complement to income-based measures of poverty and can help to overcome some of their limitations, such as the fact that many households have incomes that change significantly over time and therefore a snapshot of their current income will not fully capture their actual material living standards. Indeed, according to the Office for National Statistics (ONS), in 2014, 6.5% of the population were categorised as being in ‘persistent poverty’<sup>38</sup> compared with a ‘snapshot’ poverty rate of 16.8% (based on a slightly different definition from that used in this analysis). Although the UK had a ‘snapshot’ poverty rate near the average for the EU, it had the third-lowest ‘persistent poverty’ rate.

The main sections in this chapter are as follows. Section 5.1 provides analysis of trends in absolute and relative income poverty and material deprivation in recent years. Section 5.2 examines the role that falling worklessness rates play in reducing child poverty and how this may be changing. Section 5.3 examines the relationship between incomes and measures of financial difficulties. Section 5.4 provides discussion of potential future trends in poverty and Section 5.5 concludes.

## 5.1 Trends in absolute and relative poverty and material deprivation

### Trends in absolute poverty

In 2014–15, the absolute poverty rate in the UK when measuring incomes after deducting housing costs (AHC) was 20.3%, which corresponds to 12.9 million individuals. This was a fall of 1.3 percentage points (700,000 individuals) from 2013–14 and 1.8ppt (1.0 million) since the recent peak in 2012–13 – falls that are statistically significant. In fact, the absolute poverty rate was lower (although not statistically significantly so) in 2014–15 than in any previous year and 0.9ppt below its previous low in 2010–11. The falls in absolute poverty over the last two years are a counterpart to the growth in incomes seen towards the bottom of the income distribution, which have already been analysed in Chapters 3 and 4.

Figure 5.1 shows the overall absolute poverty rate since 1996–97, as well as the absolute poverty rate for three major subgroups of the population: children, pensioners and working-age adults without dependent children (‘non-parents’). In particular, it shows that:

- Absolute child poverty fell in 2014–15 by 1.1ppt (100,000 children) to reach 27.5% (3.7 million children), although this one-year fall was not statistically significant. The rate has now fallen (significantly) since 2012–13 (having risen between 2010–11 and 2012–13) and is back at its 2010–11 level.
- Absolute pensioner poverty reached 12.8% in 2014–15, a relatively large (and significant) fall of 1.6ppt, having been stable at around 14% since 2009–10.

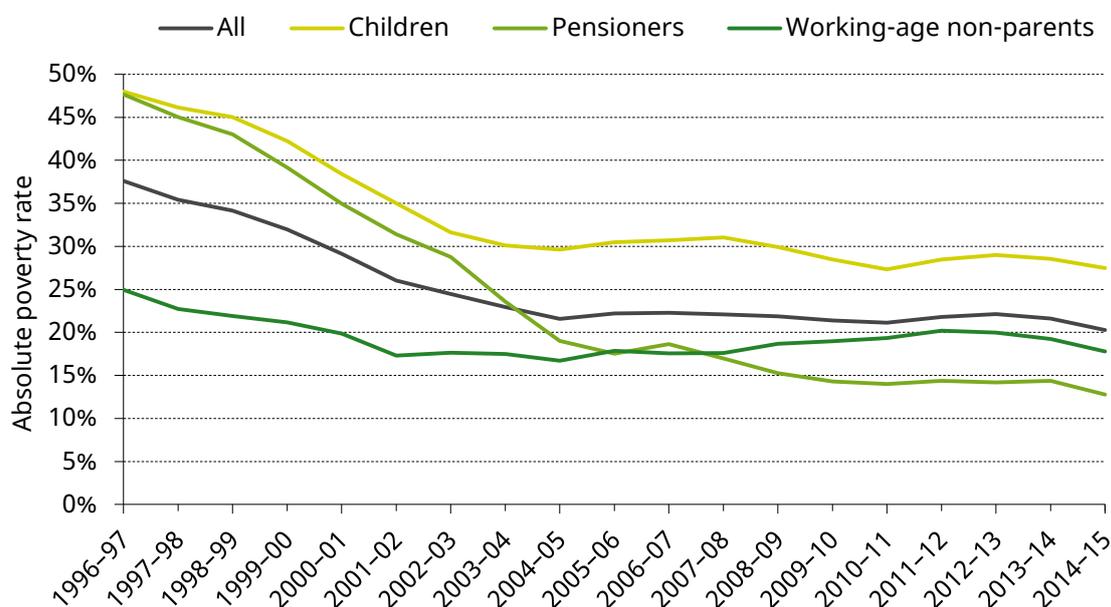
<sup>38</sup> This is according to the Eurostat definition of persistent poverty, which includes households that are in poverty in the current year and were in poverty in at least two of the preceding three years. See <https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/articles/persistentpovertyintheukandeu/2014> for more details.

- Having risen gradually throughout the mid-to-late 2000s and early 2010s, the absolute poverty rate for working-age adults without dependent children has fallen by 2.4ppt since its recent peak in 2011–12 (and fallen by 1.5ppt in 2014–15 alone) to reach 17.8%, returning it to around the level seen between 2005–06 and 2007–08.

Figure 5.1 also puts the recent changes in the context of changes in poverty rates since 1996–97. It shows that:

- Absolute AHC poverty has been largely flat for the last 10 years, with only small fluctuations up and down, leaving it 1.3ppt lower than its level in 2004–05.
- In the years prior to 2004–05, there was rapid income growth at the bottom of the income distribution, which caused absolute poverty to fall from 37.6% in 1996–97 to 21.6% in 2004–05. Note that the very high poverty rate in 1996–97 is the consequence of using an absolute poverty line that was rebased in 2010–11, after much income growth in the interim. This illustrates why, when starting to make longer-term comparisons, we believe that absolute poverty measures using a constant real-terms poverty line can quickly become less useful.
- Pensioner poverty has continued to see more favourable trends than other groups: it is now 6.2ppt lower than its level 10 years ago, compared with 2.1ppt lower for children and 1.1ppt higher for working-age non-parents. In a major turnaround, pensioners now have the lowest absolute (AHC) poverty rates of all the major groups.

**Figure 5.1. Absolute poverty rates (AHC) since 1996–97**



Note: 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 2010–11.

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

Pensioners have seen much more favourable trends in poverty than other groups over recent years for a number of reasons. Pensioner benefits have been increased much more quickly than working-age benefits. As was shown in Chapter 2, average incomes from pensioner benefits have risen by a total of 8.1% in real terms since 2007–08, compared with an increase of 1.2% for benefits paid to working-age families. Increases in the amount of private pension entitlements across successive cohorts of retirees have also been important (as shown by Emmerson, Heald and Hood (2014)), as has the rising employment rate of older people: the proportion of those aged 65 and over who are in paid work has risen from around 6% to 9.5% (according to the FRS) over the last decade.

### Poverty trends among non-pensioners

To understand the changes in poverty for non-pensioners in more detail, Table 5.1 shows the effect that the increases in employment and falls in earnings have had on absolute poverty since 2007–08. The analysis in this table splits the non-pensioner population into six groups based on the amount of gross income from employment (including self-employment) in the household. It shows to what extent changing household earnings and employment have affected poverty by isolating ‘compositional effects’ – changes in poverty arising from changes in the relative sizes of the groups – and ‘incidence effects’ – changes in poverty arising from changes in the rates of poverty within groups.

The changes in the labour market have affected the proportion of people in households with different levels of earnings. In particular, there have been falls in worklessness (i.e. falls in the proportion of people living in households with no earnings), but also increases in the proportion of people in households with low earnings, and hence falls in the proportion of people in high-earning households. The latter two points are the counterpart to the poor pay growth seen in the UK since the recession and to the increase in in-work poverty documented in Belfield et al. (2015). Overall, these changes in earnings

**Table 5.1. Decomposition of changes in absolute AHC poverty rate for non-pensioners by level of household gross employment income**

Gross household employment income (£ per week)	Absolute poverty rate		Fraction of population		Compositional effect (ppt)	Incidence effect (ppt)
	2007–08	2014–15	2007–08	2014–15		
None	70.7%	63.2%	14.5%	13.4%	–0.5	–1.0
£0 to £200	66.0%	58.1%	6.2%	7.8%	0.7	–0.6
£200 to £400	45.6%	44.1%	9.9%	12.5%	0.6	–0.2
£400 to £600	23.4%	18.9%	11.6%	12.7%	0.0	–0.5
£600 to £800	7.3%	5.8%	13.0%	12.9%	0.0	–0.2
£800+	1.7%	0.8%	44.9%	40.7%	0.9	–0.4
All	23.3%	22.0%	100.0%	100.0%	1.6	–2.9

Note: Excludes pensioners. Gross household employment income is the total pre-tax earnings from employment and self-employment in the household, expressed in 2014–15 prices.

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

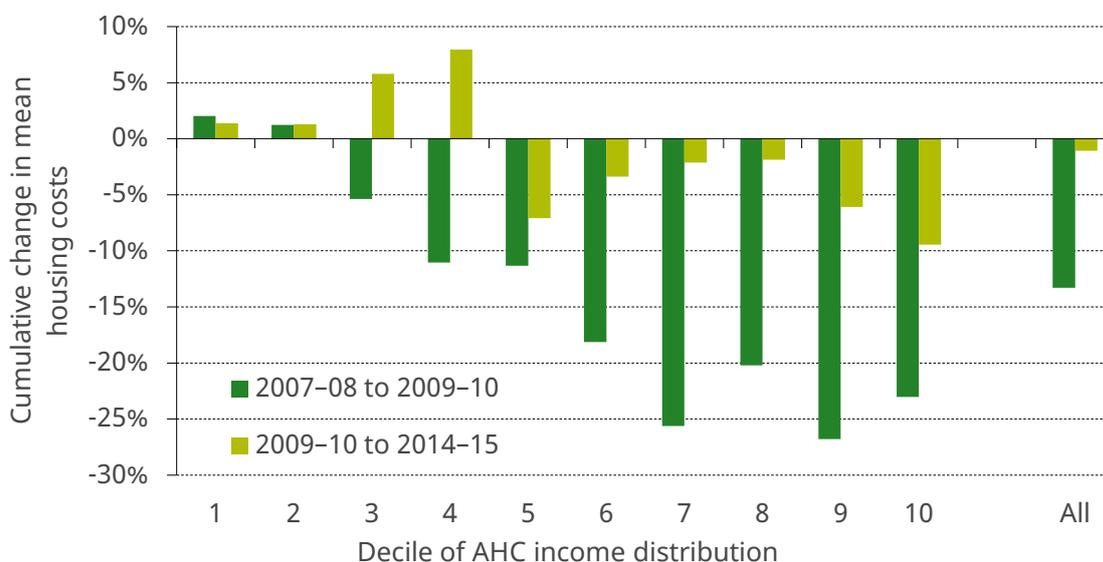
and employment have had a net effect of pushing up poverty by 1.6 percentage points since 2007–08: in other words, the falls in worklessness have been more than offset by falling earnings.

The reason why absolute poverty is nevertheless still lower than in 2007–08 is that, at a given level of household earnings (including workless households, i.e. those with zero earnings), the risk of poverty tends to be lower than it was before the recession. This is largely because benefit receipts are still higher than in 2007–08 due to large real increases between 2007–08 and 2009–10, as was shown in chapter 4 of Belfield et al. (2015). The contribution of these ‘incidence effects’ was to reduce poverty by 2.9ppt since 2007–08. Overall, this means that, although the net effect of earnings and employment changes since the recession has been to increase absolute poverty, this has been offset by the fact that the poverty risk for people on low earnings has fallen.

### Housing costs

As in previous chapters, it is often informative to look at changes in different components of income. But when measuring incomes after deducting housing costs, as we prefer to do when analysing poverty, it is also important to account for how housing costs change. Figure 5.2 presents the changes in average real housing costs by decile of the (AHC) income distribution, for two periods: 2007–08 to 2009–10 and 2009–10 to 2014–15. This shows that the largest changes in housing costs occurred in the aftermath of the financial crisis as mortgage interest rates plummeted. Higher-income households are more likely to own a home with a mortgage and so they benefited significantly more, with falls of over 15% on average in each of the deciles in the upper half of the income distribution.

**Figure 5.2. Change in mean household housing costs, by decile of AHC income distribution, 2007–08 to 2014–15**



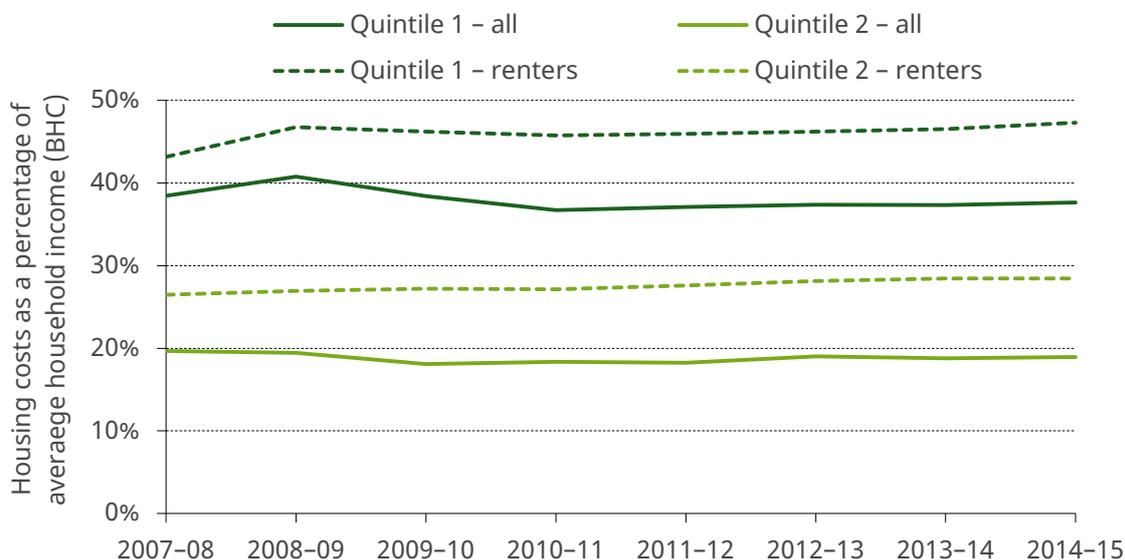
Note: Income and housing costs are both measured after equivalisation. Changes in mean housing costs are in real terms, adjusting for inflation using a measure of CPI that excludes housing costs.

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

In contrast, the changes since 2009–10 have been much more modest. In the bottom two deciles, there has been essentially no change in housing costs on average. There have been modest increases in mean real housing costs in the third and fourth deciles, of 6% and 8%, over the five years. Across the top half of the income distribution, housing costs have tended to fall further, albeit by much less than between 2007–08 and 2009–10. A similar pattern is seen if we look at housing costs net of the housing benefit paid to renting households (although the second decile – as well as the third and fourth deciles – have also seen modest increases in net housing costs when measured this way); the equivalent graph to Figure 5.2 but with housing costs shown net of housing benefit is Figure B.1 in Appendix B.

The rises in housing costs for the lower-middle part of the income distribution have acted to suppress AHC income growth for this group over the last five years. However, because the magnitude of these rises is not huge on average, and because housing costs are around one-fifth of income for these households, rises in housing costs have acted to reduce AHC incomes in the third and fourth deciles by a total of 1.5% over the last five years. Hence, although not negligible, rises in housing costs alone have not led to large falls in living standards for the lower-middle of the income distribution on average.<sup>39</sup> That said, these changes in housing costs are significant relative to the modest overall growth in incomes for these groups: since 2009–10, AHC income in the third and fourth deciles has only grown by 0.4% and 1.9% respectively.

**Figure 5.3. Housing costs as a percentage of net household income (BHC) for the first and second quintiles of the (AHC) income distribution**



Note: Income and housing costs are both measured after equivalisation.

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

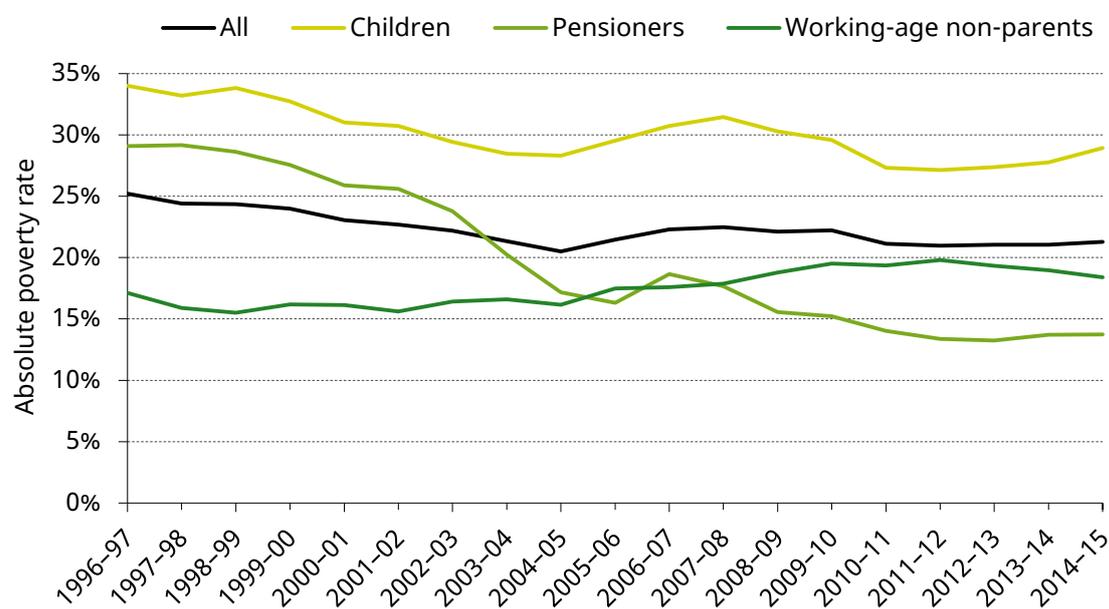
<sup>39</sup> It is worth noting that none of this accounts for the fact that the quality of the housing people are getting for their money may be changing over time. Forthcoming IFS research will be looking in detail at changes in housing quality and costs for low-income households in the rental sector.

We can also examine the proportion of net household income (measured before housing costs are deducted) that is spent on housing costs. Figure 5.3 presents this for the first (lowest-income) and second quintiles of the income distribution (based on AHC income, as in Figure 5.2), from 2007–08 to 2014–15.<sup>40</sup> It shows that housing costs as a fraction of income in the poorest quintile are essentially unchanged since 2010–11, at around 38%. Housing costs make up 19% of average income for the second quintile, also the same as in 2010–11. We can also look at the picture specifically for renters, as the minority of low-income households who owner-occupy have seen big falls in mortgage interest rates that have not directly benefited renters. For renters in the lowest income quintile, the proportion of income spent on housing costs is unchanged since 2008–09 (although the HBAI data record a rise of 4ppt in 2008–09); for renters in the second quintile, there has been a gradual increase in the proportion of income spent on housing costs, from 26% to 28%, since 2007–08.

### Trends in relative poverty

As noted in the introduction to this chapter, relative poverty provides a different concept of how the living standards of low-income households are performing, where an increase or decrease in poverty is caused by poorer households ‘falling behind’ or ‘catching up’ with middle-income households respectively. Figure 5.4 shows the trends in relative poverty (measured AHC) since 1996–97. In 2014–15, relative poverty was essentially unchanged from 2013–14, at 21.3%, and slightly lower than its previous peak of 22.5% in

**Figure 5.4. Relative poverty rates (AHC) since 1996–97**



Note: Figures are presented for GB up until 2001–02 and for the whole of the UK from 2002–03 onwards.

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

<sup>40</sup> Unlike the analysis in Figure 5.2, this ratio is affected by changes in average incomes, as well as by changes in housing costs. Note, of course, that for poor households, a large fraction of housing costs are covered by housing benefit.

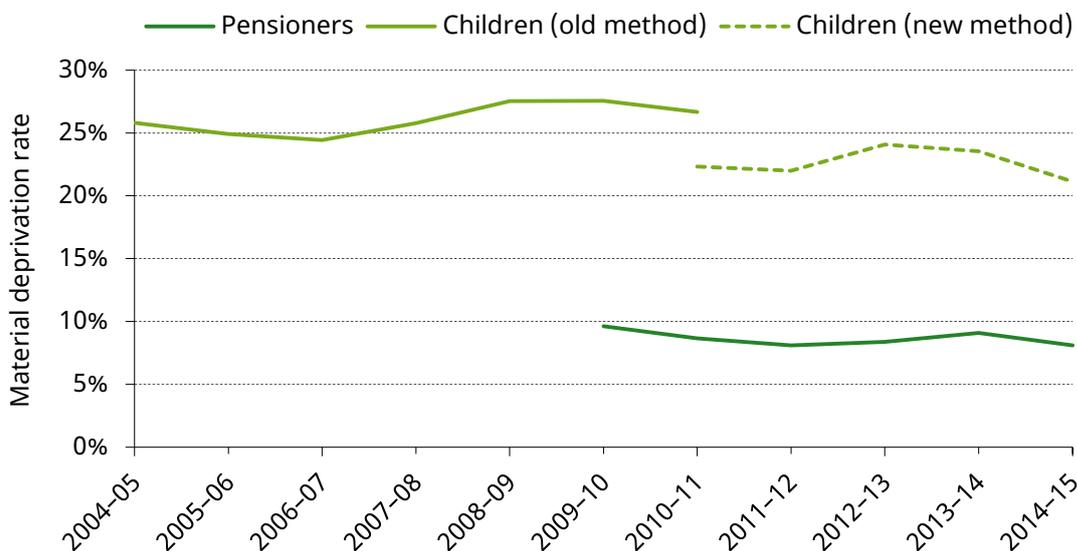
2007–08. The main finding from this is that overall relative poverty is not very different from its level 10 years ago, with rises prior to the recession as median income growth outpaced growth in low incomes, falls between 2007–08 and 2010–11 as median income fell faster than low incomes during the recession, and little change since then.

In general, over the past three years, trends in relative poverty look a little less favourable than trends in absolute poverty because median income (and hence the relative poverty line) has started to rise again. Finally, it is noticeable that over the last few years, relative child poverty has begun to rise, by 1.8ppt since 2011–12 (which is statistically significant). Given that we have actually seen falls in absolute child poverty over the same period, the two measures together tell us that the real incomes of children from low-income households have, if anything, risen but that they have risen less quickly than the incomes of middle-income households.

### Trends in material deprivation

Finally, as mentioned in the introduction to this chapter, it is useful to consider measures of deprivation other than income poverty. Figure 5.5 shows the changes in material deprivation rates captured in the Family Resources Survey. Material deprivation indices are calculated by asking families whether they can afford a certain set of goods and categorising them as materially deprived if they cannot afford a certain number of these items. Pensioners and working-age families with children are asked a different set of questions regarding what they can afford, so the rates should not be compared.<sup>41</sup> Measures of material deprivation can be useful complements to income-based measures of poverty because families can have temporarily low incomes due to, for example, a short

**Figure 5.5. Child and pensioner material deprivation rates**



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

<sup>41</sup> Moreover, 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); therefore child material deprivation rates are not directly comparable before and after 2010.

period of unemployment but not have low living standards based on the goods and services they consume. Note that the DWP's HBAI statistics do not include the measure of child material deprivation referred to here; instead, they report the number of children who are both materially deprived and in relative low income. Interested readers should read chapter 5 of Belfield et al. (2015) and chapter 6 of Cribb, Joyce and Phillips (2012) for more details on the construction of these measures.

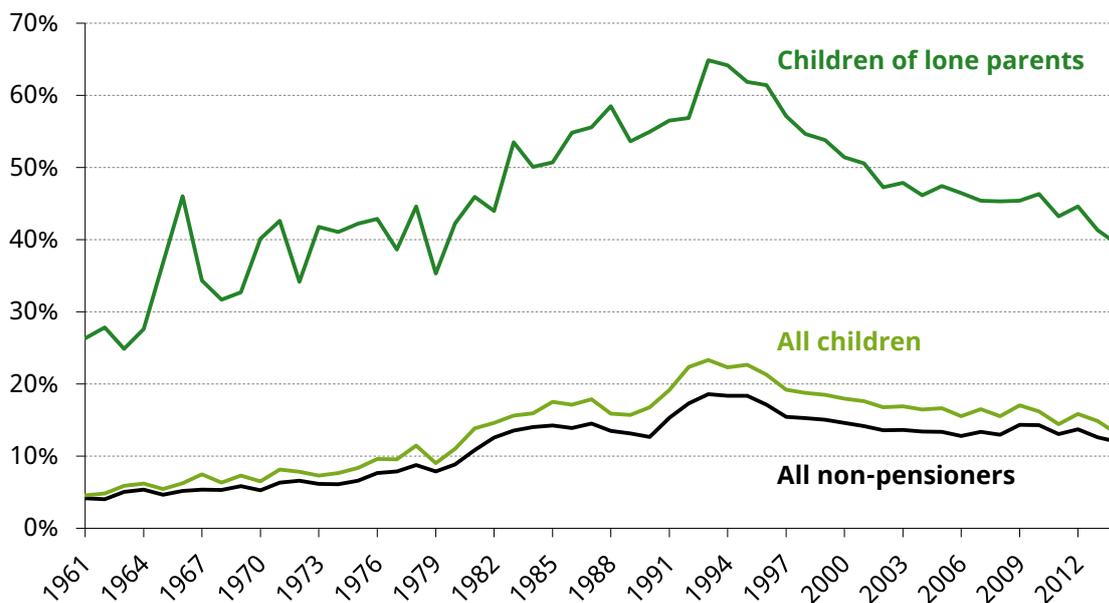
Recent trends in child material deprivation are relatively similar to those for absolute child AHC income poverty. Indeed, from 2008–09 to 2011–12, child material deprivation fell slightly (even allowing for the discontinuity due to a changing methodology), rose (significantly) in 2012–13, and fell in 2013–14 and (significantly) in 2014–15. This fits the overall pattern of falling absolute child poverty straight after the recession, increases from 2010–11 to 2012–13 and falls in the last two years. In 2014–15 alone, child material deprivation fell by 2.4ppt to reach 21.1%. Overall, once the discontinuity in 2010–11 has been accounted for, the rate of child material deprivation is now similar to its level before the recession in 2007–08 and when the series began in 2004–05. For pensioners, the changes are smaller, although, as with pensioner absolute poverty, pensioner material deprivation fell by 1ppt in 2014–15, to reach 8.1%, and it is now 1.5ppt lower than in 2009–10.

## 5.2 Worklessness and tackling child poverty

In the Welfare Reform and Work Act passed in March 2016, the government replaced the legally-binding 2020 child poverty targets with the obligation to report on a number of different measures of child poverty and life chances each year. Specifically, the government is required to publish not only the four income and material deprivation measures previously targeted, but also figures on the proportion of children living in a workless household and on educational attainment. In this section, we document past trends in the first of these new measures and explore the relationship between changes in household worklessness and the characteristics of children in income poverty. We then quantify how much one could expect further reductions in worklessness to reduce income poverty rates. This illustrates the importance of focusing on improving the living standards of low-income working households alongside reducing worklessness.

Between 1961 (when our data begin) and the mid 1990s, household worklessness increased dramatically, as shown in Figure 5.6. Looking at all non-pensioners (children and working-age adults), the proportion living in a household with no one in work rose from less than 5% in the early 1960s to a peak of 18.6% in 1993–94. The rise in the proportion of children living in a workless household was even steeper, reaching a peak of 23.3% in 1993–94. While the sharpest increases in worklessness corresponded to the recessions of the early 1980s and early 1990s, there was also clearly an underlying upward trend over this period. That trend was not the result of a falling individual employment rate, but of what has been termed the 'polarisation' of work across households.<sup>42</sup> The number of zero-earner households increased, as the number of single-person households (particularly

<sup>42</sup> Gregg and Wadsworth, 2001.

**Figure 5.6. Percentage of individuals living in a workless household (GB)**

Note: Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards. Children of lone parents are those in a household containing only one adult.

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

lone parents) rose and they became increasingly likely to be out of work. Simultaneously, growth in female employment led to a rising number of two-earner households.<sup>43</sup>

Since the mid 1990s, however, these trends in worklessness have reversed. The proportion of non-pensioners living in a workless household fell by over 6 percentage points in the 20 years from 1994–95, to 12.0% in 2014–15. The share of children living in a workless household fell even faster, by 9ppt in 20 years, to 13.1% in 2014–15. One of the key reasons for this steep decline is also shown in Figure 5.6: the proportion of children of lone parents living in a workless household fell from more than 60% in the mid 1990s to less than 40% in 2014–15.<sup>44</sup> This fall was itself in part the result of policy changes. In the late 1990s and early 2000s, significant increases in the generosity of in-work benefits for lone parents boosted their employment.<sup>45</sup> In the late 2000s, reforms requiring lone parents of younger children to look for work had a further positive effect on their employment rate.<sup>46</sup>

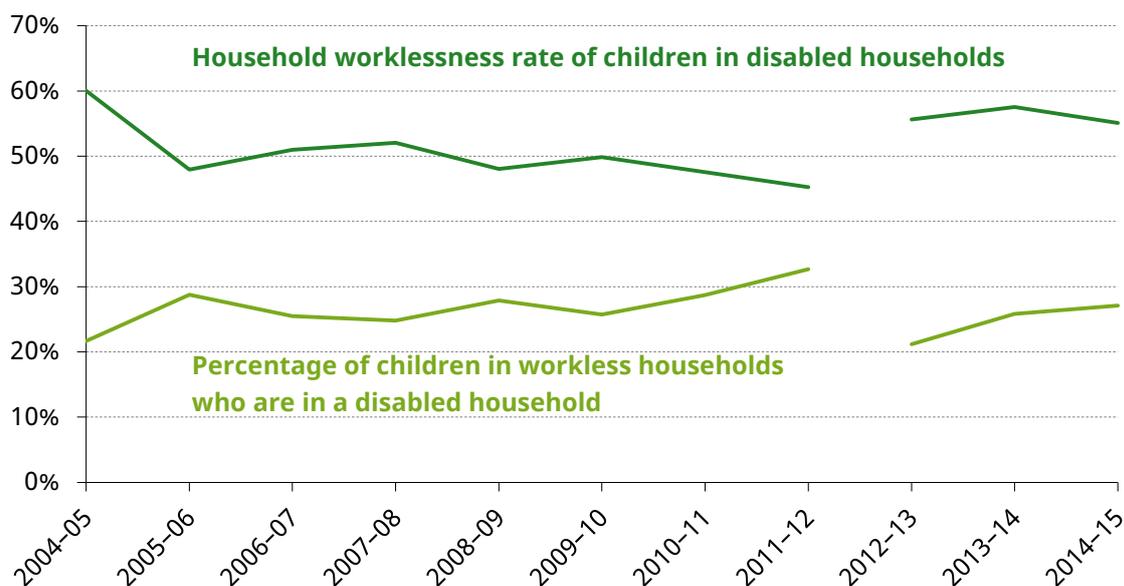
These large falls in household worklessness have been accompanied by important changes in the composition of the remaining population of workless households. In particular, the share of children living in workless households whose parents might be considered less close to the labour market on certain metrics has increased. For example, in 2014–15, 37% of children in a workless household were in a lone-parent household

<sup>43</sup> See Gregg and Wadsworth (2008).

<sup>44</sup> Children of lone parents are defined as those living in a household containing only one adult.

<sup>45</sup> See, for example, Blundell and Hoynes (2004).

<sup>46</sup> See Avram, Brewer and Salvatori (2013).

**Figure 5.7. Household worklessness and disability for children (GB)**

Note: A 'disabled household' is one in which all adults are disabled. Disability is defined using the definition from the 1995 Disability Discrimination Act until 2011-12 inclusive and the core definition from the 2010 Equality Act thereafter.

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

where the youngest child was under 5, compared with 29% in 1994-95. This increase was driven by the fact that (in proportional terms) the household worklessness rate fell much less quickly for that group than for the rest of the child population.

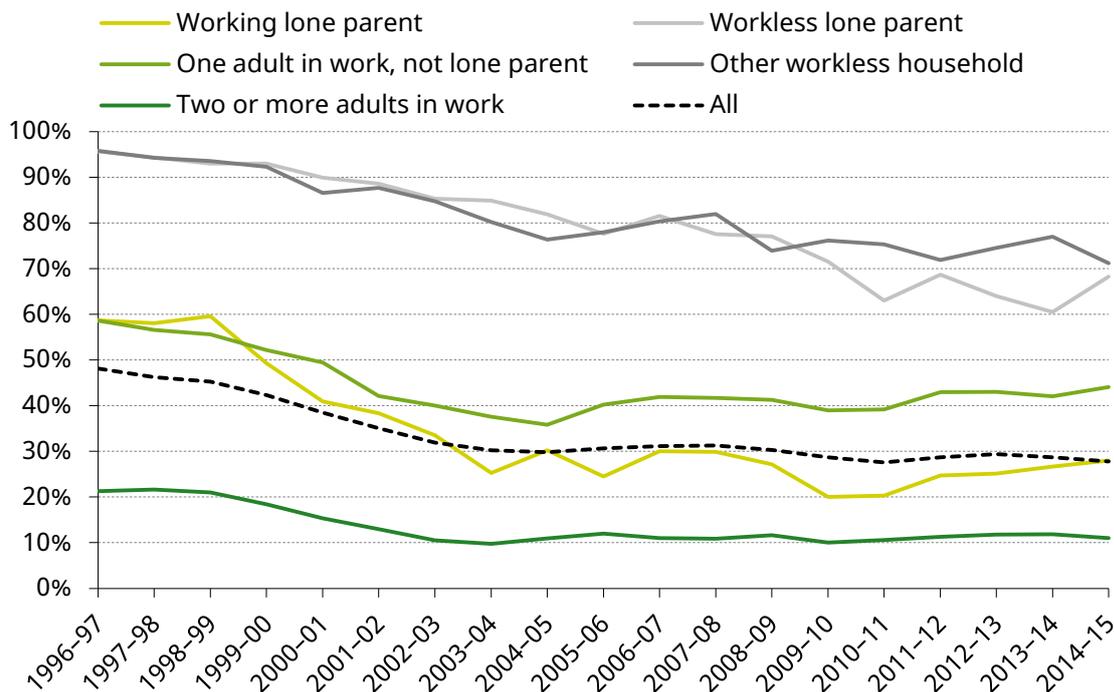
Figure 5.7 shows that the proportion of children in workless households who are living with adults who are all disabled also increased, from 22% in 2004-05 to 33% in 2011-12 (when there is a break in the series), and has continued to increase since then.<sup>47</sup> This was pointed out by Gregg and Finch (2016). However, the rise is due to a large increase in the share of *all* children living in households where all adults are disabled (from 6% in 2004-05 to 10% in 2011-12), rather than to differential trends in worklessness. In fact, of children in households where all adults are disabled, the share in a workless household fell from 60% in 2004-05 to 45% in 2011-12 and has stayed approximately flat since then (allowing for the break in the series), as shown in Figure 5.7.

Government policy is perhaps already responding to this change in the composition of workless households. Since April 2014, lone parents with a youngest child aged 3 or 4 can be required to participate in 'work-related activity', such as volunteering.<sup>48</sup> And the government has adopted a target to halve the 'disability employment gap' – the

<sup>47</sup> 2004-05 is the first year for which we have this definition of disability; the break in the series in 2011-12 corresponds to a change in the definition.

<sup>48</sup> HM Treasury, 2013.

**Figure 5.8. Absolute AHC child poverty rates by household type (GB)**



Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted. The poverty line is 60% of 2010-11 median AHC household income.

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

difference in employment rates between disabled and non-disabled individuals.<sup>49</sup> Note, however, that as shown by the analysis above, children in disabled households make up a greater share of children in workless households than before, *not* because disabled households have been left behind as parental employment has increased, but because of the higher prevalence of disability.

In order to understand the consequences of these dramatic falls in worklessness for income poverty among children, it is necessary to consider changes in the child poverty rates for workless and working households as well as the changing sizes of those two groups. Figure 5.7 documents the absolute child poverty rate (measured AHC) since 1996-97, both overall and for five different types of households with children: workless lone-parent households, working lone-parent households, workless households with more than one adult, households with one working adult and at least one non-working adult, and households with two or more adults in work.

Looking first at the overall absolute child poverty rate, it is clear that the period since 1996-97 can be divided into two distinct subperiods: poverty fell sharply between 1996-97 and 2003-04 (from nearly 50% to around 30%), but has been roughly constant since then. Given that this is a measure of absolute poverty and that incomes typically grow over

<sup>49</sup> For more details, see <http://www.parliament.uk/business/committees/committees-a-z/commons-select/work-and-pensions-committee/news-parliament-2015/disability-employment-gap-launch-15-16/>.

time, it is this second fact that is unusual – the proportion of children with AHC incomes below a poverty line that is fixed in real terms has not fallen in the last decade.

In the period between 1996–97 and 2003–04, the falls in absolute child poverty were sharper for working households than for non-working households. The child poverty rate for households with two or more adults in work roughly halved, from 21.3% to 9.8%. Poverty in working lone-parent households more than halved, from 58.7% to 25.3%. Child poverty rates in workless households fell much less in proportional terms over the same period, from around 95% to around 80%. This is the pattern one would expect to see given the strong real earnings growth that characterised that period, though increases in working-age benefits (particularly for those in work) were also important in reducing income poverty.

Since 2003–04, however, absolute child poverty rates have actually risen slightly in working households while continuing to fall in workless households. Perhaps most striking is the increase in the child poverty rate among households with only one adult in work, from a low of 35.8% in 2004–05 to 44.0% in 2014–15. This increase may reflect the poor performance of the earnings of low-paid men, on which most low-income one-earner couples are dependent. By contrast, absolute child poverty in workless lone-parent households fell from 84.9% in 2003–04 to 68.3% in 2014–15.

Belfield et al. (2015) provided more detailed analysis of recent changes in poverty rates by work status, focusing on the period since 2009–10. They found that the stability of the overall absolute child poverty rate was the result of two offsetting factors: rising employment (which reduces poverty) and higher poverty rates among working households. The latter of these effects was driven primarily by falling real earnings rather than by cuts to in-work benefits.

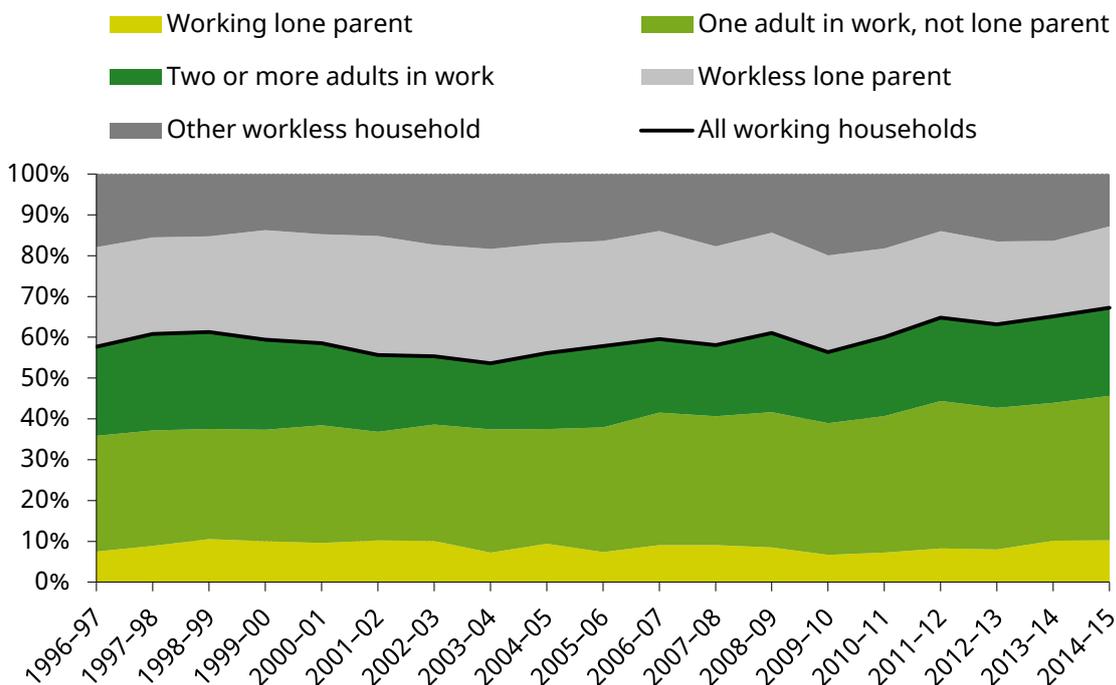
Together, the changes in household worklessness shown in Figure 5.6 and the changes in child poverty rates by household work status shown in Figure 5.8 have led to an important shift in the composition of the population of poor children. In 2003–04, almost half of children (46%) in absolute AHC income poverty lived in a workless household. That figure had fallen to 33% in 2014–15: only a third of poor children now live in a workless household.

Figure 5.9 shows in more detail how the composition of poor children by household work status changed between 1996–97 and 2014–15. Table 5.2 pulls out some of the key figures.

Between 1996–97 and 2003–04, the proportion of poor children living in a workless household rose from 42% to 46%, and the proportion living in a workless lone-parent household rose from 24% to 28%. This was despite the fact that worklessness was falling: over the same period, the share of the *overall* child population living in a workless household fell from 21% to 17%, and among lone-parent households this share fell rapidly from 61% to 48% (see Figure 5.6). The explanation is the changes in child poverty rates shown in Figure 5.8: poverty rates were falling faster for working households.

Since 2003–04, however, both factors have been working to increase the share of poor children living in working households – worklessness has continued to fall and, contrary to the previous trend, the poverty rates of working households have increased relative to

**Figure 5.9. The composition of children in absolute AHC poverty by household work status (GB)**



Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted. The poverty line is 60% of 2010–11 median AHC household income.

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

**Table 5.2. The composition of children in absolute AHC poverty by household work status (GB)**

	1996-97	2003-04	2014-15
<b>Workless households</b>	<b>42%</b>	<b>46%</b>	<b>33%</b>
<i>of which:</i>			
Lone parents	24%	28%	20%
Other	18%	18%	13%
<b>Working households</b>	<b>58%</b>	<b>54%</b>	<b>67%</b>
<i>of which:</i>			
Lone parents	7%	7%	10%
Other one-earner	28%	30%	35%
Two or more earners	22%	16%	22%
<b>All</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted. The poverty line is 60% of 2010–11 median AHC household income.

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

those of workless households. These two factors are roughly equally important in explaining the 14ppt increase in the share of poor children who live in a working household between 2003–04 and 2014–15. For example, there was an increase in the number of working lone-parent households (but not their poverty rate) and an increase in the poverty rate among other one-earner households (but little change in their share of the child population).

### Household worklessness and the scope for further poverty reduction

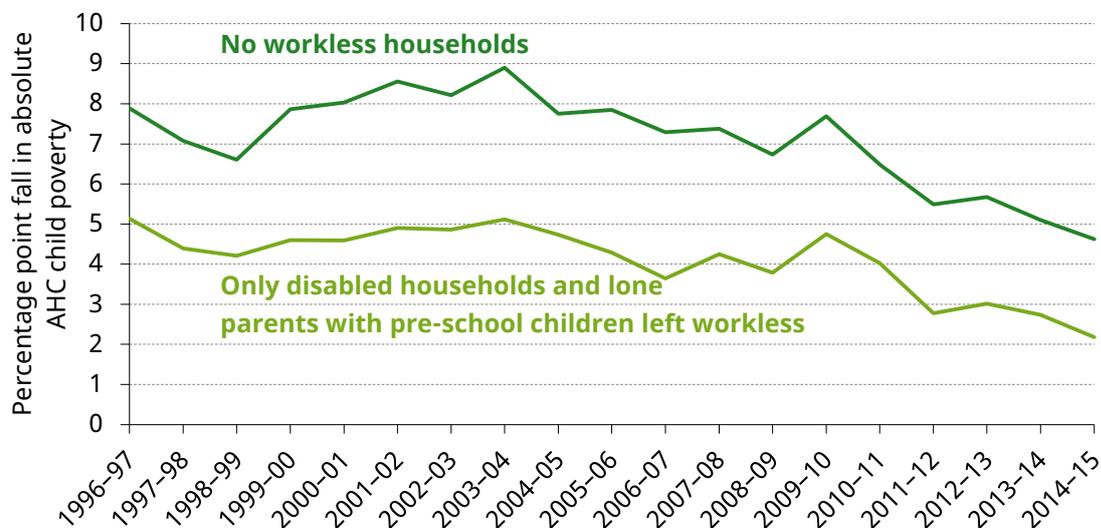
The decreasing share of poor children living in workless households clearly limits the scope for further reductions in household worklessness to reduce income poverty rates among children.

We can quantify how limited that impact would be by considering hypothetical scenarios for household employment. To do this, we have to assume a poverty rate for groups of currently workless households were they to enter work. We take an extremely simple approach to effectively put a limit on the likely effect, by generously assuming that groups of households moving into work would have the same poverty rates as working households of the same type. In particular, we assume that were all workless lone parents to move into work, the child poverty rate in that group would be the same as that in the current group of working lone-parent households; similarly, we assume that were all other workless households to move into work, they would have the same poverty rate as the current group of one-earner households with two or more adults. For example, in 2014–15 we assume that the absolute poverty rate among the 8% of children in workless lone-parent households would fall from 68% (its current level) to 28% (the child poverty rate for working lone-parent households) if those households moved into work. This is an optimistic assumption – one would expect that workless households have characteristics that mean they are more likely to have a low income in work (for example, low potential earnings). Hence the estimated reductions in poverty from falls in worklessness are almost certainly an overestimate of the effect such a change would actually have.

Figure 5.10 presents the reduction in absolute AHC child poverty in two employment scenarios, for each year from 1996–97 to 2014–15. The first is a ‘no workless households’ scenario, where we make the optimistic assumptions about poverty rates described above. Even then, only about one-sixth of children classified as being in absolute poverty would be lifted out of it in 2014–15: eliminating household worklessness would *at most* reduce the absolute AHC child poverty rate from 28% to 23%. The figure also shows that, as one would expect, this potential impact of reducing household worklessness has shrunk over time, both because the worklessness rate has fallen and because the gap between the poverty rates of working and workless households has decreased.

The second scenario is arguably a more ‘realistic’ fall in worklessness. It is identical to the first scenario except that we assume worklessness remains at its current level within two groups of households: those in which all adults are classified as permanently sick or disabled<sup>50</sup> and lone-parent households in which the youngest child is under 5. Eliminating worklessness outside of these two groups would reduce absolute AHC child poverty by at most 2ppt, from 28% to 26%. Again, it is notable how falling worklessness outside of these

<sup>50</sup> As recorded by the official International Labour Organisation (ILO) measure of employment status.

**Figure 5.10. Fall in absolute AHC child poverty in different hypothetical employment scenarios (GB)**

Note: 'No workless households' effect is calculated by replacing the poverty rate for children in workless lone-parent households with the rate in working lone-parent households, and replacing the poverty for children in other workless households with the rate in non-lone-parent one-earner households. 'Only disabled ...' effect is calculated as above, except leaving poverty rates for children in households where all adults are disabled and in lone-parent households with the youngest child aged under 5 unchanged.

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

groups, along with different trends in poverty rates, have reduced the potential gains from eliminating household worklessness.

Of course, there are reasons policymakers might want to reduce the proportion of children living a workless household other than its immediate impact on income poverty. For example, there are likely to be longer-run benefits for children if a parent moves into work, as the accumulation of experience over time leads to increases in parental earnings. There may also be concerns about the intergenerational transmission of a 'culture' of worklessness.<sup>51</sup> On the other hand, for lone parents in particular, there are likely to be costs associated with moving into work (for example, childcare costs and less time spent with children) that are not accounted for in our analysis.

### Summary

The government has recently made annual reporting of the proportion of children living in a workless household a legal requirement, and clearly sees reducing worklessness as an important part of its strategy to tackle the causes of child poverty and low life chances. Past falls in worklessness have acted to reduce child poverty, and any further falls in worklessness would almost certainly have the same effect – poverty rates remain much higher for children in workless households than for those in working households, although the gap has narrowed. However, reducing household worklessness would have

<sup>51</sup> In related work, Dahl, Kostol and Mogstad (2014) find evidence of a causal link in rates of disability benefit claims across generations.

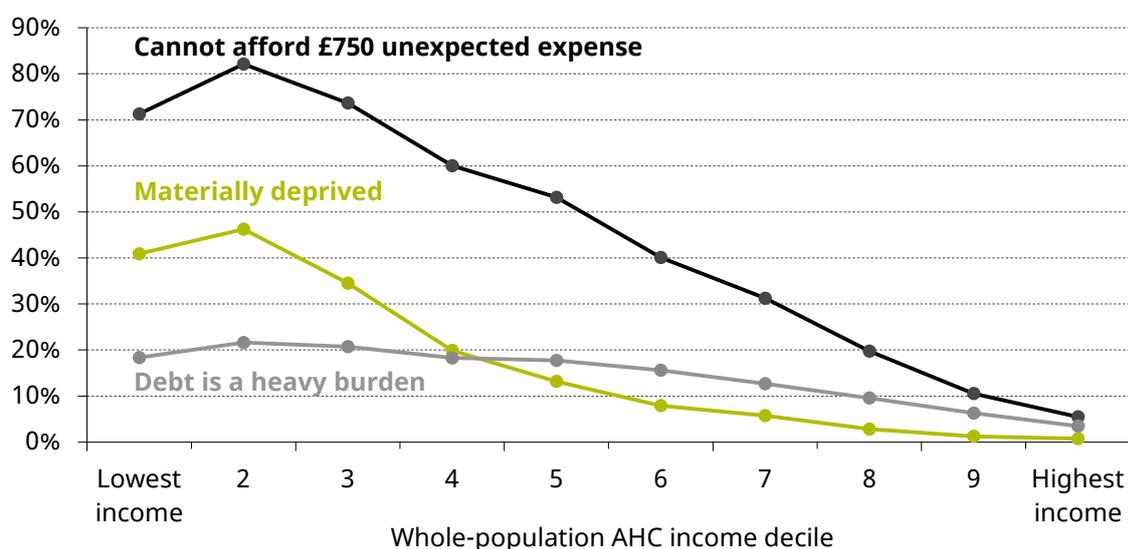
an increasingly limited impact on overall rates of child income poverty. It is important for policy in this area to be forward-looking, shaped by today's circumstances. Making large inroads into the proportion of children in households with low incomes requires an increase in the incomes of poor working households as well as a reduction in household worklessness.

### 5.3 Income and measures of financial difficulties

So far in this chapter, our focus has been on trends in income poverty and how those trends relate to changes in household worklessness. In this section, we look at the relationship between income and alternative measures of low living standards or financial difficulties, and explore how that relationship varies across different groups of households. Throughout, we pool the last three years of HBAI data (2012–13 to 2014–15) to increase sample sizes.

Figure 5.11 shows how three different indicators of current or potential deprivation vary for families with children according to their position in the overall AHC income distribution. The first measure (shown by the green line) is the indicator of child material deprivation discussed in Section 5.1. The second measure (shown by the grey line) is whether the household reports that unsecured debts (for example, credit card debt) are a 'heavy burden'.<sup>52</sup> This is a subjective measure that may reflect households' ability to cope with stress as well as their objective financial position, but its correlation with measures of low living standards is of interest. The third measure (shown by the black line) is whether

**Figure 5.11. Measures of financial difficulties for those in families with children by AHC income decile, 2012–13 to 2014–15 (UK)**



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

Source: Authors' calculations using the Family Resources Survey, 2012–13, 2013–14 and 2014–15.

<sup>52</sup> This information is missing for 0.2% of families in our sample.

households report that they could not afford to meet an unexpected expense of £750.<sup>53</sup> This can be seen as an indicator of the (perceived) ability of households to cope with unexpected shocks to income or outgoings without large falls in living standards.

There are two key things to note from the figure. First, families with children in the lowest-income tenth of the income distribution look significantly less deprived than those with slightly higher incomes. This is not an artifice of these particular measures – the total spending and consumption of the lowest-income households are also higher than those of households with moderately low incomes. The reasons for this pattern are investigated in detail by Brewer, Etheridge and O’Dea (2016), who conclude that it cannot be explained solely by those with the very lowest incomes being only temporarily in that position (and hence able to smooth consumption), but rather to some extent reflects an under-reporting of income for those households. This is an important limitation of using income alone to assess which groups have the lowest living standards and suggests that other measures of deprivation might usefully complement measures of income poverty.

The second point to note from Figure 5.11 is that, from the second tenth upwards, the likelihood of deprivation declines with income for all three measures, as one would expect. Of families in the second-lowest-income tenth of the income distribution, around 20% report that debt is a heavy burden, nearly 50% are classified as materially deprived and over 80% say they could not meet an unexpected expense of £750. Of families in the second-highest-income tenth, only 1% are materially deprived, only 6% report that debt is a heavy burden and only 11% say they could not afford an unexpected expense of £750. However, the proportion reporting that debt is a heavy burden is relatively constant across the bottom half of the income distribution (at around 20%) – something we will return to later in this section.

### Material deprivation

and Table 5.3 provide further evidence of the limitations of income poverty in capturing which households or groups of households have the lowest current living standards. The figure focuses on how the relationship between AHC income poverty and material deprivation varies by housing tenure, dividing individuals in families with children into those living in owner-occupied housing, those in private rented accommodation and those in the social rented sector (renting from councils or housing associations). The relative sizes of the squares on the figure correspond to the relative sizes of the groups. Of course, there are large differences in incomes among those above the poverty line: for this reason, we do not focus on comparisons across tenures within this group (though the relationships shown here do hold within much narrower bands of income).<sup>54</sup>

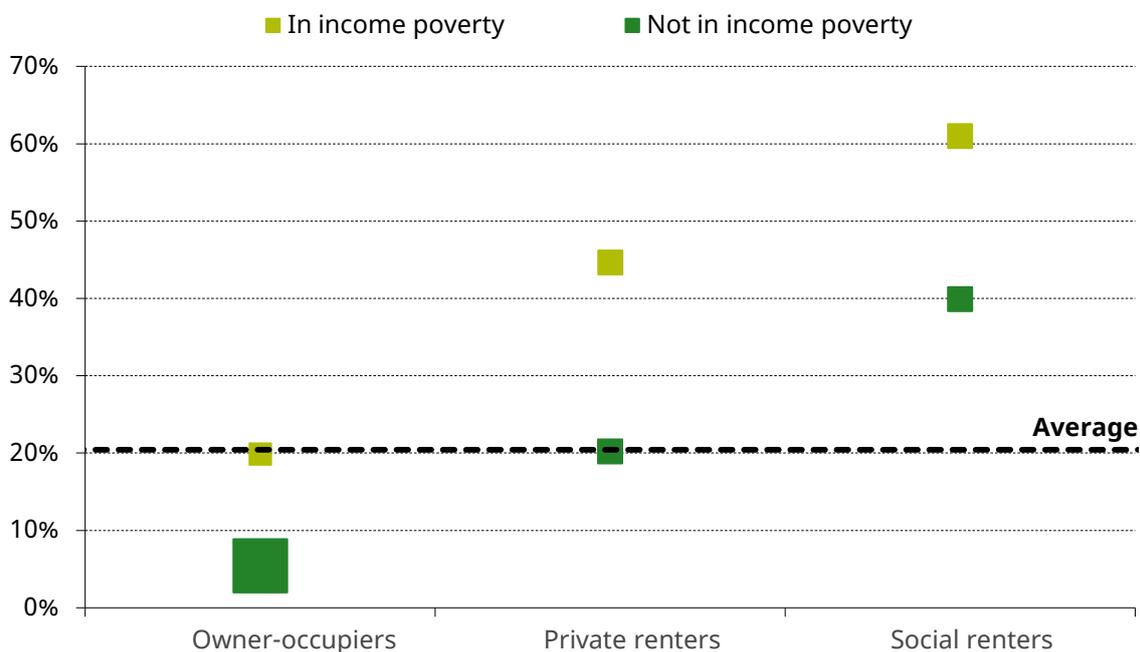
Figure 5.12 reveals a number of striking facts:

- Private renters with incomes *above* the poverty line are as likely to be materially deprived as owner-occupiers with income *below* the poverty line (around 20% of both groups are materially deprived).

<sup>53</sup> This information is missing for 0.2% of families in our sample.

<sup>54</sup> Figures are available from the authors on request.

**Figure 5.12. Material deprivation rates for those in families with children by income poverty status and housing tenure, 2012–13 to 2014–15 (UK)**



Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted. The poverty line is 60% of 2010–11 AHC median income. The size of squares corresponds to the size of the groups.

Source: Authors' calculations using the Family Resources Survey, 2012–13, 2013–14 and 2014–15.

- Private renters in income poverty are more than twice as likely to be materially deprived as owner-occupiers in income poverty.
- Social renters in income poverty are three times as likely to be materially deprived as owner-occupiers in income poverty.
- Social renters with incomes *above* the poverty line are twice as likely to be materially deprived as owner-occupiers with incomes *below* it.

Table 5.3 reports the results of a similar exercise, but splitting the population along other dimensions: household work status, whether the individual is in a lone-parent household, whether someone in the household is disabled and whether at least one adult in the household is non-white. In each case, there are stark differences in the relationship between income poverty and material deprivation for different groups:

- Individuals in workless households with incomes above the poverty line are much more likely to be materially deprived than those in working households with incomes below the poverty line.
- Lone-parent households with incomes above the poverty line are as likely to be materially deprived as other households with incomes below the poverty line.

**Table 5.3. Material deprivation rates for different groups of those in families with children by income poverty status, 2012–13 to 2014–15 (UK)**

	Material deprivation rate	
	<i>In income poverty</i>	<i>Not in income poverty</i>
<b>Household work status</b>		
Someone in work	33%	10%
No one in work	64%	53%
<b>Number of adults</b>		
Lone-parent household	59%	34%
Not lone-parent household	38%	9%
<b>Disability</b>		
Someone in household disabled	59%	25%
No one in household disabled	36%	9%
<b>Ethnicity</b>		
All adults in household are white	41%	11%
At least one adult is non-white	51%	21%
<b>All</b>		20%

Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted. The poverty line is 60% of 2010–11 AHC median income.

Source: Authors' calculations using the Family Resources Survey, 2012–13, 2013–14 and 2014–15.

- Disabled households with incomes above the poverty line are still more likely to be deprived than the average household (including those in poverty).
- Households with incomes above the poverty line where at least one adult is non-white have the same material deprivation rate as the population as a whole.<sup>55</sup>

None of this analysis provides evidence of a causal relationship between these household characteristics and material deprivation, though in some cases there are very likely to be causal components (such as extra costs associated with disability). Rather, it is indicative of the fact that material deprivation depends on much more than current income – it is likely, for example, to be related to past and expected future income as well. For instance, to the extent that low-income social renters have significantly lower lifetime incomes than low-income owner-occupiers, that will probably provide part of the explanation for their much higher deprivation rates. The analysis illustrates the limitations of using income poverty alone to identify those with low living standards and provides support for considering a wider range of measures.

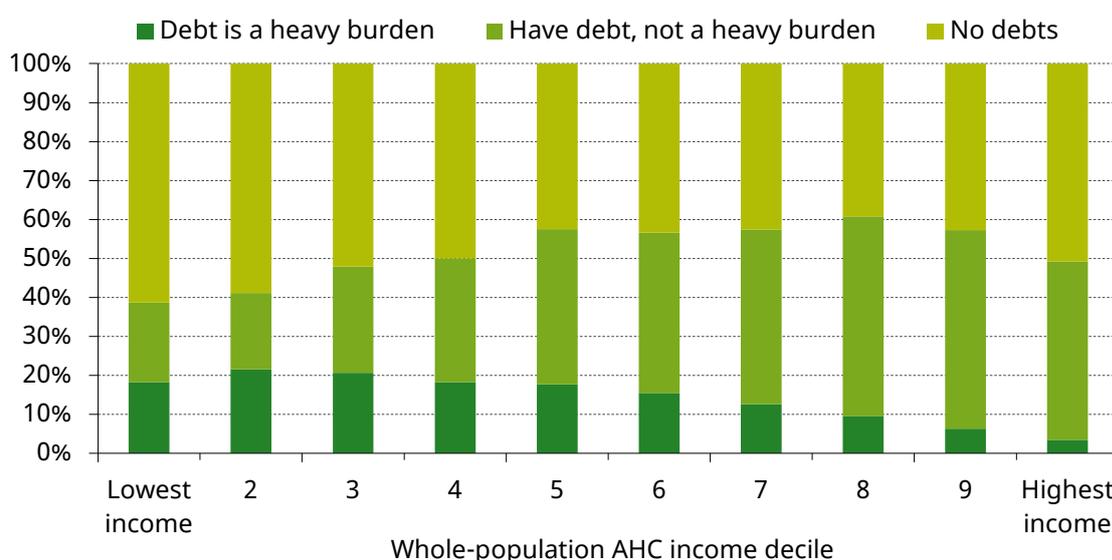
<sup>55</sup> The relationships described hold for much narrower bands of income. Figures are available from the authors on request.

## Debt

Figure 5.13 divides individuals in families with children into deciles of the overall (AHC) income distribution. We then show the proportion in each decile who are in each of three groups: in a household without unsecured debt, in a household with unsecured debt that reports that debt is a ‘heavy burden’, and in a household with unsecured debt that reports debt is not a heavy burden. As noted earlier in this section, the proportion reporting that debt is a heavy burden is relatively constant across the bottom half of the income distribution at around 20%. The figure reveals that this is the result of two offsetting factors. On the one hand, the share of families with any debts at all is increasing with income: while 39% of those in the lowest-income tenth (decile) have unsecured debts, that figure rises to 58% in the fifth income decile and is highest (at 61%) in the eighth income decile. This is not surprising given that higher income is likely to improve a household’s chances of being lent to, and in many cases this will be an entirely appropriate way for them to improve their living standards by smoothing consumption in the face of income shocks or by financing lumpy purchases, rather than being a sign of deprivation. On the other hand, among those with unsecured debts, that debt is much more likely to be a reported burden for families towards the bottom of the income distribution. Of those with debt in the bottom two deciles, around half report that debt is a heavy burden. That share falls to around 30% in the middle of the income distribution and to around 10% at the top of the income distribution.

Figure 5.14 provides some evidence that feeling debt to be a heavy burden is correlated with lower current living standards. It shows that those reporting debt as a heavy burden are significantly more likely to be materially deprived than others with the same

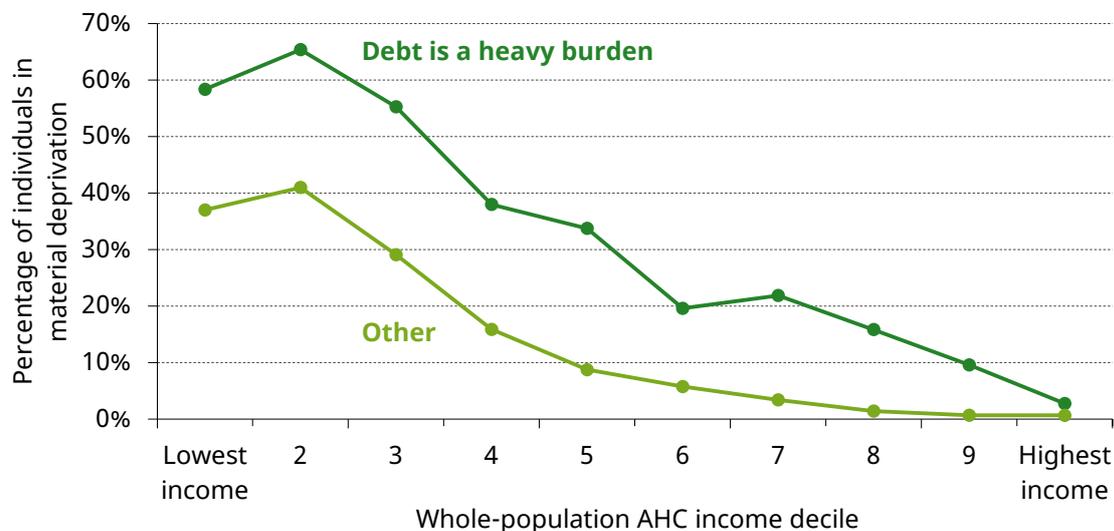
**Figure 5.13. Self-reported burden of unsecured debt for those in families with children by AHC income decile, 2012–13 to 2014–15 (UK)**



Note: Incomes have been measured net of taxes and benefits and after housing costs have been deducted. The poverty line is 60% of 2010–11 AHC median income.

Source: Authors’ calculations using the Family Resources Survey, 2012–13, 2013–14 and 2014–15.

**Figure 5.14. Material deprivation by ‘problem debt’ and AHC income decile for those in families with children, 2012–13 to 2014–15 (UK)**



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

Source: Authors’ calculations using the Family Resources Survey, 2012–13, 2013–14 and 2014–15.

household income. For example, 65% of those in the second overall income decile who feel that debt is a heavy burden are also materially deprived, compared with 40% of others in that same decile. The figure also suggests that ‘problem debt’ might be a reason why some relatively high-income households are nevertheless materially deprived (although debt could be a symptom of deprivation rather than a cause, and it could simply be correlated with something else that affects deprivation). In the seventh income decile, the material deprivation rate is 3% for those who do not report debt to be a heavy burden but 22% for those who do. In fact, of those in the top four deciles of the overall distribution who are also materially deprived, around half report that unsecured debt is a heavy burden.

The government has indicated that it hopes to include a measure of ‘problem debt’ in its suite of measures of children’s life chances, presumably on the basis that it believes problem debt has a negative effect on children (whether as a direct result of the financial implications or by contributing negatively to the wider family environment through stress etc.). This analysis does not provide evidence of a causal link between debt and low current or future living standards. Rather, it demonstrates that there is a positive correlation between self-reported measures of problem debt and other indicators of current low living standards. One important question, which can be addressed using other data sources, is the extent to which this correlation reflects different individuals’ perceptions of their debts (more deprived individuals are more likely to see debt as a burden) or objective differences in the debts themselves (those spending more of their income servicing their debts are more likely to be deprived). A second crucial question for future research to address, but which is much harder to answer, is the extent to which a heavy burden of debt (either objectively or subjectively perceived) has a causal impact on children’s outcomes.

## 5.4 Prospects for poverty

Based on more timely sources of data than the HBAI statistics, we would expect the benefit incomes and employment incomes of low-income households to have increased in real terms in 2015–16. Employment continued to increase. Headline CPI inflation was only 0.1%, compared with a 1% increase in most working-age benefits and larger increases in the basic state pension (2.5%) and pension credit (1.9%). Average earnings rose by 2.4% in nominal terms (according to the ‘Average Weekly Earnings’ measure) and the minimum wage was increased by 3.1% in October 2015.

Given all this, it seems likely that the 2015–16 HBAI data will show a fall in absolute poverty. The implications for changes in relative poverty are, however, less clear. The fact that earnings grew faster than benefits will likely have acted to increase relative poverty, but increases in employment will likely have benefited households at the bottom of the distribution more than those in the middle. In any case, in terms of the precise figures recorded by HBAI data, sampling variation can lead to year-on-year changes confounding expectations. It is more useful to think about the broader trends that we would expect to see over the next few years.

However, the prospects for poverty beyond 2015–16 are now more uncertain than ever, in light of the vote for Brexit. Browne and Hood (2016) had previously estimated that the Office for Budget Responsibility’s March 2016 macroeconomic forecasts implied a rise in child absolute poverty over the next few years, roughly no change among working adults without children, and falls in absolute poverty for pensioners. Given the subsequent Brexit vote, the outlook is now almost certainly worse than that, but by how much is impossible to say. Lower employment and/or workers’ pay than we were previously expecting look likely. This would increase absolute income poverty – but by how much depends on the size of the effect on national income, the extent to which it is employment or pay which takes the brunt, and precisely which workers or potential workers are most affected. Low-income households are also likely to be affected if the government chooses to implement additional changes to taxes and benefits.

## 5.5 Conclusion

The policy environment around poverty and low living standards in the UK has changed significantly over the past two years. The government no longer has legally-binding targets for the income poverty rates of children (and a combined income and material deprivation measure) in 2020. Instead, there is now a legal obligation to report changes in the proportion of children in a workless household and the educational attainment of children alongside the income poverty measures. In addition, the government is in the process of defining other indicators of children’s life chances such as measures of household indebtedness. A move to tracking a broader set of measures is to be welcomed, as long as the government is clear about what it is seeking to capture with each measure. In particular, it is important that the distinction between measures of current low living standards, measures of the causes of current low living standards and measures of the causes of poor later-life outcomes is recognised. If the government is to effectively target a suite of different measures covering these different areas, a clear

understanding of how these different indicators are related is needed. Much of the analysis in this chapter has been to that end.

Looking first at income poverty, the key fact is that absolute AHC poverty has been broadly unchanged over the last decade, as have measures of material deprivation. This reflects both the impact of the recession and sluggish growth beforehand – the real incomes of households around the poverty line are (on average) roughly the same as they were 10 years ago. The biggest upward pressure on income poverty rates has been the falls in real earnings seen since 2007–08; increases in housing costs have had a relatively small impact on average. On the other hand, increases in benefits between 2007–08 and 2009–10 mean that the poverty rates associated with a given level of earnings have fallen, and falls in household worklessness have further acted to reduce income poverty.

The falls in worklessness seen in recent years were the continuation of a much longer-run trend: the proportion of children living in a workless household fell from 23% in 1993–94 to 13% in 2014–15. This is explained in part by policies designed to encourage parental employment, and in particular lone-parent employment. However, the relationship between income poverty and household worklessness is now such that further falls in worklessness have limited scope to reduce child income poverty rates: two-thirds of children in income poverty already live in a working household.

However, there is strong evidence that there is much that income poverty does not tell us about which households have the lowest living standards. In fact, the material deprivation rates of families with similar incomes differ markedly by a number of household characteristics – tenure, work status, lone-parent status, disability and ethnicity. The material deprivation measure also suggests that a measure of ‘problem debt’ may contain useful information about current living standards – households reporting that unsecured debt is a ‘heavy burden’ are significantly more likely to be materially deprived than other households with similar incomes.

All of this illustrates that looking at other measures of living standards or the financial situation of households, in combination with income, can provide a richer picture of which UK households with children currently have low material living standards or are at risk of low living standards in future. Indeed, further work is merited in this area – for example, more detailed analysis of the relationships between income fluctuations, saving habits and exposure to periods of low living standards. It is unclear, however, to what extent the government is interested in this richer picture of the current circumstances of children per se, in addition to a focus on the relationship between these measures and the future outcomes, or ‘life chances’, of children. While both are clearly important, the distinction between them matters for the direction of future research and the development of policy.

# 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 5 provides analysis of changes in material deprivation according to these indicators and how they relate to income-based measures of poverty. We also analyse, in Section 5.3, the relationship between income and other measures of low living standards or potential financial difficulties (for example, the self-reported burden of debt), some of which do not form part of the official HBAI document.

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>56</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>57</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

<sup>56</sup> See Brewer, Etheridge and O'Dea (2016).

<sup>57</sup> See Brewer, Goodman and Leicester (2006), Brewer and O'Dea (2012), Browne et al. (2013) and Brewer, Etheridge and O'Dea (2016).

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 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>58</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.

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>59</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.

<sup>58</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.

<sup>59</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.

## 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 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>60</sup>

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

	BHC equivalence scale	AHC equivalence scale
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

<sup>60</sup> See also section 5.3 of Brewer et al. (2008).

## 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) reflects the true UK population.<sup>61</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>62</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 (2014–15 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>63</sup> Before that, we use an approximation to those indices generated by

<sup>61</sup> See Department for Work and Pensions (2016).

<sup>62</sup> See Burkhauser et al. (2016) for an analysis of the limitations of this adjustment and a discussion of alternatives.

<sup>63</sup> See <https://www.ons.gov.uk/economy/inflationandpriceindices/adhocs/005567dwpdeflatorsrequest>.

combining RPI-based indices that are available back to 1961 with an estimate of the historic ‘formula effect’ (the amount by which the RPI overstates inflation).<sup>64</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 income for a couple with no dependent children and in average 2014–15 prices. For brevity, we often use this term interchangeably with ‘income’.

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<sup>64</sup> For more details on the construction of this series, see [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/530905/households-below-average-income-quality-methodology-2014-2015.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/530905/households-below-average-income-quality-methodology-2014-2015.pdf). 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).

## Appendix B. Supplementary figures to Chapter 5

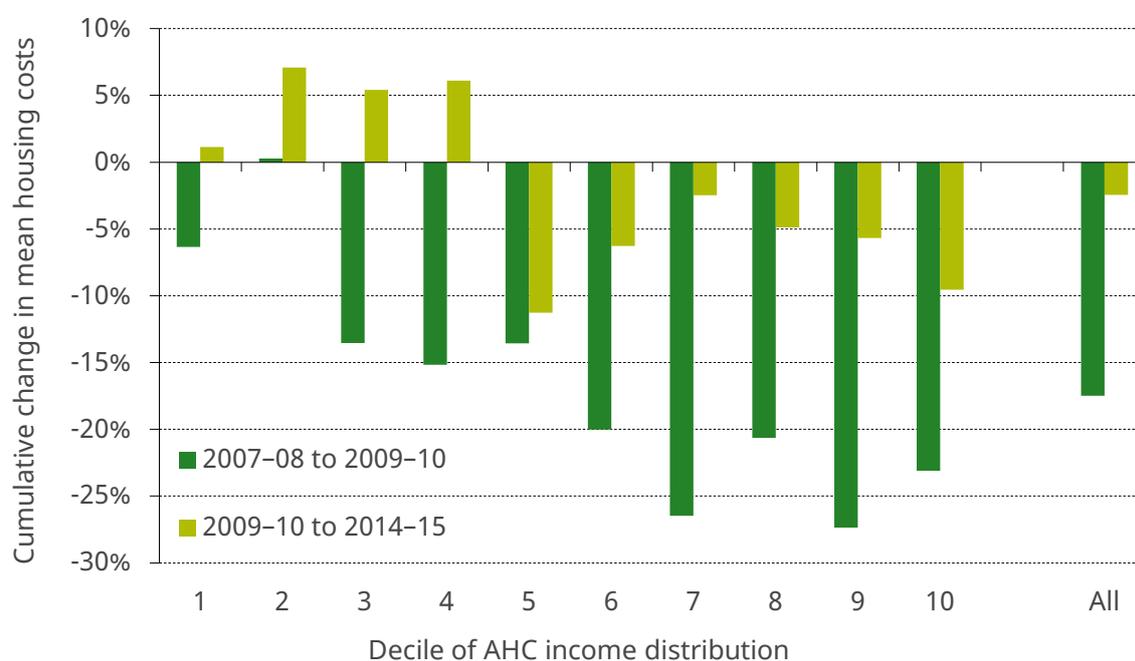
Table B.1. Cash values of poverty lines for example families in 2014–15 (£ per week)

	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	243	141	189	291	340
<b>BHC</b>					
Absolute poverty line	277	186	241	333	388
Relative poverty line	284	190	247	341	398

Note: The children in these example families are assumed to be aged under 14. For families with older children, the poverty lines are slightly higher.

Source: Authors' calculations using the Family Resources Survey.

Figure B.1. Change in mean household housing costs net of housing benefit, by decile of AHC income distribution, 2007–08 to 2014–15



Note: Income and housing costs are both measured after equalisation. Changes in mean housing costs are in real terms, adjusting for inflation using a measure of CPI that excludes housing costs.

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

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