

# Living standards, poverty and inequality in the UK: 2012

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Jonathan Cribb  
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# **Living Standards, Poverty and Inequality in the UK: 2012**

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## Preface

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# Executive summary

How have household incomes evolved since the onset of the financial crisis? What is the gap between rich and poor? Who was hit hardest by the recession? How many people are there in poverty? Which groups are most likely to face poverty? These questions are fundamental to understanding the living standards available to individuals across the UK.

Each year, the government produces statistics about the distribution of income in the UK ('Households Below Average Incomes' or HBAI). The data underlying the HBAI statistics have the potential to provide a wide range of information about poverty, inequality and average incomes. Ten years ago, IFS researchers began publishing an annual series of reports describing these statistics and the driving forces behind trends over time. Back in 2002, this showed a picture of robust year-on-year growth in living standards and falling levels of poverty, although inequality was continuing to creep up. Ten years on, the latest report for 2012 covers data up to and including 2010–11. The picture is strikingly different. In the aftermath of the recession, average incomes have fallen by near-record amounts. Inequality has fallen back to levels last seen in the mid-1990s. Relative poverty continues to fall, but only because the poverty line is also falling: the poor have undoubtedly been getting worse off in absolute terms, on average.

The main measure of income used in our analysis is household net income, which is then 'equivalised' to take account of differences in household size and composition. We measure each household's total income from all sources (including earnings, self-employment, pensions, benefits and tax credits) minus council tax and any direct taxes paid on these sources. We then apply 'equivalence scales' to each household's income, accounting for the fact that (for example) a net income of £200 per week will mean a higher standard of living for a single individual than it will for a couple with four children (all else equal).

## Chapter 2 – Living Standards

Over time as the economy expands, average incomes tend to grow. Over the past fifty years, average household net incomes have grown by about 1.7% per year in inflation-adjusted terms. An alternative measure of the 'average income' is the median income among households, which is the income of the individual right in the middle of the income distribution. Median household net incomes have grown by 1.5% per year on average. However, income growth has tended to fluctuate over time and with the economic cycle. For instance, there was strong growth in the late 1990s, but weak growth between 2002 and 2007, even before the financial crisis began to take effect.

Key findings on living standards from this year's report include:

- There were sharp falls in average household incomes in the UK in 2010–11. Median income fell by 3.1%, from £432 per week to £419 per week (both in 2010–11 prices) and mean household income fell by 5.7%, from £542 to £511. This represents the largest one-year fall in median income since 1981 and the largest one-year fall in mean income since our consistent data began in 1962. Using either measure, this leaves average living standards in the UK below the level in 2004–05, undoing five years of (admittedly slow) growth in a single year.
- The primary reason for the falls in average income in 2010–11 was the fall in earnings. Pre-tax earnings fell by 7.1% in real terms in 2010–11, mostly due to falls in the real earnings of those employed as opposed to a fall in the numbers employed. It is also important to note that HM Revenue and Customs has found that the introduction of the 50% tax rate led to individuals shifting substantial amounts of income forwards from 2010–11 to 2009–10. This would have acted to



increase top incomes in 2009–10 and to subsequently reduce them in 2010–11, exaggerating the falls in mean income in 2010–11.

- These large falls in average income in 2010–11 follow two relatively benign years during the recession itself (2008–09 and 2009–10), when real average incomes continued to grow at roughly the same pace as before the recession despite the large falls in GDP and employment. During those two years, median household incomes were supported by a combination of strong real-terms growth in income from state benefits and tax credits and relatively stable real employment income, helped by low inflation. The effects of the recession on household incomes were thus delayed, but most definitely not avoided. Unlike net income, income before taxes and benefits started falling during 2008–09 as the recession hit (and continued falling in 2010–11). Median income before taxes and benefits was 7.8% lower than its 2007–08 peak in 2010–11.
- There are good reasons to be pessimistic about the prospects for living standards beyond 2010–11. In 2011–12, employment fell slightly and average earnings fell in real terms. The Office for Budget Responsibility expects real year-on-year growth in average earnings to remain negative or negligible up to and including 2012–13. The fiscal tightening being implemented by the coalition government includes net tax rises and cuts to benefits, which will put further downward pressure on household incomes. Considering all these factors, recent forecasts by IFS researchers have suggested that median household income will continue to fall in real terms until 2013–14, and still be lower in 2015–16 than it was in 2002–03. If realised, this would represent the worst period for changes in median income since at least the early 1960s, and probably much earlier. However, the macroeconomic forecasts upon which these expectations are based are subject to considerable uncertainty, especially in light of the current situation in the Eurozone.

### **Chapter 3 – Income Inequality**

Most people would define inequality as the gap between rich and poor. However, it is remarkably difficult to define precise measures of inequality that everyone can agree on. For this reason, we have always stressed the importance of looking at a range of inequality measures.

The most widely used measure of income inequality is the Gini coefficient, which ranges from 0 to 1 with higher levels indicating higher levels of inequality. During the 1960s and 1970s, the Gini fluctuated around 0.26. During the 1980s, it increased substantially, reaching 0.34 by 1990. This was the largest increase in income inequality seen in recent British history and was larger than the rise that took place in other countries at the same time. During the 1990s, inequality stabilised around this historically high level, creeping up slightly during the late 1990s before falling back again during the early 2000s. It then began to increase again from 2004–05 onwards. Indeed, it was at its highest level since at least 1961 between 2007–08 and 2009–10 (0.36).

Key findings on inequality from this year's report include:

- Income inequality in the UK fell sharply in 2010–11. The widely-used Gini coefficient fell from 0.36 to 0.34. This is the largest one-year fall since at least 1962, returning the Gini coefficient to below its level in 1997–98. Although this reverses the increase in this measure of income inequality that occurred under the previous Labour government, it still leaves it much higher than before the substantial increases that occurred during the 1980s.
- Driving this drop in income inequality, the falls in real incomes in 2010–11 were smallest towards the bottom of the income distribution and largest towards the top. In the UK, real incomes fell by 1.1% at the 10<sup>th</sup> percentile, 3.1% at the median and 5.1% at the 90<sup>th</sup> percentile.
- The largest falls in income took place at the very top of the income distribution, with income at the 99<sup>th</sup> percentile falling by 15% in 2010–11. This is likely to be partly due to the temporary effects of

the introduction in April 2010 of the 50% marginal income tax rate on incomes exceeding £150,000 per annum. HMRC estimates that the 50% tax rate resulted in substantial income 'forestalling' – the bringing forward of income from 2010–11 to 2009–10 in an effort to avoid the higher marginal rate of tax in 2010–11. This forestalling would have raised top incomes in 2009–10 and depressed top incomes in 2010–11. We would also expect the reform to have had some permanent effects on top incomes, via the direct impact of the tax rise lowering net incomes and the indirect impacts via (for example) reduced labour supply. It is uncertain exactly how much of the overall response reflects permanent behavioural change and how much is temporary.

- The decline in inequality in 2010–11 was by no means driven only by falls in the very highest incomes: inequality declined right across the income distribution. Inequality as measured by the 90/10 and 50/10 ratios, which measure the degree of inequality between high (as opposed to very high) and low incomes, and between middle and low incomes, respectively, also fell by record amounts and returned to levels not seen since 1987.
- Future prospects for inequality are uncertain. The large fiscal tightening that is now under way includes £18 billion per year of welfare cuts by 2014–15, the direct effect of which is to reduce incomes proportionately more towards the bottom of the income distribution. But much depends upon how the labour market evolves in the years ahead, which is clearly uncertain given the current macroeconomic climate. At the top of the income distribution, ongoing changes to the taxation of very-high-income individuals will continue to influence when such individuals choose to realise their incomes until at least 2013–14. This will make it difficult to identify the 'underlying' trends in top incomes (as opposed to temporary changes driven by tax-induced incentives to realise income at different points in time).

## Chapter 4 – Income Poverty

The most widely quoted measure of income poverty in the UK is the proportion of individuals with household incomes less than 60% of the contemporary median. This measure is used across much of the rest of Europe and was the most high-profile component of the previous government's child poverty targets. It is a measure of 'relative poverty' as the poverty line moves in line with the median from year to year. If median income goes up, then so does the relative poverty line. Essentially, it measures whether poorer households are keeping up with those on middle incomes. However, it is not the only measure of poverty and it is certainly not universally accepted as the best, or even as a good measure of poverty. Some prefer a measure of absolute poverty, where the poverty line is fixed in real terms, so that poverty goes down when (and only when) the absolute material living standards of poorer households improve. When incomes are falling, use of a relative poverty measure would show falling levels of poverty if the poor see smaller proportionate falls in income than those on middle incomes, despite everyone becoming worse off. On the other hand, it is difficult to imagine that society's view of minimum acceptable levels of living standards are completely independent of time and place (for example, they are probably higher now than they were in the 19<sup>th</sup> century). The question then becomes how and when the poverty line is changed over time. Generally speaking, we recommend considering as many measures of poverty as possible in order to gain the richest possible picture – different measures provide different, but incomplete, information, all of which may reasonably be considered relevant. It is also important to consider different poverty thresholds, to ensure that findings are not unique to one specific threshold, and to consider different definitions of income (for example, before and after housing costs).

Relative poverty has followed distinct trends over time. Relative poverty increased substantially during the 1980s. Based on a poverty line of 60% of median income, it rose from 13.4% in 1979 to reach 22.2% by 1990 on the before-housing-costs measure. During the 1990s, it fell slightly and stood at 19.6% on this measure in 1997 when the previous Labour government came to power. From then on, relative poverty

fell as the then government substantially increased the level of fiscal redistribution. Apart from a brief rise between 2004 and 2007, there was an almost continuous fall in relative poverty over this period, and it had fallen to 17.0% by 2009–10. Using the after-housing-costs measure or alternative poverty thresholds, the trends are less extreme, but equally visible. One exception to this story is that relative poverty using a threshold of 40% of the median has risen since 1997. However, these individuals with very low incomes often include many with temporarily low or mismeasured incomes; and we know from looking at other measures of living standards (such as consumption and material deprivation) that many of them have living standards much higher than their income would suggest.

Key findings relating to income poverty from this year's report include:

- The most widely-watched measure of relative poverty in the UK is the proportion of individuals with household incomes below 60% of the contemporary median. In the latest year of data (2010–11), the number of individuals living below this poverty line fell by 500,000 measuring incomes before housing costs (BHC) to reach 9.8 million (16.1% of the UK population) and also fell by 500,000 measured after housing costs (AHC) to reach 13.0 million (21.3%).
- Comparisons with historical relative poverty rates depend crucially on the treatment of housing costs. Measured BHC, relative poverty in 2010–11 was at its lowest level since 1986; measured AHC, it was no lower than in 2004–05.
- The fall in relative poverty does not reflect increases in the absolute living standards of poorer households. Rather, it reflects the fact that incomes towards the bottom of the income distribution fell by less than those in the middle of the distribution. This highlights that an exclusive focus on relative poverty measures gives an incomplete picture of the changing material living standards of low-income households and that absolute measures of poverty should be kept firmly in view. Using a poverty line fixed at 60% of the 1996–97 median in real terms, absolute poverty rose by 200,000 to reach 5.8 million (9.6% absolute poverty rate) BHC and by 300,000 to reach 8.4 million (13.8%) AHC in 2010–11.
- Relative pensioner poverty fell for the fourth successive year measuring incomes AHC, by 100,000 (1.2 percentage points), while the number of poor pensioners was almost unchanged measuring incomes BHC (the rate of pensioner poverty measuring incomes BHC fell by 0.6 percentage points). Measured AHC, the rate of relative pensioner poverty is now lower than the rate for any other major demographic group; and, measured both BHC and AHC, it has been as low in only two years (1983 and 1984) out of the last fifty.
- Relative poverty among working-age adults without dependent children has been steadily increasing in recent years. Despite a small fall in 2010–11, it remains close to its highest level since our consistent time series began in 1961, at 14.6% measuring incomes BHC and 19.7% measuring incomes AHC.
- In 2011–12, the absolute living standards of poorer households are likely to have declined further as a result of continued pressures on real earnings and as welfare cuts begin to bite, with further pain in 2012–13 and beyond. Future trends in relative poverty may well be rather different, depending on whether poorer households see larger or smaller declines in real income than those on middle incomes. It is also likely that poverty trends will differ for different demographic groups, in part reflecting the impact of government policy: for example, the welfare cuts being implemented as part of the government's deficit reduction package will reduce the incomes of low-income households with children by more in proportional terms than those of low-income pensioner households.

## Chapter 5 – Child Poverty

In 1999, the then Prime Minister Tony Blair pledged to ‘eradicate child poverty within a generation’. This pledge was then quantified into a series of intermediate targets: to cut child poverty by a quarter between 1998–99 and 2004–05 and to halve it by 2010–11. The final target was to eradicate child poverty by 2020 – a target that was then made legally binding under the 2010 Child Poverty Act, which was voted for by all three main UK parties.

Key findings relating to child poverty in this year’s report include:

- Relative child poverty fell substantially in 2010–11. Using a poverty line equal to 60% of median income, the numbers of children living in poverty in the UK in 2010–11 were 3.6 million (AHC) and 2.3 million (BHC), down by 200,000 (1.9 percentage points) and 300,000 (2.1 percentage points) respectively since the previous year. These reductions are both statistically significant, and they leave relative child poverty at its lowest rate since 1989 (AHC) or 1984 (BHC).
- The fall in relative child poverty in 2010–11 does not reflect increases in the real incomes of low-income households with children; it was driven instead by the reduction in median income, and hence the relative poverty line. Using a poverty line fixed at 60% of 1998–99 median income, absolute child poverty was unchanged in 2010–11. Given that one presumably cares about whether incomes are rising or falling in absolute terms, this highlights that an *exclusive* focus on relative measures of poverty would be unwise: attention must also be paid to absolute measures of poverty.
- The previous government had a target of halving the number of children in relative low (BHC) income poverty in the UK between 1998–99 and 2010–11, from 3.4 million to 1.7 million. We now know that this measure of child poverty fell by 1.1 million children over the period. This is by far the largest reduction since our consistent series began in 1961, but the target was still missed by the substantial margin of 600,000 children. The number of children in absolute low (BHC) income poverty more than halved between 1998–99 and 2010–11, falling from 3.4 million to 1.4 million.
- Despite some role for changing parental work patterns, the reductions in income poverty among children since 1998–99 relied heavily on increases in fiscal redistribution towards low-income households with children. The poorest half of households with children are entitled to an average additional £77 per week (£4,000 per year, or 21% of net income) in net financial state support – that is, benefits and tax credits minus taxes – as a result of direct tax and benefit reforms implemented under the previous Labour governments (in current prices). This is in comparison with the situation in which Labour had simply increased benefits and direct tax thresholds in line with the public finance defaults that it inherited (which mostly means price indexation). Compared with a situation in which benefits and direct tax thresholds had been increased in line with GDP, the poorest half of households with children are entitled to an average additional £22 per week (£1,165 per year, or 5% of net income) as a result of reforms over the same period.
- The national targets for 2020–21 set in the 2010 Child Poverty Act relate exclusively to material living standards and include highly ambitious targets to reduce measures of relative and absolute income poverty among children. We know from recent experience that these measures of poverty are highly sensitive to the level of fiscal redistribution. Governments should be clear about the balance that they want to strike when considering the trade-offs associated with such redistribution: the inescapable trade-off between redistribution and financial work incentives; and the fact that money spent on benefits and tax credits is money not spent on children (or indeed other groups) in other ways, such as via education, health or social services.
- Although household incomes are likely to be a reasonable proxy for material living standards, there are other important aspects of children’s well-being and life chances that are not captured by income.

The government has rightly laid out a broad-based approach to child poverty which goes well beyond the income-based measures that can be analysed using the HBAI data. At the same time, it has thus far retained the income-based 2020–21 child poverty targets that both coalition parties signed up to before entering government. There is no realistic chance that these will be met under current policies. If the government now believes that the targets are inappropriate, then it should be explicit about that, and set itself objectives that it wants to pursue. Otherwise, it needs to explain credibly how it plans to meet this commitment.

## **Chapter 6 – Material Deprivation**

For some households, the ‘snapshot’ measure of household income captured by the Family Resources Survey (which underlies the HBAI series) might not be an accurate representation of their living standards: such households include self-employed individuals with volatile income and temporarily unemployed individuals, as well as those whose incomes are mismeasured. Moreover, measures of poverty based on income might not capture all the aspects of material living standards, such as quality of housing or access to local or public services.

Such concerns led the last government to complement its income-based measures of poverty with measures of ‘material’ deprivation from 2004–05 onwards for children and from 2009–10 onwards for pensioners. Since then, children have been classified as materially deprived if their parents say they would like but cannot afford certain items – for example, a birthday party or a family holiday – and pensioners have been classified as materially deprived if they say they lack certain items due to financial, health or social constraints. While there are inevitable problems in deciding what items should be included in the assessment of material deprivation and how many items need to be lacked for someone to be defined as deprived, the measures provide useful additional information on the living standards of poorer households and how they are changing over time.

Key findings relating to material deprivation in this year’s report include these:

- Recent falls in the government’s combined measure of child material deprivation and relative low income (defined as less than 70% of the median, BHC) do not reflect falls in the number of children who are materially deprived. Indeed, the number of children materially deprived has increased since its low point in 2006–07.
- Children living in households with the lowest levels of income do not have the highest levels of material deprivation, on average, suggesting that their household incomes are only temporarily low or are mismeasured. However, for household equivalised incomes of above around £275 per week, average levels of deprivation decline with income, suggesting that there is an important link between low income and material deprivation, although it is far from perfect.
- The patterns of BHC income poverty and material deprivation across different subsets of the child population vary. For instance, children of lone parents, those living in families where the youngest child is aged under 5, those living in a family where someone is disabled, those living in privately rented accommodation and those living in London look relatively ‘poorer’ than other children when a measure of material deprivation is used as opposed to a measure of income poverty.
- The way material deprivation is measured has changed slightly since it was first monitored in 2004–05, with plans for further changes in the future. The relative weights given to the different questions used to calculate material deprivation are now updated each year. To date, this change has had little impact on the published statistics. However, it could lead to perverse results in the long run, which can be easily avoided with some modifications to the measure. In 2010–11, new questions were added to the Family Resources Survey (on which HBAI data are based), in order to update the material deprivation indicator by dropping items no longer seen as necessary and replacing them

with items that are seen as necessary. Whilst understandable, this can also create sharp discontinuities in the measure across time, making it more difficult to interpret trends over time. For instance, the rate of material deprivation is much lower in 2010–11 when calculated using the new questions (21.7%) than when using the old questions (25.9%), which have been retained in the official measure for one final year.

- The official measure of pensioner material deprivation is less strongly linked to income than the child material deprivation measure is, in part reflecting the fact that the health and social constraints preventing access to an item count towards the pensioner measure but not the child measure. However, even when focusing on monetary constraints alone, the link between income and material deprivation is less strong for pensioners, perhaps reflecting the importance of wealth (including housing wealth) in sustaining the living standards of some pensioners.
- While BHC income poverty is slightly higher for working-age adults with children (16.0%) than for those without (14.6%), inability to afford the ‘adult’ items used to define deprivation is much greater among those with children. This might suggest that the equivalence scales used to adjust incomes may not account for all of the additional costs families with children face, that more of the income poverty faced by working-age adults with children is persistent, or that parents prioritise the needs of their children and therefore go without themselves.

# 1. Introduction

In this Commentary, we examine the distribution of living standards in the UK. We assess the changes to average incomes, income inequality and income poverty that occurred in the latest year of data (2010–11), and put these in historical context using comparable data spanning the last fifty years. The analysis draws upon the latest figures from the Department for Work and Pensions (DWP)'s Households Below Average Income (HBAI) series, published on 14 June 2012. The HBAI series takes household income as its primary measure of living standards. It is derived from the Family Resources Survey (FRS), a survey of more than 25,000 households in the UK that asks detailed questions about income from a range of sources. 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, summed across all individuals living in the same household. A household is not the same as a family; for instance, young adults living together (other than as a couple) are in the same household but not the same family, which we define here as a single adult or couple and their dependent children.
- Income is rescaled ('equivalised') to take into account the fact that households of different sizes and compositions have different needs.
- Income is measured after income tax, employee and self-employed National Insurance contributions and council tax.
- Income is measured both before housing costs have been deducted (BHC) and after they have been deducted (AHC).

Our analysis of the latest HBAI data begins in Chapter 2, which details the levels and trends in average living standards. Chapter 3 analyses the trends in income inequality. Chapter 4 contains analysis of trends in poverty. This focuses on both absolute and relative measures of poverty, and covers in detail poverty among working-age adults without dependent children and among pensioners, as well as in the population as a whole. Chapter 5 looks specifically at child poverty, on the basis that the new data – for 2010–11 – cover the year in which the previous government had set itself ambitious child poverty targets. Finally, Chapter 6 analyses patterns and trends in 'material deprivation' – an alternative indicator of material living standards, which is also provided by the FRS data.

## 2. Living standards

### Key findings

- There were sharp falls in average household incomes in the UK in 2010–11. Median income fell by 3.1%, from £432 per week to £419 per week (both in 2010–11 prices) and mean household income fell by 5.7%, from £542 to £511. This represents the largest one-year fall in median income since 1981 and the largest one-year fall in mean income since our consistent data began in 1962. Using either measure, this leaves average living standards in the UK below the level in 2004–05, undoing five years of (admittedly slow) growth in a single year.
- The primary reason for the falls in average income in 2010–11 was the fall in earnings. Pre-tax earnings fell by 7.1% in real terms in 2010–11, mostly due to falls in the real earnings of those employed as opposed to a fall in the numbers employed. It is also important to note that HM Revenue and Customs has found that the introduction of the 50% tax rate led to individuals shifting substantial amounts of income forwards from 2010–11 to 2009–10. This would have acted to increase top incomes in 2009–10 and to subsequently reduce them in 2010–11, exaggerating the falls in mean income in 2010–11.
- These large falls in average income in 2010–11 follow two relatively benign years during the recession itself (2008–09 and 2009–10), when real average incomes continued to grow at roughly the same pace as before the recession despite the large falls in GDP and employment. During those two years, median household incomes were supported by a combination of strong real-terms growth in income from state benefits and tax credits and relatively stable real employment income, helped by low inflation. The effects of the recession on household incomes were thus delayed, but most definitely not avoided. Unlike net income, income before taxes and benefits started falling during 2008–09 as the recession hit (and continued falling in 2010–11). Median income before taxes and benefits was 7.8% lower than its 2007–08 peak in 2010–11.
- There are good reasons to be pessimistic about the prospects for living standards beyond 2010–11. In 2011–12, employment fell slightly and average earnings fell in real terms. The Office for Budget Responsibility expects real year-on-year growth in average earnings to remain negative or negligible up to and including 2012–13. The fiscal tightening being implemented by the coalition government includes net tax rises and cuts to benefits, which will put further downward pressure on household incomes. Considering all these factors, recent forecasts by IFS researchers have suggested that median household income will continue to fall in real terms until 2013–14, and still be lower in 2015–16 than it was in 2002–03. If realised, this would represent the worst period for changes in median income since at least the early 1960s, and probably much earlier. However, the macroeconomic forecasts upon which these expectations are based are subject to considerable uncertainty, especially in light of the current situation in the Eurozone.

In this chapter, we analyse average material living standards in the UK. In particular, we focus on average incomes as measured in the latest year of Households Below Average Income (HBAI) data for 2010–11 and place these in the context of changes in average incomes prior to and during the recession of 2008 and 2009. We investigate the driving forces behind changes to average incomes, compare HBAI-measured changes in average incomes with measures of living standards from other sources and examine changes in living standards for different family types.

Before describing the changes in average incomes, it is worthwhile setting out some key information on how our figures are calculated and presented.



All monetary values in this chapter are expressed in average 2010–11 prices, and so all the differences we refer to are after inflation as measured by a series based on the retail price index (RPI) has been accounted for.<sup>1</sup> Since all incomes have been ‘equivalised’ to adjust for household size and composition (see Appendix A), all income amounts are expressed as the equivalent income for a couple with no children. In this chapter, income is always measured before housing costs have been deducted (BHC).

Throughout this Commentary, some statistics will be presented on a UK basis, while some will be presented on a Great Britain (GB) basis (i.e. they will exclude Northern Ireland). This is because Northern Ireland was only introduced to the HBAI series in 2002–03. Where analysis is made more informative by using comparisons over a long period of time, we focus purely on Great Britain.

It is worth noting that since the publication of the 2009–10 HBAI data last year, minor revisions to the data for 2008–09 and 2009–10 have been made. The effect of these revisions on average incomes, inequality and poverty is generally quite small. Details of the revisions are reported in Appendix B. All analysis conducted in this Commentary uses the new and revised HBAI data for 2008–09 and 2009–10.

The HBAI data series is based on the Family Resources Survey (FRS) with supplementary information from the Survey of Personal Incomes (SPI) in order to capture better the incomes of very-high-income individuals (there are concerns that the FRS does not accurately capture the incomes of the very rich, because of a lower response rate among such individuals and because of misrecording of their incomes). The SPI is an administrative data set of income tax records collated by HM Revenue and Customs, which is likely to give a significantly more accurate picture of very high incomes than a household survey such as the FRS. The incomes of the richest *individuals* in the HBAI data are therefore replaced by the mean value of income among the richest individuals in the SPI.

The SPI adjustment is particularly important in 2009–10 and 2010–11 because of the introduction of the 50% tax rate in April 2010. The adjustment seeks to take account of the changes to the top of the income distribution in 2010–11 caused by this introduction. There have been two effects on top incomes. First, the increase in the top rate has ‘long-term’ effects on work effort, migration and risk taking, all of which may reduce top incomes. Second, it caused ‘forestalling’, where high-income individuals shift the realisation of their incomes into 2009–10 and out of 2010–11 and future years to minimise the tax paid on this income.

Forestalling effects increased reported top incomes in 2009–10 and suppressed them in 2010–11 and beyond. However, the SPI adjustment is based on assumptions about forestalling consistent with the Office for Budget Responsibility’s November 2011 *Economic and Fiscal Outlook*. Since then, HMRC has produced new evidence on the extent of forestalling;<sup>2</sup> the SPI adjustment does not account for the large falls in investment income found by HMRC in 2010–11. Therefore, top incomes may have been lower in 2010–11 than measured in HBAI. Further details of the SPI adjustment are given in Appendix C.

This chapter proceeds as follows. In Section 2.1, we analyse summary measures of the 2010–11 UK income distribution. Section 2.2 focuses on the changes in incomes in 2010–11, discusses the historical context of these changes and examines other measures of living standards. In Section 2.3, we examine the reasons for changes in incomes by analysing the different sources of income, and Section 2.4 focuses on living standards for different family types. Section 2.5 concludes.

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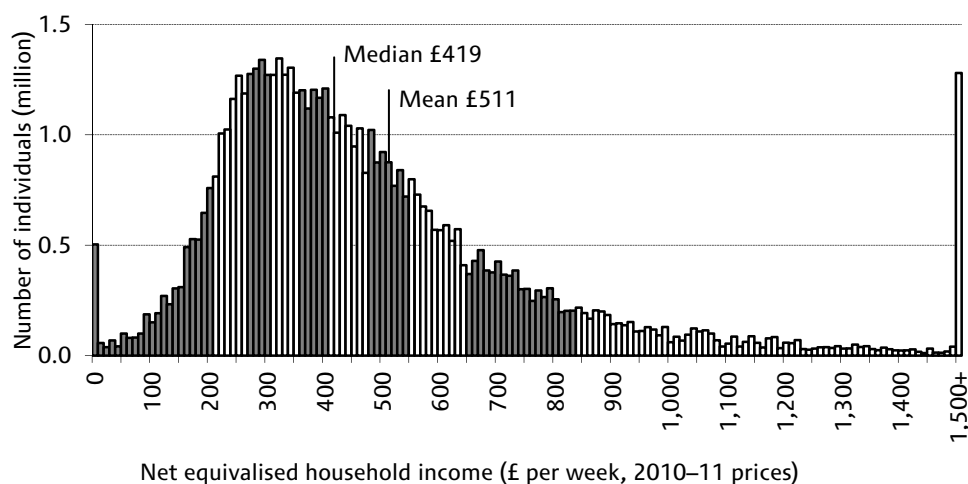
<sup>1</sup> The inflation rate used to deflate BHC incomes is equivalent to the RPI excluding council tax.

<sup>2</sup> HM Revenue and Customs, 2012.

## 2.1 The UK income distribution

Figure 2.1 presents the UK income distribution in 2010–11. It shows the number of people living in households with different income levels, grouped into £10 weekly income bands. The height of the bars represents the number of people in each income band. Income has been equivalised to the level for a couple without children and is calculated net (after all taxes have been deducted and benefits and tax credits added).

Figure 2.1. The income distribution in 2010–11 (UK)



Notes: Incomes have been measured before housing costs have been deducted. The right-most bar represents incomes of over £1,500 per week. The alternately-shaded bars delineate different decile groups.

Source: Authors' calculations using the Family Resources Survey, 2010–11.

According to the HBAI estimates, mean equivalised income in the UK in 2010–11 was £511 per week and median income was £92 (18%) lower at £419. As can be seen, the distribution is highly skewed, with around 65% of individuals living in households with income below the national mean. Furthermore, the final bar of the graph shows that just fewer than 1.3 million individuals (2.1%) have equivalised household incomes above £1,500 per week.

The income distribution also shows that there are just over 500,000 individuals whose equivalised household income is between zero and £10 a week (in the HBAI data, negative BHC incomes are set to zero). These zero or negative incomes could be due to factors such as large self-employment losses or because of various outgoings (such as council tax, student loan repayments or maintenance payments) that are deducted when calculating net income.<sup>3</sup> Previous research<sup>4</sup> has shown that households with the lowest recorded incomes on average tend to have higher living standards than is indicated by their household income (where living standards are measured by expenditure, consumption and/or material deprivation).

Figure 2.1 also divides the population into 10 equally-sized groups, called decile groups. The first decile group contains the poorest 10% of the population, the second decile group contains the next poorest 10%, and so on. The alternately-shaded sections represent these different decile groups; as can be seen,

<sup>3</sup> See Brewer, Phillips and Sibieta (2010) for further details on the types of payments and deductions that lead to zero or negative incomes.

<sup>4</sup> See Brewer, O'Dea, Paull and Sibieta (2009) and Attanasio, Battistin and Ichimura (2005).

the distribution is particularly concentrated within a fairly narrow range of incomes in the second to seventh deciles. However, as we move further up the income distribution, a widening of the decile group bands can be seen. Note that the tenth decile group band (by far the widest in the graph) is much wider than is shown in Figure 2.1, because all those with incomes greater than £1,500 are shown together rather than in £10 bands.

## 2.2 Changes in average incomes

The financial year 2010–11 was the first full year after the UK economy exited the recession of the late 2000s. However, the recovery was far from smooth. Real GDP growth in the second and third quarters of 2010 of 1.1% and 0.7% respectively (on a quarter-by-quarter basis) was followed by a decline of 0.5% in the fourth quarter of 2010 and growth of 0.2% in the first quarter of 2011. Unemployment fell from its then peak of 8.0% in February 2010, but fluctuated between 7.7% and 7.9% throughout the year. Overall, GDP per capita grew by 1.4% in real terms between 2009–10 and 2010–11.<sup>5</sup>

This modest recovery in the macroeconomy may lead one to expect modest growth in average household incomes. In fact, 2010–11 saw very large falls in average household incomes: median income in the UK fell by 3.1% in real terms (from £432 to £419 per week), while mean income fell by about 5.7% in real terms (from £542 to £511). As we shall see, this followed continued rises in average incomes during the recession itself. Hence, the timings of falls in GDP and falls in average household incomes were markedly different.

Table 2.1. Real BHC income growth and 95% confidence intervals (UK)

	Median income (2002–03 = 100)	Median income growth			Mean income (2002–03 = 100)	Mean income growth		
		Lower	Point	Upper		Lower	Point	Upper
2002–03	100.0	n/a	n/a	n/a	100.0	n/a	n/a	n/a
2003–04	100.0	–1.1%	0.0%	1.4%	99.6	–2.4%	–0.4%	1.8%
2004–05	101.0	–0.2%	1.0%	2.3%	101.0	–0.7%	1.4%	3.2%
2005–06	101.9	–0.2%	0.9%	2.3%	102.4	–0.6%	1.4%	3.2%
2006–07	102.3	–0.9%	0.5%	1.7%	103.2	–1.8%	0.8%	3.0%
2007–08	102.5	–1.3%	0.1%	1.5%	104.3	–1.4%	1.1%	3.6%
2008–09	103.1	–1.0%	0.6%	2.3%	105.3	–1.6%	0.9%	3.5%
2009–10	103.8	–0.8%	0.7%	2.0%	106.9	–1.3%	1.5%	3.9%
2010–11	100.6	–4.4%	–3.1%	–1.6%	100.8	–8.2%	–5.7%	–3.2%
<b>Total change between:</b>								
2002–03 and 2010–11		–0.5%	0.6%	2.0%		–1.3%	0.8%	2.6%
2006–07 and 2010–11		–3.3%	–1.7%	–0.4%		–5.5%	–2.4%	–1.3%

Notes: 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. Confidence intervals were calculated by bootstrapping the changes using 500 iterations. This involves recalculating statistics for each of a series of random samples drawn from the original sample, as a way of approximating the distribution of statistics that would be calculated from different possible samples out of the underlying population. See Davison and Hinkley (1997).

<sup>5</sup> Real GDP figures are from the UK Economic Accounts (ONS series IHYQ for GDP and IHXW for GDP per capita). Unemployment is the official measure from the Labour Force Survey (ONS series MGSX). Data downloaded 27 April 2012. ONS data for GDP can be subject to revision.

Table 2.1 shows the estimated changes in mean and median income each year since 2001–02, along with the estimated 95% confidence intervals for these changes.<sup>6</sup> If there is income growth and the lower bound is above zero, then the growth in income is statistically significantly different from zero. If there is a fall in income and the upper bound is less than zero, then the fall in income is statistically significantly different from zero. We can see that the falls in median and mean income from 2009–10 to 2010–11 were statistically significant, and left average incomes (measured both ways) lower than their levels in 2004–05. Hence, all the gains in average incomes made in five years of consecutive (albeit slow) growth were reversed in just one year. Moreover, as the last row in Table 2.1 shows, the level of income in 2010–11 was statistically significantly lower than that in 2006–07.

Despite being dramatic by historical standards, these falls in average incomes are not surprising. In last year's poverty and inequality report, on the basis of what we knew about labour market trends and tax and benefit policy in 2010–11, we remarked that 'a fall of 3% or more in median income in 2010–11 thus seems entirely possible'.<sup>7</sup> More recent detailed modelling of household incomes by IFS researchers estimated that median income would fall by 3.7% in real terms in 2010–11,<sup>8</sup> which is well within the statistical confidence interval for the actual fall measured in the HBAI data.

These large reductions in average incomes in 2010–11 follow two years in which household incomes were remarkably resilient despite the large reduction in the size of the UK economy. Between the first quarter of 2008 and the second quarter of 2009, there was a peak-to-trough fall in GDP of 7.1%, which translated into falls in GDP per capita of 4.2% and 3.0% in 2008–09 and 2009–10, respectively.<sup>9</sup> The size of these falls is unprecedented in the post-war period. They are similar to the estimated changes during the Great Depression – which, according to Mitchell, Solomou and Weale (2011), saw a 7% peak-to-trough fall in GDP – although not as severe as in the 1920–21 recession, which saw a peak-to-trough fall in GDP of 9.3%.<sup>10</sup> Despite this, real median income rose by 0.6% in 2008–09 and 0.7% in 2009–10. As we shall show later, this relatively robust performance was partly the result of a fall in inflation that (temporarily) boosted the real-terms value of state benefits and helped keep real earnings relatively stable despite a fall in employment and decline in nominal wage growth. However, it was inconceivable that households would remain permanently unaffected by such large falls in economic output, and 2010–11 proved to be the year in which the recession's impact on average household incomes started to be felt.

Given that 2010–11 saw large falls in average household incomes, it is important to put these in a historical context. In order to do this, we use data on Great Britain instead of the UK, to allow for consistent comparisons over time (Northern Ireland was first included in the HBAI data in 2002–03). When looking at mean and median incomes, this makes little difference, as Northern Ireland is small relative to the rest of the UK and trends in incomes in Northern Ireland and Great Britain are very similar. Figure 2.2 shows just how significant the recent falls in average incomes are in a historical context: the fall in median income of 3.1% is the largest one-year percentage fall since 1981, and the fall in mean income of 5.7% is the largest one-year percentage fall since our time series began in 1962.

Figure 2.3 shows how the levels of average income have evolved historically, at both the median and mean. The falls in income in 2010–11 leave median and mean living standards below the levels in 2004–05, undoing five years of (admittedly slow) growth in a single year.

<sup>6</sup> For information on confidence intervals, see Source to Table 2.1.

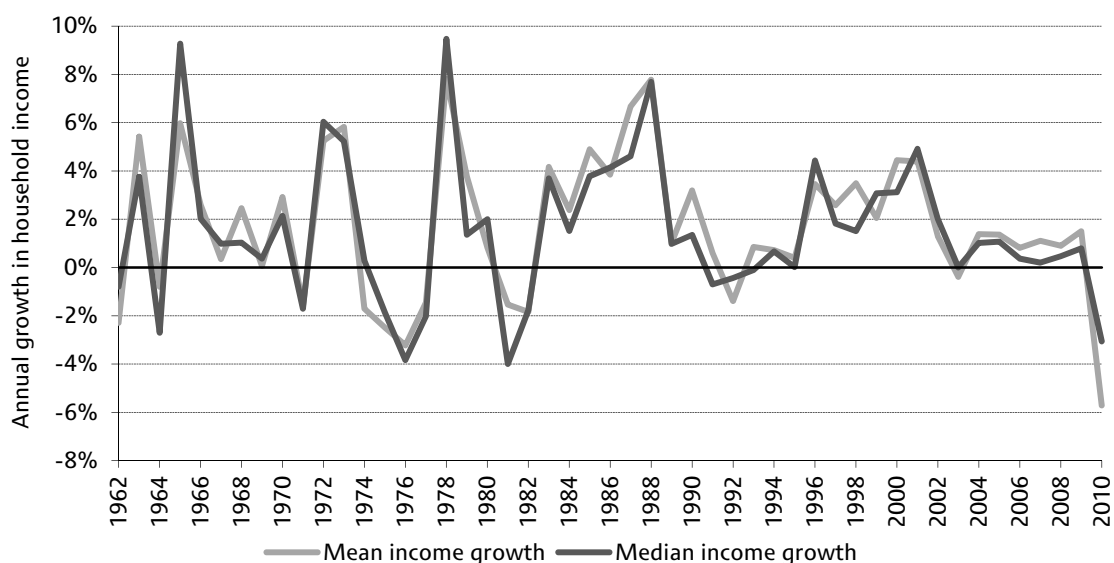
<sup>7</sup> Jin et al., 2011, p. 21.

<sup>8</sup> Joyce, 2012.

<sup>9</sup> GDP measured using ONS series ABMI; GDP per capita measured using ONS series IHXW.

<sup>10</sup> While the fall in GDP per capita during the Great Depression was similar to that during the recession of the late 2000s, there are important differences in the impact of these two recessions on unemployment. The recent recession saw unemployment peak first at 8.0% in February 2010 (and then at 8.4% in December 2011), but unemployment during the 1920s and the Great Depression was much higher: unemployment averaged 14.6% between 1924 and 1935 (Eichengreen, 1987).

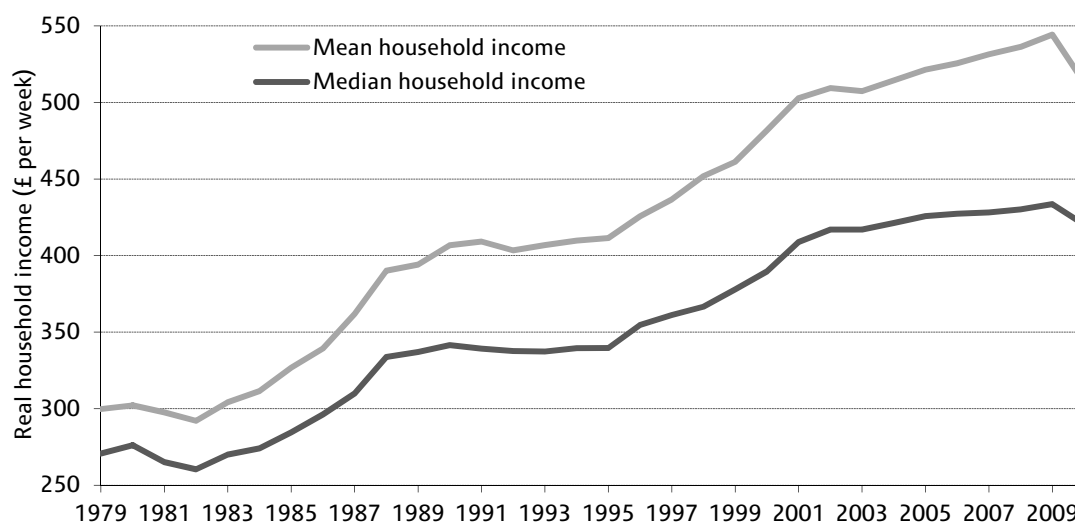
Figure 2.2. Annual growth in household incomes (GB)



Notes: Incomes have been measured 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 Resources Survey and Family Expenditure Survey, various years.

Figure 2.3. Average household incomes (GB)



Notes: Incomes have been measured before housing costs have been deducted. Incomes are expressed in 2010–11 prices. 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.

Figures 2.2 and 2.3 also show that, in the years immediately after the recessions of 1980–81 and 1990–91, there were falls in household incomes following relative stability in incomes during the recessions themselves. Muriel and Sibieta (2009) examined the paths of living standards in previous recessions and found that average household incomes did not fall until the second year of the recession and that they continued to fall afterwards during the 'recovery' phase. There are various reasons why this may have happened. First, as Muriel and Sibieta highlighted, unemployment tends to respond with a lag to changes in GDP. Second, if inflation falls during a recession, it may temporarily boost incomes, by raising the real values of benefits in particular (since these tend to be increased in line with lagged measures of inflation).

Research by IFS researchers last year on living standards in 2009–10 found that this was an important reason for the relative stability of incomes in that year.<sup>11</sup>

Figure 2.3 also allows us to pick out longer-term trends in living standards. It shows that there was a slowdown in average income growth that far pre-dates the recession; indeed, the turning point was in around 2002–03. For example, mean income growth had been consistently strong between 1995–96 and 2001–02, averaging 3.4% per year; but in the period between 2001–02 and 2009–10, it averaged just 1.0% per year. In fact, the sluggish average income growth of 2008–09 and 2009–10 looked little different from that seen in the immediate pre-recession years.

To gain a fuller picture of recent changes in living standards, it is also informative to compare the HBAI estimates of changes in average income with estimates from other sources. As suggested before, the living standards of households as measured in HBAI may not move together with macroeconomic aggregates such as GDP per capita.

Table 2.2. Measures of income growth compared

	GDP per head (UK)	Household <sup>a</sup> final consumption expenditure (UK)	Real household disposable income per head (UK)	Mean HBAI income (GB, BHC)	Median HBAI income (GB, BHC)
<b>Conservatives 1979 to 1996–97</b>	2.0%	2.6%	2.6%	2.1%	1.6%
<b>Labour 1996–97 to 2009–10</b>	1.8%	2.0%	1.9%	1.9%	1.6%
<i>of which:</i>					
Fast growth (1996–97 to 2001–02)	3.3%	4.2%	3.4%	3.4%	2.9%
Weak growth (2001–02 to 2007–08)	2.4%	2.1%	1.2%	0.9%	0.8%
Recent recession (2007–08 to 2009–10)	–3.6%	–3.3%	0.7%	1.2%	0.6%
<b>Post recession: 2009–10 to 2010–11</b>	1.4%	0.3%	–2.8%	–5.7%	–3.1%

a. And non-profit institutions serving households.

Note: Incomes have been measured before housing costs have been deducted.

Source: Authors' calculations using ONS series IHXW, IHXX and IHXZ, and HBAI data.

Table 2.2 compares five measures of growth in average living standards. Three are derived from the National Accounts: real gross domestic product (GDP) per capita, real household disposable income per capita (RHDI) and household final consumption expenditure (HFCE). The remaining two are based on HBAI: mean and median household income. Real GDP per head is a widely-used measure of economic well-being, showing the estimated market value of all final goods and services produced in the UK economy, divided by the total number of people in the UK. Real household disposable income, as the name implies, focuses on the household sector,<sup>12</sup> and so excludes the incomes of companies and the government. However, unlike our HBAI income measure, RHDI does make some deductions for housing costs and is thus not a purely BHC measure of income.<sup>13</sup> Household final consumption expenditure (including the expenditure of non-profit institutions serving households) is a measure of spending rather than income. It captures expenditure incurred by or on behalf of households on consumption of goods and services, and is thus not directly comparable to income measures. The National Accounts measures

<sup>11</sup> Jin et al., 2011.

<sup>12</sup> Though the household sector used for this measure also includes charities and universities.

<sup>13</sup> RHDI does not deduct rental payments, but, like AHC measures, it is measured after mortgage interest payments.

are only able to provide estimates at the mean, so are more likely to be comparable to mean HBAI income than median HBAI income (all else being equal). Income growth at the median, as measured in HBAI, is shown for reference purposes. In all of this analysis, we focus on measures of material living standards, and we generally focus on income measures rather than consumption.

Table 2.2 shows average growth in living standards across these five measures in the latest year of data and during the period of Labour government between 1996–97 and 2009–10, as well as during the period of Conservative government between 1979 and 1996–97. It is important to remember that the pattern of income growth is strongly influenced by booms and recessions and that our comparisons across periods of government cover different stages of various economic cycles and will be affected by this. With these caveats in mind, there are a number of features worth noting.

First, comparing the long periods of Labour (1996–97 to 2009–10) and Conservative (1979 to 1996–97) government, while median HBAI income grew at the same average rate (1.6% per year) in both periods, there was higher growth in mean HBAI income under the Conservatives. This hints that income growth under the Conservatives was relatively favourable to those on higher incomes (who are weighted more heavily in the calculation of mean income but are irrelevant for the calculation of median income) – a point that we shall confirm in Chapter 3. This situation is also reflected in the higher growth seen in the measures of mean living standards in the National Accounts: GDP per capita grew 0.2 percentage points per year faster in the Conservative period than in the Labour period, for example.

Second, one can break down the period of Labour government into three distinct phases of economic and household income growth. Initially, there was fast growth from 1996–97 to 2001–02, in which GDP per capita grew at 3.3% per year and average HBAI income grew at a similar rate. This was followed by relatively weak growth between 2001–02 and 2007–08, when GDP grew by only 2.4% per year and mean and median HBAI income grew much less quickly at just under 1% per year. As HBAI incomes are measured net of taxes, part of this difference may reflect the growth in the tax burden over this period.<sup>14</sup>

During the last years of the Labour government, dominated by the global financial crisis and recession, measuring changes in living standards using GDP per capita or by final consumption expenditure gives a different impression from that using household incomes. While GDP per capita and final consumption expenditure fell rapidly during the recession as production fell and households reduced their expenditure and increased the amount they saved, average HBAI incomes and the average RHD measure actually grew. We now know that this temporary divergence between GDP growth and average income growth was undone in 2010–11. That falls in household consumption clearly preceded falls in household incomes, and occurred at the same time as falls in GDP, is interesting and perhaps reflects the adjustment of consumption patterns in light of the effects of the recession on expectations about future income. For detailed analysis of household spending during and after the recent recession, see Crossley, Low and O’Dea (2011).

One reason why real household income continued to grow during the recession was low inflation, especially during 2009–10. Previous work by IFS researchers has shown that growth in welfare payments can also explain much of the continued growth in household incomes during the recession.<sup>15</sup> While there was substantial growth in welfare payments during the recession, there were no corresponding tax increases to pay for them. Borrowing in order to fund government expenditure and transfer payments instead of raising taxes to fund them had a positive effect on household incomes during the recession, while it may or may not have had a significant impact on GDP.<sup>16</sup> Indeed, there were even some tax cuts

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<sup>14</sup> See Chote et al. (2010). After-tax measures may well understate the growth in living standards over this period if individuals valued the extra public spending paid for by the increase in the tax burden.

<sup>15</sup> Jin et al., 2011.

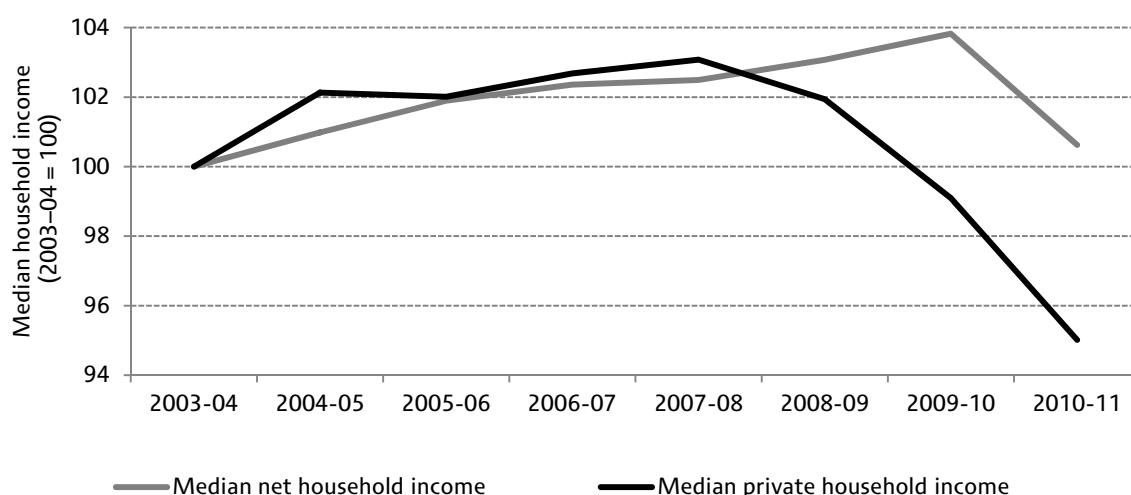
<sup>16</sup> See Ramey (2011) for a review of the state of knowledge on the effect of fiscal stimulus on output.

during the recession, such as the cut in the main rate of VAT from 17.5% to 15% from December 2008 to January 2010 that will have lowered prices and hence supported real household incomes.

Given that incomes from state benefits and tax credits were important explanations for the continued growth in average net income between 2007–08 and 2009–10, it is also interesting to look at changes in private household incomes, and to see how they compare with changes in net incomes. We define private household incomes as incomes before direct taxes are deducted and benefits and tax credits are received.<sup>17</sup>

Figure 2.4 implies that median private income in 2010–11 was £431 per week, compared with median net income of £419. Note that the households at the median of the net income distribution are not necessarily the same as the households at the median of the private income distribution, so one cannot use these figures to calculate the net contribution of ‘the median’ household to government coffers through the direct tax and benefit system.

Figure 2.4. Comparing real median net and private household income (UK)



Note: Incomes have been measured before housing costs have been deducted.

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

The figure shows the evolution of real median private income and median net income since 2003–04. While median net income rose in each year between 2003–04 and 2009–10, before falling by 3.1% in 2010–11, the changes in median private income were very different in recent years. It grew at a similar average rate to median net income between 2003–04 and 2007–08, but then fell by 1.1% in 2008–09, by 2.8% in 2009–10 and by 4.1% in 2010–11. This leaves median private income 7.8% below its pre-recession peak (and 5.0% below its 2003–04 level). It also highlights the role of ‘automatic stabilisers’ – namely, the tax and benefit system – in moderating the falls in household net income (at least in the short run).

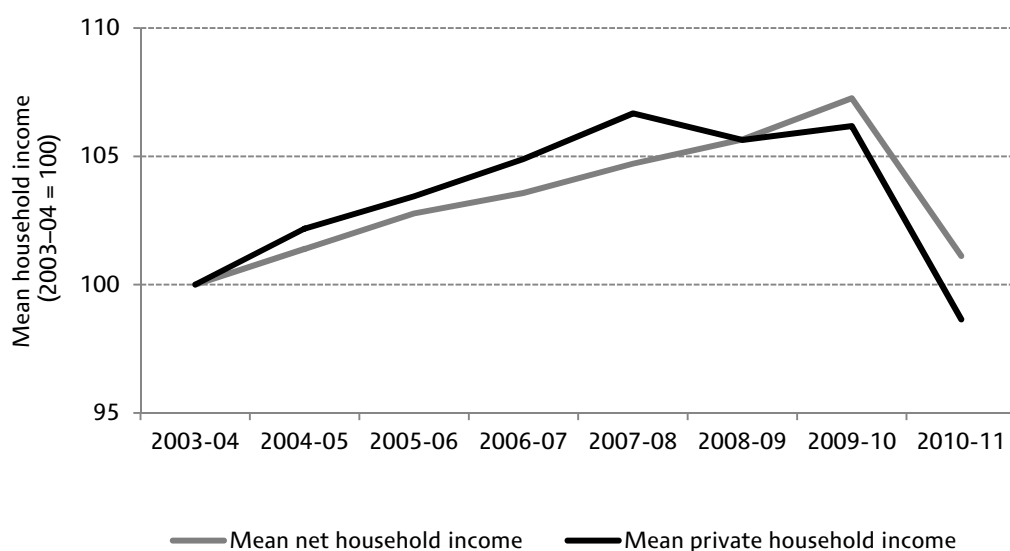
It is also worthwhile examining the evolution of real mean income before taxes and benefits. In Figure 2.5, we see that in the years 2003–04 to 2007–08, mean private and net income moved relatively close together, albeit with slightly faster growth in mean private income. However, from 2008–09, trends in mean private and net income diverge significantly. In 2008–09 and 2009–10, mean net income continued to increase. However, in 2008–09, mean private income fell by 1.0%. In 2009–10, the narrative is more

<sup>17</sup> It is also useful to examine private income changes because they are not directly boosted by tax cuts or benefit rises, which are funded by increased government borrowing to be paid back by future taxpayers. However, the private income distribution should not be thought of as what the income distribution would be in the absence of taxes and benefits. The tax and benefit system creates incentives to which individuals respond by changing their decisions, such as how much to work and save.



complicated. Unlike at the median, mean private income actually rose. This strange pattern is likely to be caused by the anticipation of the introduction of the 50p tax rate in April 2011, which incentivised those individuals with high incomes who were able to do so to shift part of their income into 2009–10 from 2010–11 and beyond.<sup>18</sup> Since these individuals have high household incomes, this does not affect median private incomes but will have affected mean incomes in 2009–10 and subsequent years. In the most recent year of data, mean income before benefits and taxes fell sharply by 7.1%, leaving mean private income 7.5% lower than its peak in 2007–08.

Figure 2.5. Comparing real mean net and private household income (UK)



Note: Incomes have been measured before housing costs have been deducted.

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

Hence, while in 2008–09 and 2009–10 the effects of the recession on household net incomes were not yet felt, private incomes had already started to fall. The difference between the paths of private and net incomes is further suggestive evidence of the importance of taxes and benefits supporting household net incomes during the recession of the late 2000s, a hypothesis that is investigated in more detail in the following section.

## 2.3 Different sources of income

In order to understand better the changes in overall income, it is helpful to consider changes in the various components of income and their contribution to the overall change. To this end, Table 2.3 shows the change in the mean amount of each component of income, and how this contributes to the change in overall mean income, both in the latest year of data and over the period since 2003–04. Before examining the results, it is worth noting that the breakdown excludes those households that report negative incomes. This is because, under HBAI methodology, such households have their total net income set to zero, and hence their components of income do not sum to their assigned total income. The exclusion of such households explains the small difference between the fall in mean net income as calculated by summing the components (5.9%) and the fall in mean net income for the entire distribution (5.7%).

<sup>18</sup> We will return to this theme in our discussion of inequality (see Section 3.2).

Table 2.3. Income sources: real year-on-year income growth and share of total income (UK)

	Source of income							Mean HBAI income
	Gross earnings	Gross self-employment	Benefits and tax credits	Gross income from savings, investments and private pensions	Other income	Taxes and other deductions from income	Total income	
<b>2010-11</b>								
Share of total income	85%	12%	20%	13%	3%	-34%	100%	
Growth of income source	-7.1%	-9.7%	-1.5%	-6.1%	10.3%	-6.6%	-5.9%	-5.7%
Contribution to total income growth	-6.1%	-1.2%	-0.3%	-0.8%	0.3%	2.3%	-5.9%	
<b>2009-10</b>								
Growth of income source	-1.2%	7.8%	7.0%	1.5%	5.2%	0.0%	1.4%	1.5%
Contribution to total income growth	-1.1%	0.9%	1.3%	0.2%	0.1%	0.0%	1.4%	
<b>2008-09</b>								
Growth of income source	1.1%	-3.8%	5.1%	-6.3%	4.5%	-0.7%	0.9%	0.9%
Contribution to total income growth	1.0%	-0.5%	0.9%	-0.9%	0.1%	0.2%	0.9%	
<b>2003-04 to 2007-08</b>								
Annualised growth of income source	1.3%	1.8%	-0.1%	3.9%	-1.4%	1.9%	1.2%	1.2%
Contribution to annualised total income growth	1.2%	0.2%	0.0%	0.5%	0.0%	-0.7%	1.2%	

Notes: 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 Family Resources Survey, various years.

We look at each of the sources of private income (such as gross earnings), as well as benefits paid by the government and taxes paid to the government.<sup>19</sup> Since the private income components plus benefits minus taxes will sum to net income, the total of the income components before taxes are deducted will be greater than 100%. The first three rows of Table 2.3 relate to the latest year of HBAI data, 2010–11. The first row shows the fraction of total net income attributable to each individual component. Gross earnings contribute an amount equal to 85% of mean net income, whilst benefits and tax credits contribute 20% of mean net income. Offsetting this are taxes and other payments (such as student loan repayments), which together reduce household incomes by an amount equivalent to 34% of mean income.

Looking at individual sources, we see that gross earnings fell by 7.1% in real terms in 2010–11, which alone would have led to a fall in total income of about 6.1% if no other income components had changed. However, as earnings (and other income sources) fell, so did the amount of tax paid. The fall of 6.6% in tax and other deductions from income acted to stabilise total income to some extent; it reduced the overall fall in total net income by 2.3 percentage points. It is important to note that this picks up only some of the changes in the amount of tax paid by households (namely, income tax, National Insurance and council tax). Increases to VAT in January 2010 and January 2011, which would tend to increase the overall amount of tax paid and put downward pressure on real incomes, are not included in this effect but instead are reflected in the inflation rate used to convert from nominal to real changes in incomes.

Gross self-employment income fell by even more than earnings (9.7%) but, given it is a much smaller fraction of overall income, it contributes a much smaller fraction of the overall fall in income (1.2 percentage points). It is important not to read too much into a single year's data, especially for self-employment income: changes in self-employment income are often volatile from year to year. Furthermore, given the relative ease with which self-employment income can be reallocated across time (for instance, by changing the timing of dividend payments), year-on-year comparisons may be affected by the impact of forestalling in response to the introduction of the 50% top rate of tax in April 2010.<sup>20</sup> That is, the tax changes are likely to have temporarily raised mean self-employment income in 2009–10 as income was brought forward to avoid the tax increase (gross self-employment income increased by 7.8% in 2009–10), with at least part of the 9.7% fall in 2010–11 reflecting the unwinding of this effect.<sup>21</sup>

Table 2.3 also shows the annual growth rates of income sources for previous years. In 2009–10, gross earnings from employment fell in real terms, albeit by much less than in 2010–11. However, two other changes acted to increase mean gross and net incomes. First, real income from benefits and tax credits grew by 7.0%, adding 1.3 percentage points to overall growth in mean real income. Second, gross income from self-employment and savings and investments increased, which is likely to reflect, at least in part, 'forestalling' in anticipation of the introduction of the 50% tax rate in April 2010. HMRC has identified self-employment and investment income as especially vulnerable to forestalling: it is particularly easy for high-income individuals to shift such incomes into 2009–10 from later years to minimise the amount of tax due, raising mean amounts for these sources in 2009–10 and depressing them for several years thereafter.

In 2008–09, the picture is quite different. Income from gross earnings grew, but gross self-employment and investment income fell, which is unsurprising given the falls in asset prices during the financial crisis. As in 2009–10, there were large real increases in benefits, which alone contributed 0.9 percentage points

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<sup>19</sup> This represents a change from the methodology used in similar analysis in previous poverty and inequality reports, which looked at net sources of income. This new methodology allows us to look at the changes in pre-tax income components separately from the change in the amount of taxes paid and also allows us to include households at the very top of the income distribution, which we previously had to drop when analysing changes in income components.

<sup>20</sup> See Section 3.2 for more details on forestalling.

<sup>21</sup> In addition, self-employment losses are a common source of negative household income (households with negative income are excluded from this analysis).

to growth in mean real income. Rising real income from benefits explains why, in Section 2.2, we saw falling private incomes in 2008–09 but rising net incomes.

It is also notable that while mean net income grew during 2008–09 and 2009–10 at a rate similar to that of the previous four years, the composition of this growth was quite different. Growth during the recession years was overwhelmingly dependent on increases in the mean amount of benefit income, whereas income from employment was the largest contributor to overall growth in the period between 2003–04 and 2007–08.

We now explore in more detail how income from benefits and employment changed in 2010–11 and over recent years.

## Income from benefits

Average household income from benefits fell by around 1.5% in real terms in 2010–11, which on its own acted to reduce mean household income by 0.3 percentage points (nominal benefits income rose by 3.6%, offset by inflation of 5.0%). As discussed in more detail in Chapter 4, in the absence of any discretionary policy changes we would expect year-on-year real falls in benefit income when inflation is rising, because default uprating rules are for (most) benefits to be increased each April by the annual rate of inflation in the previous September. RPI inflation rose substantially in late 2009, from –1.4% in September 2009, increasing more in early 2010 to reach 5.3% in April 2010, and it remained high during 2010–11, averaging 5.0%.

With RPI inflation below zero in September 2009, and in the absence of discretionary policy, benefits would not have increased in April 2010. However, the previous Labour government made a discretionary policy decision to increase most non-means-tested benefits by 1.5% (most means-tested benefits were automatically increased by 1.8% in line with Rossi inflation in the year to September 2009). Important exceptions were the Basic State Pension, which rose by 2.5%, and the child element of the Child Tax Credit, which rose by 2.9%. With RPI inflation at 5.0% in 2010–11, these imply real reductions in benefit rates. It is important to recognise that the falls in the real value of benefit rates in 2010–11 as a result of the uprating rules are likely to be a temporary phenomenon: in the long run, we would expect real reductions in benefit rates when inflation is rising to be balanced by real increases when inflation later falls back. Indeed, real reductions during 2010–11 followed significant real increases in 2009–10, during which inflation was much lower than it had been in September 2008.

The rises in individual benefit rates in 2010–11 are clearly too small to have resulted in a 3.6% nominal increase in average household benefit income by themselves. However, as earnings and employment fell, there were also increases in eligibility for benefits. Another factor, as shown in Appendix D, is a year-on-year increase in the proportion of benefit and tax credit spending that was picked up in the HBAI data: total benefit and tax credit receipts of all households in the HBAI data set increased by 4.5% in nominal terms, compared with a 3.6% rise in benefit and tax credit spending according to administrative data.<sup>22</sup>

## Employment and earnings

As we have already seen, earnings from employment are by far the largest single source of total household incomes in the UK, on average. According to Table 2.3, real gross earnings income fell by 7.1% in 2010–11. There are two possible broad reasons why income from earnings fell so fast in 2010–11: there may have been a large fall in the number of people employed, or there may have been a large fall in average earnings of those in employment.

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<sup>22</sup> Reflecting the availability of administrative data, this includes tax credit and Child Benefit income in the whole of the UK and other benefit income in Great Britain only. Readers should note that year-to-year volatility in survey performance is to be expected, and of more concern is any long-term trend in the proportion of benefits captured by the FRS.

Figure 2.6. Employment rate (UK)



Note: Figures are annual averages, except that the 2011–12 statistic is averaged over the period from April 2011 to January 2012. Source: Office for National Statistics, series LF24; authors’ calculations using Family Resources Survey, various years. Denominator is the population aged between 16 and 64.

We first consider the effect of employment. Figure 2.6 compares the employment rate in the UK since 2002–03, according to both the HBAI data and official labour market statistics from the Office for National Statistics (ONS), based on the Labour Force Survey (LFS).<sup>23</sup>

As shown in the graph, the employment rate in the HBAI data has typically been lower than the employment rate recorded in the LFS in most years by about 2 percentage points. However, the *changes* in employment rates over time in the two series are generally reasonably similar (an exception is 2003–04, when the employment rate fell according to HBAI but rose slightly according to the LFS). In the most recent year of HBAI data, the employment rate in both series changed very little.<sup>24</sup>

Since the employment rate fell only marginally in the HBAI data in 2010–11, we might suspect that average real earnings *among employed individuals* in the HBAI data must have fallen significantly.<sup>25</sup> To examine this, we now look at earnings among workers observed in HBAI, and compare the trend in earnings with that shown by the national average weekly earnings (AWE) index, the primary source of earnings growth information for the UK.

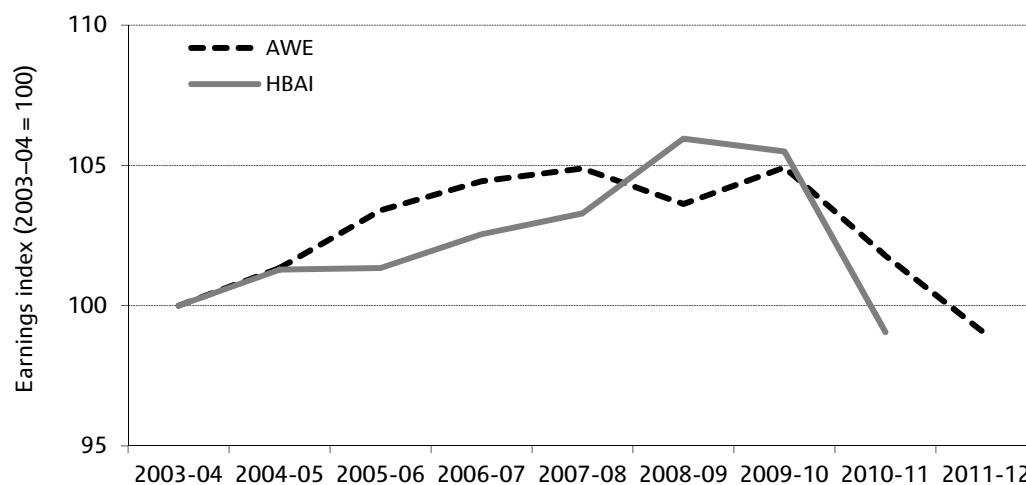
Figure 2.7 presents the level of earnings before tax as measured by HBAI and the AWE in real terms (deflated by RPI) and relative to their level in 2003–04, such that they are equal to 100 in 2003–04. It shows that the trends in earnings in HBAI and the AWE have been similar in recent years, although there were some substantial differences in the AWE and HBAI earnings growth rates in 2008–09 and 2009–10. In 2010–11, the fall in HBAI earnings (6.1%) of those employed is larger than the fall in earnings measured by AWE (3.0%). This large fall in earnings among those employed, combined with only small falls in the employment rate, implies that the majority of the fall in earnings income in 2010–11 was due to falls in the earnings of those employed. In the HBAI data at least, the real earnings of those employed increased in 2008–09, leading to growth in mean employment income despite the fall in the employment

<sup>23</sup> We focus on employment rather than unemployment, because economically inactive people are not counted as unemployed and yet the consequences of economic inactivity and unemployment for household income are quite similar.

<sup>24</sup> There was a larger discrepancy in 2009–10, when the fall in the HBAI employment rate (0.9 percentage points) was considerably smaller than that in the LFS (1.7 percentage points).

<sup>25</sup> However, note that the average earnings shown in Table 2.3 relate to a subsample of households, while the employment rates shown in Figure 2.6 relate to all individuals aged 16–64, so the difference between changes in the two is not exactly equal to the change in average earnings among the employed.

Figure 2.7. HBAI versus average weekly earnings index: before-tax, real-terms index (UK)



Notes: The HBAI and AWE earnings measures both include bonus payments. Earnings are deflated by the all-items RPI (ONS series CHAW).

Source: Average weekly earnings total pay index, ONS's Labour Market Statistical Bulletin Historical Supplement, series K54U; authors' calculations using Family Resources Survey, various years.

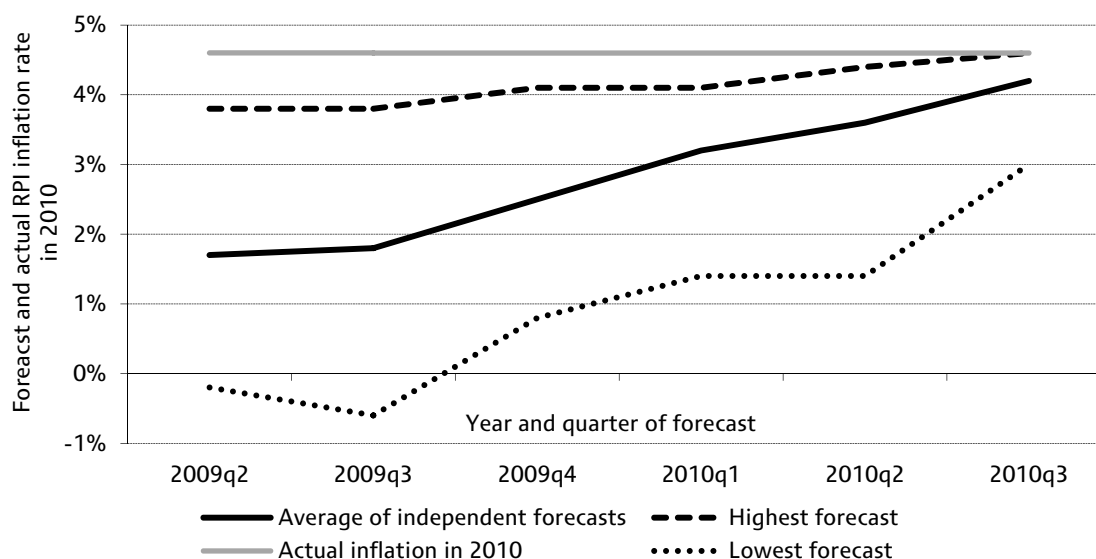
rate. In 2009–10, there was a small fall in HBAI earnings among those employed, which, combined with a fall in the employment rate, left gross earnings income 1.2% lower than the previous year (as shown in Table 2.3).

At a basic level, explaining the large falls in the earnings of those employed in 2010–11 is simple: nominal increases in earnings were substantially lower than inflation. Explaining why nominal earnings did not keep pace with inflation is harder. In fact, there are probably multiple reasons for this. First, in a labour market with substantial unemployment (between 7.7% and 7.9% in 2010–11), one might expect that employers would have a larger pool of potential workers to choose from and that workers' prospects of finding alternative employment would be worse, reducing workers' ability to bargain for higher wages. Second, if the financial crisis led to a fall in the productive capacity of the economy, we may expect real wages to fall, as workers are less productive. Finally, nominal wage and salary rates are often fixed for a set period and are set, in part, according to expected inflation. Therefore, an unexpected increase in inflation may temporarily decrease the real value of wages and salaries.

Figure 2.8 shows that the rise in inflation to an average of 4.6% over the 2010 calendar year was largely unexpected. In the second quarter of 2009, inflation in 2010 was expected to be 1.7%. Even a year later, in the second quarter of 2010, expected inflation in calendar year 2010 was only 3.6%, 1 percentage point below what inflation actually turned out to be in 2010. The fact that inflation increased so rapidly and unexpectedly in 2010 suggests that this was a significant contributing factor to falling real earnings and incomes during the year.

It is important to understand that we would not expect this unexpected rise in inflation to have permanent effects on earnings. In the long run, we would expect earnings to be set by the productivity of workers, which is unaffected by this unexpected increase in inflation. Therefore, the unexpected increase in inflation is likely to have had an important effect in reducing real earnings more quickly than would otherwise have occurred, but it should have no impact on real earnings in the medium to long run.

Figure 2.8. Independent forecasts of 2010 average RPI inflation by quarter, UK



Note: Quarters refer to the middle month of each quarter.

Source: Authors' calculations using various versions of 'Forecasts for the UK economy', published by HM Treasury, available at [http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/data\\_forecasts\\_index.htm](http://webarchive.nationalarchives.gov.uk/20100407010852/http://www.hm-treasury.gov.uk/data_forecasts_index.htm) and [http://www.hm-treasury.gov.uk/data\\_forecasts\\_index.htm](http://www.hm-treasury.gov.uk/data_forecasts_index.htm).

## 2.4 Income changes by family type

In this section, we examine how the incomes of different types of families changed and how the changes for particular family types contributed to the change overall.<sup>26</sup> To do this, we utilise the level of and changes in household unequivalised income. This may be a less appropriate measure of relative living standards than equivalised income (which is designed to adjust for the differing needs of households of different sizes and compositions), but it is more intuitive in this instance as it allows one to easily compare the actual average incomes for different types of families in 2009–10 and 2010–11.

In Table 2.4, we split families into 12 different types according to whether or not they have children, the number of adults, the number in paid work, and whether or not they are pensioners. In the first column, we can see the average (unequivalised) income for each family type. Unsurprisingly, two-earner families have the highest incomes, while workless households have the lowest incomes.

The second column shows the change in real mean income for each family type and for the population as a whole.<sup>27</sup> It is important to note that, like all figures based on HBAI data, the changes in income are subject to sampling uncertainty, and therefore even large changes may not be statistically significant, especially for small groups. Bearing this in mind, we can see that family types that had one or more adults in work generally saw larger falls in their income. For example, the mean real income of single working adults fell by an estimated 6.1%, compared with a 4.1% fall for single non-working adults. The figure that stands out is the 16.3% fall in mean income for single-earner couples with children. However, a large part of this fall is driven by those in this group at the very top of the income distribution: they are more likely to have been affected by the introduction of the 50p tax rate than other types of family. As well as engaging in longer-term behavioural responses, such high-income individuals are likely to have brought

<sup>26</sup> See Chapter 3 for more on changes in incomes across the whole income distribution.

<sup>27</sup> Overall income growth here is also measured unequivalised. The overall income fall is 6.5%, higher than the 5.7% fall in mean equivalised income.

forward income from 2010–11 (and beyond) into 2009–10 to reduce the amount of tax payable. This will have increased incomes in 2009–10 and thereby led to large falls in 2010–11 (see Section 3.2 for more details on such ‘forestalling’). Excluding the richest 2% of this group, the fall in its mean income is only 1.1%.

Table 2.4 also breaks the fall in overall mean income into two different effects. The ‘compositional effect’ reflects the effect of changes in the fraction of the population that each family type represents. For example, a shift from single adults in work to single adults out of work would reduce total income growth, other things being equal, as the latter have lower incomes. The ‘effect of within-group changes’ is the effect on total income growth of changes in the mean income of a given family type.

It is clear from the final row of Table 2.4 that the vast majority of the overall fall in mean income was due to within-group changes. In particular, on their own, falls in the mean income of single-earner and two-earner couples with children contributed over half of the reduction in overall mean income. This reflects not only that these groups saw substantial falls in mean income: the high mean income of these groups and the relatively large fraction of the total population that they represent mean that a given fall in their income leads to a relatively large fall in overall mean income. On the other hand, although mean income for workless couples with children fell by an estimated 9.1%, because they make up only 2.7% of the population in 2010–11 and have relatively low incomes, the effect of this on overall mean income was much smaller (–0.2 percentage points).

Table 2.4. Changes in unequivalised household income in 2010–11 by family type, and effect on overall income growth (UK)

	Mean income, 2010–11 (per week)	Growth in household income, 2009–10 to 2010–11	Percentage of population, 2009–10	Percentage of population, 2010–11	Compositional effect	Effect of within-group changes
<b>Working-age families without children</b>						
Single adult in work	£647	–6.1%	10.9%	10.7%	0.0%	–0.7%
Single adult out of work	£436	–4.1%	6.6%	6.9%	–0.1%	–0.2%
Couple without children, both in work	£812	–7.0%	12.6%	12.6%	0.0%	–1.2%
Couple without children, one in work	£619	4.5%	3.9%	3.7%	0.0%	0.2%
Couple without children, workless	£351	–4.8%	1.4%	1.5%	–0.1%	0.0%
<b>Working-age families with children</b>						
Lone parent in work	£474	–3.9%	4.2%	4.1%	0.0%	–0.1%
Lone parent out of work	£344	2.7%	3.9%	3.9%	0.0%	0.1%
Couple with children, both in work	£853	–5.2%	20.7%	20.8%	0.0%	–1.5%
Couple with children, one in work	£672	–16.3%	11.7%	11.9%	0.0%	–2.3%
Couple with children, workless	£372	–9.1%	3.0%	2.7%	0.1%	–0.2%
<b>Pensioners</b>						
Pensioner family, at least one person in work	£681	–7.8%	4.8%	4.4%	0.0%	–0.4%
Pensioner family, workless	£381	–1.8%	16.4%	16.7%	–0.1%	–0.2%
<b>All</b>	<b>£625</b>	<b>–6.5%</b>	<b>100%</b>	<b>100%</b>	<b>–0.1%</b>	<b>–6.5%</b>

Notes: Household income is unequivalised and measured before housing costs have been deducted. Work status is defined on a slightly different basis from that used in the HBAI publication and Tables 5.1 and 5.6 of this Commentary.

Source: Authors’ calculations using Family Resources Survey, 2010–11.



## 2.5 Conclusion

In 2010–11, the first full financial year since the end of the recession of the late 2000s, median household income in the UK fell by 3.1%, from £432 per week to £419 per week (both in 2010–11 prices). Mean household income fell by 5.7%, from £542 to £511. These falls represent the largest one-year fall in median income since 1981 and the largest one-year fall in mean income since our consistent data began in 1962. Using either measure, this leaves average living standards in the UK below 2004–05 levels, undoing five years of (admittedly slow) growth in a single year.

The primary reason for falls in living standards in 2010–11 was the fall in earnings from employment. Gross earnings income fell by 7.1% in 2010–11. It seems that most of this fall was driven by falls in the earnings of those who were employed, with relatively little due to falls in employment. Some of the fall in mean income in 2010–11 is almost certainly caused by the introduction in April 2010 of the 50% marginal income tax rate on income above £150,000 per year. In particular, HM Revenue and Customs has found that the increase in tax rates led to individuals shifting substantial amounts of income from 2010–11 to 2009–10. This would act to increase top incomes in 2009–10 and to subsequently reduce them in 2010–11, exaggerating the falls in mean income in 2010–11.

These large falls in average income in 2010–11 follow two relatively benign years during the recession itself (2008–09 and 2009–10), when real average incomes continued to grow at roughly the same pace as before the recession, despite the large falls in GDP and employment. During these two years, median household incomes were supported by a combination of strong real-terms growth in income from state benefits and relatively stable employment income. Unlike net income, income before taxes and benefits started to fall from 2008–09 and continued to fall in 2010–11. Median private income in 2010–11 was 7.8% lower than its peak in 2007–08, having fallen 4.1% in 2010–11 alone.

There are good reasons to be pessimistic about the prospects for living standards beyond 2010–11. In 2011–12, employment fell slightly and average earnings among those employed grew by just 1.9% in cash terms, well below the RPI inflation rate of 4.8%. Furthermore, the Office for Budget Responsibility expects real-terms year-on-year growth in average earnings to remain negative or negligible up to and including 2012–13.<sup>28</sup> In addition, rates of benefits and tax credits – the second largest component of household incomes – generally fell in real terms in 2011–12 due to rising inflation. More importantly in the longer run, cuts to the welfare budget are due to amount to about £18 billion per year by 2014–15, as part of the government's planned fiscal tightening. A particularly important reform is the switch to consumer price index (CPI) indexation for most benefits and tax credits from April 2011, which generally means lower year-on-year increases in those amounts than would otherwise have occurred.

Recent IFS research forecast a fall in median income of 2.8% in 2011–12, and further small falls in 2012–13 and 2013–14, before median income starts to grow again in 2014–15. The same research projects that median income in 2015–16 will be lower than it was in 2002–03.<sup>29</sup> However, it is important to stress the uncertainty that surrounds macroeconomic forecasts upon which these predictions are based, especially in the light of ongoing financial difficulties in the Eurozone.

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<sup>28</sup> Office for Budget Responsibility Economic and Fiscal Outlook supplementary economy tables – March 2012. Available at <http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-march-2012/>.

<sup>29</sup> Joyce, 2012.

### 3. Income inequality

#### Key findings

- Income inequality in the UK fell sharply in 2010–11. The widely-used Gini coefficient fell from 0.36 to 0.34. This is the largest one-year fall since at least 1962, returning the Gini coefficient to below its level in 1997–98. Although this reverses the increase in this measure of income inequality that occurred under the previous Labour government, it still leaves it much higher than before the substantial increases that occurred during the 1980s.
- Driving this drop in income inequality, the falls in real incomes in 2010–11 were smallest towards the bottom of the income distribution and largest towards the top. In the UK, real incomes fell by 1.1% at the 10<sup>th</sup> percentile, 3.1% at the median and 5.1% at the 90<sup>th</sup> percentile.
- The largest falls in income took place at the very top of the income distribution, with income at the 99<sup>th</sup> percentile falling by 15% in 2010–11. This is likely to be partly due to the temporary effects of the introduction in April 2010 of the 50% marginal income tax rate on incomes exceeding £150,000 per annum. HMRC estimates that the 50% tax rate resulted in substantial income ‘forestalling’ – the bringing forward of income from 2010–11 to 2009–10 in an effort to avoid the higher marginal rate of tax in 2010–11. This forestalling would have raised top incomes in 2009–10 and depressed top incomes in 2010–11. We would also expect the reform to have had some permanent effects on top incomes, via the direct impact of the tax rise lowering net incomes and the indirect impacts via (for example) reduced labour supply. It is uncertain exactly how much of the overall response reflects permanent behavioural change and how much is temporary.
- The decline in inequality in 2010–11 was by no means driven only by falls in the very highest incomes: inequality declined right across the income distribution. Inequality as measured by the 90/10 and 50/10 ratios, which measure the degree of inequality between high (as opposed to very high) and low incomes, and between middle and low incomes, respectively, also fell by record amounts and returned to levels not seen since 1987.
- Future prospects for inequality are uncertain. The large fiscal tightening that is now under way includes £18 billion per year of welfare cuts by 2014–15, the direct effect of which is to reduce incomes proportionately more towards the bottom of the income distribution. But much depends upon how the labour market evolves in the years ahead, which is clearly uncertain given the current macroeconomic climate. At the top of the income distribution, ongoing changes to the taxation of very-high-income individuals will continue to influence when such individuals choose to realise their incomes until at least 2013–14. This will make it difficult to identify the ‘underlying’ trends in top incomes (as opposed to temporary changes driven by tax-induced incentives to realise income at different points in time).

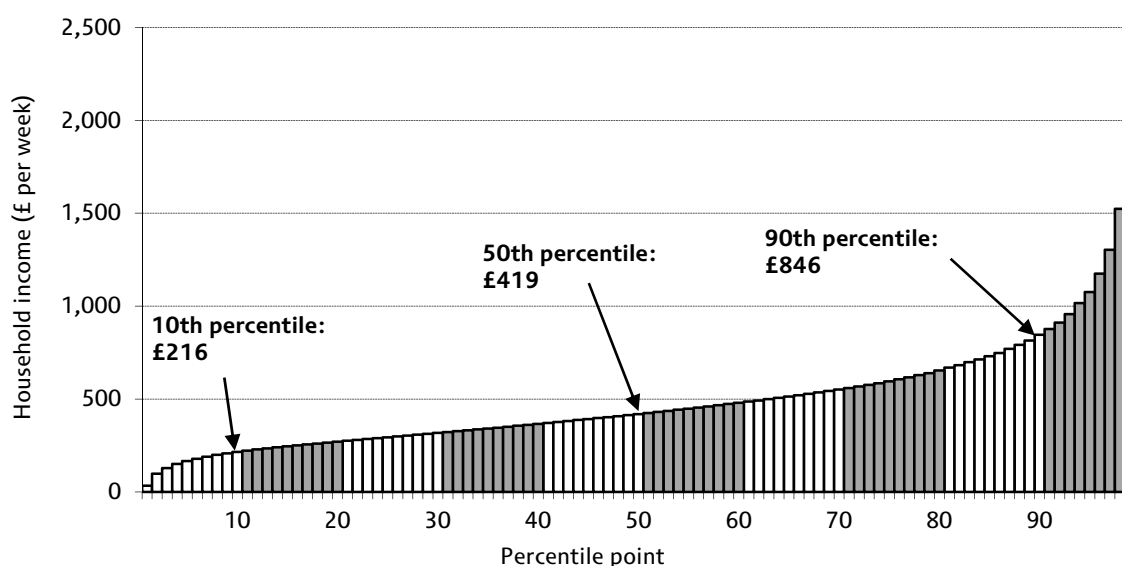
Chapter 2 considered changes in average incomes without considering how evenly (or otherwise) these changes were distributed. In this chapter, we look at how income growth has varied across the income distribution, focusing in particular on putting the changes during the latest year of data (2010–11) in their historical and economic context.

We begin with a brief discussion on the concept and measurement of inequality. Section 3.1 looks at how changes in incomes have differed across the income distribution, Section 3.2 looks at income growth at the top of the income distribution and discusses the effects of the 50% tax rate, and Section 3.3 examines inequality as quantified by a range of summary measures. Section 3.4 analyses changes in before-tax (private) income inequality and Section 3.5 summarises what we know about prospects for future inequality. Section 3.6 concludes.

In our discussions of inequality, we will be adopting a relative notion of inequality. This means that, should all incomes increase or decrease by the same proportional amount, we would conclude that income inequality had remained unchanged. However, we recognise that, even using a relative notion of inequality, there are many different measures of inequality which give different weight to different parts of the distribution.

There are many summary measures of inequality, such as the Gini coefficient, which are useful for comparing inequality across time and countries. However, in order to understand the current level of income inequality, Figure 3.1 shows the average equivalised household income at each percentile point of the income distribution. This illustrates several interesting things. First, comparing particular points of the income distribution, we can see that households at the median have just under twice the income of those at the 10<sup>th</sup> percentile, while those at the 90<sup>th</sup> percentile have just over twice the income of those at the median. Second, there is substantial inequality at the top of the distribution. The difference between each successive percentile point increases after around the 90<sup>th</sup> percentile, with income at the 99<sup>th</sup> percentile being £2,090 per week, almost two-and-a-half times the income of the 90<sup>th</sup> percentile.

Figure 3.1. Household income at each percentile point in 2010–11 (UK)



Notes: Incomes have been measured before housing costs have been deducted. The differently-shaded bars refer to decile groups. Source: Authors' calculations using Family Resources Survey, 2010–11.

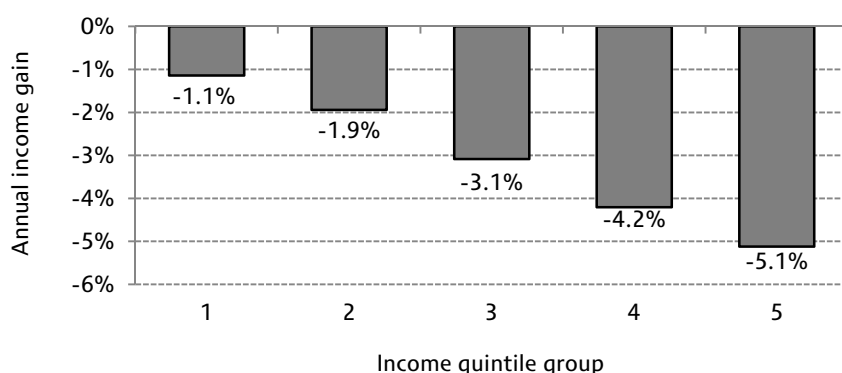
### 3.1 Income changes across the income distribution

One common way to show how inequality has changed across the population is to consider average real income growth by quintile group (each quintile group contains 20% of the population, or around 12 million individuals). We look at the growth of median income within each quintile, i.e. growth at the 10<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup>, 70<sup>th</sup> and 90<sup>th</sup> percentiles.<sup>30</sup>

As discussed in Section 2.2, median and mean income fell in real terms by 3.1% and 5.7% respectively between 2009–10 and 2010–11. This large difference between median and mean income changes is caused by particularly large falls in incomes at the top of the income distribution, which is irrelevant for the median but matters a lot for the mean.

<sup>30</sup> These growth rates are not affected by extreme changes at the very top or very bottom of the income distribution, but neither can they reflect changes at other points in the quintiles. Each of the percentiles represents a sample of fewer than 300 households.

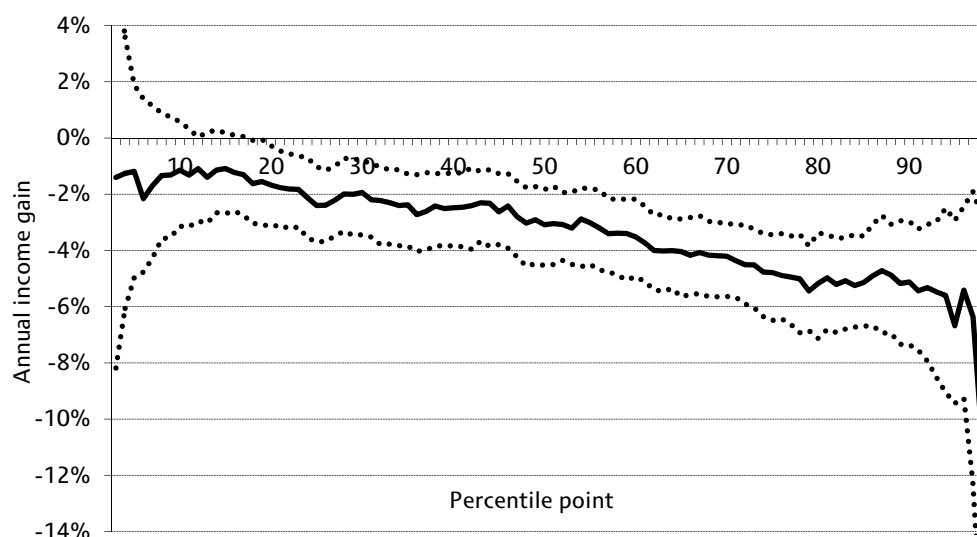
Figure 3.2. Real income growth by quintile group, 2009–10 to 2010–11 (UK)



Notes: The averages in each quintile group correspond to the midpoints, i.e. the 10<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup>, 70<sup>th</sup> and 90<sup>th</sup> percentile points of the income distribution. Incomes have been measured before housing costs have been deducted.

Source: Authors' calculations using Family Resources Survey, 2009–10 and 2010–11.

Figure 3.3. Real income growth by percentile point, 2009–10 to 2010–11 (UK)



Notes: The changes in income at the 1<sup>st</sup>, 2<sup>nd</sup> and 99<sup>th</sup> percentiles are not shown on this graph due to high levels of statistical uncertainty. The dotted lines show 95% confidence intervals. Incomes have been measured before housing costs have been deducted.

Source: Authors' calculations using Family Resources Survey, 2009–10 and 2010–11.

As Figure 3.2 shows, there were falls in incomes right across the income distribution in 2010–11. However, the pattern of falls tended to reduce inequality. The 1.1% drop in income in the first quintile (specifically, at the 10<sup>th</sup> percentile) was smaller than the falls in income among all the other quintiles. As one moves up the income distribution, the falls in income become progressively larger, with a drop of 5.1% at the 90<sup>th</sup> percentile.

While Figure 3.2 provides a straightforward summary of how incomes have been changing across the distribution, it masks changes within each quintile and at the extremes. In Figure 3.3, we show how incomes in the UK have changed between 2009–10 and 2010–11 right across the distribution. This graph is similar to the 'quintile' chart in Figure 3.2, except that rather than presenting how incomes have changed at only five points of the income distribution, we instead consider income growth at 99

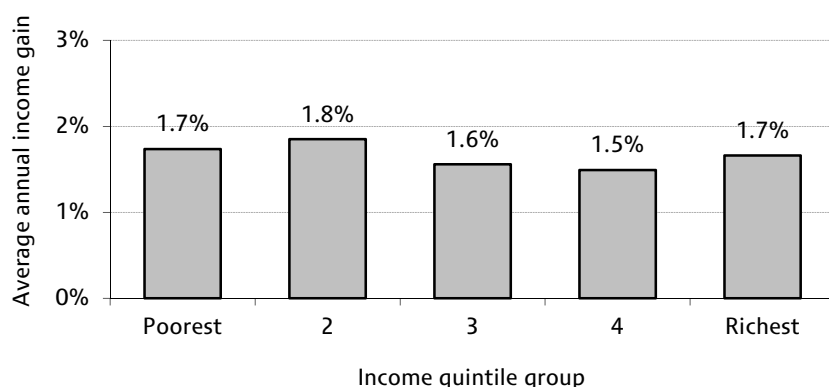
percentile points in the income distribution. We also show 95% confidence intervals (the dotted lines) for our estimates of income growth.

A clear pattern of steadily larger falls in real incomes as one moves up the income distribution emerges from this figure. The largest falls in income occurred at the very top of the income distribution; income at the 98<sup>th</sup> and 99<sup>th</sup> percentiles was 10.8% and 14.6% lower than in 2009–10, respectively.<sup>31</sup> It is also notable that whilst, in recent years, year-on-year measured income changes have generally not been statistically significantly different from zero, in 2010–11 incomes fell by a statistically significant amount at all parts of the income distribution above the 18<sup>th</sup> percentile. Income did fall at the bottom of the income distribution but by less than further up the distribution (for instance, falling by less than 2% among most of the poorest quintile) and these falls were not statistically significant. Given this pattern of changes in income across the distribution, it is clear that the income distribution has compressed during 2010–11 and inequality will have fallen.

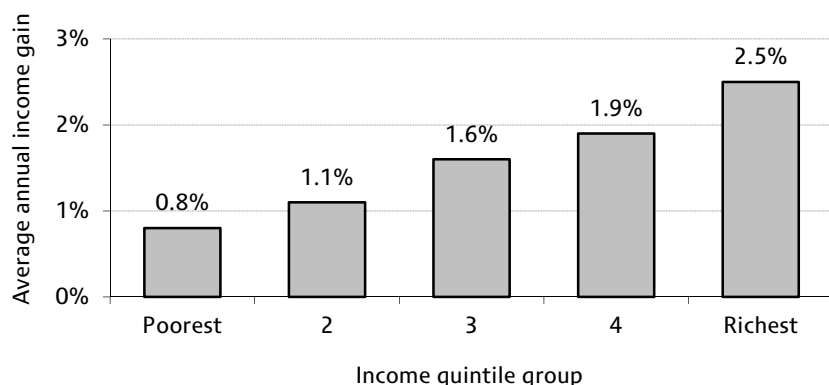
To compare income growth across a longer period, we must look at incomes in Great Britain (GB) only (Northern Ireland was only included in the data from 2002–03 onwards). Whilst this is not ideal, the fact that Northern Ireland represents only a very small fraction of the UK population (around 3.0%) and the similarity in economic trends mean the difference between GB and UK-wide figures is likely to be small. In

Figure 3.4. Real income growth by quintile group (GB)

Labour: 1996–97 to 2009–10



Conservatives: 1979 to 1996–97



Notes: The averages in each quintile group correspond to the midpoints, i.e. the 10<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup>, 70<sup>th</sup> and 90<sup>th</sup> percentile points of the income distribution. Incomes have been measured before housing costs have been deducted.

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

<sup>31</sup> Note that the change in income at the 99<sup>th</sup> percentile is subject to a high level of statistical uncertainty.

2010–11, the pattern and size of real income changes across the income distribution were very similar for GB and for the UK as a whole. For instance, real household income in GB fell by 1.2% (versus 1.1% for the UK) at the 10<sup>th</sup> percentile and by 5.2% (versus 5.1% for the UK) at the 90<sup>th</sup> percentile.

Figure 3.4 shows changes in incomes by quintile group for GB under the Conservative governments from 1979 to 1996–97 and under the Labour government from 1996–97 to 2009–10. It is important to remember that the pattern of income growth is strongly influenced by booms and recessions and that our comparisons across periods of government cover different stages of various economic cycles and will be affected by this.

Taking the period 1996–97 to 2009–10 as a whole, all quintile groups experienced income growth in the region of 1.5–1.8% on an annualised basis. The second quintile group fared best, with annual income growth of 1.8%, but there is relatively little difference across quintile groups. This pattern taken alone would suggest little change in income inequality over Labour’s 13 years in government, a point to which we will return in Section 3.3. This is different from the experience under the preceding period of Conservative government, when income growth was stronger the richer the quintile group, a pattern consistent with strongly rising inequality.

Table 3.1 gives income growth by quintile group separately for three distinct periods of Labour’s time in office. From 1996–97 to 2001–02, there was strong growth not only at the median and mean, as was shown in Chapter 2, but also right across the distribution, with growth highest in the second quintile. Income growth was weak across most of the distribution in the pre-recession years starting from 2001–02, with growth weakest for the bottom quintile. Incomes grew in real terms during the recession, with the bottom of the income distribution experiencing faster growth than it saw in the period before the recession of the late 2000s, in large part thanks to above-inflation benefit increases in 2009–10 (see Chapter 2). For the rest of the income distribution, income during the recession grew by a similar rate to the previous six years. The final row of Table 3.1 shows that the falls in income in the last year of data undid much of the growth in income in recent years, particularly towards the top of the income distribution.

Table 3.1 also shows how income growth has varied by quintile group since 1979 and since 1961, the first year of our consistent series for incomes. Since 1961, mean income growth has been 1.7% per year, compared with 1.5% at the median, with weaker growth in the bottom quintiles and stronger in the

Table 3.1. Average annual real income growth by quintile group (GB)

	<i>Income quintile group</i>					<b>Mean</b>
	<b>Poorest</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Richest</b>	
<b>1961 to 2010–11</b>	<b>1.4%</b>	<b>1.3%</b>	<b>1.5%</b>	<b>1.6%</b>	<b>1.8%</b>	<b>1.7%</b>
<b>1979 to 2010–11</b>	<b>1.2%</b>	<b>1.3%</b>	<b>1.4%</b>	<b>1.5%</b>	<b>1.9%</b>	<b>1.7%</b>
<b>Conservatives (1979 to 1996–97)</b>	<b>0.8%</b>	<b>1.1%</b>	<b>1.6%</b>	<b>1.9%</b>	<b>2.5%</b>	<b>2.1%</b>
<b>Labour (1996–97 to 2009–10)</b>	<b>1.7%</b>	<b>1.8%</b>	<b>1.6%</b>	<b>1.5%</b>	<b>1.7%</b>	<b>1.9%</b>
<i>Of which:</i>						
Fast growth (1996–97 to 2001–02)	3.1%	3.4%	2.9%	2.7%	3.1%	3.4%
Weak growth (2001–02 to 2007–08)	0.3%	0.8%	0.8%	0.8%	0.8%	0.9%
Recession (2007–08 to 2009–10)	2.6%	1.3%	0.6%	0.7%	0.9%	1.2%
<b>Latest year (2009–10 to 2010–11)</b>	<b>-1.2%</b>	<b>-1.9%</b>	<b>-3.1%</b>	<b>-4.3%</b>	<b>-5.2%</b>	<b>-5.7%</b>

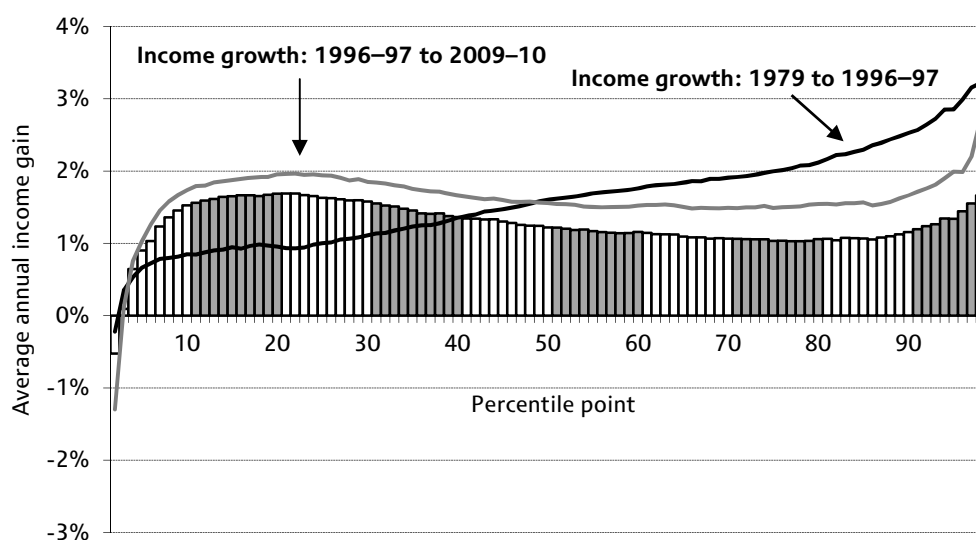
Notes: The averages in each quintile group correspond to the midpoints, i.e. the 10<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup>, 70<sup>th</sup> and 90<sup>th</sup> percentile points of the income distribution. Incomes have been measured before housing costs have been deducted.

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

upper quintiles. This pattern of progressively higher growth as one moves up the income distribution is more evident when one focuses on the period since 1979.

Figure 3.5 shows in more detail how incomes have changed across the distribution since 1979. The bars show the average annual income growth in the period 1996–97 to 2010–11, the latest year of data. During this period, growth was quite evenly spread across the distribution; the highest growth was experienced by the second and third deciles, with the upper deciles growing less quickly. By itself, this would be consistent with falling inequality. However, what happened at the very bottom and very top of the income distribution tended to increase inequality. The poorest 10% experienced lower-than-average growth, and the richest 10% saw strong income growth.

**Figure 3.5. Real income growth by percentile point, 1996–97 to 2010–11 (GB)**

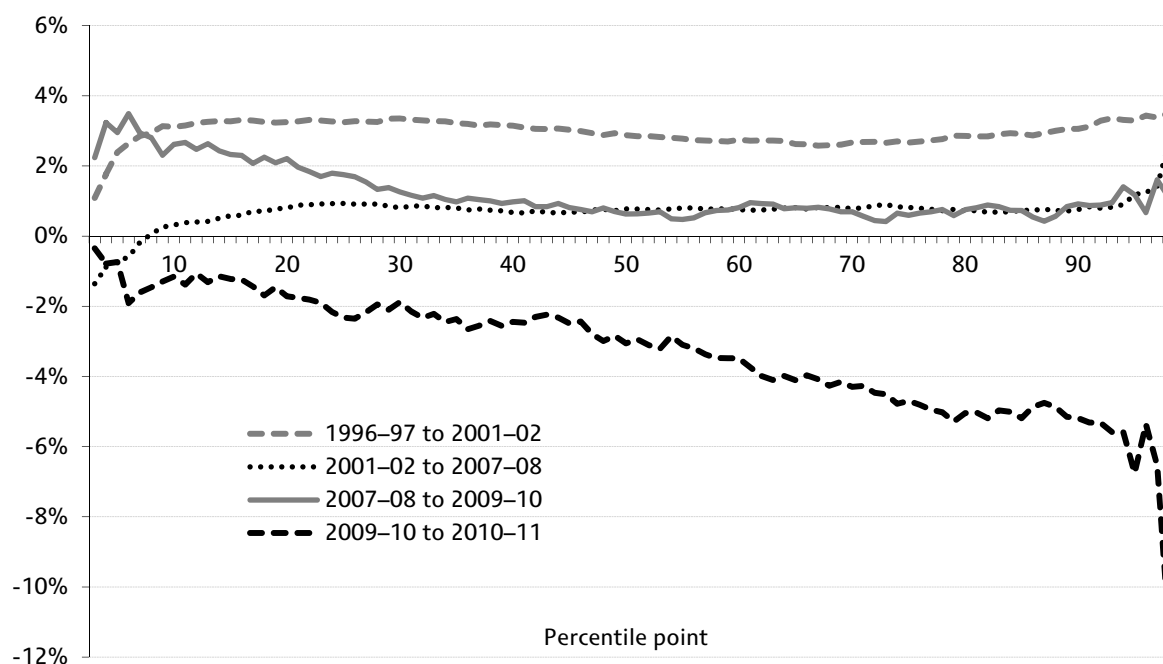


Notes: The changes in income at the 1<sup>st</sup> and 99<sup>th</sup> percentiles are not shown on this graph. Incomes have been measured before housing costs have been deducted. The differently-shaded bars refer to decile groups.  
Source: Authors' calculations using Family Expenditure Survey and Family Resources Survey, various years.

The figure makes two further important points. First, the grey line shows the average annual income growth from 1996–97 to 2009–10. The difference between this and the bars shows the impact of the latest year of data on the average annual rate of growth in incomes at each percentile since 1996–97. The difference is striking: for instance, the fall in income in 2010–11 reduced average annual median income growth from 1.6% to 1.2%. As expected from the discussion of income changes in 2010–11, the largest difference between growth to 2009–10 and to 2010–11 is at the top of the income distribution, where the falls in income in the most recent year of data were largest. Second, the black line shows the average annual income growth from 1979 to 1996–97, under the Conservatives. Comparing this with the grey line (for the period of Labour government) reinforces the point made by Figure 3.4: despite similar income growth rates at the median under Labour and the Conservatives, increases in incomes in the bottom part of the distribution were greater under Labour and increases in the top part of the distribution were greater under the Conservatives. This also explains, in part, why income growth at the mean was higher under the Conservatives (since higher incomes are effectively given a larger weight when calculating changes in mean incomes).

Figure 3.6 gives more detail of changes in income across the income distribution since 1996–97 by showing income growth for the three distinct phases of household income and economic growth highlighted in Chapter 2 and Table 3.1. This makes clear that Figure 3.5 masks significant variation in income growth across the distribution in the different periods.

Figure 3.6. Real income growth by percentile point in four periods since 1996–97 (GB)



Notes: The changes in income at the 1<sup>st</sup>, 2<sup>nd</sup> and 99<sup>th</sup> percentiles are not shown on this graph. Incomes have been measured before housing costs have been deducted.

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

For every part of the distribution from the 8<sup>th</sup> to the 98<sup>th</sup> percentile (inclusive), the period 1996–97 to 2001–02 saw the strongest income growth. Growth over this period was also inequality-reducing across most of the distribution, with the highest growth around the 30<sup>th</sup> percentile. However, the tails of the distribution were a different matter, with fast growth for the top 5% and much slower growth for the bottom 10%.

The period between 2001–02 and 2007–08 saw much slower income growth, as discussed in Chapter 2. For most of the income distribution, growth was relatively flat at around 1%, much lower than in the previous five years. The strong growth at the top and real falls in income at the bottom tended to increase income inequality.

Income growth between 2007–08 and 2009–10 was similar to that for the preceding six years for the top two-thirds of the income distribution. But growth was noticeably higher in the bottom third of the income distribution during the recession than over the previous six years; and the difference was most pronounced for the poorest 20% of the population. One factor likely to be driving the strong income growth towards the bottom of the income distribution between 2007–08 and 2009–10 was increased income from benefits and tax credits. As mentioned in Section 2.3, average income received from this source grew in real terms by 5.1% in 2008–09 and 7.0% in 2009–10. This reflects a number of different factors: falling inflation and the uprating rules of benefits and tax credits; increased eligibility for benefits and tax credits as a result of falling employment (so-called 'automatic fiscal stabilisers'); and discretionary changes to benefits and tax credits. Such income forms a larger part of poorer households' total income than for richer households (and indeed a majority of income for households in the second and third quintiles of the income distribution), and therefore its growth was relatively important for poorer households. This meant reduced inequality across most of the income distribution during the recession, although the very top saw the highest income growth of all (not shown on Figure 3.6).



## 3.2 Top-income growth and the 50% marginal income tax rate

Incomes at the very top of the distribution are relatively volatile from year to year (and are subject to greater statistical uncertainty). For example, the 14.6% fall in real incomes at the 99<sup>th</sup> percentile in 2010–11 is not unprecedented. In the last 20 years, there have been both years of double-digit growth and years of declines greater than 10% at the 99<sup>th</sup> percentile. Indeed, the large reductions in top incomes in 2010–11 should be seen in the context of the opposite trend in 2009–10, when incomes at the 99<sup>th</sup> percentile grew by 13.3%.<sup>32</sup> In previous poverty and inequality reports, we have linked top-income growth to the performance of financial markets. But in 2009–10 and 2010–11, a crucial factor driving the movements in top incomes was the large changes in the tax rates faced by individuals at the top of the income distribution.

In Budget 2009, the then Chancellor Alistair Darling announced a new top marginal rate of income tax of 50% and a new top marginal rate of tax on dividend income of 42.5%, affecting those with incomes over £150,000 per annum from April 2010 onwards. The actual and expected top marginal rates of income tax (on non-dividend income) from 2008–09 to 2014–15 are shown in Table 3.2 below. The higher marginal tax rates will, of course, have the direct impact of reducing net incomes, for a given level of pre-tax income. But they can also be expected to result in two broad forms of behavioural response.

First, rich individuals may respond to the weaker work incentives caused by the higher marginal tax rate in ‘permanent’<sup>33</sup> ways: for example, they might work fewer hours, try less hard for bonuses, emigrate from the UK, or not migrate to the UK in the first place. Higher tax rates also increase the incentive for individuals to avoid (legally) or even evade (illegally) taxes, which may be permanent effects. Second, individuals may change the timing of when they draw incomes (or when they *report* drawing incomes) in order to minimise their tax liability. In this case, individuals may have brought forward income that would otherwise have been reported in 2010–11 or beyond into 2009–10, in order to avoid paying the new higher rate of tax on that income. This is known as ‘forestalling’, and a report produced by HM Revenue and Customs alongside the March 2012 Budget found persuasive evidence of substantial forestalling in response to the introduction of the 50% additional income tax rate.<sup>34</sup> An important and continuing point of uncertainty is over how much of the decline in top incomes in 2010–11 is due to the unwinding of forestalling effects and how much reflects the permanent impact of the 50% marginal income tax rate on the behaviour of the very rich.

The HMRC report provided insight into how HMRC estimates the additional rates of tax will have affected top incomes. It found that total gross income for those individuals with gross incomes over £150,000 rose 14% in 2009–10 and then fell by 24% in 2010–11. HMRC split the changes into forestalling/unwinding effects and other behavioural responses. It estimated that in 2009–10, incomes were between £16 billion and £18 billion higher than they otherwise would have been due to forestalling.<sup>35</sup>

In 2010–11, there will have been ‘unwinding of forestalling’ – the expected drop in income due to income being brought forward from that year into 2009–10. However, some of the income brought forward into 2009–10 may have come from years beyond 2010–11. HMRC estimates that 80% of employment income brought forward into 2009–10 would have otherwise been reported in 2010–11, whereas only 40% of forestalled dividend income came from 2010–11. This is unsurprising since dividend income may be

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<sup>32</sup> This was partly due to a change in methodology – see Jin et al. (2011).

<sup>33</sup> ‘Permanent’ responses to high marginal rates are responses that last for the length of time that the higher marginal tax rate is in place. They are separate from the changes due to shifting the realisation of income forward or back in order to minimise tax paid, which is a temporary effect.

<sup>34</sup> HM Revenue and Customs, 2012.

<sup>35</sup> Although not often mentioned, it is possible that in the year before the tax rate increases, individuals would actually increase their labour supply, i.e. try to work more hours, in order to earn more in 2009–10 than in years with a higher tax rate.

particularly mobile across time. Therefore, unwinding not only reduced top incomes in 2010–11, but is also expected to reduce top incomes in 2011–12 and beyond. HMRC estimates that in 2010–11, total top net incomes were £20 billion lower than they otherwise would have been due to the introduction of the 50p tax rate, of which £12.3 billion was due to the unwinding of forestalling and £7.7 billion due to other behavioural responses.<sup>36</sup>

Given that HBAI data for 2009–10 and 2010–11 are affected by the changes in the timing of income realisation among those with the highest incomes due to forestalling and unwinding in response to the increased marginal tax rates, it is difficult to isolate the underlying trends in top incomes (which affect some measures of inequality). However, the counterfactual estimates of top incomes in 2010–11 made by HMRC imply that, even stripping out the effects of earlier forestalling, the 50p tax rate will have decreased top incomes; therefore it will have reduced inequality measures that are affected by incomes at the very top (such as the Gini coefficient), although not as dramatically as implied by a simple comparison between top incomes in 2009–10 and 2010–11.

The effect of the additional rates of income tax will affect measurement of top incomes and inequality for years to come. In Budget 2012, the Chancellor George Osborne announced that from April 2013, the additional rates of income tax and dividend tax on incomes over £150,000 will be cut by 5 percentage points to 45% and 37.5%, respectively. In a similar way to the pre-announced increase in tax rates in April 2010, the pre-announced cut in income tax rates can be expected to have short- and long-run impacts on top incomes. Instead of bringing income forward (as happened in 2009–10), individuals with high incomes can be expected to delay reporting incomes until 2013–14, when the tax rates are lower.<sup>37</sup>

Table 3.2. Effect on gross incomes of shifting income over time in response to changes in the top income tax rate

	Top rate of income tax	Effect of income shifting on reported gross incomes
2008–09	40%	No effect
2009–10	40%	Positive effect
2010–11	50%	Negative effect
2011–12	50%	Smaller negative effect
2012–13	50%	Negative effect
2013–14	45%	Positive effect
2014–15	45%	No effect

Notes: The effects on top incomes reported in this table are based on the impact on gross incomes of forestalling (and the unwinding of this) in response to the 50% rate introduced in April 2010 and of reverse forestalling (and the unwinding of this) in response to the 45% rate to be introduced in April 2013. They are consistent with Office for Budget Responsibility (2012, table A, p. 111). Note that the taxes liable on income are not necessarily paid in the same financial year as the income was realised.

Table 3.2 shows how shifts in the timing of income realisation by those affected by the changes in top income tax rates directly affect their reported gross incomes for each year between 2008–09 and 2014–15. While 2009–10 saw large forestalling, in 2010–11 this was partially unwound, reducing top incomes. According to the Office for Budget Responsibility (OBR), this unwinding can be expected to continue into 2011–12 and even into 2012–13.<sup>38</sup> Then, due to the cut in the top tax rate to 45%, the OBR expects £6.25 billion to be shifted from 2012–13 into 2013–14, further reducing reported incomes in 2012–13 and increasing them in 2013–14. Hence, it is clear that gross incomes will be affected by reallocation of

<sup>36</sup> HM Revenue and Customs, 2012, p. 38.

<sup>37</sup> This has been called ‘reverse forestalling’ in the OBR’s *Economic and Fiscal Outlook March 2012* (Office for Budget Responsibility, 2012).

<sup>38</sup> Office for Budget Responsibility, 2012, p. 109.

income over time until at least 2013–14. This means that measured net incomes at the top of the income distribution (which affect measures of inequality and measures of living standards such as the mean household income) will also be affected for several years, making it substantially more difficult to draw conclusions about secular trends in inequality measures sensitive to top incomes. Indeed, the effects on net income may persist beyond 2013–14 because the amount of tax liable on income received in any given year is not fully calculated for all individuals until after their self-assessment tax declarations are received by HMRC – which may not be until the end of the following January.<sup>39</sup> This means that net incomes of individuals with high incomes may still be affected by income shifting for several years after 2013–14.

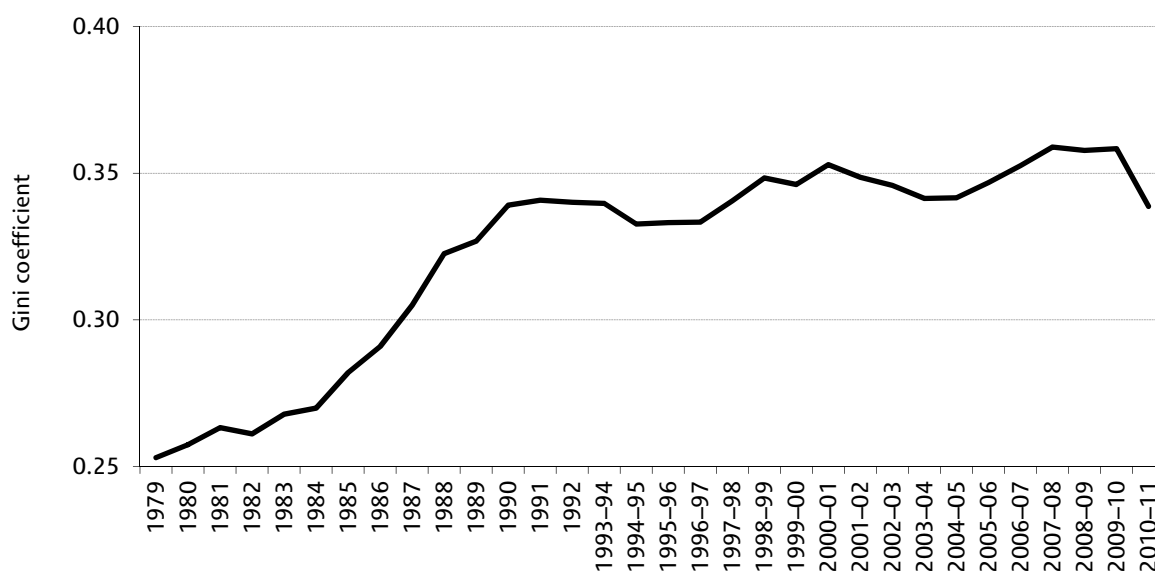
### 3.3 Summary measures of inequality

While Figures 3.3, 3.5 and 3.6 give a detailed impression of how incomes have changed across the distribution, it can also be useful to construct some summary measures of how inequality has evolved over time. This section discusses trends in various inequality measures.

#### The Gini coefficient

The Gini coefficient is a popular measure of income inequality that condenses the entire income distribution into a single number between 0 and 1: the higher the number, the greater the degree of income inequality. A value of 0 corresponds to the absence of inequality, so that, having adjusted for household size and composition, all individuals have the same household income. In contrast, a value of 1 corresponds to inequality in its most extreme form, with a single individual having all the income in the economy.

Figure 3.7. The Gini coefficient (GB)



Note: The Gini coefficient has been calculated using incomes before housing costs have been deducted.

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

<sup>39</sup> For example, individuals paying tax through the Pay-as-You-Earn (PAYE) system who shift non-employment income into 2013–14 to take advantage of the lower 45% tax rate may pay too little tax in that year (because in calculating how much tax to take through the PAYE system, HMRC uses information on past non-employment income, whilst actual non-employment income in 2013–14 will be higher than past amounts due to reverse forestalling). Once this is ascertained following the processing of their tax return in January 2015, their PAYE for 2015–16 will be adjusted to recoup the unpaid tax, reducing the net income of such a high-income individual in 2015–16.

Figure 3.7 shows the evolution of the Gini coefficient in Great Britain since 1979. Inequality as measured by the Gini rose dramatically over the 1980s, from around 0.25 in 1979 to a peak of around 0.34 in the early 1990s. The scale of this rise in inequality has been shown elsewhere to be unparalleled in recent British history and compared with the changes taking place at the same time in most other developed countries, though the United States did see a similarly sharp increase in inequality.<sup>40</sup>

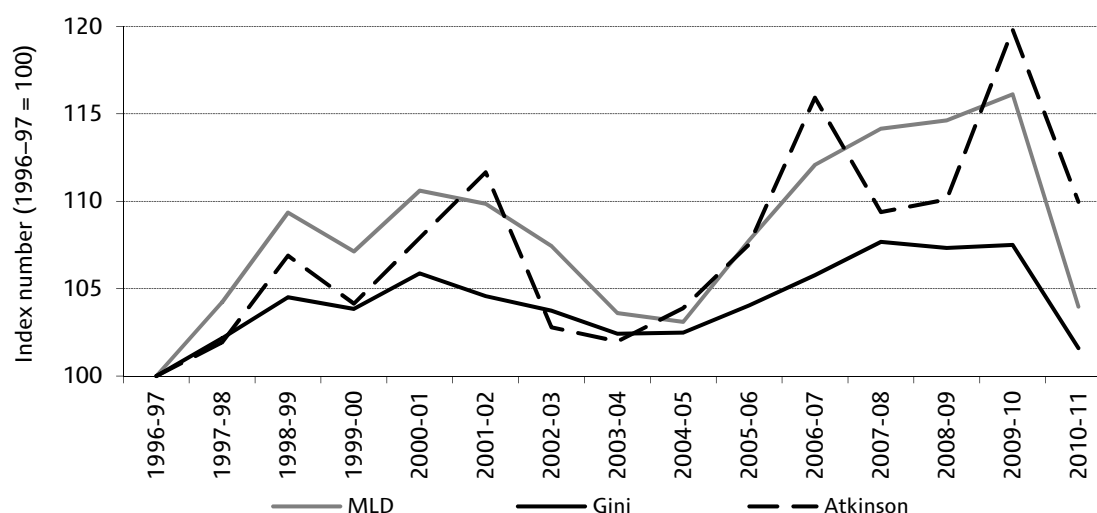
Between the early 1990s and 2009–10, the changes in income inequality were less dramatic. After falling slightly over the early to mid-1990s, inequality rose again during Labour's first term, with the Gini coefficient reaching a new peak of 0.35 in 2000–01. During Labour's second term, however, the Gini fell. Inequality then crept up again during the first three years of Labour's third term, but held steady during the recession at just under 0.36 – a historic high since our consistent data series began in 1961.

In 2010–11, the Gini coefficient in Great Britain fell from 0.358 to 0.339 (for the UK as a whole, it fell from 0.357 to 0.338), returning inequality to just below its level in 1997–98. The one-year decline in the Gini is statistically significant<sup>41</sup> and is the largest one-year fall since the consistent series began. As noted in Section 3.2, some of this reduction may be due to the temporary effects of the forestalling of top incomes in 2009–10 in response to the introduction of the 50% marginal income tax rate in April 2010, and the subsequent unwinding of this phenomenon in 2010–11. Nevertheless, Figure 3.3 showed that there was a clear pattern of income falling more as one moved right the way up the income distribution; falling inequality was not a phenomenon driven just by changes at the very top of the distribution.

## Other summary measures of inequality

There are many other measures available to summarise income inequality. Figure 3.8 shows the path of a selection of inequality measures, indexed so as to equal 100 in 1996–97. The mean log deviation (MLD) measures (roughly) the expected percentage difference between the income of a randomly-selected individual and overall mean income. The Atkinson measure allows one to choose a value for society's

Figure 3.8. Summary measures of income inequality (GB)



Notes: Measures have been calculated using incomes before housing costs have been deducted. The Atkinson inequality measure is shown for an inequality aversion parameter,  $\epsilon$ , of 1.5.

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

<sup>40</sup> See Atkinson (1999), Goodman, Johnson and Webb (1997) and Gottschalk and Smeeding (1997).

<sup>41</sup> Standard errors were calculated using the bootstrap methodology. See Source to Table 2.1 for more detail.

aversion to inequality.<sup>42</sup> The fact that these different summary measures of inequality provide somewhat different answers reflects the fact that they effectively put different relative weights on incomes in different parts of the distribution. The Gini tends to weight the middle of the income distribution relatively highly, and the MLD tends to weight the top of the distribution relatively highly. Our choice of inequality aversion parameter (1.5) means that the Atkinson measure of inequality that we report puts more weight on the bottom of the distribution than the MLD and Gini, and so is particularly affected by changes in the incomes of poor households.

While the precise pattern of inequality changes varies between these different measures, all measures agree in certain key respects. They all show that inequality fell strongly in 2010–11 and capture the pattern of inequality throughout the Labour governments: rising inequality in the first term, followed by falling inequality in the second term, and then rising inequality again at the beginning of the third term. However, during the recession of the late 2000s, the different measures have been showing somewhat different trends. The Atkinson measure has been particularly volatile from year to year, but it rose rapidly to reach a recent high in 2009–10, whereas between 2007–08 and 2009–10 the MLD rose slightly and the Gini remained roughly constant. Using each measure to assess inequality in 2010–11 in a historical perspective is difficult; while the Gini and MLD measures show inequality falling (significantly) to near the level at the beginning of Labour's first term, the fall in the Atkinson measure is not statistically significant and only returns inequality to the level in 2008–09.

It is also worthwhile looking at measures of income inequality that are not sensitive to changes at the very bottom and very top of the income distribution. Doing this provides evidence on the extent to which changes in inequality are driven by changes at the extremes of the income distribution, which can be particularly volatile. The partly transitory impact of the 50% tax rate on the very top of the income distribution in the last two years of data (see Section 3.2) makes this exercise particularly important this year. Good examples of measures that are not sensitive to changes at the very bottom and very top include ratios of incomes at particular points of the income distribution. Figures 3.9a and 3.9b examine some ratio measures of inequality. Each captures a slightly different measure of inequality. The 90:10 ratio, for example, is the ratio of income at the 90<sup>th</sup> percentile to that at the 10<sup>th</sup> percentile. Although such ratios measure inequality by looking only at two distinct points of the distribution – unlike summary measures such as the Gini, which take into account the whole distribution – they are considerably easier to interpret. Note that in Figure 3.9a we show the 90/10 and 99/50 ratios together, purely because they are relatively similar in magnitude and not for any economic reason. Similarly, Figure 3.9b shows the 50/10 and 90/50 ratios because they are also similar in magnitude.

The 90/10 ratio fell steadily from the late 1990s to 2004–05, rose to 2007–08, before falling again in each subsequent year. A similar trend can be seen measuring inequality between the median and the 10<sup>th</sup> percentile (the 50/10 ratio, as shown in Figure 3.9b). The 90/50 ratio was largely constant over this period. As can be seen, these changes were relatively small compared with the large rises in all three measures of inequality during the 1980s.

Taken together, the changes in the 90/10, 90/50 and 50/10 ratios would lead one to expect constant or falling income inequality. However, the changes at the top of the income distribution were different, and drove the increase in summary measures of inequality over this period. The 99/50 ratio captures this effect. Since the recent low in 1995–96, the 99/50 ratio has risen from 4.3 to 5.0 (in 2008–09, the year before changes in the top tax rate affected top incomes). This 'racing away' of top incomes has been documented frequently, both in the UK and in many other countries.<sup>43</sup>

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<sup>42</sup>See Atkinson (1970) for more details on this measure.

<sup>43</sup>See Brewer, Sibieta and Wren-Lewis (2008) for the UK and Atkinson, Piketty and Saez (2011) for other countries.

The changes in 2010–11 were dramatic, with falls in inequality across the board (although note that it is unwise to put too much emphasis on one year's worth of data). The 90/10 ratio fell from 4.1 to 3.9 in 2010–11, to reach its lowest level since 1987. This one-year fall is statistically significant. The fall in the 90/50 ratio in 2010–11 was also statistically significant, and this measure of inequality is now no higher than in 2004–05. The 50/10 ratio also fell in 2010–11, although not by a statistically significant amount (but note that it is common for year-to-year changes not to be statistically significant). This shows that inequality measures did not fall simply due to the large changes in incomes at the top of the distribution. However, it is interesting to note that, despite the falls in 2010–11, top incomes rose so quickly in 2009–10 that the 99/50 ratio only returned to a level similar to that two years previously in 2008–09.

Figure 3.9a. Measures of inequality: 90/10 and 99/50 ratios (GB)

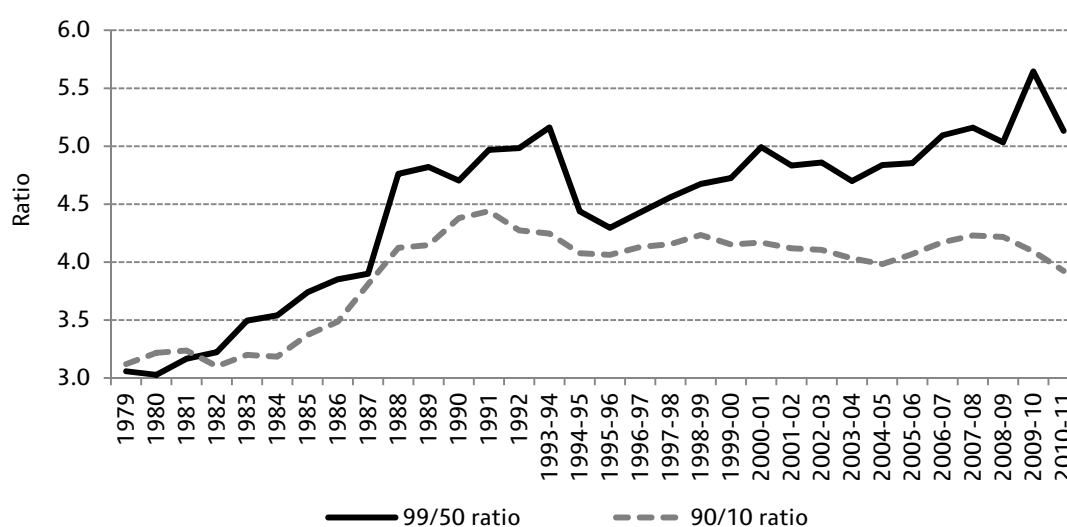
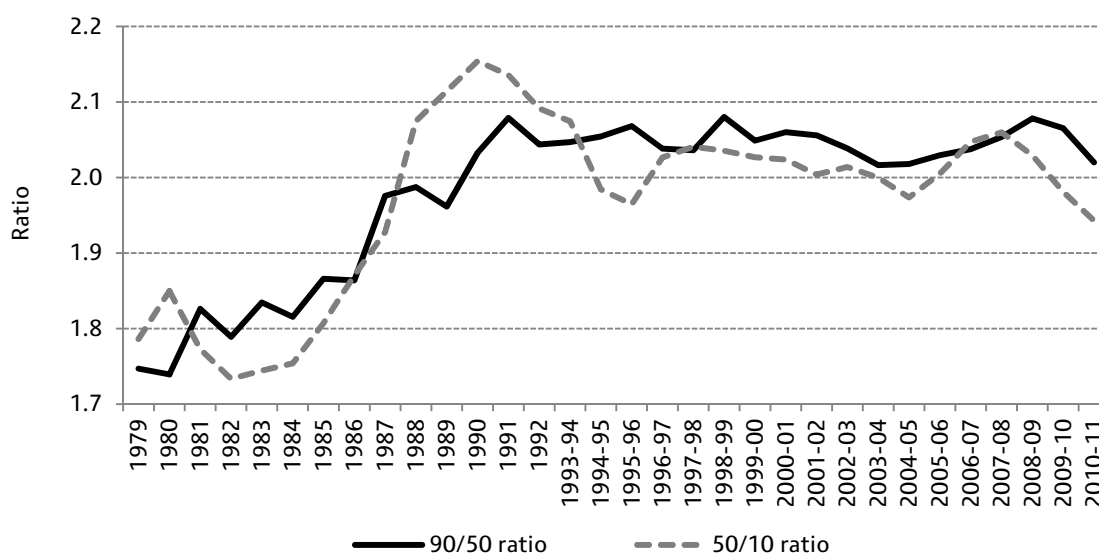


Figure 3.9b. Measures of inequality: 90/50 and 50/10 ratios (GB)



Note: Incomes are measured before housing costs are deducted.

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

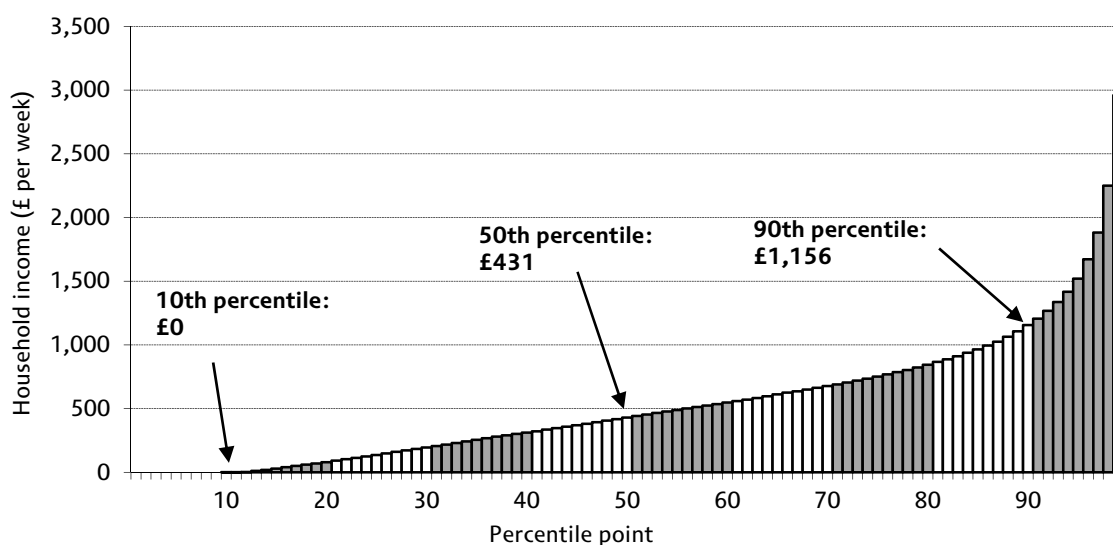
### 3.4 Inequality in private incomes

Private income is income received before direct taxes are deducted and before benefits are received by the household.<sup>44</sup> In Chapter 2, we discussed the change in private incomes since 2003–04, highlighting in particular that household private incomes began to fall during the recession, unlike household net incomes, which were supported by increases in the real value of benefits and reductions in direct taxes. Given that the tax and benefit system undertakes substantial redistribution from those with higher incomes to those with lower incomes, we would expect inequality to be higher for private incomes than for net incomes.

The distribution of private incomes is different from the distribution of net incomes.<sup>45</sup> In Figure 3.10, we show private household income at each percentile point of the private income distribution in 2010–11. The most obvious difference from the net income distribution is the large percentage of the population that has no private income. About one in ten individuals live in a household with no private income. Transfers from the government boost the incomes of these people. Second, at the other end of the distribution, weekly equivalised net income was £846 at the 90<sup>th</sup> percentile of net incomes, compared with private income of £1,156 at the 90<sup>th</sup> percentile of private incomes.

Given that the Gini coefficient is perhaps the best-known measure of inequality, in Figure 3.11 we compare changes in the Gini for the net income distribution and for the private income distribution. As can be seen by comparing Figures 3.10 and 3.1, the distribution of private income is much more unequal than the distribution of net income. Therefore the Gini coefficient is much higher for private income than for net income. Hence, in order to compare changes in these two inequality measures easily, we rebase

Figure 3.10. Private household income at each percentile point in 2010–11 (UK)

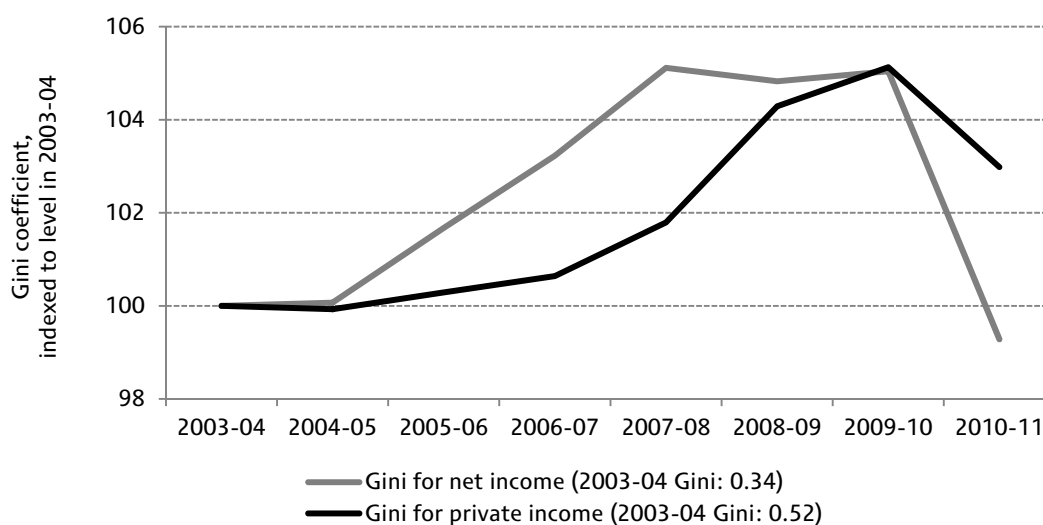


Source: Authors' calculations using Family Resources Survey, 2010–11.

<sup>44</sup> The private income distribution should not be thought of as what the income distribution would be in the absence of taxes and benefits. The tax and benefit system creates incentives, which individuals respond to by changing their decisions, such as how much to work and save. For example, the State Pension is a form of compulsory saving, in which National Insurance contributions increase the eligibility to the Basic State Pension. While the State Pension is excluded from private incomes, in the absence of the State Pension system we would expect pensioners to have saved more during their working lives and therefore have higher private incomes.

<sup>45</sup> It is important to understand that the individuals at a given percentile of the private income distribution (for example, the median) are not the same individuals as at the same point of the net income distribution. Therefore it is not possible to compare percentiles of the distributions to calculate the average amount of tax paid / benefit received at a given point of the distribution.

Figure 3.11. Gini coefficient for private and net incomes, indexed to levels in 2003–04 (UK)



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

them so that both the Gini for private income in 2003–04 (0.52) and the Gini for net income in 2003–04 (0.34) are equal to an index value of 100.

We can see from Figure 3.11 that from 2004–05 to 2007–08, net income inequality as measured by the Gini rose relatively quickly each year. The Gini for private income rose comparatively slowly over the same period. This divergence was then undone during the recession: between 2007–08 and 2009–10, private income inequality rose quite markedly whilst net income inequality (as measured by the Gini) was almost unchanged. This is likely, at least in part, to reflect the robust growth in income from state benefits over this period (see Chapter 2), which would tend to reduce net income inequality for a given level of private income inequality. Finally, in the latest year of data, 2010–11, both the private and net Ginis fell, but the net Gini fell more sharply. One explanation for this may be the introduction of the 50% income tax rate on income above £150,000 per year: the net Gini is affected not only by falls in net incomes due to any reduction in gross income as a result of forestalling or other behavioural responses (which also affects the private Gini), but also by the extra tax due on incomes above this level (which does not affect the private Gini).

Although the Gini coefficient is a common summary measure of inequality, it is not particularly intuitive and does not provide evidence on where in the income distribution changes in inequality are taking place. Looking at changes in the ratios of incomes at various points in the income distribution can help address both issues.

Since private income at the 10<sup>th</sup> percentile is so low, it is uninformative to use a measure such as the 90/10 ratio (this will be extremely volatile because small changes in income at the 10<sup>th</sup> percentile can lead to large swings in the ratio that do not actually reflect large changes in the private income distribution). Therefore, to measure inequality between the upper and lower parts of the private income distribution, we use the 80/20 ratio.

Figure 3.12a shows the ratio of the 80<sup>th</sup> percentile to the 20<sup>th</sup> percentile, in both the net and private income distributions, indexed to 100 in 2003–04. Note that again this has been indexed to allow easy comparison in trends in inequality over time: in 2003–04, the 80/20 ratio for net income was 2.52, but for private income it was 10.22; by 2010–11, the 80/20 ratio for net income was 2.41, compared with 10.65 for private income. This can help to explain the fact that the private Gini was rising more slowly than the



net Gini up to 2006–07, as private income inequality as measured by the 80/20 ratio was actually falling; however, it clearly does not fully explain the differences.

Figure 3.12a shows that the 80/20 ratio of private incomes fell by 13.5% (from 10.22 to 8.84) between 2003–04 and 2006–07, while the 80/20 ratio for net incomes was broadly flat. During the recession, however, private incomes at the bottom of the income distribution fell sharply, increasing the private 80/20 ratio by 20% in four years. The opposite pattern holds for the net 80/20 ratio, which fell by 6% in the three years to 2010–11. This strong divergence between the changes in net income inequality and private income inequality as measured by the 80/20 ratio is largely driven by the strong rise in private incomes at the bottom of the distribution up to 2006–07, followed by large falls since 2006–07, possibly reflecting changes in employment (the main source of private income).

Further up the income distribution, the story is rather different. Figure 3.12b plots the 90/50 ratio for net and private incomes, again indexed to 100 in 2003–04 to allow easy comparison. While there are still

Figure 3.12a. Comparing private and net household income inequality: 80/20 ratio (base year 2003–04 = 100) (UK)

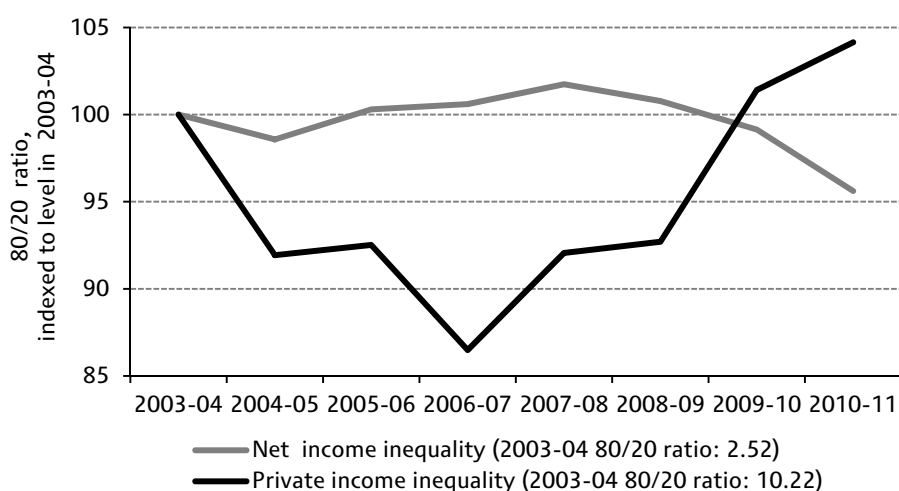
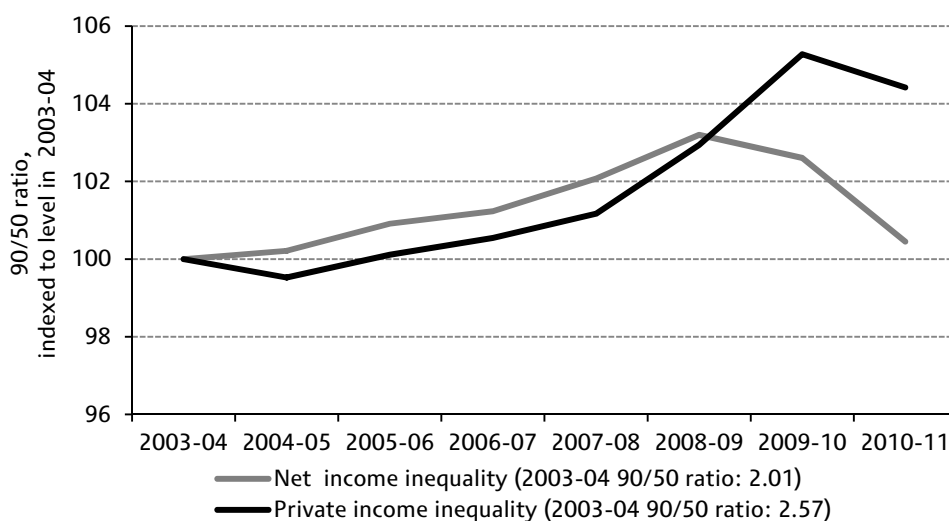


Figure 3.12b. Comparing private and net household income inequality: 90/50 ratio (base year 2003–04 = 100) (UK)



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

large differences in the net and private 90/50 ratios, they are not as stark as for the 80/20 ratio. In 2003–04, the 90/50 ratio was 2.01 for net income and 2.57 for private income. The 90/50 ratio for private income rose between 2004–05 and 2009–10 and only fell slightly in 2010–11, leaving it 4.4% higher than in 2003–04. On the other hand, the 90/50 ratio for net income was roughly the same in 2010–11 as it was in 2003–04. The trends in private and net 90/50 ratios diverged notably in 2009–10. This is because median private income fell sharply in 2009–10, while private income at the 90<sup>th</sup> percentile fell by only a small amount, increasing private income inequality. On the other hand, median net income actually rose and at a faster rate than net income at the 90<sup>th</sup> percentile, reducing net income inequality.

### 3.5 Prospects for income inequality

As discussed in Section 3.2, the impact of changes to the top rate of income tax on the timing of income realisation among people with high incomes over the next few years makes it particularly difficult to predict future trends in measures of income inequality that are sensitive to changes at the extremes of the income distribution. However, one can examine ongoing and forthcoming policy changes to assess their likely impacts on inequality, which may provide some guidance on how underlying levels of inequality will change in the next few years. Doing this shows that changes in the tax and benefit system in effect from April 2011 onwards will affect different parts of the income distribution in different ways, which is likely to affect levels of net income inequality (tax and benefit changes may also affect inequality of private incomes, but the focus of the following discussion is net income inequality).

For instance, as noted in Section 3.2, changes in the top rate of income tax may have large effects on top incomes and inequality. In the 2012 Budget, the Chancellor announced a reduction in the additional rate of tax from 50% to 45% in April 2013. Abstracting from the short-run effects due to shifts in when income is realised, reducing the top income tax rate will have the direct effect of increasing top take-home incomes, and may well have indirect effects which act to increase those incomes further (for example, by encouraging additional labour supply): hence, this will be inequality-increasing. Moreover, in April 2011, the annual allowance for tax-privileged pension saving was reduced from £255,000 to £50,000 and, in April 2012, the lifetime allowance was reduced from £1.8 million to £1.5 million. These changes are likely to reduce private pension contributions. Since HBAI deducts contributions to private pensions from income, this would also act to increase top HBAI incomes, thereby increasing inequality.

There are a number of other planned changes in tax allowances and thresholds which are to take effect in the coming years. The government chose to increase the income tax personal allowance by £1,000 to £7,475 in April 2011, reducing the higher-rate income tax threshold to offset the gains from the higher personal allowance for higher-rate taxpayers. April 2012 saw the personal allowance rise by a further £630, coupled with a freeze in the higher-rate threshold that limited but did not completely negate the gains for higher-rate taxpayers. Finally, in April 2013, the personal tax allowance will rise to £9,205, with the higher-rate threshold cut such that higher-rate taxpayers only gain one-quarter of the amount that basic-rate taxpayers will gain. The government has said it wishes to further increase the personal allowance to £10,000 before the end of the parliament, possibly in April 2014.

The effect of these changes on income inequality is unclear. How much a household will gain as a proportion of its net income depends on the number of income taxpayers in the household, each taxpayer's gross earnings and the household's income from other sources. Many low-income households do not contain any income taxpayers and therefore will not benefit from the changes at all. Among income taxpayers, however, the richest will gain less, on average, as a proportion of income than those with lower incomes, both because a given cash gain is less in proportional terms the richer one is and because the changes have been designed to provide smaller cash gains to higher-rate taxpayers than to basic-rate

taxpayers.<sup>46</sup> As a result, the impact of tax threshold changes is likely to be hump-shaped across the income distribution, with little gain (as a percentage of income) at the top and bottom of the income distribution, but larger gains in the middle.

Turning to state benefits, significant cuts to spending on benefits and tax credits have also been announced by the coalition government. The June 2010 Budget set out a reduction in welfare spending of £11 billion by 2014–15, and the 2010 Spending Review announced a further £7 billion of welfare cuts by 2014–15. Because welfare payments account for a larger proportion of income for poorer households than for richer ones, the impact of welfare cuts as a proportion of total income will be greater for the poor than for the rich. Thus, the welfare cuts are likely to increase income inequality, all else being equal. These planned welfare cuts take effect gradually, with less than £400 million worth of cuts taking place in 2010–11, rising to about £2.3 billion in 2011–12. The amount of the cuts will then increase each year to reach £18 billion in 2014–15, implying that this may act to increase inequality in each year.

An important part of the deepening of cuts is the change of indexation of most benefits and tax credits to the consumer price index (CPI) from April 2011. Since the CPI tends to give a lower measure of inflation than the indices currently used for uprating benefits and tax credits, the switch to CPI means slower growth in benefits and tax credits. For example, most benefits rose by 3.1% in April 2011 rather than 4.6% if they had been uprated by RPI. The effect in April 2012 is smaller, since uprating by the CPI implies an increase of 5.2% compared with 5.6% using the RPI. The impact of the change in indexation on income inequality is likely to accumulate year on year. It is important to note here that incomes in HBAI are deflated by the RPI rather than the CPI. However, even if the CPI were used as a deflator for incomes in HBAI, this would have no impact at all upon relative measures of income inequality.

Figure 3.13 shows the distributional impact of all direct tax and benefit changes implemented by the coalition government that will have taken effect by April 2014.<sup>47</sup> It does not include the effects of Universal Credit (because, in April 2014, most benefit recipients will still be receiving benefits under the existing system; Universal Credit will be rolled out nationally to new claimants from October 2013, and to existing claimants with unchanged circumstances from April 2014). Given that, by April 2014, cuts to benefits and welfare payments are to save £18 billion per year,<sup>48</sup> and benefits are predominantly received by households towards the bottom of the income distribution, it is unsurprising that those at the bottom of the distribution will see the largest proportionate falls in net income.

Universal Credit, which will replace all means-tested benefits with a single benefit, is planned to be rolled out nationally between October 2013 and the end of 2017. It is projected to reduce poverty<sup>49</sup> and therefore, by supporting low incomes, Universal Credit would be expected to reduce inequality, all else equal. A key motivation for the policy change was to encourage work among low-income households through changes in both the amount of benefits households will receive and the conditions they need to

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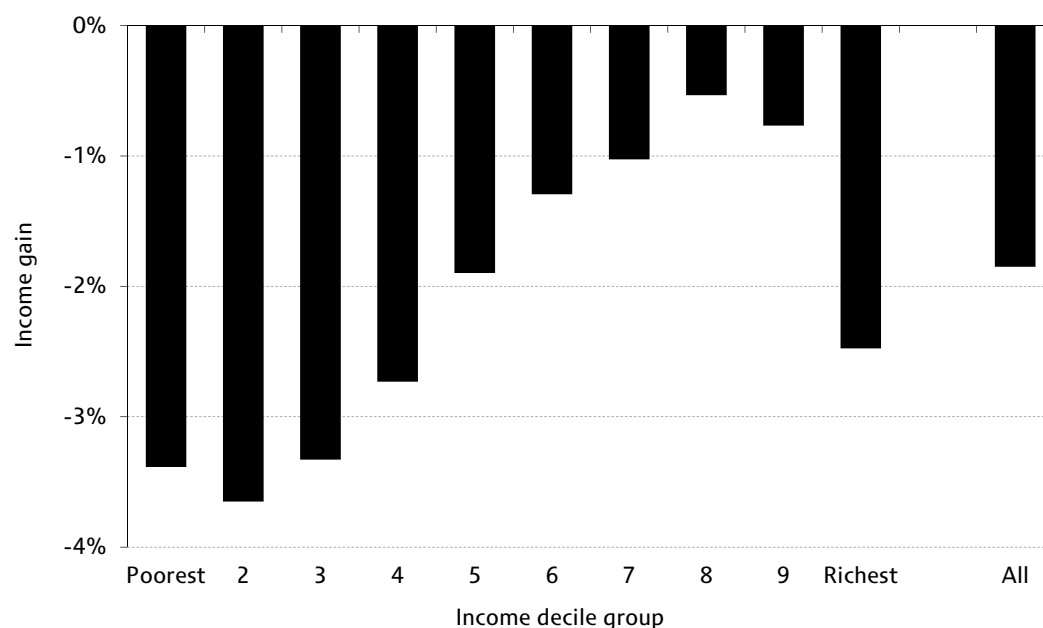
<sup>46</sup> Taxpayers with incomes over around £116,000 will actually be worse off in 2013–14 due to these reforms, since the personal allowance is fully tapered away for them and they will pay a small amount more tax due to the fall in the higher-rate threshold. The maximum amount that anyone will lose from this reform is £425, which applies to those with the highest incomes.

<sup>47</sup> Indirect tax reforms are ignored: they have direct effects only on income *levels* here (not on the measured *distribution* of income), because HBAI-measured incomes are deflated using economy-wide price indices. The impacts of changes to other non-personal taxes, such as corporation tax, are also excluded, on the basis that their effects cannot be accurately allocated to particular households (although they must ultimately affect households). For consistency with the analysis elsewhere in this Commentary, we define a reform as anything that deviates from the public finance defaults inherited by the Labour government in 1997. This means that the Basic State Pension is assumed to rise in line with the RPI in the absence of reform. Under the public finance defaults inherited by the incoming coalition government in 2010, the Basic State Pension would in fact have risen in line with average earnings. This analysis is therefore not fully consistent with IFS analysis of the coalition's reforms presented after the 2012 Budget, available at <http://www.ifs.org.uk/budgets/budget2012/budget2012robjoyce.pdf>.

<sup>48</sup> This £18 billion includes the impact of moving to CPI indexation of public sector pensions, but this is only a very small proportion of the £6 billion raised by the indexation switch applying to benefits, tax credits and public sector pensions.

<sup>49</sup> Brewer, Browne and Joyce, 2011.

Figure 3.13. Impact of direct tax and benefit reforms introduced or planned between April 2011 and April 2014, by income decile group



Notes: Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 2010 tax and benefit system according to income adjusted for household size using the modified OECD equivalence scale. Decile group 1 contains the poorest tenth of the population, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth. Assumes full take-up of means-tested benefits and tax credits. Analysis ignores the introduction of Universal Credit, which is being rolled out nationally from October 2013 but is not due to be complete until the end of 2017, and the introduction of (and subsequent change to) the additional top rate of income tax.

Source: Authors' calculations using TAXBEN, the IFS tax and benefit microsimulation model, run on updated 2009–10 Family Resources Survey data.

meet to receive them. However, the behavioural impact of Universal Credit is uncertain: while it is projected to lower marginal effective tax rates (METRs) for 1.7 million workers, especially at the bottom of the income distribution, others will see an increase in their METR.<sup>50</sup> It is also unclear how any change in employment or hours worked will affect inequality.

### 3.6 Conclusion

Income inequality in the UK fell sharply in 2010–11, with the widely-used Gini coefficient falling from 0.36 to 0.34. This is the largest one-year fall since at least 1962, returning the Gini coefficient to below its level in 1997–98. Although this reverses the increase in income inequality that occurred under the previous Labour government, it still leaves income inequality at a level much higher than it was before the substantial increases that occurred during the 1980s.

Inequality fell in part because the largest falls in income took place at the very top of the income distribution, with income at the 99<sup>th</sup> percentile falling 15%. The introduction of the 50% marginal income tax rate on incomes exceeding £150,000 per annum is one of the major drivers of these substantial falls in income at the very top, and therefore also explains some of the decline in the many summary measures of inequality that are sensitive to changes in the extremes of the income distribution. Ongoing changes to the taxation of very-high-income individuals will continue to influence when such individuals choose to

<sup>50</sup> Brewer, Browne and Jin, 2012.

realise their incomes until at least 2013–14 and may affect reported net incomes for several years after that, meaning that it will be difficult to identify the ‘underlying’ trends in top incomes in the coming years.

As will be discussed in more detail in Chapters 4 and 5, household incomes in the bottom part of the income distribution were supported by significant increases in the amount of redistribution undertaken in the period between 1997 and 2010, aimed particularly at raising the incomes of families with children and pensioners. Nevertheless, overall inequality as measured by the Gini coefficient was roughly the same in 2010–11 as it had been in 1996–97, suggesting that underlying economic trends were acting to increase the level of inequality. Given the fiscal situation and the government’s plan to address it mostly through spending cuts as opposed to tax rises, further increases in the degree of redistribution are highly unlikely: indeed, £18 billion of ongoing welfare cuts are planned by 2014–15, and it is probable that there will be further cuts after 2014–15. If underlying economic trends continue to increase income inequality, both changes in private incomes and government tax and benefit policy (the direct effect of which is to reduce incomes proportionately more towards the bottom of the income distribution) seem likely to lead to increases rather than decreases in income inequality in the coming years.

Although inequality seems likely to increase in the next few years, it is unclear whether the current government has a view on the level of income inequality that would be desirable or acceptable and, if it does, what that level is. It is also unclear how important inequality might be for the government relative to achieving other goals. By signing up to the Child Poverty Act, the governing parties committed themselves to several targets based on relative poverty, which is in effect a measure of inequality between the middle and bottom of the income distribution. This commitment implies a degree of concern about this type of inequality, at least for children. However, the government’s views on inequality between the top and the middle or bottom of the income distribution are much less clear.

## 4. Income poverty

### Key findings

- The most widely-watched measure of relative poverty in the UK is the proportion of individuals with household incomes below 60% of the contemporary median. In the latest year of data (2010–11), the number of individuals living below this poverty line fell by 500,000 measuring incomes before housing costs (BHC) to reach 9.8 million (16.1% of the UK population) and also fell by 500,000 measured after housing costs (AHC) to reach 13.0 million (21.3%).
- Comparisons with historical relative poverty rates depend crucially on the treatment of housing costs. Measured BHC, relative poverty in 2010–11 was at its lowest level since 1986; measured AHC, it was no lower than in 2004–05.
- The fall in relative poverty does not reflect increases in the absolute living standards of poorer households. Rather, it reflects the fact that incomes towards the bottom of the income distribution fell by less than those in the middle of the distribution. This highlights that an exclusive focus on relative poverty measures gives an incomplete picture of the changing material living standards of low-income households and that absolute measures of poverty should be kept firmly in view. Using a poverty line fixed at 60% of the 1996–97 median in real terms, absolute poverty rose by 200,000 to reach 5.8 million (9.6% absolute poverty rate) BHC and by 300,000 to reach 8.4 million (13.8%) AHC in 2010–11.
- Relative pensioner poverty fell for the fourth successive year measuring incomes AHC, by 100,000 (1.2 percentage points), while the number of poor pensioners was almost unchanged measuring incomes BHC (the rate of pensioner poverty measuring incomes BHC fell by 0.6 percentage points). Measured AHC, the rate of relative pensioner poverty is now lower than the rate for any other major demographic group; and, measured both BHC and AHC, it has been as low in only two years (1983 and 1984) out of the last fifty.
- Relative poverty among working-age adults without dependent children has been steadily increasing in recent years. Despite a small fall in 2010–11, it remains close to its highest level since our consistent time series began in 1961, at 14.6% measuring incomes BHC and 19.7% measuring incomes AHC.
- In 2011–12, the absolute living standards of poorer households are likely to have declined further as a result of continued pressures on real earnings and as welfare cuts begin to bite, with further pain in 2012–13 and beyond. Future trends in relative poverty may well be rather different, depending on whether poorer households see larger or smaller declines in real income than those on middle incomes. It is also likely that poverty trends will differ for different demographic groups, in part reflecting the impact of government policy: for example, the welfare cuts being implemented as part of the government's deficit reduction package will reduce the incomes of low-income households with children by more in proportional terms than those of low-income pensioner households.

In this chapter, we summarise recent trends in income poverty. We place particular focus on changes in 2010–11 (the latest year of data), as well as changes under the previous Labour governments. Given the particular policy emphasis on child poverty, and the fact that 2010–11 was a target year for child poverty, we examine poverty among children in more detail in the next chapter. In this chapter, we focus on income poverty in the population as a whole, as well as for pensioners and working-age adults without dependent children.

We begin with a brief discussion of the approach to measuring poverty. In Section 4.1, we analyse recent changes in relative income poverty for the population as a whole. Section 4.2 focuses on two subgroups of the population: pensioners, who were heavily favoured by the previous Labour government's tax and benefit reforms; and working-age adults without dependent children, who were much less favoured by those reforms. Section 4.3 looks at absolute poverty and Section 4.4 considers the prospects for income poverty. Section 4.5 concludes.

Throughout this chapter, we focus entirely on indicators of income-based poverty. Household income is clearly instrumental in determining the material living standards that can be enjoyed by different members of society. The HBAI data are unique in being able to provide a detailed picture of the incomes available to different individuals over the UK, and can do so over a long time frame. However, snapshot measures of income have limitations as a proxy for material living standards, and there are other indicators and wider notions of hardship that one could consider. These include the persistence of income poverty, material deprivation<sup>51</sup> (discussed in more detail in Chapter 6) and adequacy.<sup>52</sup> A broader concept of deprivation has become more prominent as the government's Child Poverty Strategy has introduced additional measures covering areas such as health, education, crime and employment (see Chapter 5 for discussion). A number of meta-analyses also periodically monitor a wider view of well-being by combining the HBAI statistics with other aspects of low income and deprivation.<sup>53</sup>

Nevertheless, the number of individuals with low incomes is still likely to be a good measure of the prevalence of material hardship. But defining 'low income' is not trivial, and there is certainly no single right answer. The main measure of poverty that we discuss in this chapter counts the number of individuals whose household income is below 60% of that of the median individual (the median individual is in the middle of the household income distribution). This has been the most widely used measure of poverty in the UK, and is one of the indicators that was used to measure progress against the previous government's child poverty targets and against the current government's commitments to reduce child poverty by 2020–21 under the 2010 Child Poverty Act. This indicator is a 'relative' measure of poverty, because the poverty line moves with median income each year. This definition of poverty as a relative concept is in common with those used in most of the rest of Europe but contrasts with, for example, the official measure of poverty used by the United States Census Bureau, which was initially based on the income required to purchase a fixed basket of food items and has since been updated in line with price changes. The latter represents an 'absolute' measure of poverty – not because it necessarily measures a more *severe* state of poverty than relative poverty, but because the poverty line remains fixed in real terms and does not move when there are changes in average incomes. To document trends in absolute poverty, we also report the number of people living in households with income below 60% of the median individual's income as fixed (in real terms) in 1996–97, just prior to the last government coming to power (and in 1998–99 for child poverty in the next chapter; this is the indicator of absolute child poverty tracked by the previous government).

The most common argument in favour of relative poverty indicators is that, unless one takes a view of poverty as being about having enough for mere survival ('severe' or 'extreme' poverty), our intuitions about minimum acceptable living standards seem dependent upon time and place. For example, the lowest real income levels that society is willing to tolerate at the bottom of the income distribution are probably rather higher now than they were in the Victorian era. If one believes this, then the question becomes when, rather than whether, the poverty line should be updated to reflect changes in society. One could just update it every now and then, but this is open to the obvious objections that the choice of when

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<sup>51</sup> See Brewer, O'Dea, Paull and Sibieta (2009), Berthoud, Bryan and Bardasi (2004), McKay (2004) and Gordon et al. (2000).

<sup>52</sup> See Hirsch (2011) and Bradshaw et al. (2008).

<sup>53</sup> See Aldridge et al. (2011).

to update it is arbitrary and that society's view about minimum acceptable living standards presumably changes gradually rather than in sudden jumps. Having a relative poverty line is a way of effectively updating the poverty line incrementally over time as general living standards evolve.

The limitation of relative poverty measures – and the reason that they can easily lead to perverse conclusions if considered in isolation – is that we obviously care deeply about absolute living standards. If the incomes of low-income households are struggling to keep pace with inflation (as in 2010–11), we would naturally conclude that those households are getting worse off in absolute terms. But this does not necessarily mean that they are 'falling further behind'. Relative poverty will fall if median incomes are falling by more than those at the bottom of the income distribution. Indeed, this is exactly what we see in the data for 2010–11. A fall in relative income poverty that is driven purely by falls in real income at the median is not an achievement to be celebrated. Moreover, during economic booms, the material living standards of the poor may improve year on year, but relative poverty will increase if their incomes go up by less than those of people on middle incomes.

This does not imply that one should ignore relative poverty. On its own, neither measure can perfectly capture all of the concerns that one might reasonably have about the distribution of living standards, but they may *both* be providing relevant information. This obvious point is not lost on any of the main political parties: in the context of the previous government's focus on child poverty, an absolute low income indicator was included in the Public Service Agreements alongside the 2004 and 2007 Comprehensive Spending Reviews, and the 2020–21 child poverty targets include a measure of absolute income poverty as well as a relative one. In the years ahead, when growth in absolute living standards across the board is likely to be much more difficult than usual to achieve, focus on absolute living standards should not be allowed to slip.

Figures in this chapter are presented for Great Britain only up to and including 2001–02 and for the whole UK from 2002–03 (i.e. largely the same way as they are presented in DWP's HBAI publication).<sup>54</sup> Due to this break in the series, and because the size of populations can change over time, when looking at longer-run poverty trends we will focus on the *fraction* of individuals that are in poverty rather than the *number* of individuals. Nevertheless, most of the following tables present both the number of people who are poor and the percentage of the relevant population that this number represents. We also report estimates of whether changes in poverty are statistically significant.<sup>55</sup>

Poverty rates can be measured using incomes measured before housing costs (BHC) or after housing costs (AHC),<sup>56</sup> and we present both. The government reports the number of individuals rounded to the nearest 100,000, and likewise rounds changes in the number to the nearest 100,000. For consistency and ease of comparison, we also use this convention.<sup>57</sup> The government reports poverty rates rounded to the nearest full percentage point. Here we depart from its methodology and round percentages to the nearest

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<sup>54</sup> The size of the discontinuity caused by the inclusion of Northern Ireland is small: using a UK-wide poverty line, the risk of poverty in 2010–11 in the UK was 16.1% measuring incomes BHC, slightly lower than in Great Britain only (16.2%). Northern Ireland makes only a small difference to poverty rates primarily because only 3.0% of individuals in the UK live in Northern Ireland. Some headline indicators are presented on a UK basis in HBAI back to 1998–99, with data imputed for Northern Ireland between 1998–99 and 2001–02 inclusive.

<sup>55</sup> The confidence intervals used were calculated by bootstrapping the changes using 500 iterations (see Source to Table 2.1 for more details). This differs from the method used by DWP in HBAI, which is based on the estimating equations approach (see Binder and Kovacevic (1995)).

<sup>56</sup> See Appendix A.

<sup>57</sup> This can sometimes lead to numbers that can be confusing and difficult to interpret. For example, using the unrounded numbers, there were 10,796,453 people in poverty measured BHC in 1998–99 and 10,748,780 in 1999–2000. Rounded to the nearest 100,000, these would be 10.8 million and 10.7 million, respectively. Rounded to the nearest 100,000, the *change* in the number of people in poverty measured BHC between the two years (47,673) is zero, however. The level of poverty has fallen but the change in poverty was zero. To avoid confusion, we highlight other such examples as they arise.



tenth (0.1) of a per cent. This allows us to be more precise and to report smaller changes in the proportion of people in poverty than the government, although very small changes are usually not statistically significant.

## 4.1 Income poverty in the whole population

In the UK in 2010–11, there were 9.8 million individuals (16.1% of the population) in relative poverty measuring incomes before housing costs (BHC) and 13.0 million (21.3%) measuring them after housing costs (AHC), using a poverty line equal to 60% of median income. Between 2009–10 and 2010–11, poverty fell by 500,000 measuring incomes BHC (0.9 percentage points) and by 500,000 measuring incomes AHC (1.0 percentage points). These falls were all statistically significant and correspond to the third consecutive fall in relative poverty since its recent high in 2007–08, using incomes measured both BHC and AHC.

To put this in historical context, Figure 4.1 shows relative poverty rates in Great Britain between 1979 and 2001–02 and in the UK from 2002–03 onwards, measuring incomes AHC (Figure 4.1a) and BHC (Figure 4.1b) and using a range of poverty lines. (Note that the rest of this chapter will focus mostly on relative poverty lines defined as 60% of median income.) One can see from these graphs that poverty rates measured AHC tend to be higher than those measured BHC, because those on low incomes tend to spend a greater proportion of their income on housing than those on higher incomes.

Poverty rates increased dramatically during the mid- to late 1980s, more slowly in the early 1990s, and then stabilised or fell from the mid-1990s onwards, at about the same time that the previous Labour government came to power. To be more specific, poverty fell over Labour's first two terms of office, by a total of 4.7 percentage points (AHC) and by 2.4 percentage points (BHC). Labour's third term was quite different. Poverty rose between 2004–05 and 2007–08, and then fell between 2007–08 and 2009–10. Looking across Labour's period in government as a whole, relative poverty fell substantially. Comparisons with historical relative poverty rates depend crucially on the treatment of housing costs. Measured BHC, relative poverty in 2010–11 was at its lowest level since 1986; measured AHC, it was no lower than poverty in 2004–05.

Figures 4.1a and 4.1b also allow us to see whether these large falls in poverty occurred using various alternative poverty lines. Measuring poverty BHC and AHC using a poverty line of 50% or 70% of median income, the conclusions are broadly similar: although the falls in relative poverty over the last three years have been smaller than for the 60%-of-median poverty line, they also reduce relative poverty to a level last seen in the mid-1980s.

Measuring poverty as the fraction of individuals with incomes less than 40% of the median shows a different pattern: despite reductions over the last three years, poverty remains near its historic high and at similar levels to the last 20 years. However, the people with the lowest incomes are not necessarily those with the lowest living standards, and the 40%-of-median poverty line is unlikely to be a good way of measuring 'severe poverty', due to some combination of measurement error in the lowest recorded incomes and the fact that some individuals have very low incomes only temporarily.<sup>58</sup> For example, children whose household income is less than 40% of the median are on average *less* materially deprived than those whose household income is between 40% and 60% of the median. The government has no measure of 'severe poverty' for the population as a whole but has recently stated that children will be

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<sup>58</sup> For a more detailed consideration of these issues, see Brewer, Phillips and Sibieta (2010).

considered to be severely poor if they live in a household with income less than 50% of the median and are materially deprived.<sup>59</sup>

In summary, there was clearly a noticeable fall in relative poverty in 2010–11. This follows a period of falling poverty going back to the mid-1990s. What drove these falls in relative poverty over this period, and was it experienced by all groups in society? We turn to these questions in the next section.

Figure 4.1a. Relative poverty: percentage of individuals in households with incomes below various fractions of median income (AHC)

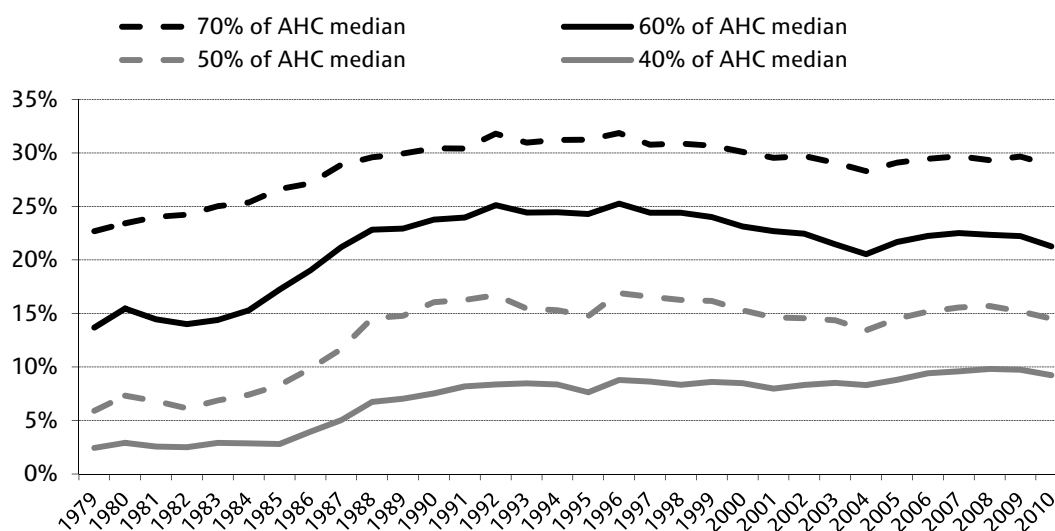
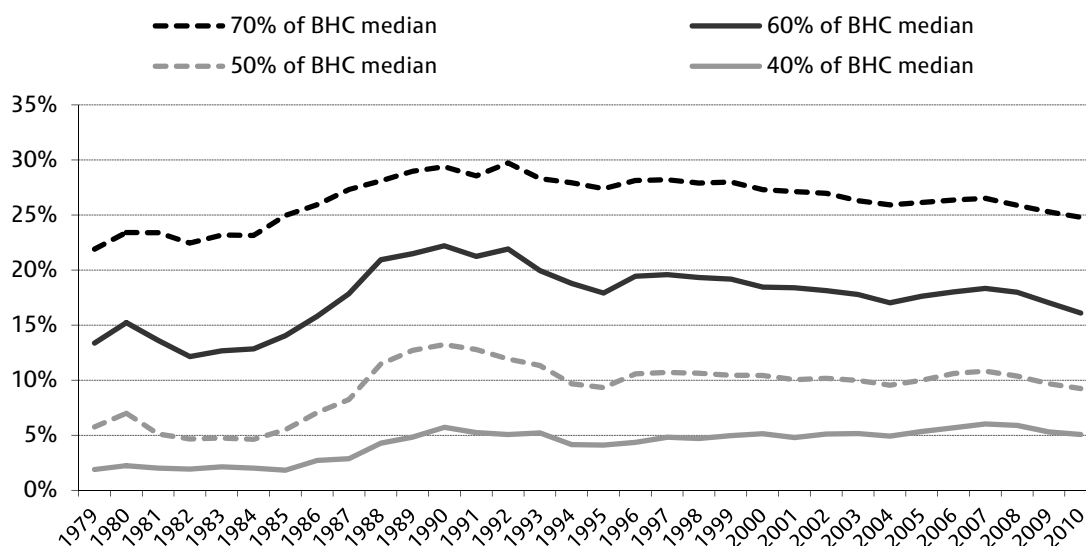


Figure 4.1b. Relative poverty: percentage of individuals in households with incomes below various fractions of median income (BHC)



Notes: Figures are presented for GB up until 2001–02 and then for the whole of the UK from 2002–03 onwards. Years refer to calendar years up to and including 1992, and financial years thereafter.

Source: Authors' calculations based on Family Expenditure Survey and Family Resources Survey, various years.

<sup>59</sup> HM Government, 2011.

## 4.2 Relative poverty among different groups

This section examines in detail poverty among pensioners (who were generally beneficiaries of tax and benefit reforms under the previous Labour government) and among working-age adults without dependent children (who fared less well).<sup>60</sup> Poverty among children is presented, but a more detailed discussion and analysis in the context of the 2010–11 child poverty targets can be found in Chapter 5. As already stated, the focus is on income-based measures of poverty. A detailed discussion of material deprivation measures can be found in Chapter 6.

Tables 4.1 and 4.2 contain detailed information on relative poverty, using a 60%-of-median poverty line, since 1996–97 for the population as a whole (the last pair of columns) and for various subgroups (the other columns). Using incomes measured AHC, the number of pensioners in poverty fell by 100,000 (1.2 percentage points) and the number of working-age non-parents in poverty was unchanged (down by 0.3 percentage points) in the latest year of data, 2010–11. These changes are not statistically significant. Child poverty fell by 200,000 (1.9 percentage points) to reach 3.6 million (27.3%). This was a statistically significant reduction and means that the increases in this measure of child poverty between 2004–05 and 2007–08 have now been fully reversed.

Table 4.1. Relative poverty: percentage and number of individuals in households with incomes below 60% of median AHC income

	<i>Children</i>		<i>Pensioners</i>		<i>Working-age parents</i>		<i>Working-age non-parents</i>		<i>All</i>	
	%	Million	%	Million	%	Million	%	Million	%	Million
1996–97 (GB)	34.1	4.3	29.1	2.9	26.6	3.3	17.2	3.5	25.3	14.0
1997–98 (GB)	33.2	4.2	29.1	2.9	25.9	3.2	15.9	3.3	24.4	13.6
1998–99 (GB)	33.9	4.3	28.6	2.9	26.3	3.2	15.5	3.2	24.4	13.6
1999–00 (GB)	32.7	4.2	27.6	2.8	25.5	3.1	16.2	3.4	24.0	13.5
2000–01 (GB)	31.1	3.9	25.9	2.6	24.7	3.0	16.2	3.4	23.1	13.0
2001–02 (GB)	30.8	3.9	25.6	2.6	24.5	3.0	15.6	3.4	22.7	12.8
2002–03 (UK)	29.8	3.9	24.2	2.5	24.1	3.0	16.5	3.7	22.4	13.1
2003–04 (UK)	28.7	3.7	20.6	2.2	23.5	2.9	16.6	3.7	21.5	12.6
2004–05 (UK)	28.4	3.6	17.6	1.9	23.0	2.9	16.1	3.6	20.5	12.1
2005–06 (UK)	29.8	3.8	17.0	1.8	24.9	3.1	17.6	4.0	21.7	12.8
2006–07 (UK)	30.5	3.9	18.9	2.1	25.2	3.2	17.6	4.0	22.2	13.2
2007–08 (UK)	31.1	4.0	18.1	2.0	25.6	3.3	18.1	4.2	22.5	13.5
2008–09 (UK)	30.3	3.9	15.9	1.8	25.7	3.4	19.2	4.4	22.3	13.5
2009–10 (UK)	29.1	3.8	15.4	1.8	25.4	3.4	19.9	4.5	22.2	13.5
2010–11 (UK)	27.3	3.6	14.2	1.7	24.3	3.3	19.7	4.5	21.3	13.0
<b>Changes</b>										
1996–97 to 2004–05	–5.7		–11.5		–3.5		–1.1		–4.7	
2004–05 to 2007–08	2.7	0.3	(0.5)	(0.1)	2.6	0.4	2.0	0.5	2.0	1.4
2007–08 to 2010–11	–3.8	–0.4	–3.9	–0.4	(–1.3)	(0.0)	1.5	0.3	–1.2	–0.5
2009–10 to 2010–11	–1.9	–0.2	(–1.2)	(–0.1)	(–1.1)	(–0.1)	(–0.3)	(0.0)	–1.0	–0.5

Notes: Reported changes may not equal the differences between the corresponding numbers due to rounding. Changes in parentheses are not significantly different from zero at the 5% level. Because of the discontinuity in the series due to the inclusion of Northern Ireland from 2002–03, changes in the number of people in poverty since before 2002–03 are not available. However, due to Northern Ireland's small population and similar poverty rates, the changes in poverty rates reported should be accurate. All figures are presented using DWP's AHC variant of the modified OECD equivalence scale.

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

<sup>60</sup> We use the shorthand 'working-age adults without children' or 'working-age non-parents' to refer to 'working-age adults without dependent children'.

Table 4.2. Relative poverty: percentage and number of individuals in households with incomes below 60% of median BHC income

	<i>Children</i>		<i>Pensioners</i>		<i>Working-age parents</i>		<i>Working-age non-parents</i>		<i>All</i>	
	%	Million	%	Million	%	Million	%	Million	%	Million
1996–97 (GB)	26.7	3.4	24.6	2.4	20.2	2.5	12.0	2.5	19.4	10.8
1997–98 (GB)	26.9	3.4	25.3	2.5	20.4	2.5	11.9	2.5	19.6	10.9
1998–99 (GB)	26.0	3.3	26.8	2.7	19.6	2.4	11.5	2.4	19.3	10.8
1999–00 (GB)	25.6	3.3	25.1	2.5	19.8	2.4	12.1	2.6	19.2	10.7
2000–01 (GB)	23.3	3.0	24.8	2.5	18.1	2.2	12.8	2.7	18.4	10.4
2001–02 (GB)	23.1	2.9	25.1	2.5	18.3	2.2	12.5	2.7	18.4	10.4
2002–03 (UK)	22.6	2.9	24.4	2.5	18.0	2.2	12.7	2.8	18.1	10.6
2003–04 (UK)	22.1	2.9	22.9	2.4	17.9	2.2	12.8	2.9	17.8	10.4
2004–05 (UK)	21.3	2.7	21.3	2.3	16.9	2.1	12.6	2.9	17.0	10.0
2005–06 (UK)	22.0	2.8	20.8	2.2	18.2	2.3	13.4	3.1	17.6	10.4
2006–07 (UK)	22.3	2.9	23.2	2.5	17.9	2.3	13.2	3.0	18.0	10.7
2007–08 (UK)	22.5	2.9	22.7	2.5	18.1	2.3	14.0	3.2	18.3	11.0
2008–09 (UK)	21.8	2.8	20.1	2.3	18.2	2.4	14.7	3.4	18.0	10.8
2009–10 (UK)	19.7	2.6	18.1	2.1	17.1	2.3	15.0	3.4	17.0	10.3
2010–11 (UK)	17.5	2.3	17.5	2.0	16.0	2.2	14.6	3.3	16.1	9.8
<b>Changes</b>										
1996–97 to 2004–05	–5.4		–3.4		–3.2		(0.6)		–2.4	
2004–05 to 2007–08	(1.2)	(0.2)	1.4	0.2	(1.2)	0.2	1.4	0.4	1.3	1.0
2007–08 to 2010–11	–5.0	–0.6	–5.2	–0.5	–2.1	(–0.2)	(0.6)	(0.1)	–2.2	–1.1
2009–10 to 2010–11	–2.1	–0.3	(–0.6)	(0.0)	(–1.1)	(–0.1)	(–0.3)	(–0.1)	–0.9	–0.5

Notes: Reported changes may not equal the differences between the corresponding numbers due to rounding. Changes in parentheses are not significantly different from zero at the 5% level. Because of the discontinuity in the series due to the inclusion of Northern Ireland from 2002–03, changes in the number of people in poverty since before 2002–03 are not available. However, due to Northern Ireland's small population and similar poverty rates, the changes in poverty rates reported should be accurate. All figures are presented using the modified OECD equivalence scale.

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

Using incomes measured BHC, the conclusions reached are similar. Again, there were small measured falls in poverty for pensioners and working-age non-parents in 2010–11, but the changes are not statistically significant. The fall in child poverty (300,000, or 2.1 percentage points) is statistically significant, and brings child poverty on this measure to its lowest level since 1984.

Tables 4.1 and 4.2 show that there have been three distinct periods in terms of changes in poverty since 1996–97. From 1996–97 to 2004–05, the poverty rate fell by 4.7 percentage points measured AHC or 2.4 percentage points measured BHC, with strong falls in child and pensioner poverty. Poverty among working-age adults without dependent children did not fall in the same way; there was a small fall measured AHC and actually a small rise measured BHC. The second period was from 2004–05 to 2007–08, when there were rises in poverty for all groups, with the overall poverty rate increasing by 1.4 million (2.0 percentage points) measured AHC and 1.0 million (1.3 percentage points) measured BHC.

The third distinct period is from 2007–08 to 2010–11, in which the previous rises in pensioner poverty were more than undone by large falls, measured both AHC and BHC. There were also strong falls in child poverty. However, for working-age non-parents, poverty continued to increase each year until 2010–11, which was the first year of falling poverty for this group since 2004–05 (AHC) or 2006–07 (BHC). For working-age non-parents, the recent high in poverty was reached in 2009–10, when it was 19.9% AHC and 15.0% BHC.

In summary, since the mid-1990s relative poverty has fallen substantially for pensioners and families with children. However, working-age adults without children have seen an overall increase in relative poverty over the same period.

Before looking at relative poverty among each of the groups in more detail later in this chapter and the next, we look at how changes in benefit rates and inflation may have impacted upon poverty in the latest year of data, as well as how they may do so in the next few years.

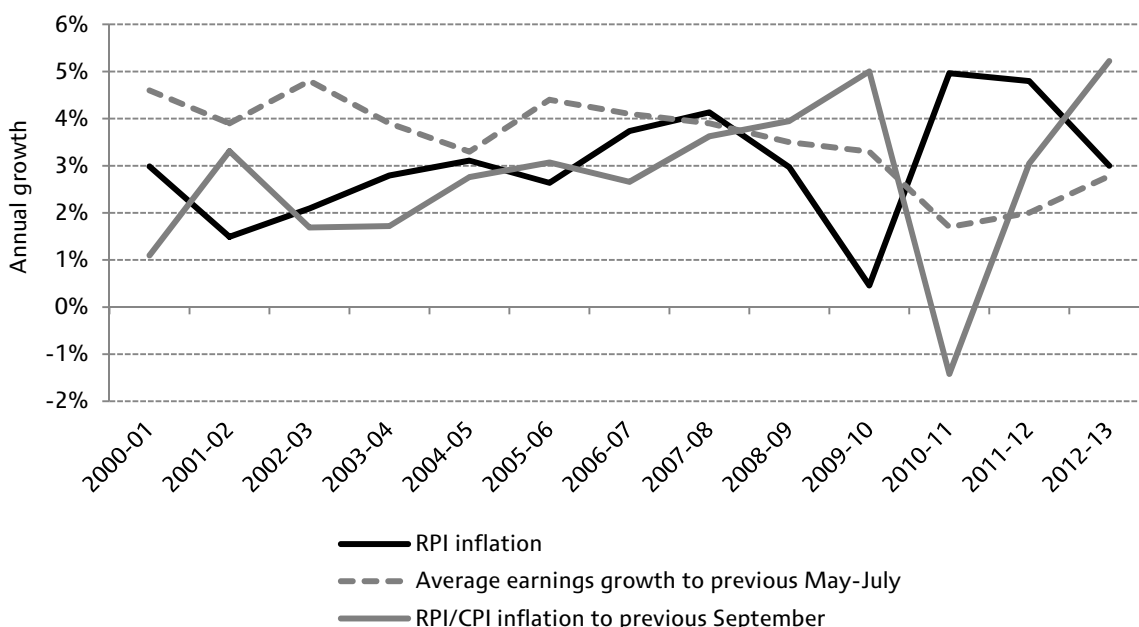
### Level of benefits and tax credits over time

Benefits and tax credits are, on average, the largest source of income for individuals in the second and third income decile groups (roughly those just below and just above the poverty line). Therefore, changes in entitlements to state benefits and tax credits compared with changes in the poverty line are important determinants of poverty.

In the absence of discretionary changes to benefits, benefit and tax credit rates are generally increased in April of each year in line with a lagged measure of inflation (the rate of annual inflation to the previous September). Therefore, any changes in inflation rates between September and the following financial year can have an important effect on the real changes to benefit and tax credit rates from one year to the next, although it is important to note that such effects are likely to prove temporary as inflation fluctuates up and down.

Comparing year-on-year inflation rates with the inflation rate to the previous September allows us to see whether the default uprating of benefits increases or decreases their real value in any given year. Figure 4.2 does this. A lagged measure of average earnings growth, which is the default index used to uprate the Guarantee Credit element of Pension Credit (and, from April 2012, the Basic State Pension, as long as the implied increase exceeds the rate of CPI inflation to the previous September and 2.5%), is also included.

Figure 4.2. RPI inflation in survey year compared with RPI/CPI inflation<sup>a</sup> to previous September and average earnings growth<sup>b</sup> to previous May–July



a. RPI inflation was used as the measure of inflation to uprate most non-means-tested benefits up to and including 2010–11, but CPI is being used from 2011–12 onwards. Therefore ‘RPI/CPI inflation to previous September’ means RPI for years to 2010–11 and CPI for 2011–12 onwards.

b. Including bonuses; seasonally adjusted. Average earnings growth measured by the average earnings index (ONS series LNNC) up to and including 2011–12 and by the average weekly earnings index (ONS series K54U) from 2012–13 onwards.

Between 2002–03 and 2008–09, inflation was generally quite stable, meaning that the year-to-year impact on the real value of benefits of using a lagged measure of inflation for uprating was small.

More recently, changes in inflation rates have played an important role in determining real benefit increases from year to year. Inflation was relatively high in September 2008, so state benefits and tax credits were, by default, increased by 5% or 6.3% (depending on whether they were uprated in line with RPI or the Rossi index respectively) in April 2009. But inflation subsequently fell sharply – annual RPI inflation in 2009–10 was just 0.5% – so most real state benefit and tax credit amounts grew substantially in 2009–10. The reverse happened in the following year. By September 2009, RPI inflation was negative. The government decided to increase most benefits that were normally uprated in line with RPI inflation to the previous September by 1.5% in April 2010 (with a plan to increase them by 1.5 percentage points less than RPI inflation to September 2010 in April 2011, though this plan was superseded by reforms announced by the incoming government), rather than leave them unchanged in cash terms as would have been the case if default uprating rules had been applied. Important exceptions were the Basic State Pension, which rose by 2.5% in cash terms, and the child element of the Child Tax Credit, which rose by 2.9% in cash terms. Benefits that were normally increased in line with inflation as measured by the Rossi index to the previous September – most means-tested benefits – were increased in the usual way, which meant a rise of 1.8%. But RPI inflation rose sharply after September 2009, and averaged 5.0% in 2010–11, implying substantial real falls in the value of benefits and tax credits in that year.

Figure 4.2 is also useful for understanding how poverty rates may evolve in the next two years of HBAI data (2011–12 and 2012–13). 2011–12 is the first year in which benefits were uprated by the previous September's CPI (instead of RPI) inflation rate. This meant that while RPI inflation was on average 4.8% in 2011–12, most benefits rose by 3.1% in cash terms.<sup>61</sup> In 2012–13, on the other hand, there were real increases in some benefit and tax credit rates due to a spike in inflation in September 2011 (but note that discretionary real cuts – for example, to Child Benefit and Working Tax Credit – are being implemented at the same time; see Section 4.4, and in particular Figure 4.7, for analysis and discussion of the impacts of discretionary direct tax and benefit changes implemented or planned between April 2011 and April 2014).

However, Figure 4.2 shows only one part of the story, in terms of changes to benefit and tax credit levels over time. In the long run, it is discretionary changes to benefits that are important in determining their levels. To incorporate the impacts of these discretionary policy changes, as well as the impact from year to year of uprating benefits in line with lagged measures of inflation, Table 4.3 shows year-on-year growth rates in cash-terms entitlements to benefits and tax credits for some key family types likely to be in or close to poverty. For example, a single pensioner with sufficient National Insurance (NI) credits could claim £95.25 per week in Basic State Pension in 2009–10 and £97.65 per week in 2010–11.<sup>62</sup> This is an annual increase of £2.40 per week or 2.5%, as shown in the relevant cell in Table 4.3. It should be noted that the family types shown are only examples and therefore are just illustrative of the changes in benefit incomes at the bottom of the income distribution. The table also compares changes in nominal entitlements with the year-on-year changes in the relative poverty line (in cash terms) and in prices. Numbers in bold mark instances where entitlements to benefits and tax credits grew by more than inflation (as measured by RPI – which is approximately equal to the price index used to deflate BHC

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<sup>61</sup> Since the CPI measure of inflation tends to be lower than RPI and Rossi inflation, the indexation switch is likely to reduce the real increases in benefits and tax credits year after year. For more detailed discussion on the differences between the three inflation measures, see section 5 of Browne and Levell (2010).

<sup>62</sup> In order to claim the full amount of Basic State Pension, a single pensioner needs to have paid sufficient amounts of NI contributions or have received enough NI credits; or his/her late spouse/partner needs to have had an NI contribution record that satisfied these conditions. The pensioner may also get Pension Credit from the state if his/her income and savings are low enough.

Table 4.3. Growth in nominal entitlements to state support for certain family types (%)

	Couple, 3 children, no work	Lone parent, 1 child, no work	Lone parent, 1 child, part-time work	Single person on Jobseeker's Allowance	Basic State Pension (single)	Single pensioner entitled to means- tested benefits	Couple pensioner entitled to means- tested benefits	Relative poverty line (BHC)	Relative poverty line (AHC)	RPI	Rossi
1997-98	2.6	2.1	2.0	2.6	2.1	4.0	3.5	5.0	3.8	3.3	2.0
1998-99	2.4	-3.8	-5.5	2.4	3.6	2.4	2.4	3.8	4.3	3.1	2.0
1999-00	9.3	8.6	9.3	2.1	3.2	7.7	7.4	5.0	5.5	1.6	1.5
2000-01	13.4	8.8	12.7	1.6	1.1	7.0	6.1	5.9	5.8	3.0	1.7
2001-02	9.1	6.4	6.8	1.6	7.4	16.6	14.8	6.3	7.5	1.5	1.7
2002-03	4.1	3.2	7.0	1.7	4.1	6.3	6.4	3.7	4.8	2.1	1.4
2003-04	8.6	6.6	10.1	1.3	2.6	3.9	3.9	2.4	2.4	2.8	1.6
2004-05	6.0	4.5	5.0	1.8	2.8	3.2	3.2	4.0	2.6	3.1	1.2
2005-06	2.5	2.0	3.1	1.0	3.1	3.7	3.7	3.5	3.2	2.6	1.7
2006-07	3.1	2.7	3.0	2.2	2.7	4.1	4.1	4.1	3.7	3.7	3.0
2007-08	3.6	3.3	3.7	3.0	3.6	4.2	4.3	4.3	3.3	4.1	2.7
2008-09	7.0	5.4	6.2	2.3	3.9	4.8	4.6	3.5	3.1	3.0	4.4
2009-10	6.4	6.1	5.5	6.3	5.0	4.6	4.7	1.3	3.6	0.5	3.2
2010-11	2.2	2.0	1.9	1.8	2.5	1.9	1.9	1.8	1.4	5.0	5.5
2011-12	6.1	5.0	4.1	3.1	4.6	2.8	3.1	n/a	n/a	4.8	5.7
2012-13	4.3	4.1	1.7	5.2	5.2	3.8	3.8	n/a	n/a	2.9	3.4
1996-97 to 2010-11	116.9	75.4	96.9	36.6	59.7	104.9	99.0	70.7	71.1	47.3	39.2
2010-11 to 2012-13	10.6	9.3	5.8	8.5	10.0	6.7	7.0	n/a	n/a	7.8	9.3

Notes: The table shows annual changes in maximum entitlements to benefits for various family types with no private income (except the working lone parent, who is assumed to earn an amount that is below the personal income tax allowance and the primary threshold for National Insurance contributions) ignoring Housing Benefit and Council Tax Benefit and the value of free school meals for families with children. 'RPI' and 'Rossi' measure changes since the previous year in the annual averages of the RPI all-items and Rossi indices respectively. For 2012-13, these inflation measures are forecasts from the Office for Budget Responsibility's March 2012 *Economic and Fiscal Outlook*. Values in bold are greater than both the change in RPI and the change in Rossi over the same period; shaded cells are greater than the change in both the BHC and AHC relative poverty lines. For further details, contact the authors.

Source: Authors' calculations.

incomes and to uprate the BHC absolute poverty line in the HBAI series<sup>63</sup> – and Rossi, which is the price index used to deflate AHC incomes and to uprate the AHC absolute poverty line in the HBAI series). Shaded cells mark instances where entitlements to benefits and tax credits grew faster than both the BHC and AHC poverty lines; considered in isolation, this would suggest declining relative poverty rates for that family type in that year.<sup>64</sup>

In considering the living standards of the poorest households and why relative poverty fell in 2010–11, two important points are worth noting:

- None of the family types shown saw the real value of their entitlements to benefits and tax credits increase in 2010–11.
- Given that the BHC and AHC poverty lines grew by just 1.8% and 1.4%, respectively, in cash terms in 2010–11, entitlements to benefits and tax credits for all the example families shown increased by more than the relative poverty lines in 2010–11.

Therefore, the main income source for poorer households (benefits and tax credits) fell in real terms in 2010–11, but by less than the relative poverty line (in other words, by less than median income). This is likely to be a key reason why relative poverty fell whilst, as we discuss in Section 4.4, absolute poverty rose in 2010–11.

In seeking to explain past trends over a longer period, we note the following:

- Pensioners with little or no private income are entitled to Pension Credit. Since 2000–01, the growth in entitlements to benefits for pensioner families with no private income has exceeded the growth in the AHC poverty line in each year (and in each year except 2004–05 and 2007–08 for the BHC poverty line). Since 2003–04, this has been because entitlements to Pension Credit rise each year in line with average earnings, growth in which has tended to be above the growth in median income. In 2010–11, the Guarantee Credit element of Pension Credit rose by 2.0%. It is worthwhile noting that this benefit suffers from significant non-take-up (also, the FRS is particularly poor at recording receipts of it – see Appendix D), which means that some pensioners may have incomes below the level of the Guarantee Credit element of Pension Credit and, if they do not meet the conditions for full entitlement, below the level of the Basic State Pension.
- Since 1996–97, cash increases in benefits for workless single people without children on Jobseeker's Allowance have, on average, been well below both inflation and increases in the poverty line.

Table 4.3 also helps us to examine likely future trends in poverty for some groups:

- The commitment by the government to raise the Basic State Pension by the highest of 2.5%, CPI inflation and average earnings growth from April 2012 means maximum benefit entitlements for pensioners look set to outpace the growth in the poverty line for several more years, at least. Changes that came into effect in April 2010 have also made the conditions for entitlement to a full Basic State Pension less stringent for new pensioners. This will, over time, significantly boost the number of people (particularly women) eligible to receive the full Basic State Pension,<sup>65</sup> directly boosting pensioner incomes. The reforms will also increase the amount received by those who still do not have enough contributions to be eligible for a full Basic State Pension.

<sup>63</sup> The only difference between RPI inflation and the inflation rate used to deflate income BHC in HBAI is that council tax payments are not included in the basket of goods used to construct the index used in HBAI, as they are deducted in HBAI.

<sup>64</sup> Some of these benefits are designed only to cover non-housing costs, and so it might be more appropriate to compare them with changes in the Rossi index or growth in the AHC poverty line. For example, growth in the rate of Jobseeker's Allowance for a single adult exceeded the change in the RPI in only four years between 1997–98 and 2012–13, but it exceeded the change in the Rossi index in eight of those years.

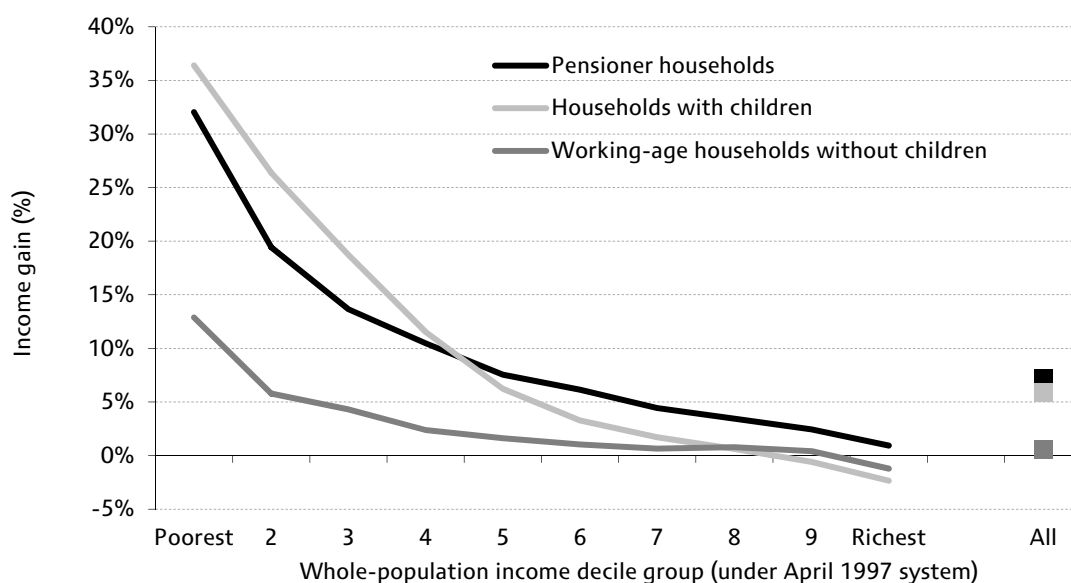
<sup>65</sup> See Bozio, Crawford and Tetlow (2010) for more details.



- In 2011–12, the child element of the Child Tax Credit was increased by £180 above indexation, so some low-income families with several children (such as the workless couple with three children in Table 4.3) saw a real increase in their benefit and tax credit entitlement.

Table 4.3 tracked in detail the benefit and tax credit entitlements for example families over time. Figure 4.3 provides a more comprehensive picture of the effects of direct tax and benefit reforms on those in or close to poverty. It shows the estimated percentage change in average net income due to direct tax and benefit reforms implemented under the previous Labour governments,<sup>66</sup> for households with children, pensioner households, and working-age households without children in each of the 10 income decile groups (which are defined across the whole population and which rank households according to their incomes under the April 1997 tax and benefit system). Note that, as with Table 4.3, this analysis picks up changes in *entitlements* to benefits and tax credits (as well as tax liabilities), but it is important to bear in mind that some people do not claim what they are entitled to. For these purposes, a ‘reform’ is taken to mean any change to benefit or tax credit rates or direct tax thresholds that deviates from the public finance default uprating procedures inherited by the Labour government; this means anything that deviates from Rossi uprating for most means-tested benefits or from RPI uprating for most other benefits and direct tax thresholds.

Figure 4.3. Impact of direct tax and benefit reforms introduced between April 1998 and April 2010, by income decile group and household type, compared with public finance default uprating



Notes: The base system that the April 2010 system is compared with is the April 1997 system that Labour inherited. The first reforms to direct taxes and benefits by Labour were implemented in April 1998. Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 1997 tax and benefit system according to income adjusted for household size using the modified OECD equivalence scale. Decile group 1 contains the poorest tenth of the population, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth. Assumes full take-up of means-tested benefits and tax credits.

Source: Authors’ calculations using TAXBEN, the IFS tax and benefit microsimulation model, run on uprated 2009–10 Family Resources Survey data. Analysis ignores the introduction of the additional marginal rate of income tax in April 2010.

<sup>66</sup> These reforms took place between April 1998 and April 2010 inclusive. The effects of indirect tax changes under Labour (some of which happened before April 1998) are ignored here. These would have uniform impacts on real incomes in the HBAI series, because nominal incomes are deflated using population-wide price indices. The impacts of changes to other non-personal taxes, such as corporation tax, are also excluded, on the basis that their effects cannot be accurately allocated to particular households (although they must ultimately affect households). Changes to these taxes were a net ‘takeaway’ under Labour, so *on average* Figure 4.3 overstates the gains from all tax and benefit changes over this period.

The clear conclusion that emerges from Figure 4.3 is that the biggest gainers (in terms of entitlements to net financial state support) as a proportion of income from direct tax and benefit reforms under the Labour governments were low-income households with children and low-income pensioner households. In this context, it is not surprising that income poverty rates among pensioners and children fell substantially over the period, as discussed in detail below and in Chapter 5.

## Pensioner poverty

Trends in pensioner poverty going back to 1979 are shown in Figures 4.4a (AHC) and 4.4b (BHC). As before, we present trends in pensioner poverty using various possible poverty thresholds. Under the HBAI methodology, pensioners are defined as individuals above the current state pension age. This is 65

Figure 4.4a. Relative poverty: percentage of pensioners living in households with incomes below various fractions of median income (AHC)

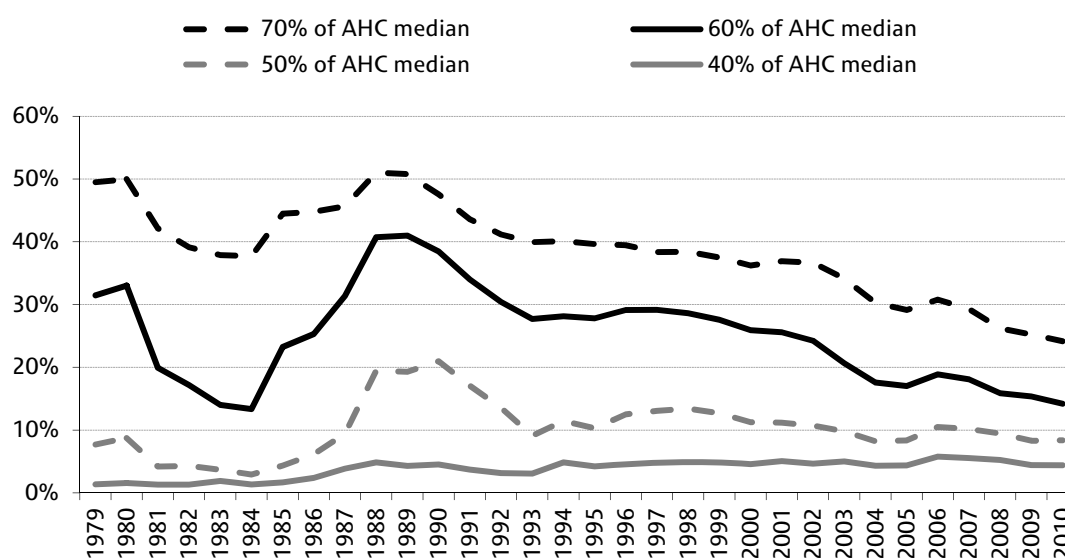
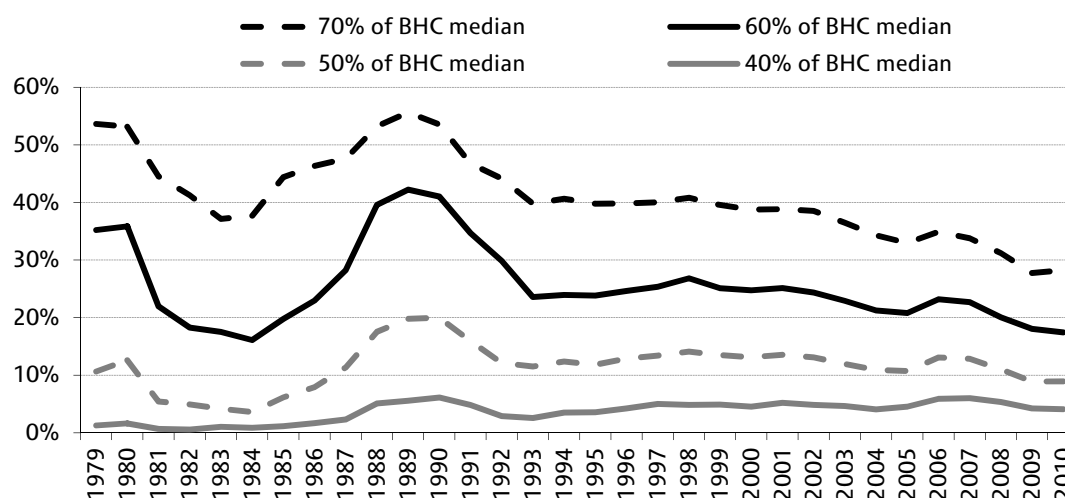


Figure 4.4b. Relative poverty: percentage of pensioners living in households with incomes below various fractions of median income (BHC)



Notes: Figures are presented for GB up until 2001–02 and for the whole of the UK from 2002–03 onwards. Years refer to calendar years up to and including 1992, and financial years thereafter.

Source: Authors' calculations based on Family Expenditure Survey and Family Resources Survey, various years.

for men, but starting in April 2010 the women's state pension age began to rise from age 60 by 1 month every 2 months. Over time, this will gradually change the age profile of pensioners, but it is likely to have a negligible impact in 2010–11. The definition of a pensioner as being over state pension age excludes those who have retired early and rely on occupational or private pensions. It is also important to note that, since incomes are measured at the household level, pensioner incomes depend on the combined income of the household, which may include working-age adults.

Using a poverty line of 60% of median income, there were 1.7 million pensioners (14.2%) in poverty measuring incomes AHC and 2.0 million (17.5%) measuring incomes BHC in the UK in 2010–11. Relative pensioner poverty fell for the fourth year in succession, by 1.2 percentage points from the previous year measured AHC and by 0.6 percentage points measured BHC. Relative pensioner poverty has been lower in only two years (1983 and 1984) out of the last fifty, measured AHC or BHC, immediately following the recession of the early 1980s and during a period of particularly high unemployment (which tends to depress the incomes of working-age adults but not those of pensioners). Similar trends are seen when using poverty lines at 50% or 70% of median income; a poverty line of 70% of median income shows particularly low rates of pensioner poverty compared with previous years.

For the fourth consecutive year, the rate of relative poverty among pensioners is lower than that for any of the other three population groups considered (i.e. children, and working-age adults with and without dependent children) when measuring incomes AHC. This is a remarkable fall given that pensioners had the second-highest relative poverty rate in 1996–97 (measured AHC).

Why did pensioner poverty fall in 2010–11? As was clear from Table 4.3, benefits for pensioners have increased faster than the relative poverty line in almost every year since 1999–2000, including in 2010–11 when the Basic State Pension rose by 2.5%, faster than most other benefits and faster than the poverty line.

Table 4.4. Sources of net income growth for the poorest 30% of pensioners (UK)

	<i>Source of income</i>					Deductions from income (incl. council tax)	Total income (BHC)
	Earnings and self-employment	Benefits and tax credits	Occupational pensions	Income from savings, investments and personal pensions	Other income		
<b>Share of total income in 2010–11</b>	3.1%	88.2%	12.6%	5.9%	1.2%	–10.9%	100%
<b>Change in income 2009–10 to 2010–11</b>	–8.6%	–3.3%	–2.1%	5.1%	–8.3%	–4.2%	–2.8%
<b>Contribution to growth in 2010–11</b>	–0.3ppt	–2.9ppt	–0.3ppt	0.3ppt	–0.1ppt	0.5ppt	–2.8ppt
<i>During the recession</i>							
<b>Average annual change 2007–08 to 2009–10</b>	10.9%	5.3%	4.3%	–9.0%	9.3%	0.8%	5.0%
<b>Contribution to annual growth 2007–08 to 2009–10</b>	0.3ppt	4.8ppt	0.6ppt	–0.6ppt	0.1ppt	–0.1ppt	5.0ppt

Notes: The table relates to the subsample of households in the HBAI that contain the poorest 30% of pensioners (i.e. those in poverty and those just above the poverty line), but excluding those households with negative reported incomes. All incomes have been equalised and are measured at the household level and before housing costs have been deducted.

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

This is also seen in Table 4.4, which shows how various income sources contributed to overall growth (or lack of growth) in household incomes for the poorest 30% of pensioners. In overall terms, incomes among this group of pensioners fell in 2010–11. The main driver of this fall in incomes was a fall in the real value of benefits, which make up close to 90% of this group's income. However, incomes fell by less than the poverty line (determined by median income), and thus relative poverty fell. We see a story of falling living standards among the poorest pensioners, but falling relative poverty as the poverty line falls by more, in line with median income.

Table 4.4 also shows that the large falls in pensioner poverty from 2007–08 to 2009–10 seem to be almost entirely due to strong growth in benefit incomes, which contributed 4.8 percentage points to annual income growth for the poorest 30% of pensioners in this period. Note that, as well as a fall in income poverty rates, there was also a fall in the rate of pensioner material deprivation in 2010–11, from 9.4% to 8.6% (although this was not statistically significant). Material deprivation is covered in depth in Chapter 6.

### Poverty among working-age adults with no dependent children

Since income is measured at the household level, poverty among working-age adults with children usually follows a similar path to that for children. It is therefore useful to consider working-age adults without children separately from working-age adults with children, as was done in Tables 4.1 and 4.2 (this approach is different from what is done in DWP's HBAI publication, which largely focuses on poverty rates for all working-age individuals taken together).

Using a poverty threshold of 60% of the median, there are now 4.5 million working-age adults without dependent children living in poverty in the UK measuring incomes AHC and 3.3 million measuring incomes BHC (poverty rates of 19.7% and 14.6% respectively). These numbers are unchanged from 2009–10 (down by 0.3 percentage points) measuring incomes AHC and down by 100,000 (0.3 percentage points) measuring incomes BHC. As shown in Figure 4.5, relative poverty rates among this group have risen over time and reached historic highs in 2009–10 (since our consistent series began in 1961). The subsequent changes in 2010–11 were not statistically significant. Measured AHC, the poverty rate among this group is still 1.5 percentage points higher than it was in 2007–08 – the year prior to the recession – and this difference is statistically significant.

Figure 4.5 shows that the rises in relative poverty among working-age adults without children since 1996–97 are part of a longer-term trend of rising relative income poverty for the group. Their relative poverty rate has more than doubled since 1979 measured BHC and has tripled measured AHC. This is partly due to the group being less favoured by tax and benefit changes, as suggested by Table 4.3.

Having said this, working-age adults without dependent children are a very heterogeneous group. For example, it includes young adults who have just left full-time education but still live in their childhood homes, as well as individuals in their 50s whose own children have grown up (and are therefore no longer 'dependent'). Given this heterogeneity, it is interesting to split the group according to their age when examining poverty levels and trends. This is done in Figures 4.6a and 4.6b.

It is particularly important in this context to note that the HBAI poverty measures are based on household income. Therefore, the household income of a young adult living with their parents depends upon the parents' incomes as well as the young adult's income. Similarly, in the case of an older couple comprising one pensioner and one working-age adult, the household income of the working-age individual depends partly on the pensioner's income. Thus, Figure 4.6 does not tell us how the individual incomes of people of different ages have changed over time.

Figures 4.6a and 4.6b show that adults aged under 25 without children have the highest relative poverty rate of all the four age groups considered, at 27.6% (AHC) and 17.2% (BHC) in 2010–11. The extent of the

difference between those aged under 25 and older age groups depends importantly on the treatment of housing costs, as younger individuals tend to have higher housing costs relative to their (before-housing-costs) income. On an AHC basis, the poverty rates for the other age groups fall between 17% and 18% (i.e. about 10 percentage points lower than for those aged under 25). On a BHC basis, the poverty rate for those aged under 25 is considerably closer to those for the other age groups.

The graphs show that the general trend of rising relative poverty among working-age non-parents in recent years applies across the age spectrum, but that the younger age groups have seen the largest rises in poverty risk in recent years, particularly on an AHC basis. This pattern, combined with the substantial falls in child poverty rates over the same period (see Chapter 5 for more details), means that the relative poverty rates for children and for adults aged under 25 without children are now almost identical, at 27.3% and 27.6% respectively on an AHC basis and 17.5% and 17.1% respectively on a BHC basis. This is

Figure 4.5a. Relative poverty: percentage of working-age non-parents living in households with incomes below various fractions of median income (AHC)

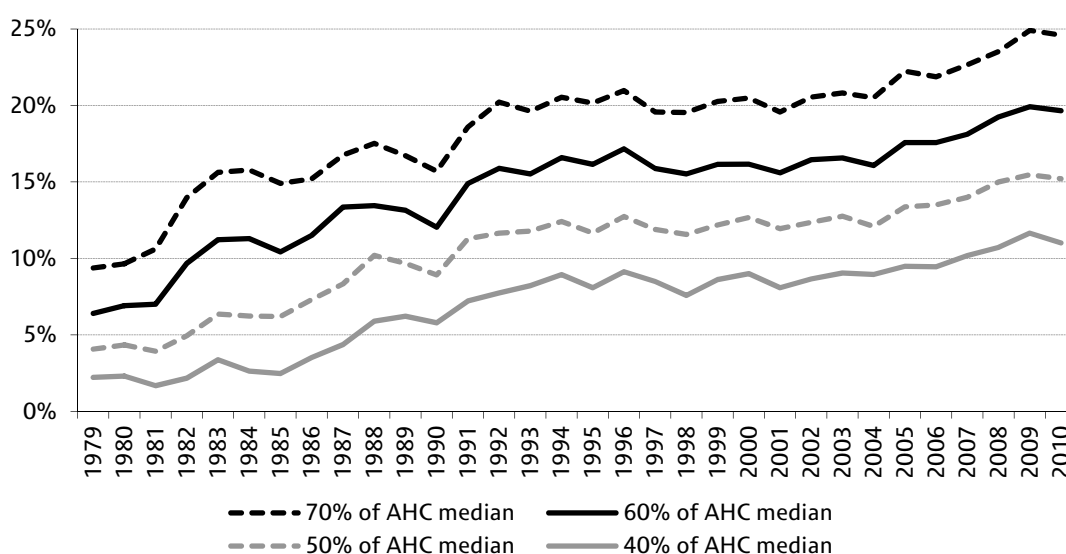
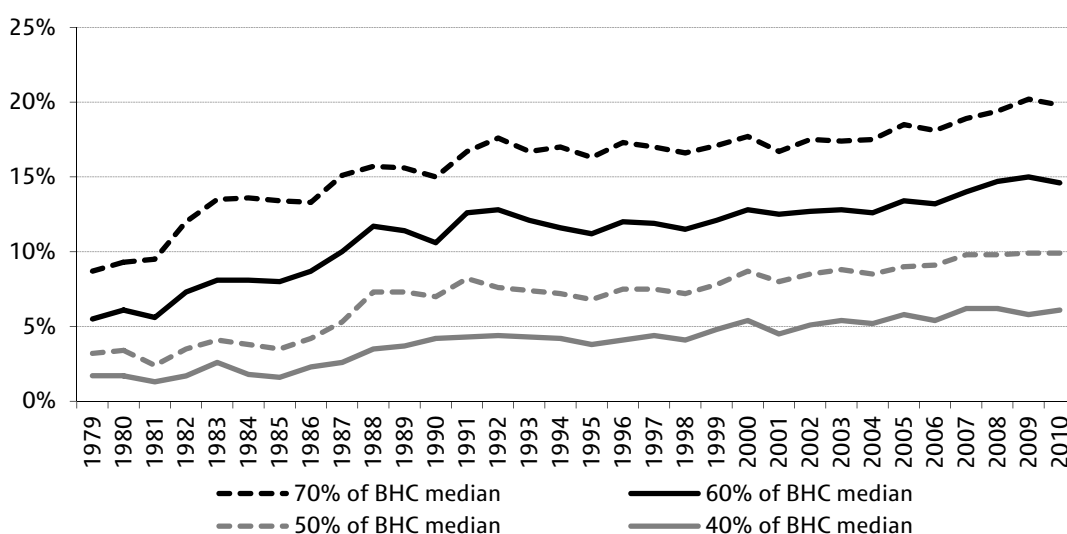


Figure 4.5b. Relative poverty: percentage of working-age non-parents living in households with incomes below various fractions of median income (BHC)



Notes: Figures are presented for GB up until 2001–02 and for the whole of the UK from 2002–03 onwards. Years refer to calendar years up to and including 1992, and financial years thereafter.

Source: Authors' calculations based on Family Expenditure Survey and Family Resources Survey, various years.

Figure 4.6a. Percentage of working-age adults without children living in relative poverty, for different age groups (AHC)

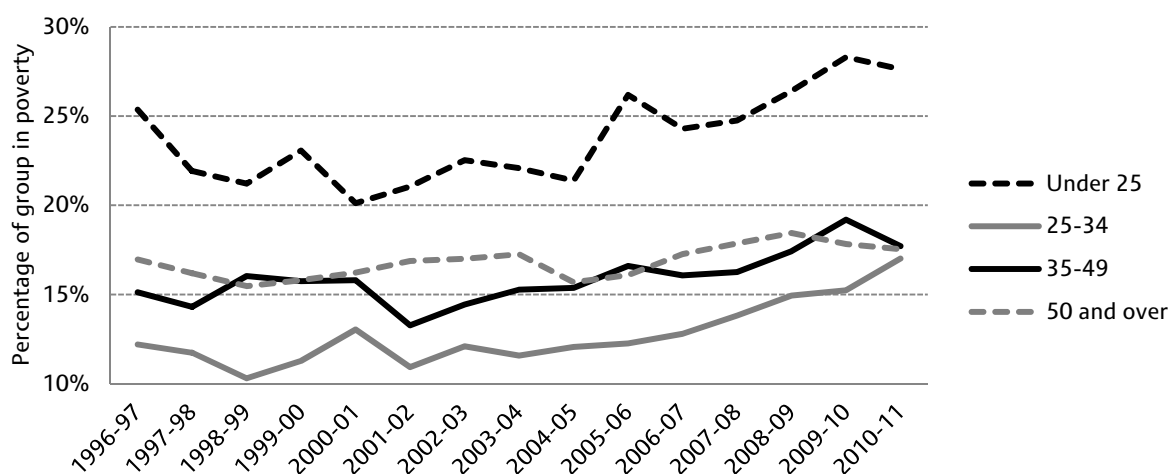
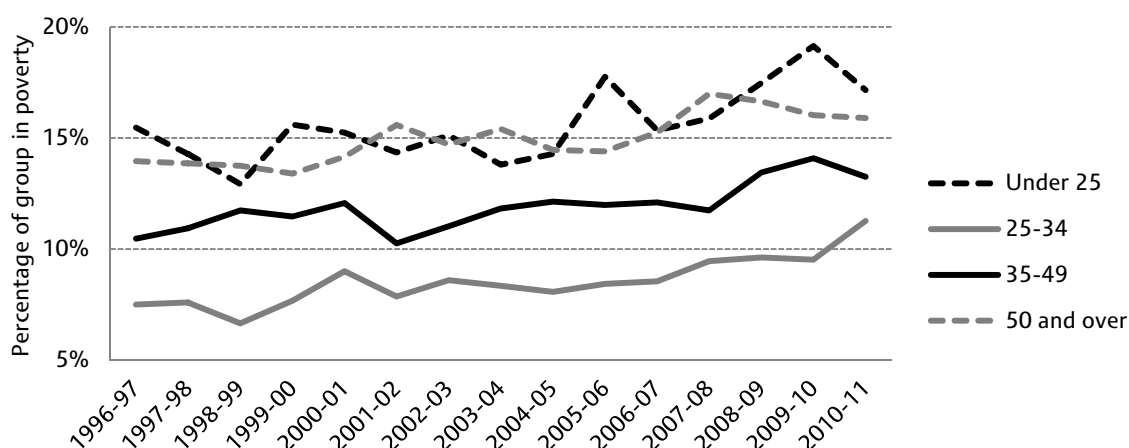


Figure 4.6b. Percentage of working-age non-parents living in relative poverty, for different age groups (BHC)



Notes: Figures are presented for GB up until 2001-02 and for the whole of the UK from 2002-03 onwards. In 2010-11, 21.6% of working-age adults without dependent children were aged under 25, 20.0% were aged between 25 and 34, 22.5% were aged between 35 and 49, and 35.8% were aged 50 or over.

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

in stark contrast to the late 1990s, when rates of poverty were much higher for children than for young childless adults.

### 4.3 Absolute poverty

While relative poverty defines poverty against an ever-changing poverty line based on the current year's median income, absolute poverty is defined against a poverty line fixed in real terms. As explained at the beginning of this chapter, with falls in real incomes across most of the income distribution in 2010-11 (see Chapter 3), changes in absolute poverty are likely to differ quite starkly from changes in relative poverty. Changes in absolute poverty in 2010-11 may be considered a better measure of the changes of material living standards of poor households. Tables 4.5 and 4.6 set out estimates of the number of individuals in absolute poverty measuring incomes AHC and BHC respectively. In this instance, we define

the absolute poverty line to be 60% of median income in 1996–97, adjusted for inflation.<sup>67</sup> The choice of base year is essentially arbitrary. This poverty line is roughly 15% lower than the relative poverty line in 2010–11, reflecting significant overall growth in median income between 1996–97 and 2010–11, despite the fall in 2010–11. (The absolute poverty line in 2010–11 was £213 per week BHC (in terms of the equivalent income for a two-adult household without children) versus £251 per week for the relative poverty line.)

In 2010–11, there were 8.4 million individuals (13.8% of the UK population) living in absolute poverty measuring incomes AHC, a rise of 300,000 since 2009–10. Measuring incomes BHC, there were 5.8 million individuals (9.6%) in absolute poverty, 200,000 more than in 2009–10. Although these changes are not statistically significant, it is quite unusual for the central estimate of absolute poverty to rise. One worrying fact is that, on an AHC basis, absolute poverty in the population as a whole has barely changed since 2002–03.

Changes in absolute child poverty in 2010–11 were negligible. (For detailed analysis of child poverty, see Chapter 5.) Absolute pensioner poverty rose in 2010–11 by 100,000 (measured AHC or BHC), and this

Table 4.5. Absolute poverty: percentage and number of individuals in households with incomes below 60% of 1996–97 median AHC income

	<i>Children</i>		<i>Pensioners</i>		<i>Working-age parents</i>		<i>Working-age non-parents</i>		<i>All</i>	
	%	Million	%	Million	%	Million	%	Million	%	Million
1996–97 (GB)	34.1	4.3	29.1	2.9	26.6	3.3	17.2	3.5	25.3	14.0
1997–98 (GB)	32.4	4.1	27.7	2.8	25.1	3.1	15.4	3.2	23.6	13.2
1998–99 (GB)	31.7	4.0	26.0	2.6	24.4	3.0	14.8	3.1	22.7	12.7
1999–00 (GB)	29.0	3.7	21.1	2.1	22.6	2.8	14.4	3.0	20.7	11.6
2000–01 (GB)	24.6	3.1	16.2	1.6	19.6	2.4	14.0	3.0	18.0	10.1
2001–02 (GB)	20.7	2.6	11.6	1.2	17.1	2.1	12.1	2.6	15.0	8.5
2002–03 (UK)	18.2	2.4	9.7	1.0	15.4	1.9	11.9	2.7	13.6	8.0
2003–04 (UK)	17.4	2.3	8.6	0.9	14.9	1.9	12.2	2.7	13.3	7.8
2004–05 (UK)	15.9	2.0	6.8	0.7	13.6	1.7	11.3	2.6	12.0	7.1
2005–06 (UK)	16.4	2.1	7.0	0.8	14.5	1.8	12.3	2.8	12.7	7.5
2006–07 (UK)	17.2	2.2	8.8	1.0	14.9	1.9	12.2	2.8	13.2	7.9
2007–08 (UK)	17.4	2.2	8.3	0.9	14.9	1.9	12.6	2.9	13.4	8.0
2008–09 (UK)	17.1	2.2	7.9	0.9	15.8	2.1	13.6	3.1	13.7	8.3
2009–10 (UK)	15.8	2.1	6.9	0.8	14.7	2.0	14.4	3.3	13.3	8.1
2010–11 (UK)	16.1	2.1	7.7	0.9	15.2	2.1	14.7	3.4	13.8	8.4
<b>Changes</b>										
1996–97 to 2004–05	-18.2		-22.3		-12.9		-5.9		-13.3	
2004–05 to 2007–08	1.5	0.2	1.4	0.2	1.3	0.3	1.3	0.4	1.4	0.9
2007–08 to 2010–11	-1.4	(-0.1)	(-0.6)	(0.0)	(0.2)	(0.1)	2.1	0.4	(0.4)	0.4
2009–10 to 2010–11	(0.2)	(0.0)	(0.8)	0.1	(0.5)	(0.1)	(0.4)	(0.1)	(0.4)	(0.3)

Notes: Reported changes may not equal differences between the corresponding numbers due to rounding. Changes in parentheses are not significantly different from zero at the 5% level. Because of the discontinuity in the series due to the inclusion of Northern Ireland from 2002–03, changes in the number of people in poverty since before 2002–03 are not available. However, due to Northern Ireland’s small population and similar poverty rates, the changes in poverty rates reported should be accurate. All figures are presented using DWP’s AHC variant of the modified OECD equivalence scale.

Source: Authors’ calculations based on Family Resources Survey, various years.

<sup>67</sup> Note that the HBAI publication presents a measure of absolute income poverty which uses the 1998–99 median to define the absolute poverty line.

Table 4.6. Absolute poverty: percentage and number of individuals in households with incomes below 60% of 1996–97 median BHC income

	<i>Children</i>		<i>Pensioners</i>		<i>Working-age parents</i>		<i>Working-age non-parents</i>		<i>All</i>	
	%	Million	%	Million	%	Million	%	Million	%	Million
1996–97 (GB)	26.7	3.4	24.6	2.4	20.2	2.5	12.0	2.5	19.4	10.8
1997–98 (GB)	25.8	3.3	23.7	2.4	19.5	2.4	11.4	2.4	18.6	10.4
1998–99 (GB)	24.1	3.1	23.8	2.4	18.0	2.2	10.7	2.2	17.7	9.9
1999–00 (GB)	21.0	2.7	20.2	2.0	16.4	2.0	10.4	2.2	15.8	8.9
2000–01 (GB)	17.2	2.2	17.5	1.8	13.5	1.6	10.4	2.2	13.9	7.8
2001–02 (GB)	13.3	1.7	15.6	1.6	11.1	1.3	8.8	1.9	11.5	6.5
2002–03 (UK)	12.4	1.6	14.1	1.5	10.3	1.3	8.9	2.0	10.9	6.4
2003–04 (UK)	12.0	1.6	13.1	1.4	10.0	1.2	9.2	2.1	10.7	6.2
2004–05 (UK)	11.3	1.5	11.7	1.3	9.5	1.2	8.7	2.0	10.0	5.9
2005–06 (UK)	11.4	1.5	10.9	1.2	9.9	1.3	9.1	2.1	10.1	6.0
2006–07 (UK)	11.8	1.5	13.0	1.4	10.0	1.3	9.0	2.1	10.6	6.3
2007–08 (UK)	11.8	1.5	12.8	1.4	9.8	1.3	9.7	2.2	10.8	6.4
2008–09 (UK)	11.0	1.4	10.7	1.2	9.9	1.3	9.6	2.2	10.2	6.1
2009–10 (UK)	9.8	1.3	8.4	1.0	9.0	1.2	9.5	2.2	9.2	5.6
2010–11 (UK)	9.4	1.2	9.5	1.1	8.8	1.2	10.1	2.3	9.6	5.8
<b>Changes</b>										
1996–97 to 2004–05	–15.4		–12.9		–10.7		–3.3		–9.4	
2004–05 to 2007–08	(0.4)	(0.1)	(1.1)	0.2	(0.4)	(0.1)	1.0	0.3	0.8	0.6
2007–08 to 2010–11	–2.4	–0.3	–3.3	–0.3	(–1.0)	(–0.1)	(0.4)	(0.1)	–1.2	–0.6
2009–10 to 2010–11	(–0.4)	(0.0)	1.1	0.1	(–0.1)	(0.0)	(0.7)	(0.2)	(0.3)	(0.2)

Notes: Reported changes may not equal differences between the corresponding numbers due to rounding. Changes in parentheses are not significantly different from zero at the 5% level. Because of the discontinuity in the series due to the inclusion of Northern Ireland from 2002–03, changes in the number of people in poverty since before 2002–03 are not available. However, due to Northern Ireland's small population and similar poverty rates, the changes in poverty rates reported should be accurate. All figures are presented using the modified OECD equivalence scale.

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

change is statistically significant. This is the first rise in absolute pensioner poverty since 2006–07. Measured AHC, pensioners still have the lowest rate of absolute poverty of any group, at 7.7%.

Absolute poverty among working-age adults without dependent children was also slightly higher (by 100,000 measured AHC and 200,000 measured BHC) in 2010–11 than in 2009–10. Measured AHC, this represents the fourth consecutive year-on-year rise in absolute poverty for the group, leaving it 600,000 (2.6 percentage points) higher than it was in 2006–07. Absolute poverty among working-age adults without children is now higher than it was in 1999–2000 (AHC) or 2001–02 (BHC). Of the four major demographic groups shown in the tables, working-age adults without children have gone from having the lowest rate of absolute poverty in 1996–97 to the highest on a BHC basis (although they still have the second-lowest absolute poverty rate measured AHC).

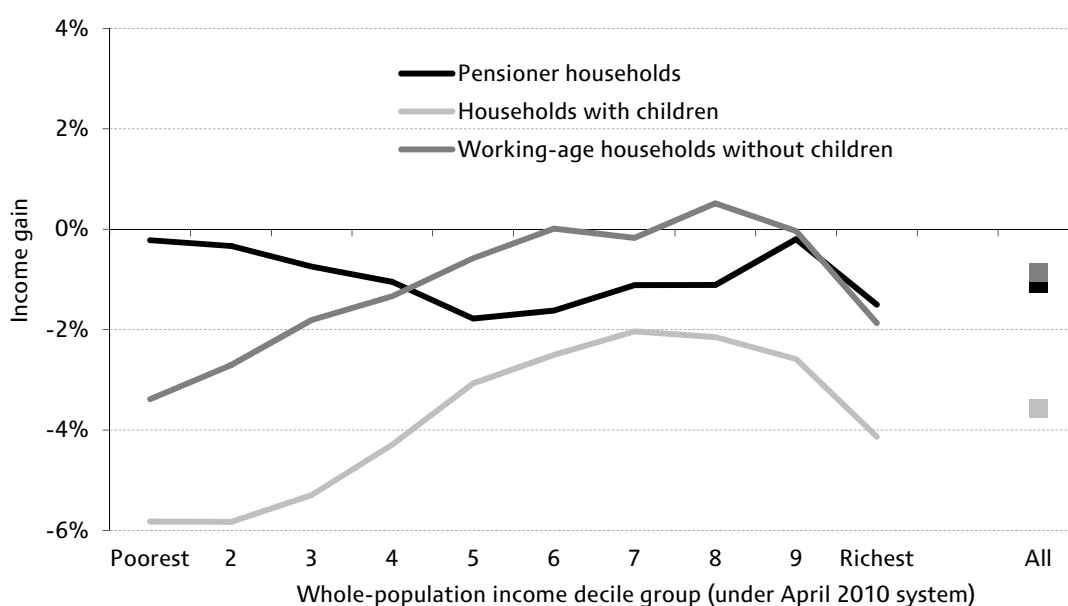
In summary, the trends in absolute poverty in 2010–11 were very different from the trends in relative poverty, due to the large reduction in median income and hence in the relative (but not the absolute) poverty line. Absolute poverty rose in 2010–11, reflecting the fact that poorer households tended to see their incomes rise by less than inflation. These differing trends in absolute and relative poverty illustrate the importance of considering both types of measure to understand trends in the material living standards of poorer households, especially in the present economic environment.



## 4.4 Prospects for income poverty

IFS researchers have recently produced forecasts of poverty among working-age adults and children<sup>68</sup> (see Section 5.5 for more discussion of the prospects for child poverty). The most recent projections predicted that absolute income poverty among both groups would rise in each year between 2010–11 and 2013–14, and that relative income poverty would start to rise again from 2012–13 onwards, as median income – and hence the relative poverty line – is expected to stabilise and eventually grow in real terms<sup>69</sup> while welfare cuts affecting low-income households continue. As Figure 4.7 shows, those welfare cuts tend to affect the lowest-income households with children the most as a proportion of income, and it is child poverty that is forecast to rise most quickly.<sup>70</sup>

Figure 4.7. Impact of direct tax and benefit reforms introduced or planned between April 2011 and April 2014, by income decile group and household type



Notes: Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 2010 tax and benefit system according to income adjusted for household size using the modified OECD equivalence scale. Decile group 1 contains the poorest tenth of the population, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth. Assumes full take-up of means-tested benefits and tax credits.

Source: Authors' calculations using TAXBEN, the IFS tax and benefit microsimulation model, run on updated 2009–10 Family Resources Survey data. Analysis ignores the introduction of Universal Credit, which is being rolled out nationally from October 2013 but is not due to be complete until the end of 2017, and the introduction of (and subsequent change to) the additional top rate of income tax.

<sup>68</sup> Joyce, 2012.

<sup>69</sup> This largely reflects forecasts of real earnings in Office for Budget Responsibility (2011), which were an input into the model underlying the household income projections. Note that more recent macroeconomic forecasts have subsequently become available in Office for Budget Responsibility (2012), but they were quite similar to the previous forecasts.

<sup>70</sup> Note that Figure 4.7 ranks households according to their income under the April 2010 system when assigning them into income decile groups. In other words, when only looking forwards at reforms beyond 2010–11, we rank households according to current income. This differs from Figures 4.3 and 5.6, which look at the effects of reforms between April 1998 and April 2010 (and April 2014, in the case of Figure 5.6) and therefore rank households according to their income under the April 1997 system. But for consistency with the analysis underlying Figures 4.3 and 5.6, we define a reform as anything that deviates from the public finance defaults inherited by the Labour government in 1997. This means that the Basic State Pension is assumed to rise in line with the RPI in the absence of reform. Under the public finance default inherited by the incoming coalition government in 2010, the Basic State Pension would in fact have risen in line with average earnings. This analysis is therefore not fully consistent with IFS analysis of the coalition's reforms presented after the March 2012 Budget, available at <http://www.ifs.org.uk/budgets/budget2012/budget2012robjoyce.pdf>.

IFS researchers have not attempted to project future levels of pensioner poverty, on the basis that the methods used are less appropriate for that task. Figure 4.7 suggests that the direct impacts of tax and benefit reforms tend to reduce the incomes of low-income pensioner households by proportionately less than the incomes of other low-income households. This reflects the fact that most of the planned £18 billion per year of welfare cuts by 2014–15 are cuts to working-age benefits and tax credits (and pensioners have been protected from cuts to Council Tax Benefit in England and the overall household benefits cap to be introduced in April 2013, which would otherwise have affected both pensioners and non-pensioners). Considered in isolation, this would suggest that the outlook for pensioner poverty is better than for other groups, but this will also depend very importantly on how the private income sources of pensioners evolve.

Looking beyond the current parliament, it is important to keep in mind that there may well be additional welfare cuts beyond those already announced. If the government were to stick to its plans for total public spending in the next Spending Review period whilst maintaining the current pace of real cuts to departmental spending, it would need to find an estimated extra £10.5 billion per year of welfare cuts in 2016–17 on top of those already accounted for.<sup>71</sup> If further welfare cuts did materialise, they would be likely to affect those in the bottom of the income distribution the most, and hence to increase income-based measures of poverty further.

## 4.5 Conclusion

With real incomes falling across the income distribution in 2010–11, falls in the headline measure of relative poverty in the latest year of data (500,000 measuring incomes both AHC and BHC) reflect the fact that the incomes of low-income households fell by less than median income. Using a poverty line fixed in real terms (at 60% of median income in 1996–97), absolute poverty rose by 300,000 measuring incomes AHC and by 200,000 measuring incomes BHC.

These differences do not prove that either an absolute or a relative poverty measure is better than the other. Indeed, the measures relate to different concepts of what poverty *is* – whether it is having an income that is low relative to contemporaneous average incomes, or having an income that is low in absolute terms – and one may care about one or both concepts (or, indeed, neither). If society does care about both the absolute and relative living standards of poorer households, it is important to track both absolute and relative measures of poverty.

The trends in poverty among the two groups of the population focused on in this chapter – pensioners and working-age adults without dependent children – have been remarkably different. While relative pensioner poverty has fallen in almost every year since its high in the late 1980s, relative poverty for working-age adults without dependent children has doubled or trebled since 1979 (depending on whether incomes are measured before or after deducting housing costs). At least since 1996–97, some of this difference can be attributed to the fact that whilst there were sizeable real increases in benefit entitlements for low-income pensioners, benefits for working-age adults without children were typically uprated in line with inflation, and therefore did not keep pace with increases in the relative poverty line.

Looking to 2011–12 and beyond, ongoing tax and benefit changes will reduce household incomes by proportionately more towards the bottom of the income distribution than at the median. On its own, this would imply rises in relative poverty, and indeed absolute poverty if the real incomes of low-income households fall in absolute terms. However, it is likely that the effects will be very different for different groups, with low-income pensioners expected to lose less from the benefit reforms than low-income

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<sup>71</sup> See HM Government (2012, p. 87).

working-age adults and children. It will be interesting to see whether the differences in the effects of tax and benefit reforms on different parts of the population continue to be such a good predictor of differences in poverty trends in future years as they were during the late 1990s and 2000s.

## 5. Child poverty

### Key findings

- Relative child poverty fell substantially in 2010–11. Using a poverty line equal to 60% of median income, the numbers of children living in poverty in the UK in 2010–11 were 3.6 million (AHC) and 2.3 million (BHC), down by 200,000 (1.9 percentage points) and 300,000 (2.1 percentage points) respectively since the previous year. These reductions are both statistically significant, and they leave relative child poverty at its lowest rate since 1989 (AHC) or 1984 (BHC).
- The fall in relative child poverty in 2010–11 does not reflect increases in the real incomes of low-income households with children; it was driven instead by the reduction in median income, and hence the relative poverty line. Using a poverty line fixed at 60% of 1998–99 median income, absolute child poverty was unchanged in 2010–11. Given that one presumably cares about whether incomes are rising or falling in absolute terms, this highlights that an *exclusive* focus on relative measures of poverty would be unwise: attention must also be paid to absolute measures of poverty.
- The previous government had a target of halving the number of children in relative (BHC) income poverty in the UK between 1998–99 and 2010–11, from 3.4 million to 1.7 million. We now know that this measure of child poverty fell by 1.1 million children over the period. This is by far the largest reduction since our consistent series began in 1961, but the target was still missed by the substantial margin of 600,000 children. The number of children in absolute (BHC) income poverty more than halved between 1998–99 and 2010–11, falling from 3.4 million to 1.4 million.
- Despite some role for changing parental work patterns, the reductions in income poverty among children since 1998–99 relied heavily on increases in fiscal redistribution towards low-income households with children. The poorest half of households with children are entitled to an average additional £77 per week (£4,000 per year, or 21% of net income) in net financial state support – that is, benefits and tax credits minus taxes – as a result of direct tax and benefit reforms implemented under the previous Labour governments (in current prices). This is in comparison with the situation in which Labour had simply increased benefits and direct tax thresholds in line with the public finance defaults that it inherited (which mostly means price indexation). Compared with a situation in which benefits and direct tax thresholds had been increased in line with GDP, the poorest half of households with children are entitled to an average additional £22 per week (£1,165 per year, or 5% of net income) as a result of reforms over the same period.
- The national targets for 2020–21 set in the 2010 Child Poverty Act relate exclusively to material living standards and include highly ambitious targets to reduce measures of relative and absolute income poverty among children. We know from recent experience that these measures of poverty are highly sensitive to the level of fiscal redistribution. Governments should be clear about the balance that they want to strike when considering the trade-offs associated with such redistribution: the inescapable trade-off between redistribution and financial work incentives; and the fact that money spent on benefits and tax credits is money not spent on children (or indeed other groups) in other ways, such as via education, health or social services.
- Although household incomes are likely to be a reasonable proxy for material living standards, there are other important aspects of children’s well-being and life chances that are not captured by income. The government has rightly laid out a broad-based approach to child poverty which goes well beyond the income-based measures that can be analysed using the HBAI data. At the same time, it has thus far retained the income-based 2020–21 child poverty targets that both coalition parties signed up to before entering government. There is no realistic chance that these will be met under current policies. If the government now believes that the targets are inappropriate, then it should be explicit about that, and set itself objectives that it wants to pursue. Otherwise, it needs to explain credibly how it plans to meet this commitment.

The previous government set ambitious targets relating to income poverty among children in 2010–11, on the way to the even more ambitious goal of ‘eradicating’ child poverty by 2020–21. With the data now in for 2010–11, this chapter looks back at the trends in child poverty over the last 12 years, assesses the successes and failures, and considers lessons for the future.

Section 5.1 outlines the policy background. Section 5.2 focuses specifically on the latest year of data released: it documents what happened to child poverty in the target year, analyses why this happened, compares this with our expectations and offers explanations for any differences. Section 5.3 discusses changes in the household incomes of children, and the income-based measures of child poverty, over the whole 12 years since 1998–99 (the ‘base’ year for the 2010–11 targets). Section 5.4 analyses the reasons why child poverty fell substantially over those 12 years, and why the relative income measures did not fall by the even greater amount that would have been required to meet the 2010–11 target. Section 5.5 considers the likely path of income-based measures of child poverty in the future. Section 5.6 looks beyond income-based measures of poverty, discussing the different ways that one can think about child poverty in the context of both the 2020–21 income-based child poverty targets and the much broader set of objectives set out in the current government’s Child Poverty Strategy.<sup>72</sup> Section 5.7 concludes.

Unless otherwise stated, the focus in this chapter is on incomes measured before deducting housing costs (BHC), because the 2010–11 and 2020–21 child poverty targets were set in relation to BHC incomes.

## 5.1 Policy background

In March 1999, the Labour government announced a target to ‘eradicate’ child poverty by 2020–21.<sup>73</sup> Interim targets were put in place for 2004–05 and 2010–11. The first interim target was for the number of children in relative income poverty in Britain to be one-quarter lower than its 1998–99 level in 2004–05, which was narrowly missed. The second interim target was for the number of children in poverty in the UK to be one-half of its 1998–99 level in 2010–11, this time using three definitions of poverty: a relative low income indicator, an absolute low income indicator and a combined relative low income and material deprivation indicator. The relative low income indicator used a poverty line of 60% of median household BHC income; the absolute low income indicator used a poverty line of 60% of the 1998–99 BHC median (in real terms); and the combined relative low income and material deprivation indicator classified a child as being in poverty if its household BHC income is below 70% of the median and it is materially deprived (as determined by answers to a series of questions about what its family can afford to do).

The nature and status of the 2010–11 targets changed somewhat over time. First, it was clear by the early 2000s that the target level of child poverty according to the absolute low income indicator was set to be achieved several years in advance of 2010–11, so the government stated a desire to ‘make further progress so that there are fewer than 1 million children in absolute low income by 2010–11, compared with 3.4 million in 1998–99’.<sup>74</sup> Second, although the 2007 Comprehensive Spending Review included a Public Service Agreement relating to child poverty which confirmed the continuing use of all three poverty indicators, only the relative low income indicator was actually retained as part of a national target from that point on (the target was, as before, to halve it between 1998–99 and 2010–11).

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<sup>72</sup> HM Government, 2011.

<sup>73</sup> This was announced in Tony Blair’s 1999 Beveridge lecture, available at <http://www.bris.ac.uk/poverty/downloads/background/Tony%20Blair%20Child%20Poverty%20Speech.doc>.

<sup>74</sup> See page 5 of the technical notes accompanying a Public Service Agreement for 2005–2008 set at the 2004 Comprehensive Spending Review, published by DWP and available at <http://www.dwp.gov.uk/docs/tech-note-2005-2008.pdf>.

The Child Poverty Act (2010) commits the government to the ‘eradication’ of child poverty by 2020. In addition to the three measures of child poverty already mentioned, an indicator of ‘persistent’ poverty will also be used for the 2020 targets. This classifies a child as being in poverty if it is in relative income poverty for at least three out of four consecutive calendar years.

Reducing income poverty among children to zero is probably infeasible, for at least three reasons: incomes are volatile in the short run, so there will always be some people with very low incomes at any point in time – for example, due to self-employment losses or transition between jobs (clearly this applies less to the persistent poverty target); survey data are always subject to misreporting and the Family Resources Survey under-records benefit and tax credit receipt;<sup>75</sup> and take-up rates for means-tested benefits and tax credits are unlikely ever to be 100%. Thus, the Act targets a rate of relative income child poverty of 10%, with the rationale that it would be a level comparable to the lowest in Europe (it would also be lower than that achieved in the UK at any time since at least 1961). The target rates for the absolute low income indicator and the combined relative low income and material deprivation indicator are 5% (the absolute low income line is to be rebased so that it is equal to 60% of the 2010–11 median in real terms). The target rate of persistent poverty has yet to be set.

The Child Poverty Act also required the government to set out (and subsequently update) a strategy to meet the targets. In April 2011, the government published its first Child Poverty Strategy,<sup>76</sup> covering the period between 2011 and 2014. This included the definition of a new (partly) income-based measure of severe poverty, alongside a suite of ancillary indicators ranging from measures of educational participation and achievement to birth weight to the number of teenage pregnancies. This broad range of new indicators reflected the government’s argument that poverty is ‘about far more than income’ and its concern that a focus on the ‘symptoms’ as opposed to ‘causes’ of poverty had led to poor policymaking and poor outcomes. Nevertheless, these new indicators were introduced to supplement rather than replace the existing income-based child poverty targets that all three main UK political parties had signed up to one year earlier. The information provided by the HBAI data relates to income-based measures of child poverty, which we analyse in detail in this chapter. But Section 5.6 sets all this in its important wider context, commenting on the government’s broader child poverty strategy and on how the income-based targets fit into this.

## 5.2 Child poverty in 2010–11

In Chapter 2, we saw that, in 2010–11, median income (and hence the relative poverty line) fell substantially as the delayed effects of the recession on real incomes began to bite. In Chapter 3, we saw that falls in real income were somewhat smaller towards the bottom of the income distribution than at the median. Hence, the historical tendency for relative measures of poverty to decline during recessions despite a general stagnation or decline in absolute living standards<sup>77</sup> has emerged again, as shown in Chapter 4. As we shall see in this section, this was particularly true for children in 2010–11.

On a relative low income basis, using a poverty line equal to 60% of median income, the numbers of children living in poverty in the UK in 2010–11 were 3.6 million (AHC) and 2.3 million (BHC), down by 200,000 (1.9 percentage points) and 300,000 (2.1 percentage points) respectively since the previous year. These reductions are both statistically significant, and they leave relative child poverty at its lowest

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<sup>75</sup> See Appendix D of this Commentary and appendix C of Brewer, Muriel, Phillips and Sibieta (2008).

<sup>76</sup> HM Government, 2011.

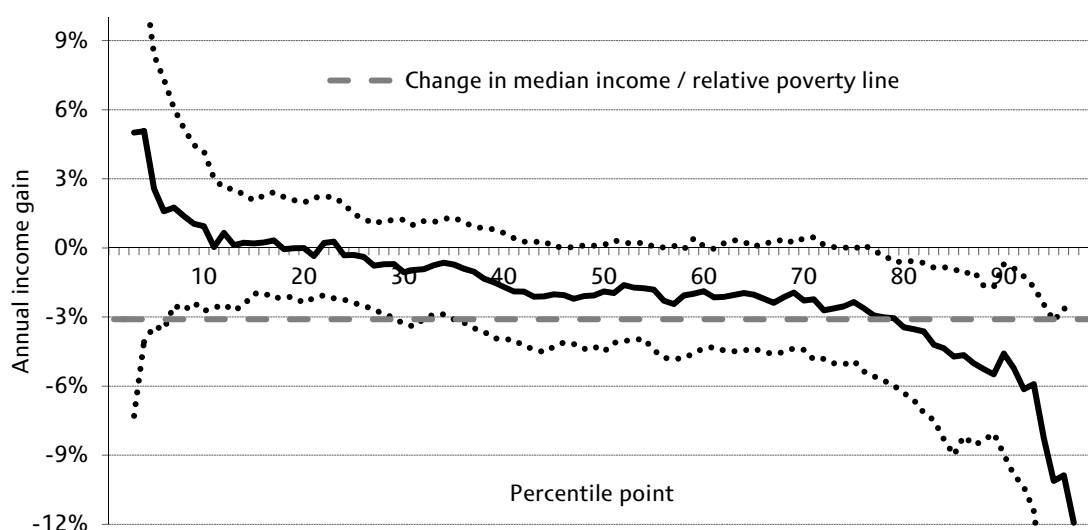
<sup>77</sup> Muriel and Sibieta, 2009.

rate since 1989 (AHC) or 1984 (BHC). The combined relative low BHC income and material deprivation<sup>78</sup> indicator tracked by the government (which uses a 70%-of-median low income line) fell by 200,000 children, and this reduction was also statistically significant. On an absolute low income basis, changes in child poverty in 2010–11 were negligible and not statistically significant. This means that, of the three 2010–11 child poverty targets originally set by the Labour government, only the absolute low income target was met (by a margin of 300,000 children). The relative low income and combined relative low income and material deprivation targets were both missed by the substantial margin of 600,000 children,<sup>79</sup> despite the reductions in these measures in 2010–11. The progress towards the targets over the past 12 years is analysed in detail in Section 5.3.

To uncover in detail the income changes underlying the changes in child poverty rates in 2010–11, Figure 5.1 shows real year-on-year growth at each percentile point in the children’s household (BHC) income distribution in 2010–11, together with 95% confidence intervals (shown by the dotted lines). It shows that, across almost 80% of the distribution of children, household income changes in 2010–11 were not statistically significant. This stands in stark contrast to the pattern across the population as a whole, for which income changes were negative and statistically significant across the majority of the distribution (see Chapter 3). But, as for the population as a whole, household incomes generally performed better lower down the distribution (i.e. the line slopes downwards).

Crucially for income poverty measures, the central estimates of income growth in 2010–11 are extremely close to zero between the 10<sup>th</sup> and 30<sup>th</sup> percentile points. This reveals that the fall in relative child poverty

Figure 5.1. Real BHC income growth by percentile point among children, 2009–10 to 2010–11 (UK)



Notes: The changes in income at the 1<sup>st</sup>, 2<sup>nd</sup>, 98<sup>th</sup> and 99<sup>th</sup> percentiles are not shown on this graph due to very high levels of statistical uncertainty. The dotted lines show 95% confidence intervals. Incomes have been measured before housing costs have been deducted.

Source: Authors’ calculations using Family Resources Survey, 2009–10 and 2010–11.

<sup>78</sup> New material deprivation items have been added to the FRS (see Chapter 6 for details, and for comparisons between measures using the old and new items), but in this chapter, as in HBAI, we continue to analyse material deprivation as measured using the original items to allow for consistent comparisons over time.

<sup>79</sup> But note that the absolute low income target was made more ambitious after early progress towards the original target proved to be very rapid – and this more ambitious target was missed – and that only the relative low income indicator was actually retained as part of a national target after the 2007 Comprehensive Spending Review. See Section 5.1 for fuller explanation.

Table 5.1. Decomposition of the fall in relative child poverty (BHC) in the UK, 2009–10 to 2010–11, by family type and work status

	Child poverty rate (%)		Fraction of child population (%)		Compositional effect (ppts)	Incidence effect (ppts)	Total change in poverty rate (ppts)
	2009–10	2010–11	2009–10	2010–11			
<b>Lone parents</b>							
Full-time	8.7	9.6	5.9	6.0	0.0	0.1	0.9
Part-time	15.8	13.0	6.2	6.0	0.0	-0.2	-2.8
Workless	43.7	33.7	11.0	11.1	0.0	-1.1	-10.0
<b>Couples with children</b>							
Self-employed	23.4	23.5	11.8	12.8	0.0	0.0	0.1
Two full-time earners	3.1	2.3	16.1	16.3	0.0	-0.1	-0.8
One full-time, one part-time	3.9	4.4	21.2	21.6	-0.1	0.1	0.6
One full-time, one not working	18.8	17.9	16.9	16.2	0.0	-0.1	-0.9
One or two part-time	48.4	43.1	4.5	4.3	0.0	-0.2	-5.3
Workless	61.4	58.4	6.4	5.7	-0.3	-0.2	-3.1
<b>All children</b>	19.7	17.5	100	100	-0.3	-1.8	-2.1

Note: Poverty rates are measured as the percentage of the group with income below 60% of the population-wide BHC median income.

Source: Authors' calculations based on Family Resources Survey, 2009–10 and 2010–11.

in 2010–11 was due almost entirely to the 3.1% reduction in median income (and hence the relative poverty line), rather than real-terms growth in the incomes of low-income households with children.

To investigate the drivers of the reduction in relative child poverty in 2010–11, Table 5.1 presents a decomposition analysis. Children are split into a number of groups, based here on the type of family they live in and the work status of their parents. The overall change in child poverty is then decomposed into the effects of changes in poverty rates within groups ('incidence effects') and the effects of changes in the distribution of children across groups ('compositional effects').

The table shows that the change in relative child poverty in 2010–11 was driven almost entirely by changes in poverty risk *within* particular family types and work statuses (incidence effects), rather than by changes in the proportion of children living in families of different types with different work patterns (compositional effects). The major statistical drivers are reductions in poverty rates for children living in families with no full-time workers. In particular, the relative poverty rate among children of workless lone parents fell by 10 percentage points in the 2010–11 HBAI data, and this accounts for more than half of the measured overall reduction in relative child poverty in that year. This is very suggestive evidence that trends in real benefit and tax credit incomes are the key reason why the 2010–11 HBAI data show the incomes of low-income families with children tending to fall by substantially less than median income in 2010–11.

One compositional change acting to reduce child poverty in 2010–11 is a reduction in the number of children living with workless couples. As is typical of one-year changes in work patterns, the measured change is not large (and the changes in poverty risk for certain kinds of children, discussed above, were

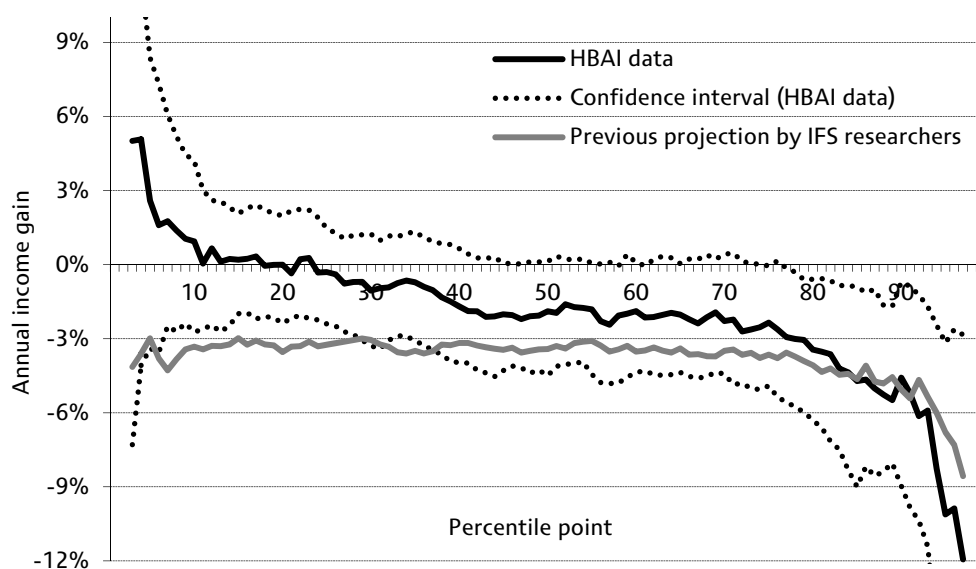


far more important in driving the reduction in child poverty). But the same trend is detectable in the Labour Force Survey,<sup>80</sup> which suggests that this is likely to reflect a real change rather than simply random sampling variation in the survey data. It will be interesting to see whether this continues in future years, particularly given that the government has declared a desire to reduce the number of children living in workless households in its Child Poverty Strategy.<sup>81</sup>

### Comparing the changes in child poverty in 2010–11 with past projections

IFS researchers had predicted that median incomes would fall in 2010–11 and that this would partly drive a fall in relative child poverty.<sup>82</sup> As discussed in Chapter 2, the predicted fall in median income was 3.7%, which is not dramatically different from the point estimate of 3.1% recorded in the HBAI data (and well within the statistical confidence interval). However, the *magnitude* of the reduction in relative child poverty recorded in the HBAI data is larger than the researchers had expected. Based upon what was known about tax and benefit policy and (from other data sources) labour market and demographic trends in 2010–11, it had been estimated that relative child poverty would fall by 0.6 percentage points, rather than the 2.1 percentage points recorded in the HBAI data. This suggests that the incomes of low-income households with children performed somewhat better (according to the HBAI series) in absolute terms than had been anticipated. Figure 5.2 confirms this, by comparing household income growth across the distribution of children recorded by the HBAI data in 2010–11 (which was shown in Figure 5.1) with the simulated pattern of household income growth among children underlying the child poverty projections produced in Joyce (2012). The simulated data and HBAI data are very similar in approximately the top 20% of the distribution, and quite similar throughout the top half, where simulated income growth is well within the statistical confidence interval for HBAI-measured income growth. But more notable differences emerge in the bottom half of the distribution.

Figure 5.2. Real BHC income growth by percentile point among children, 2009–10 to 2010–11 (UK): comparing the HBAI data with previous projection by IFS researchers



Notes: The changes in income at the 1<sup>st</sup>, 2<sup>nd</sup>, 98<sup>th</sup> and 99<sup>th</sup> percentiles are not shown on this graph due to very high levels of statistical uncertainty. Incomes have been measured before housing costs have been deducted.

Source: Based on Joyce (2012) and authors' calculations using Family Resources Survey, 2009–10 and 2010–11.

<sup>80</sup> See <http://www.poverty.org.uk/18/index.shtml>.

<sup>81</sup> HM Government, 2011.

<sup>82</sup> Joyce, 2012.

Why do the HBAI data show such benign income trends among the lowest-income families with children in 2010–11? The decomposition analysis above showed clearly that the large reduction in relative child poverty in 2010–11 was driven by changes in poverty risk for children in families without full-time workers (and children of workless lone parents in particular). It is therefore important to examine the evolution of benefit and tax credit income, as these are the major income components for most such families.

Table 4.3 in Chapter 4 showed cash growth in benefit and tax credit entitlements in 2010–11 to be around 2% for three example families with children likely to be below or close to the poverty line (a workless couple with three children, a workless lone parent with one child, and a part-time working lone parent with one child). These rises in entitlement were barely enough to keep pace with the rise in the relative BHC poverty line, which rose by 1.8% in cash terms. There have been many years in recent history in which rises in benefit and tax credit entitlements for families with children far exceeded growth in the poverty line, and changes in benefit and tax credit entitlements relative to the poverty line have hitherto been an extremely strong predictor of changes in relative poverty (see Section 5.4). The prediction by IFS researchers that low-income families with children would improve their position relative to middle-income families by only a relatively modest amount in 2010–11 (i.e. that relative child poverty would fall only slightly) therefore seems to follow quite straightforwardly from the fact that the real falls in benefit and tax credit entitlements for low-income families with children in 2010–11 were quite similar to measured falls in real earnings (which are very important for households at around median income) in that year. Despite this, the recorded fall in the relative child poverty rate in the 2010–11 HBAI data is as large as in any year since 2000–01.

With this in mind, it is important to examine the growth in benefit and tax credit income recorded in the HBAI data in 2010–11, to see whether it is consistent with the growth in that income recorded in administrative data from HM Revenue and Customs and the Department for Work and Pensions. Appendix D does this, and shows that HBAI records higher growth (4.5% in nominal terms) in total benefit and tax credit income than the administrative data (3.6% in nominal terms) in 2010–11. However, it also shows that this discrepancy is by no means large by historical standards. Differences from year to year are to be expected due to random sampling variation in the underlying survey data, as well as possible fluctuations in the survey's ability to correctly record the benefit and tax credit income of those who are sampled. In recent history, the FRS has been getting progressively worse at recording benefit and tax credit receipt, so 2010–11 reverses this trend and it is possible that this reflects an improvement in the capturing of benefit and tax credit income in the survey.

But when looking specifically at households with children, it makes sense to focus on growth in working-age benefits and tax credits. Excluding the Basic State Pension and Pension Credit, the discrepancy between HBAI and the administrative data is a little larger: HBAI records nominal growth of 5.4% in 2010–11 and the administrative data record nominal growth of 3.3%. Particular cases driving these overall discrepancies are Disability Living Allowance (on which nominal spending grew by 16.4% according to the HBAI series but just 4.0% according to administrative data) and tax credits (where the respective growth rates were 7.3% and 4.8%).<sup>83</sup> This is significant, as most expenditure on tax credits goes to low-income families with children. All in all, the higher-than-expected growth in benefit and tax credit income recorded in HBAI does seem very likely to be an important factor in explaining why measured relative child poverty fell by more in 2010–11 than IFS research had suggested was likely.

In summary, relative child poverty fell substantially in 2010–11. This reflects the fact that, although the real percentage fall in median income (3.1%) was the largest since 1981, the real incomes of low-income households with children were largely unchanged. Consequently, absolute child poverty was also

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<sup>83</sup> Data sources for all of these numbers are as for Figure D.1 in Appendix D.

virtually unchanged. The direction of the change in relative child poverty was as expected, but the size of the reduction exceeded expectations. The likely reasons for this, discussed above, serve to highlight the inevitable uncertainty surrounding survey-based projections (as IFS researchers have repeatedly emphasised) as well as the need to avoid placing too much emphasis on changes observed in a single year's survey data. Finally, although the fall in relative child poverty in 2010–11 was large, it was not nearly enough to meet the 2010–11 target.

### 5.3 Child poverty since 1998–99

We now put the 2010–11 HBAI data in the context of the 2010–11 child poverty targets set by the previous Labour government in 1998–99 and of the changes in child poverty seen over the intervening 12 years.

#### Income-based child poverty indicators used by the government

Table 5.2 tracks the evolution of child poverty according to the three income-based indicators used by the previous government, all of which are also tracked by the current government under its obligations laid down in the 2010 Child Poverty Act. Three main points stand out. First, these measures of child poverty have fallen substantially over the period since 1998–99: by 1.1 million children (8.6 percentage points) according to the relative low income indicator; by 2.1 million children (15.6 percentage points) according

Table 5.2. Progress towards halving child poverty in the UK by 2010–11

	<i>Relative low income</i>		<i>Absolute low income</i>		<i>Material deprivation and relative low income</i>	
	%	Million	%	Million	%	Million
1998–99	26.1	3.4	26.1	3.4	20.8	2.6
1999–00	25.7	3.4	23.5	3.1		
2000–01	23.4	3.1	19.1	2.5		
2001–02	23.2	3.0	15.2	2.0		
2002–03	22.6	2.9	14.1	1.8		
2003–04	22.1	2.9	13.7	1.8		
2004–05	21.3	2.7	12.9	1.7	17.1	2.2
2005–06	22.0	2.8	12.7	1.6	16.3	2.1
2006–07	22.3	2.9	13.1	1.7	15.6	2.0
2007–08	22.5	2.9	13.4	1.7	17.2	2.2
2008–09	21.8	2.8	12.3	1.6	17.1	2.2
2009–10	19.7	2.6	10.8	1.4	15.8	2.1
2010–11	17.5	2.3	10.6	1.4	14.5	1.9
<b>Original 2010–11 target</b>	<i>n/a</i>	<b>1.7</b>	<i>n/a</i>	<b>1.7</b>	<i>n/a</i>	<b>1.3</b>
<b>Shortfall against target</b>	<i>n/a</i>	<b>0.6</b>	<i>n/a</i>	<b>-0.3</b>	<i>n/a</i>	<b>0.6</b>
<b>Change since 1998–99</b>	<b>-8.6</b>	<b>-1.1</b>	<b>-15.6</b>	<b>-2.1</b>	<b>-6.3</b>	<b>-0.7</b>

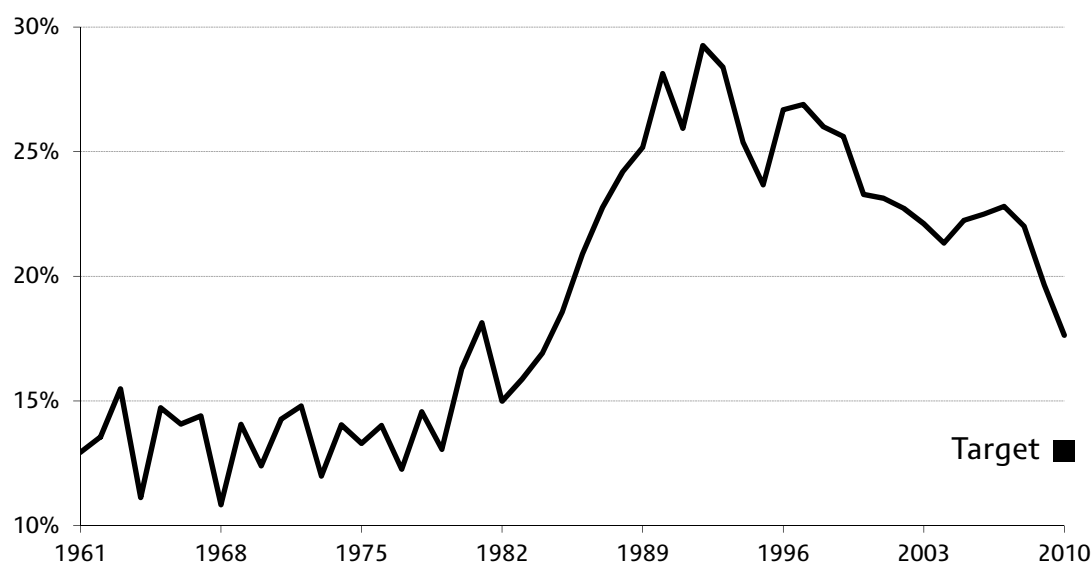
Notes: Incomes are measured before housing costs have been deducted and are equivalised using the modified OECD equivalence scale. The relative low income threshold is 60% of median income, and the absolute low income threshold is 60% of the 1998–99 median (adjusted for inflation). For the combined indicator of material deprivation and relative low income, the relative low income threshold is 70% of median income. For the purposes of the child poverty target in 2010–11, DWP has had to estimate the level of relative child poverty in the UK in 1998–99 (Northern Ireland was first included in the official HBAI series in 2002–03). Sources: Authors' calculations based on Family Resources Survey, various years. UK poverty levels for years 1998–99 to 2001–02 draw on DWP's imputed estimates of poverty levels in Northern Ireland over this period (Department for Work and Pensions, 2012).

to the absolute low income indicator; and by 700,000 children (6.3 percentage points) according to the combined relative low income and material deprivation indicator.

Second, despite the large reductions in child poverty, only the original absolute low income target was met. The other two original targets were both missed by the substantial margin of 600,000 children.<sup>84</sup> In other words, the real incomes of low-income households with children increased substantially (allowing the absolute poverty target to be met), and by considerably more than those of middle-income households (which determine the relative poverty line), but the gap between low-income households with children and middle-income households was still not reduced by enough to meet all the challenging targets set.

Third, the 12 years between 1998–99 and 2010–11 can be viewed as three quite distinct ‘sub-periods’ for child poverty. The period between 1998–99 and 2004–05 saw rapid and large reductions in child poverty. In fact, the absolute low income indicator of child poverty was halved over this six-year period, falling by 1.8 million children, meaning that it was already at its originally targeted 2010–11 level by 2004–05; and the relative low income indicator fell by 700,000 children, missing the interim 2004–05 target only narrowly.<sup>85</sup> But the period between 2004–05 and 2007–08 saw progress on all three of the indicators stall or go into reverse (although the precise turning point differed slightly across the three measures). By 2007–08, it had become clear that neither the relative low income indicator nor the combined relative low income and material deprivation indicator was likely to be halved from their 1998–99 levels by 2010–11: for example, the number of children in poverty according to the relative low income indicator would have needed to fall by an average of 400,000 per year between 2007–08 and 2010–11, having fallen by an average of 60,000 per year over the previous nine years. Nevertheless, 2007–08 did turn out to be a second turning point. All three of the indicators fell in the subsequent three years, with a particularly sharp fall in the relative low income indicator resulting from the large fall in median income (and hence the relative poverty line) in 2010–11 (see Section 5.2).

Figure 5.3. Relative child poverty rates since 1961 (GB)



Notes: Poverty line is 60% of median income. Years up to and including 1992 are calendar years; thereafter, years refer to financial years. Incomes are measured before housing costs have been deducted (BHC) and equivalised using the modified OECD equivalence scale.

Sources: Authors' calculations based on Family Expenditure Survey and Family Resources Survey, various years.

<sup>84</sup> See footnote 79.

<sup>85</sup> See Brewer, Goodman, Shaw and Sibieta (2006) for analysis of why this first interim target was missed.

These points are all evident from Figure 5.3, which places the changes in relative income poverty among children in historical context by showing the time series back to 1961 (for Great Britain only, to allow consistent comparisons over time). It shows that the recent reductions in this measure of child poverty are unprecedented since our consistent time series began, and this has gone much of the way to returning relative child poverty to the kinds of levels around which it fluctuated throughout the 1960s and 1970s, before the sharp rises in relative poverty and inequality in the 1980s.

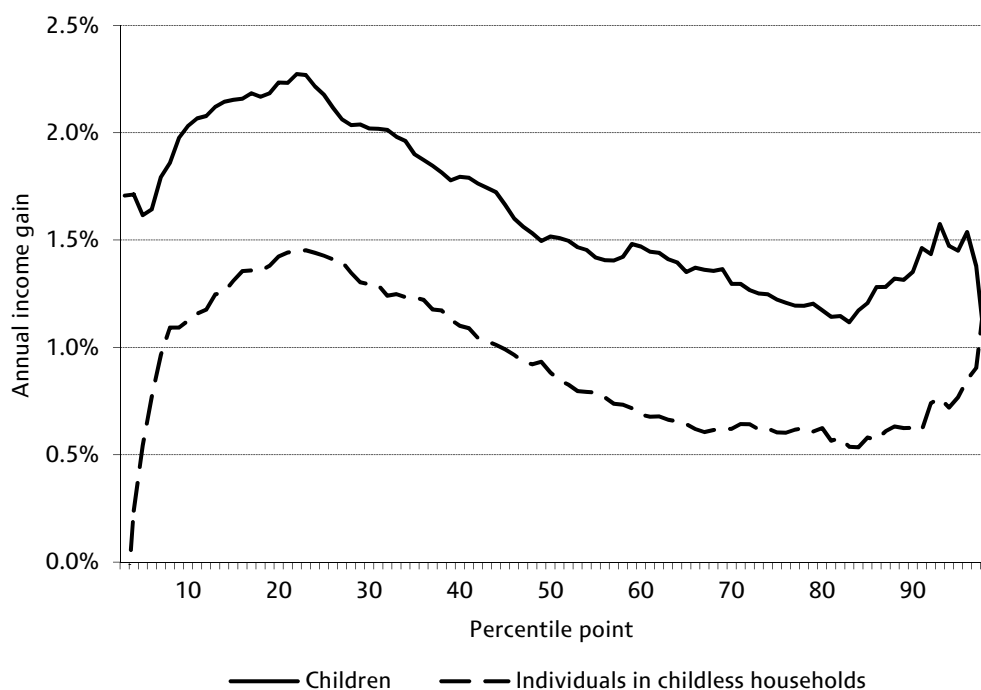
### Changes in the distribution of household income among children

The HBAI data allow us to look beyond specific measures of child poverty, such as those tracked explicitly by the previous government, and to consider more generally how the household incomes of children have changed in absolute and relative terms.

Figure 5.4 presents real household income growth between 1998–99 and 2010–11 right across the distribution of children (ranked by household income) in Great Britain. Household incomes among children have clearly grown in real terms over this period, not just for a narrow subset but right across the distribution: all the changes shown are statistically significant. Generally speaking, income growth was higher towards the bottom of the distribution and was thus inequality-reducing. The exceptions are in the bottom 20% and the top 20% of the distribution, where income growth was increasing in income. However, it is still true to say that household income growth was higher in the bottom 20% of the distribution than across the rest of the distribution.

For comparison, the graph also shows real household income growth over the same period across the distribution of individuals in childless households. This highlights two further interesting points. First, the distributional pattern of changes in household incomes between 1998–99 and 2010–11 for individuals in

Figure 5.4. Average annual real household income growth by percentile point, among children and individuals in childless households, 1998–99 to 2010–11 (GB)



Notes: The changes in income at the 1<sup>st</sup>, 2<sup>nd</sup> and 99<sup>th</sup> percentiles are not shown on this graph due to very high levels of statistical uncertainty. Incomes have been measured before housing costs have been deducted.

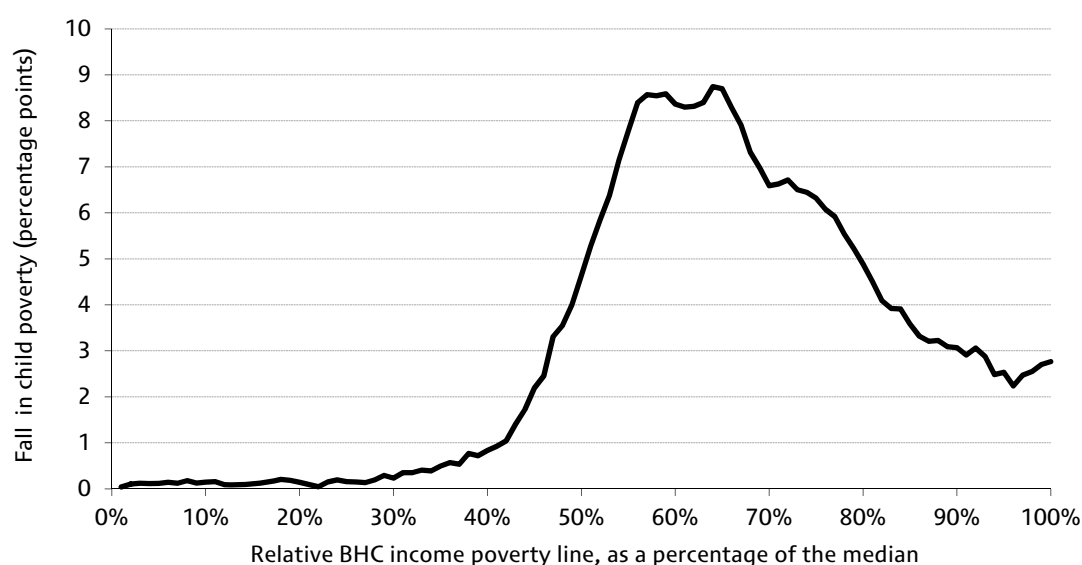
Source: Authors' calculations using Family Resources Survey, 1998–99 and 2010–11.

childless households was very similar to the pattern among children (except at the extremes of the distribution). Second, the magnitude of real income growth for individuals in childless households was smaller than that for children when comparing similar points in the two distributions.<sup>86</sup> This highlights the general ‘premium’ in household income growth experienced by children over the period. Figure 4.3 in Chapter 4 suggested that tax and benefit reforms played a key part in this, as they tended to favour families with children relative to working-age households without children across the income distribution.

The only notable differences between the two patterns of income growth are at the top and bottom of the distributions. This suggests that the increase in inequality between the very richest and very poorest individuals that was documented in Chapter 3 was driven by individuals in childless households.

Having documented trends in absolute incomes, Figure 5.5 comprehensively explores changes in the *relative* incomes of low-income households with children in Great Britain. It does this by showing the reductions in relative child poverty between 1998–99 and 2010–11, not just for the headline relative poverty line of 60% of median income but for all relative poverty lines ranging from 1% to 100% of median income.

Figure 5.5. Reduction in relative child poverty between 1998–99 and 2010–11 using various poverty lines (GB)



Note: Incomes have been measured before housing costs have been deducted.

Source: Authors' calculations using Family Resources Survey, 1998–99 and 2010–11.

The graph shows an increase in the relative incomes of low-income households with children that is far more general than an improvement merely for those around the poverty line of 60% of median income that was used for the 2010–11 target. For example, child poverty would have fallen by more than 4 percentage points over this period using any poverty line between 49% and 82% of the median.

Changes in child poverty would have been negligible using relative poverty lines equal to 40% of median income or less. But IFS researchers have argued previously<sup>87</sup> that these are poor measures of ‘severe poverty’, because of their high sensitivity to incomes at the very bottom of the income distribution, where

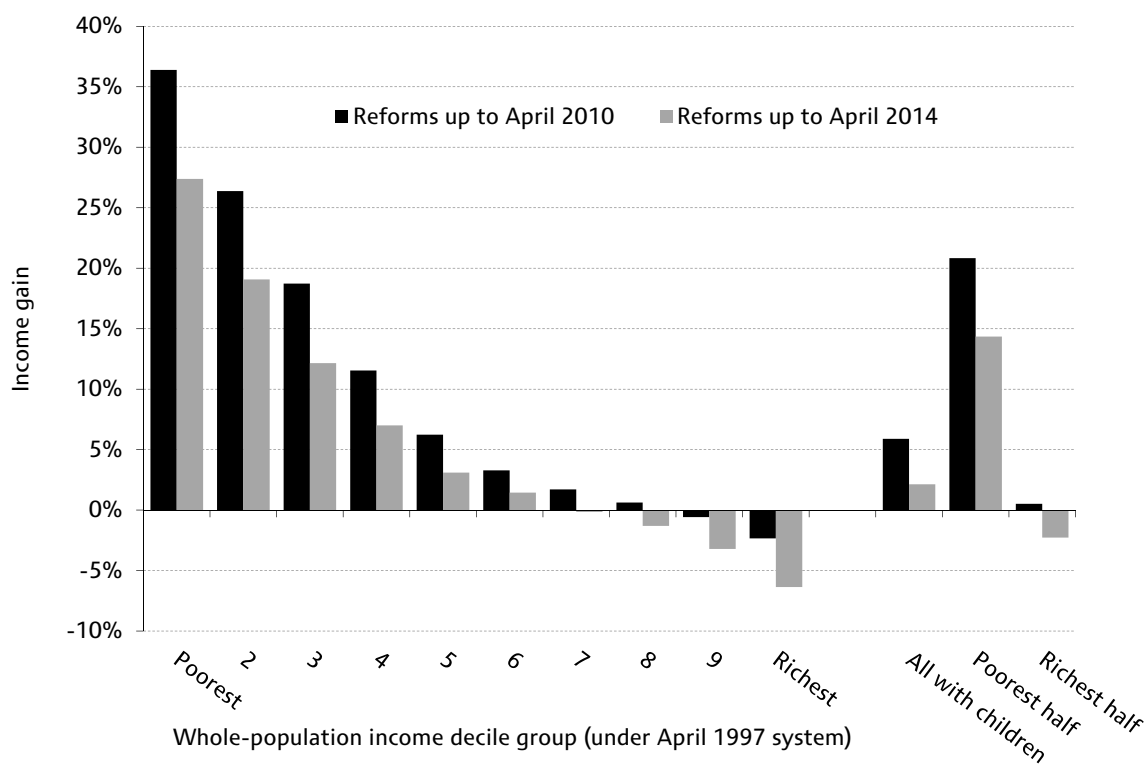
<sup>86</sup> Note that, since the distributions of household income among children and among individuals in childless households are different, the same percentile points of each distribution do not correspond to exactly the same absolute income levels.

<sup>87</sup> Brewer, Phillips and Sibieta, 2010.

incomes are particularly likely to be measured with error or to be low only temporarily. Indeed, children whose household income is less than 40% of the median are, on average, *less* materially deprived than those whose household income is between 40% and 60% of the median (see Figure 6.3 in Chapter 6).

Is there evidence that policymakers were only targeting a narrow subset of children just below the chosen 60%-of-median poverty line? It is true to say that the reductions in relative child poverty between 1998–99 and 2010–11 were *particularly* large when using poverty lines around the 60%-of-median line chosen by the government to form the 2010–11 relative low income target. (The poverty line that would have maximised the reduction in relative child poverty over this period is in fact 64% of median income.) It is much less clear that this was the deliberate result of policies that were intended to reduce child poverty using *only* one specific poverty line, however. Figures 5.6 and 5.7 show the effects of direct tax and benefit reforms<sup>88</sup> implemented between April 1998 – these were the first direct tax and benefit

Figure 5.6. Distributional impact among households with children of direct tax and benefit reforms introduced between April 1998 and April 2010 or April 2014, compared with public finance default uprating

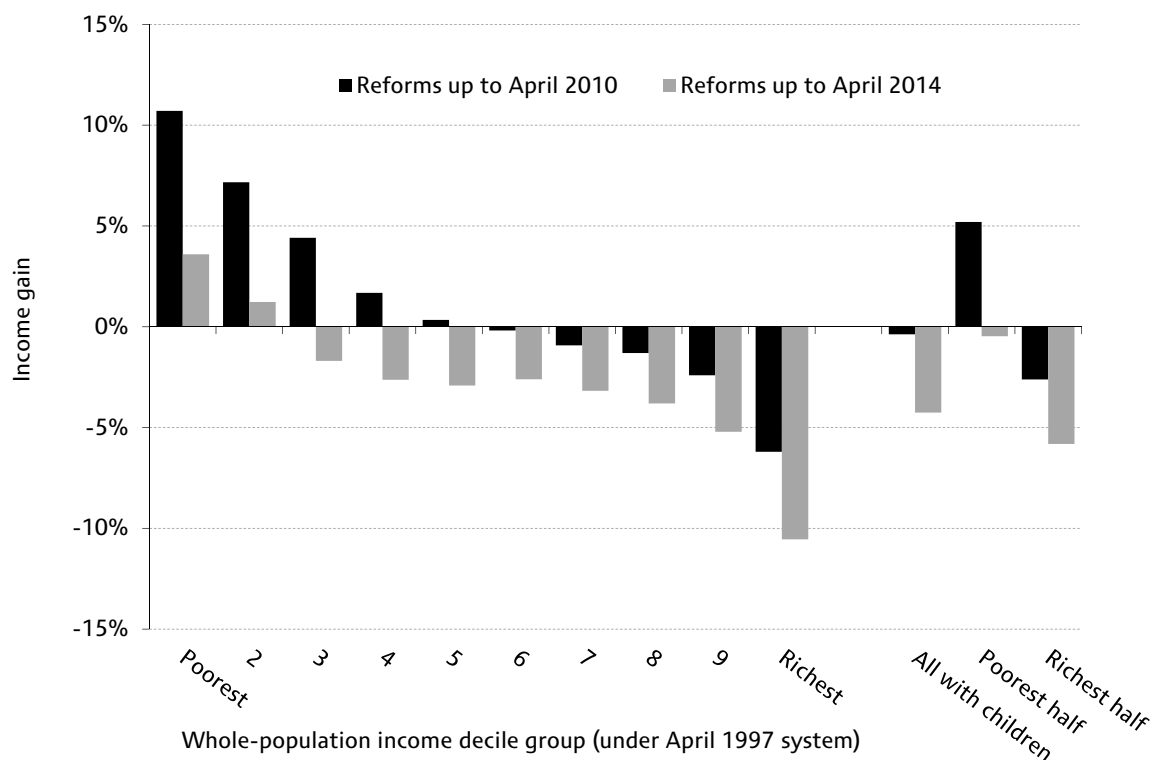


Notes: The base system that the April 2010 and April 2014 systems are compared with is the April 1997 system Labour inherited. The first reforms to direct taxes and benefits by Labour were implemented in April 1998. Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 1997 tax and benefit system according to income adjusted for household size using the modified OECD equivalence scale. Decile group 1 contains the poorest tenth of the population, decile group 2 the second poorest, and so on up to decile group 10, which contains the richest tenth. Assumes full take-up of means-tested benefits and tax credits.

Source: Authors' calculations using TAXBEN, the IFS tax and benefit microsimulation model, run on updated 2009–10 Family Resources Survey data. Analysis ignores Universal Credit, which is being rolled out nationally from October 2013 but is not due to be complete until the end of 2017, and the introduction of (and subsequent change to) the additional marginal rate of income tax.

<sup>88</sup> Indirect tax reforms are ignored: they have direct effects only on income *levels* here (not on the measured *distribution* of income), because HBAI-measured incomes are deflated using economy-wide price indices. The impacts of changes to other non-personal taxes, such as corporation tax, are also excluded, on the basis that their effects cannot be accurately allocated to particular households (although they must ultimately affect households). Changes to these taxes were a net 'takeaway' under Labour, so *on average* Figures 5.6 and 5.7 probably overstate the gains from all tax and benefit changes between April 1997 and April 2010 (unless the incidence of those changes was very heavily skewed towards households without children, which seems unlikely).

Figure 5.7. Distributional impact among households with children of direct tax and benefit reforms introduced between April 1998 and April 2010 or April 2014, compared with GDP uprating



Notes and source: As for Figure 5.6.

reforms to be implemented under the previous Labour governments – and April 2010 on *entitlements* to benefits and tax credits (and liabilities to direct tax) among families with children. It is clear from the graphs that the largest gainers as a percentage of income were those who would have been in the bottom income decile group without those reforms. This remains true if we include the current government's planned reforms up to April 2014. It is also true whether 'no reform' is taken to mean that benefit and tax parameters are increased in line with the public finance defaults that were inherited by the previous Labour government or if it is taken to mean that those parameters are increased in line with GDP.<sup>89</sup> If the government were only targeting those children close to its chosen poverty line, we might expect to see the largest gains in entitlements in the second and third income decile groups.

But this begs a further question: why, given such rapidly increasing benefit entitlements, did incomes towards the very bottom of the income distribution not rise faster and poverty measured using the lowest poverty lines not fall faster? One reason is that many of the lowest-income households with children are those who are not *claiming* state support to which they are entitled. Another reason is that many of the households with the lowest recorded incomes appear either to have had their incomes measured incorrectly or to have low incomes only temporarily (strong evidence for this comes from the material deprivation levels of children on the lowest recorded incomes – see above). As a result, it was probably much harder to make inroads into poverty rates using poverty lines below about 40% of the median (and,

<sup>89</sup> The rationale for the GDP-uprating baseline is that it keeps benefit rates and tax revenues relative to national income approximately constant, whereas under the public finance defaults (which mostly imply benefit and tax parameters rising in line with prices), benefit rates would tend to decrease and tax revenues would tend to increase indefinitely relative to national income.



as mentioned, IFS researchers have argued that these are poor measures of 'severe poverty' in any case).<sup>90</sup>

Figure 5.4 provided further support for this explanation. It showed that the pattern of household income growth across the distribution of children was very similar over this period to the pattern observed among individuals in childless households. This indicates deeper underlying reasons for this pattern of income changes than the deliberate targeting of a small group of children around the government's chosen poverty line.

In summary, income-based measures of child poverty have fallen very substantially in recent years. Using the previous government's preferred indicators, child poverty fell between 1998–99 and 2010–11: by 1.1 million children (8.6 percentage points) according to the relative low income indicator; by 2.1 million children (15.6 percentage points) according to the absolute low income indicator; and by 700,000 children (6.3 percentage points) according to the combined relative low income and material deprivation indicator. Despite this, the government met only one of the three child poverty targets that it had originally set for 2010–11: the absolute low income target was met by a margin of 300,000 children, but the relative low income and combined relative low income and material deprivation targets were both missed by the substantial margin of 600,000 children. In the next section, we discuss what was driving the changes in child poverty over this period.

## **5.4 Why did child poverty fall between 1998–99 and 2010–11, and why did it not fall by more?**

This section discusses the drivers of changes in child poverty since 1998–99. The focus here is on the relative low income indicator of child poverty, which is the exclusively income-based target originally set by the previous Labour government that was missed.<sup>91</sup> We therefore pay attention both to why it fell substantially and to why it did not fall by enough to meet the government's target.

### **Which groups of children drove overall changes in child poverty?**

We first present some simple decomposition analyses to reveal the groups of children that have been the statistical drivers of the overall reduction in child poverty since 1998–99. In each case, the principle behind the decompositions is the same as in Table 5.1. Children are split into a number of groups based on their family's characteristics, and the overall change in child poverty is then decomposed into the effects of changes in poverty rates within groups ('incidence effects') and the effects of changes in the distribution of children across groups ('compositional effects'). As we are now looking back beyond 2002–03 – when Northern Ireland was first included in the HBAI series – we focus on Great Britain only, so that the analysis can be conducted on a consistent basis over time.

Tables 5.3 to 5.5 show that falls in relative poverty between 1998–99 and 2010–11 in Great Britain were particularly concentrated on children in lone-parent families, children in large families and young children (or, more precisely, children in families with young children). The risk of relative poverty fell by a huge 23.5 percentage points for children in lone-parent families, by 16.1 percentage points for children in families with at least three children and by 11.9 percentage points for children in families where the

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<sup>90</sup> There are also good reasons to expect poverty rates to generally fall by less using poverty lines closer to 100% of the median. Among the population as a whole, the relative poverty rate using a 100%-of-median poverty line is, by definition, fixed at 50% (i.e. it can never change). If a child moves from below the median to above the median, then someone else must correspondingly find themselves below the median when they were previously above it, and that person may themselves be a child. Hence, it is plausible that any reductions in relative child poverty were always likely to be largest using poverty lines somewhere between 40% and 100% of the median, whether or not this was the government's intention.

<sup>91</sup> The combined material deprivation and relative low income indicator is discussed in more detail in Chapter 6.

youngest child is under 5. Comparing the 'incidence effects' in the tables with the total change in child poverty reveals that each of these subgroups in isolation accounts for more than one-half of the overall reduction in child poverty.<sup>92</sup> For example, the fall in poverty risk for children of lone parents accounts for 5.4 percentage points of the total 8.4 percentage point reduction in relative child poverty in Great Britain over the period. Manipulation of the numbers in Tables 5.3 to 5.5 reveals some substantial changes to the composition of the child population in relative poverty between 1998–99 and 2010–11: of those children

Table 5.3. Decomposition of the fall in relative child poverty (BHC) in Great Britain, 1998–99 to 2010–11, by family type

	<i>Child poverty rate (%)</i>		<i>Fraction of child population (%)</i>		<i>Compositional effect (ppts)</i>	<i>Incidence effect (ppts)</i>	<i>Total change in poverty rate (ppts)</i>
	1998–99	2010–11	1998–99	2010–11			
Lone-parent families	45.7	22.2	22.8	23.1	0.0	–5.4	–23.5
Couple families	20.2	16.3	77.2	76.9	0.0	–3.0	–3.9
<b>All children</b>	<b>26.0</b>	<b>17.6</b>	<b>100</b>	<b>100</b>	<b>0.0</b>	<b>–8.4</b>	<b>–8.4</b>

Note: Poverty rates are measured as the percentage of the group with income below 60% of the population-wide BHC median income.

Source: Authors' calculations based on Family Resources Survey, 1998–99 and 2010–11.

Table 5.4. Decomposition of the fall in relative child poverty (BHC) in Great Britain, 1998–99 to 2010–11, by number of children in family

	<i>Child poverty rate (%)</i>		<i>Fraction of child population (%)</i>		<i>Compositional effect (ppts)</i>	<i>Incidence effect (ppts)</i>	<i>Total change in poverty rate (ppts)</i>
	1998–99	2010–11	1998–99	2010–11			
One child	17.2	16.9	23.2	29.4	–0.3	–0.1	–0.3
Two children	20.3	14.7	44.2	46.0	–0.1	–2.5	–5.6
Three or more children	40.1	24.0	32.6	24.6	–0.8	–4.6	–16.1
<b>All children</b>	<b>26.0</b>	<b>17.6</b>	<b>100</b>	<b>100</b>	<b>–1.2</b>	<b>–7.2</b>	<b>–8.4</b>

Note and source: As for Table 5.3.

Table 5.5. Decomposition of the fall in relative child poverty (BHC) in Great Britain, 1998–99 to 2010–11, by age of youngest child in family

	<i>Child poverty rate (%)</i>		<i>Fraction of child population (%)</i>		<i>Compositional effect (ppts)</i>	<i>Incidence effect (ppts)</i>	<i>Total change in poverty rate (ppts)</i>
	1998–99	2010–11	1998–99	2010–11			
0–4 years	30.8	18.9	42.7	43.9	0.0	–5.2	–11.9
5–10 years	26.1	15.9	33.8	29.0	0.0	–3.2	–10.3
11+ years	17.1	17.6	23.6	27.1	–0.2	0.1	0.5
<b>All children</b>	<b>26.0</b>	<b>17.6</b>	<b>100</b>	<b>100</b>	<b>–0.1</b>	<b>–8.3</b>	<b>–8.4</b>

Note and source: As for Table 5.3.

<sup>92</sup> Note that one should not sum the incidence effects across these subgroups (i.e. across Tables 5.3 to 5.5), because the subgroups are not mutually exclusive.

in relative poverty, the proportion in lone-parent families fell from 40% to 29%, and the proportion in families with at least three children fell from 50% to 33% (i.e. from one-half to one-third).

Not all groups of children have experienced large reductions in their risk of relative low income. In particular, it is striking that the risks of relative poverty for children in one-child families and for children in families whose children are all aged at least 11 have barely changed since 1998–99. Of course, this does not mean that such families are no better off in absolute terms: it means that real incomes for low-income families of these types have tended to grow at similar rates to median income (and hence the relative poverty line), whereas real incomes for low-income families with children of other types have tended to grow considerably faster than median income.

### **What factors were responsible for the changes in child poverty?**

Table 5.6 presents one further decomposition of the changes in child poverty between 1998–99 and 2010–11, which splits children up according to both family type and the work status of their parents. This allows us to uncover the role of changes in parental work patterns in driving the trends in child poverty discussed above.

The ‘compositional effects’ presented in Table 5.6 show that a reduction in the proportion of children without working parents, both in lone-parent and couple-parent families, accounts for about 1.1 percentage points of the 8.4 percentage point reduction in relative child poverty in Great Britain between 1998–99 and 2010–11. There is reason to think that these trends may partly reflect indirect effects of tax and benefit reforms over the period, at least for lone-parent families. Figure 5.8 highlights a strengthening of the financial incentive for lone parents to be in work due to tax and benefit reforms since 1998–99: it

**Table 5.6. Decomposition of the fall in relative child poverty (BHC) in Great Britain, 1998–99 to 2010–11, by family type and work status**

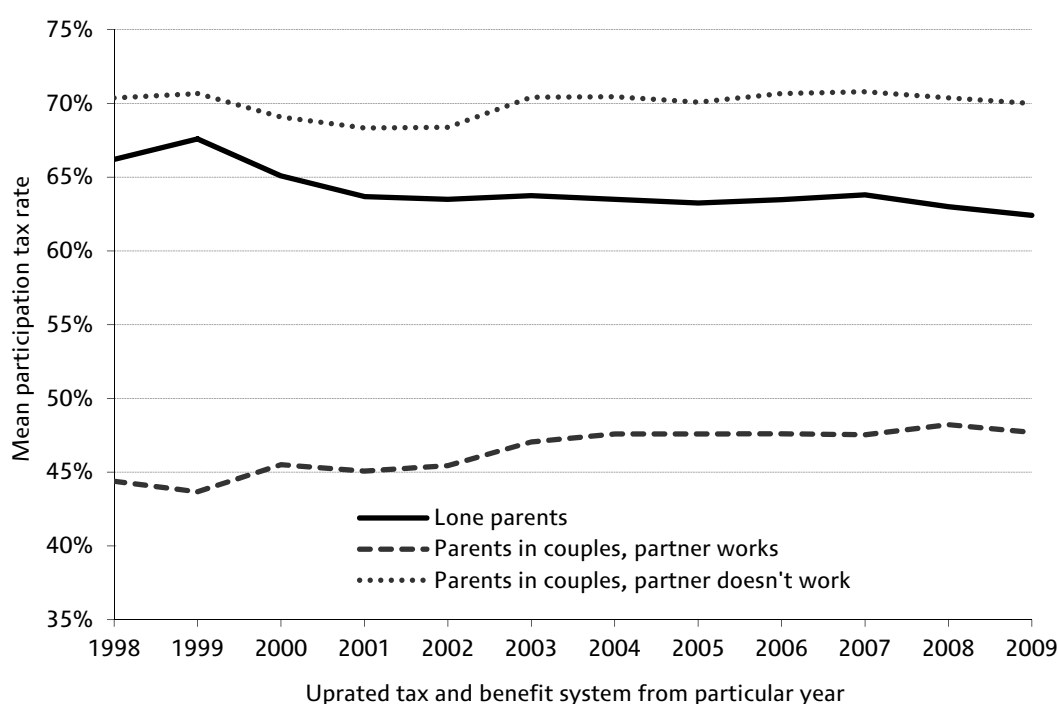
	<i>Child poverty rate (%)</i>		<i>Fraction of child population (%)</i>		<i>Compositional effect (ppts)</i>	<i>Incidence effect (ppts)</i>	<i>Total change in poverty rate (ppts)</i>
	1998–99	2010–11	1998–99	2010–11			
<b>Lone parents</b>							
Full-time	9.7	9.4	4.2	6.1	–0.2	0.0	–0.3
Part-time	31.4	13.0	5.1	6.0	0.0	–1.0	–18.4
Workless	62.4	34.3	13.5	11.1	–0.6	–3.5	–28.1
<b>Couples with children</b>							
Self-employed	26.2	23.5	12.0	12.6	0.0	–0.3	–2.6
Two full-time earners	1.4	2.4	12.4	16.2	–0.8	0.1	1.0
One full-time, one part-time	4.7	4.4	25.8	21.7	0.7	–0.1	–0.3
One full-time, one not working	24.9	17.9	16.8	16.3	0.0	–1.1	–6.9
One or two part-time	55.2	44.2	3.4	4.4	0.3	–0.4	–11.0
Workless	73.7	58.7	6.7	5.7	–0.5	–0.9	–15.1
<b>All children</b>	26.0	17.6	100	100	–1.1	–7.3	–8.4

Note: Poverty rates are measured as the percentage of the group with income below 60% of the population-wide BHC median income.

Source: Authors’ calculations based on Family Resources Survey, 1998–99 and 2010–11.

shows that their average participation tax rate – that is, the proportion of pre-tax earnings effectively lost due to tax payments and withdrawal of benefits and tax credits when entering work – is noticeably lower than it would have been under the tax and benefit systems of previous years. The increases in lone parent employment may well have reflected behavioural responses to these changes in financial incentives (as argued, for example, in Gregg and Harkness (2003)). Indeed, this seems particularly likely given that most of the progress in increasing lone parent employment was achieved in the early 2000s<sup>93</sup> and that the strengthening of the financial incentives for lone parents to be in work was primarily due to the introduction of Working Families' Tax Credit in October 1999 (this was subsequently integrated into the Working Tax Credit and Child Tax Credit).

Figure 5.8. Effects of tax and benefit reforms since 1998–99 on financial incentives for parents to be in work, as measured by participation tax rates



Notes: Years refer to financial years. Participation tax rates measure the taxes paid and benefits and tax credits withdrawn when entering work, as a proportion of pre-tax earnings. The 'no reform' baseline is the situation in which benefit and tax parameters had simply been increased in line with the public finance defaults inherited by the Labour government. Conclusions are similar if one uses a GDP-uprating baseline – see Adam and Browne (2010).

Source: Adam and Browne, 2010.

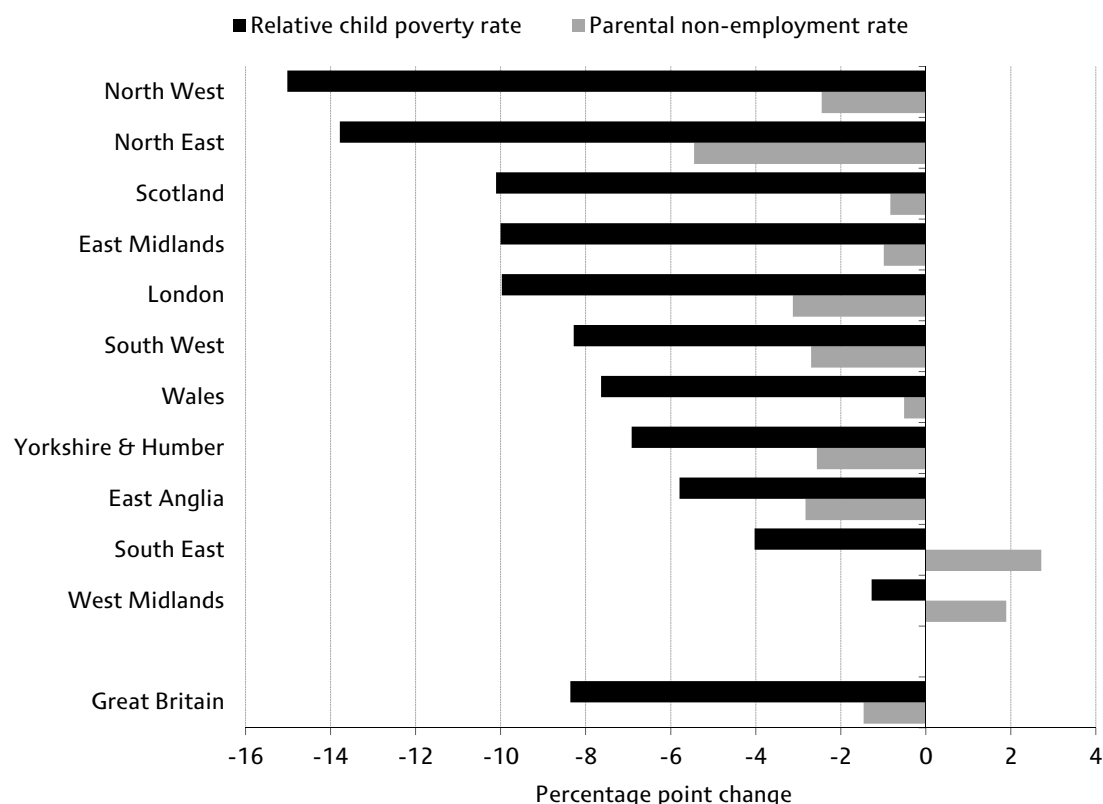
The second important point highlighted by Table 5.6, however, is that the role of changes in work patterns in explaining changes in this measure of child poverty is actually very limited. A large majority of the total change in relative child poverty is accounted for by changes in poverty risk *conditional* on parental work status (i.e. the 'incidence effects'). In particular, a large reduction in the poverty risk for children of workless lone parents acted to reduce relative child poverty by 3.5 percentage points, which explains the larger overall reduction in relative child poverty in lone-parent families than in couple families (documented in Table 5.3 above). This hints strongly that we need to understand changes in the sources of income received by workless lone parents – most obviously, state benefits and tax credits – in order to explain more of the reductions in this measure of child poverty since 1998–99. We return to this theme below.

<sup>93</sup> See Brewer, Browne, Joyce and Sibieta (2010).

Another way of investigating the association between parental work patterns and child poverty is to map regional trends in child poverty against regional employment trends among parents. Figure 5.9 shows changes in parental non-employment rates and relative child poverty rates in Great Britain between 1998–99 and 2010–11, by region. Regions are ranked from top to bottom based on the percentage point reduction in the rate of relative child poverty over the period. It shows that the West Midlands and the South East of England are the only two regions in which the parental employment rate fell (i.e. the parental non-employment rate rose), and they were also the regions that experienced the smallest reductions in relative child poverty. This seems unlikely to be a coincidence. But the figure also shows that the association between changes in parental employment and changes in child poverty across regions is far from perfect. For example, the North West experienced the largest reduction in the rate of relative child poverty – 15 percentage points – but was only in the middle of the regional experience in terms of changes in parental employment. Similarly, the parental worklessness rate fell only slightly in Scotland and the East Midlands, and yet these regions experienced the largest reductions in relative child poverty after the North West and the North East. This provides further suggestive evidence that, although changes in parental employment seem to play some role, there are other very important explanations for the recent falls in child poverty.

What else besides parental work patterns can explain the movements in child poverty rates since 1998–99? The data underlying Figure 5.6 above imply that the poorest half of households with children are entitled to an average additional £77 per week (£4,000 per year, or 21% of net income) in net financial

Figure 5.9. Changes in relative child poverty and parental worklessness between 1998–99 and 2010–11, by region



Notes: Poverty line is 60% of median income. Incomes are measured before housing costs have been deducted (BHC) and equivalised using the modified OECD equivalence scale. Regions are government office regions. Source: Authors' calculations based on Family Resources Survey, 1998–99 and 2010–11.

state support<sup>94</sup> as a result of direct tax and benefit reforms implemented under the previous Labour governments (in current prices). This was in comparison with the situation in which Labour had simply increased benefits and direct tax thresholds in line with the public finance defaults that it inherited (which mostly means price indexation). Compared instead with a situation in which benefits and direct tax thresholds had been increased in line with GDP over the same period, the data underlying Figure 5.7 (earlier) imply that the poorest half of households with children are entitled to an average additional £22 per week (£1,165 per year, or 5% of net income). Note that not everyone actually claims the state benefits and tax credits to which they are entitled. Nevertheless, the government spent an additional £18 billion on benefits and tax credits that are specifically targeted at families with children in 2010–11 due to reforms implemented since April 1997,<sup>95</sup> relative to the public finance default uprating baseline. It is natural to expect such a large ‘giveaway’ to low-income households with children to have been a key determinant of trends in income poverty among that group: state benefits and tax credits comprise the majority of the net household incomes of individuals in the second and third decile groups of the income distribution (approximately those around the poverty line).

Table 5.7 tracks annual changes to benefit and tax credit entitlements since 1998–99 for some key example types of families with children who are likely to be in or close to poverty (reproducing part of Table 4.3 from Chapter 4). The lightly shaded cells indicate percentage changes in nominal entitlements that exceeded the percentage change in the BHC relative poverty line in that year. Considered in isolation, these would suggest a declining relative poverty rate for that family type in that year. The darker shaded cells indicate years in which there actually *were* reductions in the rate of relative BHC child poverty.

Table 5.7. Annual growth in nominal entitlements to state support for example families with children since 1998–99 (%)

	Couple, 3 children, no work	Lone parent, 1 child, no work	Lone parent, 1 child, part-time work	Poverty line (BHC)	Change in BHC relative child poverty rate in UK (ppts)
1999–00	9.3	8.6	9.3	5.0	–0.4
2000–01	13.4	8.8	12.7	5.9	–2.3
2001–02	9.1	6.4	6.8	6.3	–0.2
2002–03	4.1	3.2	7.0	3.7	–0.6
2003–04	8.6	6.6	10.1	2.4	–0.5
2004–05	6.0	4.5	5.0	4.0	–0.8
2005–06	2.5	2.0	3.1	3.5	0.7
2006–07	3.1	2.7	3.0	4.1	0.4
2007–08	3.6	3.3	3.7	4.3	0.2
2008–09	7.0	5.4	6.2	3.5	–0.7
2009–10	6.4	6.1	5.5	1.3	–2.1
2010–11	2.2	2.0	1.9	1.8	–2.1

Notes: The table shows annual changes in maximum entitlements to benefits for various family types with no private income (except the working lone parent, who is assumed to earn an amount that is below the personal income tax allowance and the primary threshold for National Insurance contributions) ignoring Housing Benefit and Council Tax Benefit and the value of free school meals. The lightly shaded cells indicate percentage changes in nominal entitlements that exceed the percentage change in the BHC relative poverty line. The darker shaded cells indicate reductions in the rate of relative BHC child poverty.

Source: Authors’ calculations.

<sup>94</sup> This is benefits and tax credit entitlement minus direct tax liability.

<sup>95</sup> Browne and Phillips, 2010.

The table strongly suggests that tax and benefit policy has indeed been an extremely powerful explanatory factor in driving changes in this measure of child poverty. Since 1998–99, the years in which benefit and tax credit entitlements for these example families with children rose relative to the BHC poverty line coincide virtually perfectly with the years in which child poverty fell. In particular, the only three years in which relative child poverty rose over this period – the three consecutive years between 2004–05 and 2007–08 – were the only years in which increases in entitlements to state support for each of the three example families did not keep pace with increases in median income (and hence the relative poverty line). Previous IFS modelling of the direct impacts on child poverty of tax and benefit reforms in each year between 1998–99 and 2008–09 confirmed that the three years between 2004–05 and 2007–08 were the only three years over this period in which direct tax and benefit reforms were child-poverty-increasing.<sup>96,97</sup>

Direct tax and benefit reforms also appear to explain much of the variation in child poverty trends between different groups of children, as well as variation over time. We have already seen that falls in poverty risk among children of workless lone parents explain the particularly large fall in child poverty in lone-parent families, and state benefits and tax credits are the major income source for out-of-work lone parents. Simulations in Brewer, Browne, Joyce and Sibieta (2010) and decomposition analysis in Dickens (2011) showed that tax and benefit reforms have tended to be particularly poverty-reducing in lone-parent families (for the decade up to 2008–09). The former study also showed that the variation in relative poverty trends by family size and by age of the youngest child in the family was also very closely related to the direct effects of tax and benefit reforms. This is not surprising, given the large increases in the generosity of per-child state payments<sup>98</sup> and the equalisation of state payments for children of all ages (whereas previously the parents of older children had been entitled to significantly more<sup>99</sup>).

Overall, whilst factors such as changes in parental work patterns play some role in explaining recent changes in child poverty, it is clear that tax and benefit reforms have played the most significant role. Other authors have come to the same conclusion, albeit using slightly less up-to-date data. For instance, decomposition analysis by Dickens (2011), for the period between 1997–98 and 2008–09, found that benefit and tax credit changes explain more than four times as much of the fall in relative child poverty over that period as changes in work patterns (see Table 5.8).<sup>100</sup> In fact, consistent with similar decompositions in Brewer, Browne, Joyce and Sibieta (2010), he found that benefit and tax credit changes in isolation would have resulted in an even larger fall in relative child poverty than actually took place, as these were partially offset by changes in wages and demographics (which acted to increase median income and hence the relative poverty line).

The importance of tax and benefit reforms in explaining the reductions in relative child poverty achieved and the timing of these reductions could lead one to a further conclusion: if the government of the day had undertaken more fiscal redistribution in the middle of the last decade, then child poverty would have fallen by more and the 2010–11 child poverty target may have been hit. Of course, identifying that additional redistribution towards low-income households with children would probably have led to further reductions in child poverty does not mean that the government *should* have done this. There are

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<sup>96</sup> Relative to a baseline in which all tax and benefit parameters were simply updated in line with the public finance defaults that the Labour government inherited.

<sup>97</sup> Brewer, Browne, Joyce and Sibieta, 2010.

<sup>98</sup> This has occurred mainly via the child elements of the Working Families' Tax Credit (between 1999–2000 and 2003–04) and the Child Tax Credit (from 2003–04 onwards).

<sup>99</sup> Specifically, this had been the case under Family Credit, which was replaced by the Working Families' Tax Credit in 1999–2000, and the child additions or allowances within Housing Benefit, Council Tax Benefit, Income Support and Jobseeker's Allowance.

<sup>100</sup> It is very unlikely that an extension of Dickens's analysis up to 2010–11 would change this conclusion, given the importance of benefit and tax credit incomes in explaining the further reductions in child poverty between 2008–09 and 2010–11 (see Section 5.2 and Jin et al. (2011)).

Table 5.8. Results from Dickens (2011): factors affecting changes in relative and absolute low income among children between 1997–98 and 2008–09 (GB)

	Relative low income (%)	Absolute low income (%)
Level in 1997–98	26.2	26.2
+ Demographics	+2.1	-2.9
+ Aggregate wage levels	+3.7	-1.2
+ Inequality of wages	-1.0	+0.3
+ Work patterns	-1.9	-1.1
+ Government benefits	-7.9	-11.9
+ Taxes	-0.1	+1.1
Level in 2008–09	21.1	10.5

Notes: The measure of income used in Dickens (2011) is slightly different from the measure discussed elsewhere in this Commentary, because the author did not have access to the council tax information underlying the official HBAI measure of income. The relative low income threshold is 60% of median income, and the absolute low income threshold is 60% of the 1997–98 median (adjusted for inflation). Note that this is not strictly consistent with the absolute low income line used for the 2010–11 child poverty targets and discussed elsewhere in this chapter, which is based on the 1998–99 median.

Source: Dickens, 2011.

separate questions about whether the trade-offs associated with relying heavily on fiscal redistribution in order to reduce relative child poverty (such as a potential weakening of work incentives for parents) make such a policy undesirable; about whether other policy levers could be used to reduce child poverty more cost-effectively in the long run; about whether child poverty is best measured using an income-based measure that is so sensitive to fiscal redistribution; and about the priority that child poverty should be given relative to other objectives and concerns of government. There is scope for reasonable disagreement over all of these issues, which are discussed further in Section 5.6.

## 5.5 Prospects for income poverty among children

Given the heavy reliance on fiscal redistribution in achieving reductions in income poverty among children in recent years, there are good reasons to doubt whether we will see further substantial reductions in these poverty measures in the years ahead: indeed, there are good reasons to expect income-based measures of child poverty to rise. This clearly creates a major policy challenge, given the content of the 2010 Child Poverty Act, which was signed up to by all three main UK political parties. The Act commits governments to reducing relative income child poverty to 10% by 2020–21, from its current level of 17.5%, and sets target rates of 5% for the absolute low income and combined relative low income and material deprivation indicators (the absolute low income line is to be rebased so that it is equal to 60% of the 2010–11 median in real terms).<sup>101</sup>

The government is embarking on a large fiscal tightening, which includes about £18 billion per year of welfare cuts by 2014–15. We estimate that the package of direct tax and benefit reforms implemented or planned between April 2011 and April 2014 reduces the incomes of low-income households with children by proportionately more than those of other groups (see Figure 4.7 in Chapter 4). Figure 5.6 earlier showed that, relative to the situation in which direct tax and benefit parameters had simply been increased since the previous Labour government took office in line with the public finance defaults that it inherited, the poorest half of households with children will still have experienced average increases in entitlements to net financial state support<sup>102</sup> from direct tax and benefit changes up to and including April

<sup>101</sup> The Act also sets a ‘persistent poverty’ target that is yet to be precisely defined.

<sup>102</sup> This is benefits and tax credit entitlement minus direct tax liability.



2014. In fact, the average gain in net entitlements will still be £53 per week (£2,750 per year, or 14% of net income). As Figure 5.7 showed, however, this conclusion is sensitive to the definition of ‘no reform’ that is used. Relative to the situation in which direct tax and benefit parameters had been increased in line with GDP from when the previous Labour government took office, the poorest half of households with children will not have gained, on average, from direct tax and benefit reforms since that time once the welfare cuts up to April 2014 have all taken effect: they will have lost an average of £2 per week or £105 per year in net entitlements. In other words, the answer to whether or not the fiscal consolidation being implemented in the current parliament completely unwinds the increase in fiscal redistribution towards low-income households with children under the previous Labour governments depends crucially on what precisely one counts as an ‘increase in fiscal redistribution’.

But whether the previous large increases in redistribution towards low-income households with children are being unwound fully or only partially, the 2020–21 targets stipulate substantial *additional* reductions in income poverty among children *on top of* what was achieved in recent years. Previous IFS projections<sup>103</sup> have suggested that both absolute and relative income poverty among children will instead rise in the coming years under current policies and that tax and benefit reforms being implemented as part of the government’s deficit reduction efforts are an important reason for this. The most recent projections<sup>104</sup> predicted that absolute income poverty among children would rise in each year between 2010–11 and 2013–14; and that relative income poverty among children would start to rise again from 2012–13 onwards, as median income – and hence the relative poverty line – is expected to stabilise and eventually grow in real terms<sup>105</sup> while welfare cuts affecting low-income households with children continue.

More recent work, looking further ahead,<sup>106</sup> has suggested that adding into the analysis likely changes in the structure of the labour market (specifically, the proportion of jobs in different occupations, industries and so on) does not change these conclusions: as shown in Figure 5.10, these changes are likely to have very little effect on absolute income poverty, and if anything act to increase relative income poverty even further by raising middle incomes by more than low incomes, leaving both indicators far above their targeted levels by 2020–21.

As with poverty more generally, the introduction of Universal Credit – which will begin to replace almost all of the existing system of means-tested benefits and tax credits for those of working age following its national roll-out from October 2013 – is of great potential importance. The direct impacts of Universal Credit on household incomes imply reductions in child poverty (when considered in isolation), as it is a net giveaway to low-income households with children.<sup>107</sup> These effects have been incorporated in projections of poverty produced by IFS researchers,<sup>108</sup> which have estimated that the direct impact of Universal Credit would be to reduce relative child poverty in 2020–21 by about 450,000 children. Note, however, that the government has since made clear that the long-run cost of Universal Credit (relative to the current system) is to be capped at £2.5 billion per year, which may act to lessen the extent to which it reduces child poverty. Also note that considerably larger net welfare cuts are being implemented prior to and during the introduction of Universal Credit and that the phase-in of Universal Credit will not be complete until the end of 2017.

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<sup>103</sup> Brewer, Browne and Joyce, 2011.

<sup>104</sup> Joyce, 2012.

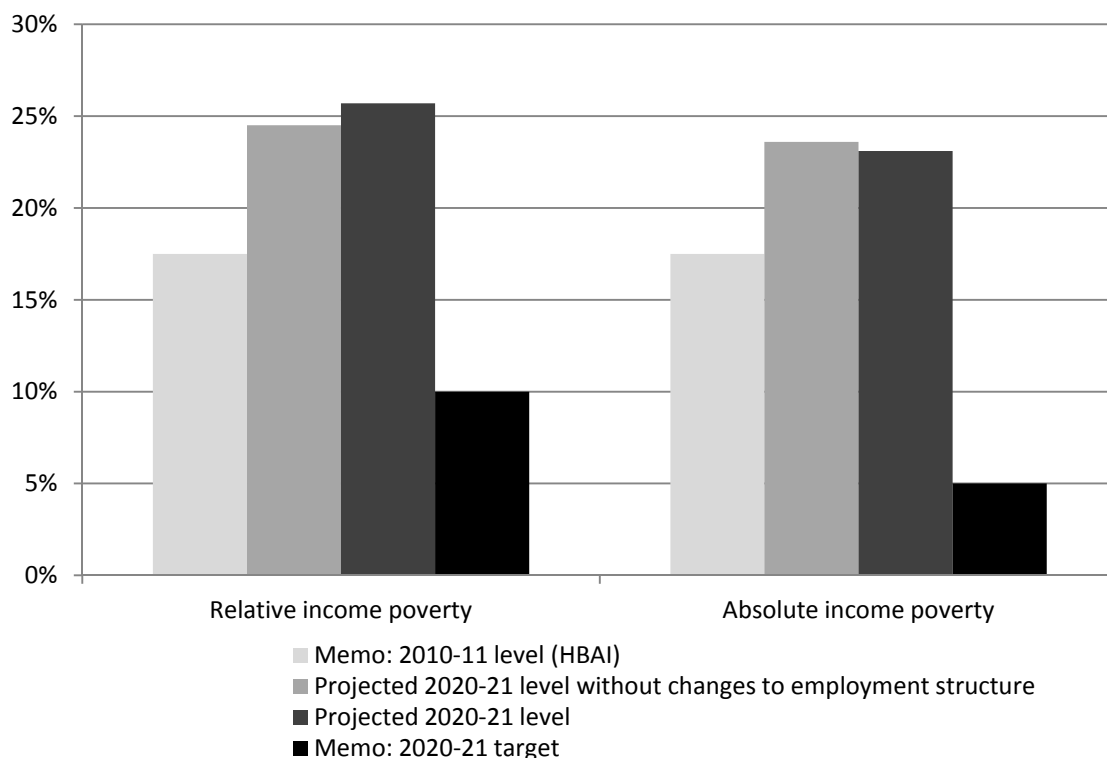
<sup>105</sup> This largely reflects forecasts of real earnings in Office for Budget Responsibility (2011), which were an input into the model underlying the household income projections. Note that more recent macroeconomic forecasts have subsequently become available in Office for Budget Responsibility (2012), but they were quite similar to the previous forecasts.

<sup>106</sup> Brewer, Dickerson, Gambin, Green, Joyce and Wilson, 2012.

<sup>107</sup> Brewer, Browne and Jin, 2012.

<sup>108</sup> Brewer, Browne and Joyce, 2011.

Figure 5.10. Projections by IFS researchers of income poverty rates among children in 2020–21 (UK)



Notes: Projections were made before the release of the 2010–11 HBAI data, and do not account for changes in policy and macroeconomic forecasts announced alongside the March 2012 Budget. As specified in the Child Poverty Act (2010), the relative low income line is 60% of median income and the absolute low income line is 60% of the 2010–11 median in real terms. Incomes are measured before housing costs have been deducted (BHC) and equivalised using the modified OECD equivalence scale.  
Source: Brewer, Dickerson, Gambin, Green, Joyce and Wilson, 2012.

Much more uncertain are the various possible indirect effects of Universal Credit on the economic behaviour of parents. First, the rate at which Universal Credit will be withdrawn as incomes rise means that it will strengthen financial incentives to earn more for those who face the highest effective marginal tax rates when their benefits and tax credits are withdrawn under the current system, although it will slightly increase effective marginal tax rates for many.<sup>109</sup> Second, the new system of conditionality – whereby low-paid Universal Credit recipients will be expected to take steps to increase their earnings – may affect the number of hours worked and/or the likelihood of work progression. IFS researchers have found that a lack of advancement within work for parents who enter employment has previously been an important contributor to in-work poverty among families with children.<sup>110</sup> Nevertheless, the most recent IFS projections for 2020–21<sup>111</sup> suggest that relative child poverty in that year will be about 26%; it is extremely unlikely that the behavioural effects of Universal Credit would reduce this to anywhere near the target rate of 10%.

When looking beyond the current parliament, it is also important to keep in mind that there may well be additional welfare cuts beyond those already announced. If the government were to stick to its plans for total public spending in the next Spending Review period whilst maintaining the current pace of real cuts to departmental spending, it would need to find an estimated extra £10.5 billion per year of welfare cuts

<sup>109</sup> Brewer, Browne and Jin, 2012.

<sup>110</sup> Browne and Paull, 2010.

<sup>111</sup> Brewer, Dickerson, Gambin, Green, Joyce and Wilson, 2012.

in 2016–17 on top of those already accounted for.<sup>112</sup> If further welfare cuts did materialise, they would be likely to affect those in the bottom of the income distribution the most, and hence to increase income-based measures of child poverty further.

In summary, the trajectories of income-based measures of child poverty look likely to be upwards rather than downwards in the years ahead, due to the welfare cuts being implemented as part of the government's deficit reduction efforts and to sluggish growth in real earnings. There is clearly much uncertainty, particularly in the context of the current macroeconomic environment and the planned overhaul of the working-age welfare system with the introduction of Universal Credit. However, it is inconceivable that the 2020–21 child poverty targets will be met (or even got close to) under current policies.

## **5.6 Alternatives to income-based child poverty measures**

### **What does 'eradicating child poverty' mean?**

The prominence given to the goal of 'eradicating' child poverty since 1998–99 has highlighted the fact that there is much scope for disagreement about how to assess whether this goal has been achieved. Ultimately, this assessment rests on subjective judgements about the definition of poverty. It is therefore useful to lay out some of the key areas of contention and to consider where the judgements made by actual policymakers fit into the wider range of possible judgements.

The previous government clearly took the view that material living standards are (at the very least) at the core of what poverty is about: it chose to track three income-based indicators of child poverty, incorporated one of these in a national 2010–11 target, and included them (plus another income-based indicator) in its 2010 Child Poverty Act, which set extremely ambitious targets for 2020–21. One can reasonably question how good a proxy income is for material living standards, in terms of both the concept of income in principle and the measurement of income in practice. Alternatives include consumption-based measures, or more direct attempts to measure 'material deprivation' by asking people what they can afford. The previous government made such an attempt by tracking a combined relative low income and material deprivation indicator of child poverty. For further discussion of the relationship between these measures of material living standards, see Chapter 6 of this Commentary, Brewer and O'Dea (2012) and Brewer, O'Dea, Paull and Sibieta (2009). (Even if one restricts attention to income-based measures, there remains a choice of both absolute and relative measures, which was discussed in detail at the beginning of Chapter 4.)

There has been much discussion about how best to move beyond purely income-based measures of child poverty – or, more generally, how to move beyond measures of current material living standards – in (for example) the Independent Review on Poverty and Life Chances led by Frank Field MP,<sup>113</sup> research from the Children's Society (2011), a discussion organised by Policy Exchange<sup>114</sup> and a report produced by UNICEF (2012). In the context of such debates, it is important to try to distinguish between three questions: what one means by poverty; how best to measure a given concept of poverty; and how best to achieve reductions in a given measure of poverty. In practice, it is not always clear which of these questions is being addressed. For example, the language of 'measurement' is sometimes used when a particular child poverty indicator is being argued for or against, when in fact the argument hinges upon a specific conception of what poverty *is* – in other words, a specific claim about what we should care about.

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<sup>112</sup> See HM Government (2012, p. 87).

<sup>113</sup> HM Government, 2010a.

<sup>114</sup> <http://www.policyexchange.org.uk/images/pdfs/120429%20child%20poverty%20and%20life%20chances.pdf>.

One way of widening the scope of child poverty beyond measures of material living standards is to include broader indicators of children's well-being, such as their physical and/or mental health; indeed, the government has included health-based indicators in its Child Poverty Strategy.<sup>115</sup> This kind of broader approach has been recommended by IFS researchers on numerous occasions, for reasons outlined in the discussion of the government's strategy below. One could go even further, viewing child poverty as not just about current outcomes but also about lack of opportunity or 'life chances'. This would, for example, suggest a focus on education as part of the measurement of poverty; again, educational participation and outcomes are something that the government's Child Poverty Strategy has emphasised.

Note that the distinction between outcome-based measures of poverty and measures based around 'life chances' can be subtle. For example, one could be interested in education simply because it affects the likelihood of future poverty – as measured, for instance, by low income – or because lack of educational access is itself viewed as constitutive of poverty (or both). Either way, education should feature in anti-poverty strategies, but for slightly different reasons. These reasons matter: for example, if education is seen as important only because it affects the likelihood of future income poverty, then investment in education is very much a long-term anti-poverty strategy and this should be reflected in expectations about how quickly poverty objectives can be achieved via education policy.

These issues are now discussed with specific reference to the current government's stated child poverty policies.

## The government's Child Poverty Strategy

The government has deliberately set out a strategy for child poverty which rightly goes beyond the income-based measures that can be analysed using the HBAI data.<sup>116</sup> A range of indicators have been defined, spanning from educational participation (for example, the proportion of 18- to 24-year-olds participating in education or training) to early health inequalities (for example, the difference in probability of low birth weight between high and low social classes) to factors that the government deems to be important indicators of 'life chances' (for example, conception rates for girls aged 15 to 17).

This wider strategy aims to address a concern voiced many times by IFS researchers:<sup>117</sup> namely, that too much fixation on income-based measures may skew the policy response towards reforms that have immediate and predictable impacts on household incomes (such as tax and benefit changes) rather than those that most cost-effectively improve children's quality of life or reduce the risk of intergenerational transmission of poverty (such as improvements to education).

As discussed in detail in last year's poverty and inequality report,<sup>118</sup> a broad-based approach to child poverty is to be welcomed. But some particular points of clarification from the government would be helpful. First, is there a hierarchy of targets and indicators? For instance, are the new measures considered equal to or ancillary to the income-based targets that are legislated for in the Child Poverty Act? Second, how does the government see the relationship between its income-based objectives and the others? This relates to the discussion above about the way that poverty is conceptualised. Are the other indicators important only because they are viewed as 'causes' of low income; or are they objects of concern completely independently of any effects they have on household incomes; or somewhere in between?

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<sup>115</sup> HM Government, 2011.

<sup>116</sup> HM Government, 2011.

<sup>117</sup> For example, see Brewer, Joyce, Muriel, O'Dea, Paull, Phillips and Sibieta (2009).

<sup>118</sup> Jin et al., 2011.

To the extent that the indicators are viewed as important because they are considered ultimate ‘causes’ of low incomes, it is important that the government is realistic about the extent to which progress on these indicators can contribute to the pursuit of the income-based targets in time for 2020–21. The government is right to be interested in educational participation of young people, but many of the parents of 2020–21 have already left full-time education. It is right to be interested in children’s health, and there is evidence that early health problems do have substantial impacts on income as an adult,<sup>119</sup> but only a very small fraction of the current child population will have had their own children by 2020–21. It is simply not feasible to achieve a radical transformation of the income distribution among families with children by these means *in less than a decade*.

## 5.7 Conclusion

The previous Labour governments presided over a large increase in fiscal redistribution towards low-income households with children. Largely as a result of this, income-based measures of child poverty fell substantially. Between 1998–99 and 2010–11, absolute income poverty among children fell by more than one-half, and relative income poverty among children fell by about one-third. Nevertheless, this fell some way short of the government’s relative low income target, which was to halve the number of children in relative income poverty between 1998–99 and 2010–11.

The status of the income-based 2020–21 child poverty targets appears to be the most pressing matter in the immediate future. Since previous reductions in these poverty measures have relied so heavily on fiscal redistribution, it seems inconceivable that further reductions in income-based measures of child poverty *of the scale and rapidity required* to meet the 2020–21 targets could be achieved without substantial further increases in such redistribution. But, unsurprisingly given the fiscal situation and the current government’s plan to address it mostly through spending cuts rather than tax rises, there is no sign of this large increase in fiscal redistribution. In fact, planned welfare cuts amount to about £18 billion per year by 2014–15, and low-income households with children are, on average, the biggest losers from these cuts as a proportion of income. When looking beyond the current parliament, it is also important to keep in mind that there may well be additional welfare cuts beyond those already announced: if the government were to stick to its plans for total public spending in the next Spending Review period whilst maintaining the current pace of real cuts to departmental spending, it would need to save an extra £10.5 billion per year via tax rises or welfare cuts in 2016–17 on top of savings already accounted for. Given all this, the value of the current income-based child poverty targets for 2020–21 looks increasingly questionable, as there is no realistic chance of meeting them (or even getting close to them) under current policies. Modelling by the Child Poverty Unit under the previous government suggested that the 2020–21 target would be missed by 850,000 children even under an extremely optimistic scenario for parental work patterns, a fall in the amount of benefits that go unclaimed and a fall in teenage pregnancies.<sup>120</sup>

If the government believes that the income-based targets for 2020–21 are inappropriate, then it should be explicit about that, and set itself objectives that it wants to pursue. Perhaps it does not view these targets as good measures of poverty; or perhaps it feels that they reflect too heavy a priority given to child poverty relative to other concerns of government at a time when fiscal constraints are severe. There is scope for reasonable disagreement over both of these points, as they ultimately reflect subjective judgements about what poverty is and/or the relative weight that one assigns to families with children relative to other groups. But if the government does still believe that the current income-based targets are appropriate, then it needs to explain urgently and credibly how it plans to meet them.

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<sup>119</sup> Goodman, Joyce and Smith, 2011.

<sup>120</sup> HM Government, 2010b. 850,000 is the total of the rows in Table 1.A marked ‘Other’ and ‘Improved skills ...’; both figures reflect assumptions made in the analysis, and neither is associated with a specific policy change.

## 6. Material deprivation

### Key findings

- Recent falls in the government's combined measure of child material deprivation and relative low income (defined as less than 70% of the median, BHC) do not reflect falls in the number of children who are materially deprived. Indeed, the number of children materially deprived has increased since its low point in 2006–07.
- Children living in households with the lowest levels of income do not have the highest levels of material deprivation, on average, suggesting that their household incomes are only temporarily low or are mismeasured. However, for household equivalised incomes of above around £275 per week, average levels of deprivation decline with income, suggesting that there is an important link between low income and material deprivation, although it is far from perfect.
- The patterns of BHC income poverty and material deprivation across different subsets of the child population vary. For instance, children of lone parents, those living in families where the youngest child is aged under 5, those living in a family where someone is disabled, those living in privately rented accommodation and those living in London look relatively 'poorer' than other children when a measure of material deprivation is used as opposed to a measure of income poverty.
- The way child material deprivation is measured has changed slightly since it was first monitored in 2004–05, with plans for further changes in the future. The relative weights given to the different questions used to calculate material deprivation are now updated each year. To date, this change has had little impact on the published statistics. However, it could lead to perverse results in the long run, which can be easily avoided with some modifications to the measure. In 2010–11, new questions were added to the Family Resources Survey (on which HBAI data are based), in order to update the material deprivation indicator by dropping items no longer seen as necessary and replacing them with items that are seen as necessary. Whilst understandable, this can also create sharp discontinuities in the measure across time, making it more difficult to interpret trends over time. For instance, the rate of material deprivation is much lower in 2010–11 when calculated using the new questions (21.7%) than when using the old questions (25.9%), which have been retained in the official measure for one final year.
- The official measure of pensioner material deprivation is less strongly linked to income than the child material deprivation measure is, in part reflecting the fact that the health and social constraints preventing access to an item count towards the pensioner measure but not the child measure. However, even when focusing on monetary constraints alone, the link between income and material deprivation is less strong for pensioners, perhaps reflecting the importance of wealth (including housing wealth) in sustaining the living standards of some pensioners.
- While BHC income poverty is slightly higher for working-age adults with children (16.0%) than for those without (14.6%), inability to afford the 'adult' items used to define deprivation is much greater among those with children. This might suggest that the equivalence scales used to adjust incomes may not account for all of the additional costs families with children face, that more of the income poverty faced by working-age adults with children is persistent, or that parents prioritise the needs of their children and therefore go without themselves.

Most of the statistics we have presented thus far in this Commentary have been based on a 'snapshot' measure of income, i.e. income assessed at a particular point in time. For some households, such a measure of household income might not be an accurate representation of their living standards; such households include self-employed individuals with volatile income and temporarily unemployed

individuals. Moreover, measures of poverty based on income might not capture all the aspects of poverty, such as quality of housing or access to public services.<sup>121</sup>

Such concerns led the last government to complement its income-based measures of child poverty with a measure of 'material deprivation' from 2004–05 onwards. Since then, children are classed as living in material deprivation if their parents say they cannot afford certain items – for example, a birthday party or a family holiday. Combined with a measure of relative low income (defined as less than 70% of the median, BHC), material deprivation became one of the indicators used to judge progress towards the 2010 target to halve child poverty. Under the Child Poverty Act (2010) and the coalition government's 2011 Child Poverty Strategy, it forms part of the targets used to assess progress towards 'eradicating' child poverty by 2020. An indicator of pensioners' material deprivation has also been part of the HBAI data series since 2009–10, although the definition of deprivation chosen differs somewhat.

We last analysed material deprivation among children in depth in our 2008 report.<sup>122</sup> This chapter updates that work, adds new analysis of the HBAI measure of pensioner material deprivation and examines material deprivation among working-age adults without children. The rest of this chapter proceeds as follows. Section 6.1 discusses the changes to the children's material deprivation indicator that have taken place in the last few years: the updating of the weights given to each item used to construct the material deprivation indicator in 2008–09, and the updating of the items themselves in 2010–11. In Section 6.2, we examine the characteristics of materially deprived children and, in particular, the link between material deprivation and low income, updating previous work by IFS researchers. Section 6.3 analyses the pensioner material deprivation measure, again with a particular focus on the link between material deprivation and low income. Section 6.4 examines material deprivation among working-age adults with and without children. Section 6.5 concludes.

## **6.1 Changes to the child material deprivation indicator**

The child material deprivation indicator is based on a set of questions that ask whether the adults and children in a family have access to a set of items (i.e. goods, services and activities) and, if not, whether this is because they cannot afford access to the item or because they do not want or need that item. Families who lack an item because they say they are unable to afford it are classified as being deprived of that item, whilst if they say they do not want or need it, they are not classified as being deprived of it.

A method known as prevalence weighting is then used to combine the deprivation indicators of each item into a single deprivation score. Under this approach, every item is given a deprivation weight equal to the proportion of families who have access to that item (for example, 0.8 if 80% of families with children have access to an item). A family's raw material deprivation score is calculated by summing the deprivation weights of the items that that household cannot afford and is therefore deprived of. This weighting procedure means that families with children are deemed more deprived if they cannot afford an item that relatively many families have access to as opposed to an item that relatively few families have access to. This reflects an idea that an inability to afford a common item is more indicative of deprivation than an inability to afford a less common item.

Finally, in order to make the material deprivation score easier to interpret, the maximum possible score is rescaled to 100. Each family with children then has a score between 0 and 100, with higher scores indicating higher levels of deprivation. Children are classed as living in material deprivation if they live in a family with a score of at least 25.

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<sup>121</sup> Some indicators of these aspects of poverty will be monitored as set out in the coalition government's Child Poverty Strategy (HM Government, 2011). See Chapter 5 for more details.

<sup>122</sup> Chapter 5 of Brewer, Muriel, Phillips and Sibieta (2008).

Between 2004–05 and 2007–08, the deprivation score was:

- based on the responses to 21 questions, 11 of which were designed to ascertain deprivation experienced by the adults in a family, with the remaining 10 relating to deprivation experienced by the children;
- based on prevalence weights that were set equal to the proportion of families who had access to that item in 2004–05, the first year the questions were asked.

Table 6.1. List of items used to construct material deprivation indicator

	2004–05 weight	2007–08 weight	2010–11 weight
<b>Adult questions</b>			
Able to keep accommodation warm	92.5%	90.2%	88.3%
Two pairs of all-weather shoes for each adult	88.9%	89.9%	89.0%
Money for decent decoration of home	79.0%	78.1%	77.0%
Household contents insurance	76.1%	73.4%	71.1%
Replace or repair major electrical goods (e.g. refrigerator) when broken	70.7%	70.3%	64.4%
A small amount of money to spend each week on yourself, not on your family	65.4%	65.4%	62.7%
Have friends or family around for a drink or meal at least once a month	59.8%	62.0%	61.8%
Replace any worn-out furniture	59.6%	59.0%	52.5%
Adult has a hobby or leisure activity	58.8%	59.5%	58.4%
A holiday for at least one week a year, not at home or relative's home	58.1%	58.0%	52.3%
Regular savings of £10 a month or more for rainy days or retirement	55.5%	56.2%	53.9%
<b>Child questions</b>			
Celebrations on birthdays, Christmas or other religious festivals	93.4%	94.1%	95.3%
Go on school trips	88.7%	88.8%	88.8%
Enough bedrooms so no child over 10 has to share with sibling of opposite sex	85.1%	86.7%	88.0%
Leisure equipment such as sports equipment or a bicycle	84.8%	85.3%	86.4%
Safe outdoor space or play facilities nearby	84.0%	85.1%	90.3%
Child has a hobby or leisure activity	73.7%	74.2%	70.3%
Friends around for tea or a snack once a fortnight	68.2%	67.4%	65.4%
Toddler group/nursery/playgroup at least once a week	64.8%	62.9%	66.5%
A family holiday away from home for at least one week a year	64.5%	64.5%	59.4%
Swimming at least once a month	57.0%	53.9%	52.7%
<i>Memo: maximum possible score</i>	<i>15.286</i>	<i>15.250</i>	<i>14.943</i>

Notes: Percentages refer to percentage of all families with children who had access to this item. The maximum possible deprivation score is equal to the sum of the percentages (expressed as decimals, e.g. 0.925 + 0.889 + ... + 0.570).

Source: Column 1 taken from chapter 5 of Brewer, Muriel, Sibieta and Phillips (2008), but based on Family Resources Survey, 2004–05. In addition, Family Resources Survey, 2007–08 and 2010–11.



Table 6.1 provides full details of the initial items and prevalence weights from 2004–05 (as well as updated prevalence weights for 2007–08 and 2010–11).

Together, a fixed set of items and a fixed set of weights and thresholds for determining the material deprivation score meant that the resulting indicator was a measure of *absolute* as opposed to *relative* material deprivation. In other words, such a score might be a useful indicator of the absolute living standards enjoyed by a particular family, so that changes in the number of children deemed materially deprived provide information on changes in the numbers of children with living standards below a particular absolute threshold. However, this does not tell us whether the living standards of such children are keeping pace with the average living standards of families with children or about the potentially changing public perception of ‘acceptable living standards’. If we believe that families feel more deprived if they lack access to items that are widely available to other families (which the use of prevalence weighting in the first place seems to imply), such a measure of deprivation would become less meaningful over time as the living standards and items available to families with children change.

The Department for Work and Pensions (DWP) has made changes to the methodology for calculating child material deprivation in an effort to address these concerns. First, since the HBAI publication covering 2008–09, prevalence weights have been recalculated each year based on the question responses from each year (the change was applied retrospectively to previous years). Second, four new material deprivation questions were added to the 2010–11 FRS in order to allow the items used to calculate child material deprivation to be updated. However, DWP has decided to continue using the old questions (which continued to be asked in 2010–11) for its main indicator for one more year, with analysis of the new questions included in an appendix to the HBAI publication.

Before assessing the impact of these past and potential methodological changes on the levels and trends in material deprivation, it is worthwhile understanding their advantages and disadvantages. (Readers interested only in the effects on levels and trends in material deprivation and not the evaluation of the changes can skip to page 102.)

## **Evaluating the changes in methodology**

Have these changes improved the way in which material deprivation is measured?

First, let us consider the change whereby prevalence weights have been recalculated each year based on the question responses from that year. Hence, if, over time, more families report having access to a particular item, the prevalence weight for that item will increase. All else equal, a family lacking such a good will see an increasing overall deprivation score over time, and will be considered to be becoming more materially deprived. This makes the measure, to some extent, relative: as a particular item becomes relatively more or less prevalent over time, a family lacking that item is deemed to be more or less deprived.

But is the new measure really one of relative deprivation? This would require that as items in general become more prevalent over time, lack of items leads to higher deprivation scores and/or the number of items that needs to be lacked to be defined as materially deprived declines. As Box 6.1 demonstrates using some hypothetical examples, the new measure is not in fact a measure of relative deprivation and, indeed, has some deeply undesirable properties that mean the government should seriously consider changing it. The box also explains how one might adjust the way in which the material deprivation index is calculated to overcome these issues.

Over time, as general expectations of ‘acceptable living standards’ and the types of items available to families change, a measure of material deprivation based on a fixed set of items would become less meaningful as a measure of relative living standards. Hence, for the measure to be truly relative, the list of items may need to be updated over time, as has been done in 2010–11.

### Box 6.1. The effect of annually updated prevalence weights

In order to see that updating prevalence weights each year as item availability changes does not make the deprivation measure a relative one, it is useful to examine what happens when access to all goods and services changes but the relative accessibility of each good vis-à-vis each other remains constant. For instance, consider a simple example where there are 20 items (this makes calculations easier than with 21 goods), each of which is initially available to 60% of families with children. Each item is given a prevalence weight of 0.6, with the maximum possible raw deprivation score equal to 12. Rescaling the maximum score to 100 implies each item lacked counts 5 points to the material deprivation score, as shown in the first column of Table 6.2. It is easy to see that in order to reach a material deprivation score of 25 and be declared ‘materially deprived’, a family would need to lack five items. A family lacking four items would not be deemed deprived.

Table 6.2. List of items used to construct material deprivation indicator: example

Deprivation items	Initial situation (1)	General increased access (2)	Change in relative access (3)
Item 1	60% (5)	90% (5)	75% (6.25)
Item 2	60% (5)	90% (5)	75% (6.25)
Item 3	60% (5)	90% (5)	75% (6.25)
Item 4	60% (5)	90% (5)	75% (6.25)
Item 5	60% (5)	90% (5)	56.25% (4.6875)
...	60% (5)	90% (5)	56.25% (4.6875)
Item 20	60% (5)	90% (5)	56.25% (4.6875)
<i>Maximum possible score</i>	12 (100)	18 (100)	12 (100)

Notes: Percentages refer to percentage of all families with children who had access to the item. The maximum possible deprivation score is equal to the sum of the percentages, expressed as decimals.

Let us suppose that there was a general increase in access to items so that each item is now available to 90% of all families with children (column 2). The fact that all items are now more widely available should imply that a family lacking a particular number of items is now suffering from greater *relative* deprivation than before. But, because of the rescaling of scores to 100, each item lacked still counts 5 points towards the overall material deprivation score and a family is still required to lack five items to reach a score of 25 and be declared materially deprived. This demonstrates that updating prevalence weights each year does *not* make the measure of material deprivation relative.

Column 3 shows that not only does the existing approach fail to capture notions of relative deprivation; it can also lead to perverse results. Here, access to the first four items has increased to 75% of families with children, offset by reductions in access to other items (to 56.25%), leaving the overall maximum unadjusted score equal to its initial value, 12. The greater relative prevalence of the first four items means that a score of 25 can now be obtained from a lack of access to just these four items. This means that a family would be deemed materially deprived if lacking four items that 75% of the population have access to, whilst under scenario 2, they would be deemed not deprived if they lacked four items that 90% of families with children had access to. This is the opposite of what one would want from a measure of relative (or, indeed, absolute) material deprivation and seems a highly undesirable property.

By construction, the new methodology of updating the prevalence weights each year has therefore introduced a new problem without actually accomplishing a shift to a relative measure of material deprivation.

*Continues overleaf*

### Box 6.1 continued

It is important to note that, to date, the use of annually updated weights has had relatively little effect on measured material deprivation (see Table 6.4 later). But as item prevalence changes more dramatically in the long run, it is important to consider ways in which the existing measure could be improved upon to avoid the problems identified above. One option would be to allow the maximum deprivation score to increase in line with the increase in item availability/prevalence and to keep the threshold of 25 for deprivation fixed. For instance, the maximum score under scenario 2 would increase to 150 (=  $100 \times 18/12$ ), with each item lacked counting for 7.5. A family lacking four items would then have a score of 30 and be deemed to be deprived and, indeed, more deprived than a family lacking the first four items under scenario 3 who, as shown earlier, would score 25. Another option would be to adopt an approach suggested in our 2008 poverty and inequality report,<sup>123</sup> where a family is deemed materially deprived if its score is less than some constant multiple of the mean score. In this case, as items became more prevalent, the mean score and therefore the deprivation threshold would fall (i.e. become more stringent).

In order to assess the particular changes made to the list of items in 2010–11, and to discuss the impact of changes in items more generally, it is worthwhile considering what is meant by an item becoming 'less meaningful' to the measurement of material deprivation. This could arise because:

- an item is so close to being universally available that an inability to afford it does not provide information to help identify those who are relatively materially deprived;
- an item is seen as unnecessary by a large fraction of families or becomes unaffordable to a majority of the population, in which case lack of access need not imply relative deprivation.

Items falling into these categories should then be replaced by new items that do not suffer from these problems. One might also want to update the set of items if analysis suggests that other items are more strongly related to the concept of material deprivation than existing items.

Together, these criteria imply that the set of items being replaced would be expected to be available to substantially different numbers of people and different types of people from those items replacing them. The use of items available to substantially more or fewer people and to people with different characteristics from those for the original set of items is likely to lead to significant changes in the number of children defined as materially deprived and in the composition of the materially deprived. Hence, using this approach to update or change the items on which material deprivation is based leads, almost by construction, to the creation of major breaks in the data series, which would make interpretation of changes in material deprivation around the time of such changes difficult.

It is difficult to see how one can avoid periodically changing the items used to determine material deprivation. It is therefore important that, whenever changes are made, the 'old' questions continue to be asked and the 'old' measure constructed for several years in parallel with the new measure, so that underlying trends can still be analysed and the relationship between the old and new measures of deprivation can be studied. Thus it is welcome that this year's official HBAI publication presents material deprivation figures using both old and new questions to allow comparison, and ideally this would have been possible for several further years (the old questions were dropped from the 2011–12 FRS).

How do the specific changes compare with the criteria set out above? Table 6.3 shows the new questions that have been added to the Family Resources Survey to become part of the material deprivation indicator and the questions that are planned to be removed, as well as the fractions of families reporting they have access to, do not want and cannot afford each item.

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<sup>123</sup> See chapter 5 of Brewer, Muriel, Phillips and Sibieta (2008).

Table 6.3. List of deprivation questions to be replaced

	<i>Percentage of families</i>		
	<b>Have access</b>	<b>Do not want</b>	<b>Cannot afford</b>
<b><i>Questions to be removed</i></b>			
<b>Adult questions</b>			
Two pairs of all-weather shoes for each adult	89.0%	1.2%	9.8%
Have friends or family around for a drink or meal at least once a month	61.7%	20.3%	17.3%
Adult has a hobby or leisure activity	58.4%	21.6%	19.6%
<b>Child questions</b>			
Swimming at least once a month	52.7%	35.2%	9.4%
<b><i>New questions</i></b>			
<b>Adult questions</b>			
Keep up with bill and regular debt payments	88.7%	N/A <sup>a</sup>	11.3%
<b>Child questions</b>			
Warm winter coat for each child	96.3%	1.3%	2.2%
Fresh fruit and vegetables eaten by children every day	88.0%	7.5%	3.3%
Attends organised activity outside school each week	62.5%	25.6%	7.6%

a. The 'do not want' response option was not available in the FRS for this question.

Note: Numbers do not sum to 100% because a small fraction of families respond that items are 'not relevant' to them.

Source: Authors' calculations using Family Resources Survey, 2010–11.

There are several reasons why we might expect these changes to affect the material deprivation measure. First, whilst three of the original adult questions and one of the original child questions will be removed, they will be replaced by one new adult question and three new child questions. Second, the new items are available to a much higher fraction of families than the items to be removed and, conversely, are unaffordable to a much smaller fraction of families. The fact that fewer families report that they cannot afford the new items than cannot afford the old items suggests immediately that the changes would act to reduce average material deprivation scores and reduce the number of children who are defined as materially deprived.

It is also important to assess how the characteristics of the old and new items compare with the criteria for changes set out earlier. Looking at the responses to the questions in the FRS, we see the following:

- Whilst a very high fraction of families report that all adults have access to two pairs of all-weather shoes (and therefore this criterion might be considered too universal to offer a challenging indicator of material deprivation), three of the new items have similar or higher accessibility. Furthermore, other items that have not been proposed for removal (for example, birthday celebrations or adequate heating) have similar levels of availability to all-weather shoes. This would suggest that concerns about items becoming poor indicators of deprivation due to their 'universal' availability have not driven the suggested changes in items.
- Although the fraction of households reporting they do not want three of the items that are to be removed (meals, hobbies, swimming) is fairly high, earlier years of the FRS show that this has always been the case and, with the possible exception of swimming, there has been no upward trend in the fraction reporting an item is 'not wanted'.

As well as the responses to the questions in the FRS itself, the official study on updating the material deprivation index<sup>124</sup> used other surveys, where parents were asked whether items were necessary regardless of whether they had access to them. The study finds significant falls in the fraction of parents reporting that the items to be removed were necessary. For instance, the fraction reporting that having two pairs of shoes for each adult was necessary fell from 64% in 1999 to 36% in 2009, and the fraction that reported that monthly swimming for a child was necessary fell from 75% to 42%. On the other hand, the items added to the measure were seen as a necessity by a majority of parents in 2009.

One may ask whether the questions in the 1999 and 2009 surveys were asked in a comparable way.<sup>125</sup> But it is clear that the main reason that the particular items have been chosen for removal is that, according to the survey evidence, they have come to be seen as unnecessary by the majority of families with children. Similarly, the new items have been chosen, at least in part, based on the fact that they are considered necessary by most families with children in the 2009 survey.

It is also notable that three of the removed questions relate to items for adults that one might not expect to have a direct effect on children's well-being, whilst the four new questions relate to items that one might expect to have a direct effect (three of them are specifically 'child' items). But this does not mean the new questions are necessarily better suited to identifying whether a child is materially deprived. What the questions provide are *proxies* for an underlying notion of 'material deprivation' and it could well be the case that lack of access to certain items not directly relevant to children is more strongly correlated to this unobserved 'material deprivation' than lack of access to particular items that are directly relevant to children. Thinking of the material deprivation measures and questions in this way means there is no objective answer to whether the new items are better or worse than those they are set to replace.

## **The impact of the changes on measured material deprivation**

Table 6.4 shows how changes in the way material deprivation is calculated have affected the number of children deemed materially deprived, the number deemed to be suffering both material deprivation and relative low income (one of the indicators used as part of the government's child poverty targets), and how the incidences of material deprivation and of material deprivation and low income have changed over time. Column 1 provides figures under the original method of calculating material deprivation, column 2 gives figures with annually updated prevalence weights and column 3 shows the impact of moving to the new set of questions in 2010–11. The official measures are highlighted in bold.

First, looking at changes over time, a comparison of the top and bottom panels of the table shows that falls in the fraction of children suffering from both low income and material deprivation (the measure tracked by the government) are not driven by a decline in material deprivation: the fraction of children suffering material deprivation has, if anything, increased over time. Instead, falls in the combined measure seem to be driven by the reductions in the fraction of children living in households with low income discussed in Chapter 5.

The table also shows that for the period 2004–05 to 2007–08, the choice of weights makes very little difference to the numbers of children defined as materially deprived. However, from 2008–09, a significant and increasing gap opens up: using annually updated weights leads to fewer children being defined as materially deprived than using fixed 2004–05 weights. What could be driving this? Following our earlier discussion (for full details, see Box 6.1), we know that updating the prevalence weights each year does *not* make the measure of material deprivation relative. This rules out one reason that we might otherwise have considered obvious: the overall reduction in prevalence of items during the recession

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<sup>124</sup> McKay, 2011.

<sup>125</sup> McKay (2011) recognises that there may be some differences.

Table 6.4. Numbers of children materially deprived and materially deprived with low income, over time using different methods

	2004–05 to 2007–08 method (fixed weights)		2008–09 to 2009–10 method (updated weights)		2010–11 onwards method (updated items)	
	%	Million	%	Million	%	Million
<b>Materially deprived</b>						
2004–05	25.5	3.3	25.5	3.3		
2005–06	24.6	3.2	24.6	3.2		
2006–07	24.3	3.1	24.2	3.1		
2007–08	25.4	3.3	25.4	3.3		
2008–09	27.6	3.5	27.0	3.5		
2009–10	28.0	3.6	26.7	3.5		
2010–11	27.3	3.6	25.9	3.4	21.7	2.8
<b>Materially deprived and low income</b>						
2004–05	17.1	2.2	<b>17.1</b>	<b>2.2</b>		
2005–06	16.3	2.1	<b>16.3</b>	<b>2.1</b>		
2006–07	15.7	2.0	<b>15.6</b>	<b>2.0</b>		
2007–08	17.2	2.2	<b>17.2</b>	<b>2.2</b>		
2008–09	17.5	2.2	<b>17.1</b>	<b>2.2</b>		
2009–10	16.3	2.1	<b>15.8</b>	<b>2.1</b>		
2010–11	15.0	2.0	<b>14.5</b>	<b>1.9</b>	12.7	1.7

Note: Official measures are highlighted in bold.

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

leading to the 'updated weights' measure becoming less stringent relative to one of 'fixed weights'. Items did become less affordable on average, but this does not explain the difference between these two measures. Instead, those items that children close to the cut-off point for material deprivation tend to lack must have seen a decrease in their *relative* prevalence (which may occur even if all items see falls in their *absolute* prevalence). Lack of such items would therefore lead to lower material deprivation scores under the updated weights than under the original fixed weights. For instance, the relative prevalence of holidays has fallen during the recession (see Table 6.1), and if family holidays are an item that children close to the cut-off point for material deprivation tend to lack, then this could explain the results.

Changing the items used to construct the material deprivation indicator has a large effect on the number of children deemed materially deprived: it falls from 3.4 million (25.9%) in 2010–11 using the 'old' items to 2.8 million (21.7%) using the 'new' ones. The impact on the combined material deprivation and low income measure is less stark (1.9 million versus 1.7 million) but also large. This difference probably reflects the fact that the new items are, on average, much more widely available than the items they replace.

An important question is whether the changes in the proportion of children defined as materially deprived over time and under different methodologies reflect shifts right across the distribution of material deprivation scores or changes just around the 25-point cut-off. For instance, are the increases in the fraction of children defined as materially deprived since 2006–07 indicative of broad increases in material deprivation scores or only of a shift in scores from just below to just above 25?

Figures 6.1a and 6.1b investigate this issue. They show the fraction of children living in families with a score less than or equal to every score between 0 (the minimum possible score, indicating that no items

are lacked due to affordability constraints) and 80 (more than 99% of children live in households with a score of less than 80). Lines that are higher up indicate that, in that year or under that measure, *more* children live in families with a score less than or equal to a given score. Hence, lines that are consistently higher than others indicate generally *lower* levels of material deprivation.

Figure 6.1a examines how the distribution of scores in 2010–11 compares with that in 2006–07, when the rate of material deprivation reached its low point, and in 2004–05, the first year for which the measure is available. A smaller fraction of children have scores of around 40 or less in 2010–11 than in 2006–07, with the gap being most notable at scores around 20 or less (there is also a notable gap between the 2010–11 and 2004–05 distribution of scores at scores of less than 20). For instance, the fraction of children with a score of 0 (i.e. lacking no items due to an inability to afford them) fell from

Figure 6.1a. Distribution of material deprivation scores in 2004–05, 2006–07 and 2010–11 (using annually updated prevalence weights)

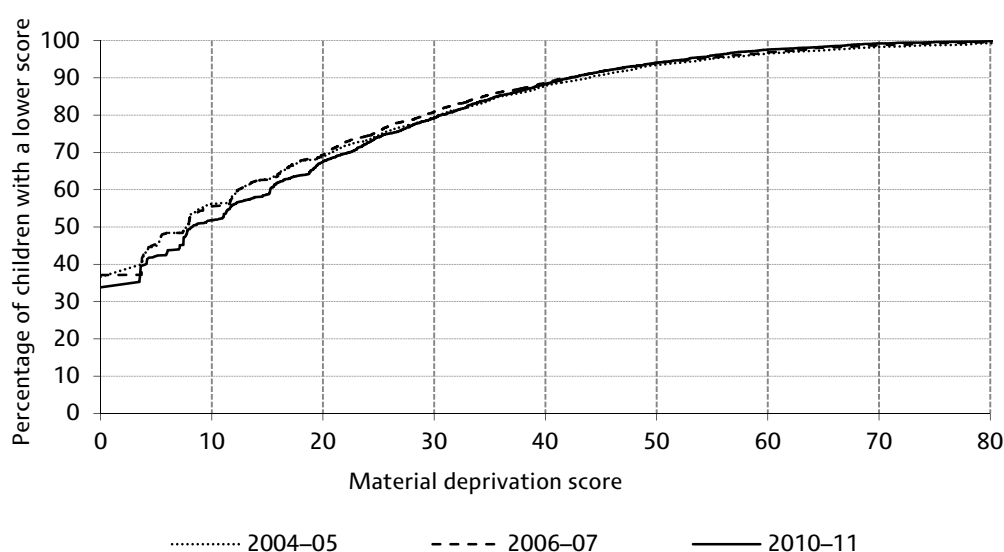
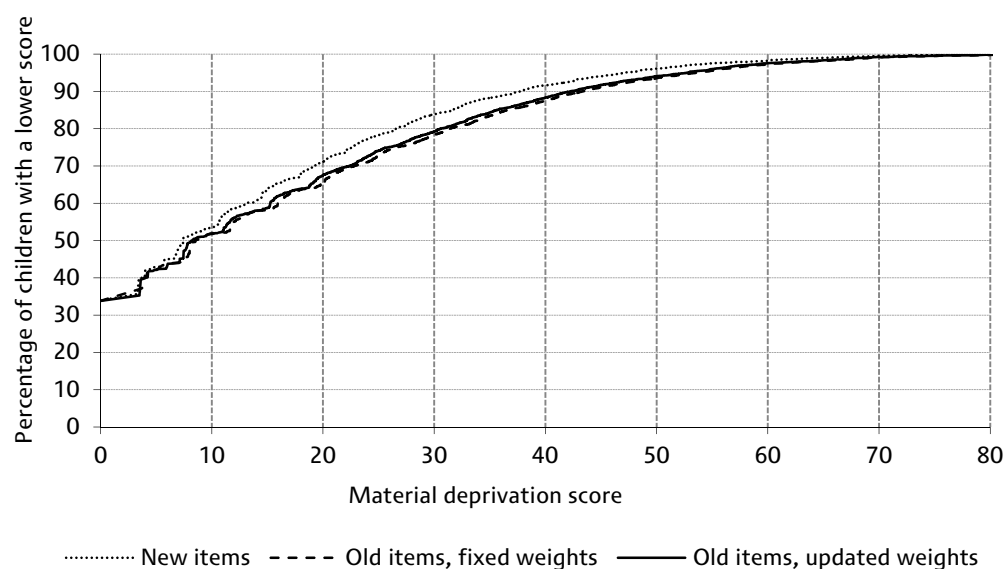


Figure 6.1b. Distribution of material deprivation scores in 2010–11 under various measures of deprivation



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

around 37% to around 34%. On the other hand, at scores of 40 or above, there is little difference in the distributions and, if anything, the proportion of children with scores below given scores above 40 has increased in 2010–11 relative to 2006–07 and 2004–05. Together, these suggest that the increases in the rate of material deprivation since 2006–07 reflect a broader increase in deprivation scores across most of the distribution but that there has been a (small) decline in the proportion of children with very high deprivation scores.

Figure 6.1b examines how the distribution of scores in 2010–11 varies according to the method used to calculate the score. The most interesting findings come from comparing the measures based on the new and old sets of questions. Doing so shows that the lower rate of material deprivation using the new questions results not from children shifting from just above the threshold of 25 to just below, but from lower deprivation scores more generally (the ‘new items’ line is consistently above the ‘old items’ lines). The figure also shows that the updating of the weights has little impact on measured deprivation across the whole distribution.

## 6.2 The characteristics of materially deprived children

Earlier IFS analysis<sup>126</sup> has investigated the characteristics of materially deprived children and examined the link between low income and material deprivation. Here, we analyse how things have changed in recent years and examine how the changes in methodology discussed above affected results.

Table 6.5 shows the rates of relative BHC income poverty (column 1), material deprivation calculated using the ‘old’ set of items and fixed 2004–05 prevalence weights (column 2), material deprivation calculated using the ‘old’ set of items and 2010–11 prevalence weights (column 3) and material deprivation calculated using the ‘new’ set of items (column 4). It also shows the rates of material deprivation in the year for which we last conducted detailed analysis, 2006–07, using the weights from that year (column 5).<sup>127</sup>

The table shows the following:

### Regions<sup>128</sup>

- The three regions with the highest rates of relative income poverty among children (West Midlands, Yorkshire and the Humber, and the North East of England) are among the five regions with the highest rates of material deprivation among children (at least 30%). Similarly, the South East and the East of England have the lowest rates of both income poverty and material deprivation. However, the link between regional income poverty and material deprivation rates is not perfect. For instance, income poverty is relatively low in London but material deprivation is relatively high, while the opposite is true for Northern Ireland. We have previously argued that this may reflect high housing costs in London; indeed, income poverty is also relatively high in London when measured AHC.<sup>129</sup>

<sup>126</sup> Brewer, O’Dea, Paull and Sibieta, 2009; Brewer, Muriel, Phillips and Sibieta, 2008.

<sup>127</sup> Analysis presented in the 2008 poverty and inequality report (Brewer, Muriel, Phillips and Sibieta, 2008) showed how a similar set of child and family characteristics affected the likelihood of income poverty and child material deprivation *holding other characteristics fixed*. The results in column 5 are not entirely consistent with this earlier analysis because the earlier analysis used fixed 2004–05 prevalence weights (as was official practice at the time) rather than contemporaneous weights.

<sup>128</sup> DWP generally publishes regional analysis based on three-year averages to avoid presenting analysis based on small sample sizes, and we follow this approach in Table 6.5. This means the regional figures in the 2010–11 columns are averages for the period 2008–09 to 2010–11, and the regional figures in the 2006–07 column are averages for the period 2004–05 to 2006–07. Because the new questions were not asked prior to 2010–11, it is not possible to construct material deprivation rates using the new items on this basis. All other breakdowns use one-year figures for 2006–07 and 2010–11.

<sup>129</sup> See Department for Work and Pensions (2012) and Brewer, Muriel, Phillips and Sibieta (2008).



Table 6.5. Rates of child income poverty and material deprivation by family characteristics

	Rate (%), 2010–11			Rate (%), 2006–07	
	Income poverty (1)	Material deprivation, old items, fixed weights (2)	Material deprivation, old items, updated weights (3)	Material deprivation, new items, updated weights (4)	Material deprivation, old items, updated weights (5)
<b>Region (3-year average)</b>					
North West	22.0	33.6	32.3	N/A	26.6
Yorkshire and the Humber	25.0	32.6	30.8	N/A	24.7
London	18.8	31.1	30.3	N/A	34.5
North East	24.8	31.0	30.1	N/A	26.2
West Midlands	27.2	31.1	30.0	N/A	27.3
Wales	22.5	28.3	26.9	N/A	25.4
East Midlands	18.3	27.8	26.8	N/A	24.7
South West	16.0	25.8	24.8	N/A	20.9
Northern Ireland	24.0	25.0	24.5	N/A	21.7
Scotland	19.5	22.9	22.4	N/A	21.3
South East	12.6	21.4	20.6	N/A	20.2
East of England	15.3	21.4	20.1	N/A	19.6
<b>Number of children</b>					
One child	16.7	26.0	24.8	20.3	22.5
Two children	14.7	22.1	20.6	17.0	19.6
Three children	22.9	33.4	31.8	27.1	27.9
Four children	26.9	50.5	49.5	43.0	37.5
Five or more children	25.1	57.9	57.6	56.0	57.4

	Rate (%), 2010–11			Rate (%), 2006–07	
	Income poverty (1)	Material deprivation, old items, fixed weights (2)	Material deprivation, old items, updated weights (3)	Material deprivation, new items, updated weights (4)	Material deprivation, old items, updated weights (5)
<b>Work and marital status</b>					
Couple with two workers	<b>6.0</b>	8.9	<b>8.1</b>	5.6	<b>7.0</b>
Couple with one worker	<b>22.8</b>	25.6	<b>24.3</b>	19.5	<b>18.8</b>
Couple with no workers	<b>60.2</b>	71.8	<b>70.9</b>	65.6	<b>65.9</b>
In-work lone parent	<b>10.4</b>	33.7	<b>31.6</b>	24.9	<b>32.2</b>
Workless lone parent	<b>33.9</b>	71.6	<b>68.4</b>	61.9	<b>70.8</b>
<b>Age of youngest child</b>					
Under 5	<b>18.8</b>	30.3	<b>28.8</b>	24.3	<b>27.4</b>
5–10	<b>15.7</b>	27.9	<b>26.5</b>	21.4	<b>23.9</b>
11–15	<b>17.9</b>	21.6	<b>20.4</b>	17.7	<b>20.8</b>
16+	<b>16.5</b>	22.9	<b>21.7</b>	18.4	<b>15.4</b>
<b>Housing</b>					
Owner-occupied	<b>11.5</b>	11.5	<b>10.7</b>	7.4	<b>10.5</b>
Social housing	<b>35.1</b>	63.1	<b>60.2</b>	53.5	<b>59.1</b>
Private rented	<b>18.9</b>	43.8	<b>42.2</b>	37.4	<b>41.4</b>
Other	<b>26.1</b>	21.7	<b>19.7</b>	16.4	<b>31.6</b>
<b>Disability</b>					
Disabled adults	<b>23.4</b>	45.1	<b>44.0</b>	39.3	<b>43.3</b>
Disabled children	<b>17.5</b>	45.1	<b>42.8</b>	38.1	<b>37.4</b>
No disabled individuals	<b>16.2</b>	22.4	<b>21.2</b>	17.0	<b>19.6</b>
<b>Overall</b>	<b>17.5</b>	27.3	<b>25.9</b>	21.7	<b>24.2</b>

Notes: Official measures are highlighted in bold. Work status is calculated on a different basis from the HBAI publication and Tables 5.1 and 5.6. Regional analysis only uses three-year averages (see footnote 128). Threshold for relative income poverty is 60% of median household BHC income.

Source: Authors' calculations based on Family Resources Survey, 2004–05, 2006–07 and 2010–11.

- However, like the South East and the East of England, London has seen the rate of material deprivation hold steady or fall since the period between 2004–05 and 2006–07, whilst the North East, North West and South West of England, and Yorkshire and the Humber have seen particularly large increases in the rate of material deprivation. Similar differences in trends are not seen for relative income poverty (see the official HBAI publication).

### **Family structure and age of children**

- The rates of both income poverty and material deprivation are higher for families with three or more children than for families with one or two children. However, the rate of material deprivation climbs more steeply than the rate of income poverty for families with four or more children. One interpretation of this is that although household incomes are adjusted in an effort to account for the fact that more income is required when there are more people in a household (a process called equivalisation), the adjustment does not capture all the additional costs that larger families face. Alternatively, it could be that the persistence of poverty is higher among larger families (and we would expect material deprivation to be related to persistently low income as opposed to temporarily low income). It is also notable that material deprivation has increased most since 2006–07 for families with four children.
- The rates of material deprivation are similar for children living with workless couples and children living with workless lone parents, whereas the rate of income poverty is much lower for those living with workless lone parents. The rate of material deprivation is higher for children living with a working lone parent than for children living with a couple with one worker, while income poverty is lower for those living with working lone parents. This suggests that the equivalisation process is underestimating the costs that lone parents face to achieve a given standard of living relative to couples with children.
- Material deprivation has increased more among children living with a couple than among those living with a lone parent since 2006–07.
- Although the rate of income poverty varies little by the age of the youngest child in a family, the rates of material deprivation for families where the youngest child is under 11 are higher than the rates where the youngest child is older. Again, this suggests there may be problems with the equivalisation process, with the costs faced by parents of younger children possibly being underestimated relative to those faced by parents of older children. Alternatively, it could be that more families with young children have persistently low income.
- Material deprivation has increased most since 2006–07 for families where the youngest child is aged 16 or over.

### **Other characteristics**

- While the rate of income poverty among children living in privately rented accommodation is about 1.6 times as high as that for children living in owner-occupied housing, the rate of material deprivation is around four times as high. This suggests that home-owners have access to greater resources than renters (perhaps via additional access to credit) or that income poverty is less persistent among home-owners.
- The rate of income poverty among children living with at least one disabled adult is around 1.4 times as high as that among children living in families where no one is disabled, but the rate of material deprivation is around twice as high. Even more dramatically, income poverty is virtually the same among children who are disabled or have disabled siblings as it is among children where no one in the family is disabled, while the rate of material deprivation is, again, around twice as high. One interpretation of this is that the current HBAI practice of including disability benefits as part of

income, but making no adjustment (for instance, via the equivalisation process) for the additional costs that disability may involve, could be inappropriate. Alternatively, it could be that low income is more persistent among families with disabled members than for those with no one disabled.

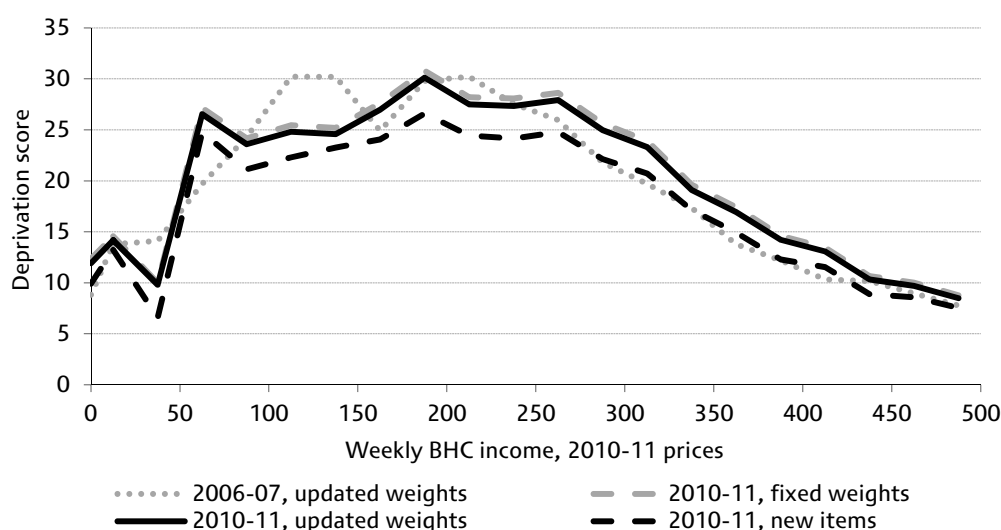
- Material deprivation has increased most since 2006–07 for children who are disabled or have disabled siblings.

Using annually updated as opposed to fixed 2004–05 weights makes very little difference to the pattern of material deprivation across subgroups of children. Material deprivation is lower for all subgroups when the new items are used in place of the old ones, although the difference is smallest for the few children living in families where there are five or more children.

Previous analysis by IFS researchers<sup>130</sup> also examined the relationship between material deprivation and household income as measured in HBAI, in part to shed light on whether the HBAI measure of income is a good indicator of the living standards of families with children. Figure 6.2 shows mean material deprivation score by income in 2006–07 (the dotted grey line), mean material deprivation score by income in 2010–11 using the old items and fixed weights (the dashed grey line), mean material deprivation score by income in 2010–11 using the old items and updated weights (the solid black line) and mean material deprivation score by income in 2010–11 using the new items (the dashed black line).

In both 2006–07 and 2010–11, it is clear that the average material deprivation score first increases with income, peaks at equivalised incomes of between approximately £100 and £275 per week, and then declines with income. In other words, the small number of children living in households with very low incomes (less than £50 per week) do not suffer, on average, the highest levels of deprivation, but those living in low-income households more generally do face higher levels of deprivation than those living in households with higher incomes. This likely reflects the fact that many households with very low measured incomes do not actually have such limited financial resources: they may have only temporarily low incomes or their incomes may be misreported through, for instance, the omission of certain sources of income.

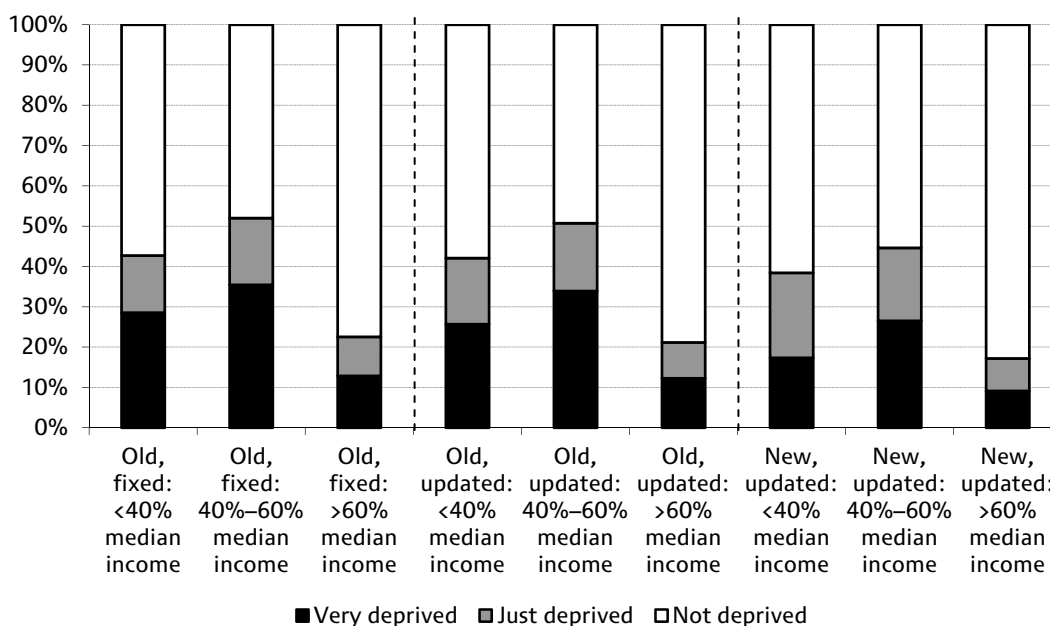
Figure 6.2. Relationship between BHC income and mean material deprivation scores among families with children



Source: Authors' calculations based on Family Resources Survey, 2004–05, 2006–07 and 2010–11.

<sup>130</sup> Brewer, O'Dea, Paull and Sibieta, 2009; Brewer, Muriel, Phillips and Sibieta, 2008.

Figure 6.3. Levels of deprivation among families with children by relative BHC income poverty status, 2010–11



Note: Children are classed as very deprived if their material deprivation score is greater than 35, just deprived if their material deprivation score is between 25 and 35, and not deprived if their material deprivation score is under 25.  
 Source: Authors’ calculations based on Family Resources Survey, 2010–11.

There are some differences between 2006–07 and 2010–11, and between the measures based on the old and new items for 2010–11. First, average material deprivation scores are systematically higher in 2010–11 than in 2006–07 at incomes over around £250 per week, whereas at incomes less than £250 per week there is no systematic difference. This means that the reductions in item prevalence that took place in recent years were driven by children living in households with incomes over £250 per week. Second, use of the new items in place of the old ones leads to lower average material deprivation scores across the income distribution, but particularly at incomes between around £175 and £275 per week.

Figure 6.3 shows the proportion of children with household incomes below 40% of median income, with household incomes between 40% and 60% of median income, and with household incomes greater than 60% of median income who are ‘very deprived’, ‘just deprived’ and ‘not deprived’ for our various measures of material deprivation in 2010–11. Children are classed as very deprived if their material deprivation score is greater than 35, just deprived if their material deprivation score is between 25 and 35, and not deprived if their material deprivation score is under 25.

The first clear finding is that the rates of material deprivation and ‘severe’ material deprivation are higher for children living in households with an income between 40% and 60% of the median than for those living in households with an income of less than 40% of the median. This reflects the fact that average material deprivation scores first rise with income, before falling. This suggests that definitions of severe poverty based on the fraction of children with incomes less than 40% of the median may be inappropriate (although these children have low measured incomes, they do not appear to be the most materially deprived, on average). Second, the shift to updating prevalence weights annually has reduced the rate of material deprivation by slightly more for children with an income of greater than 40% of the median than for those with an income of less than 40% of the median. Third, this is also true for the change in items used in the material deprivation indicator, which is unsurprising given that the fall in average deprivation scores was largest at incomes between around £175 and £275 per week (roughly 42% to 66% of the

median). It is also clear that, of deprived children, fewer are ‘severely’ deprived using our definition when the new items are used to construct the material deprivation index than when the old items are used.

### 6.3 Material deprivation among pensioners aged 65 or over

Since 2009–10, almost all families with at least one person aged 65 or over that are included in the Family Resources Survey have been asked a suite of questions on material living standards in an effort to determine the extent of material deprivation among pensioners. The method for calculating material deprivation scores and determining whether a pensioner is materially deprived differs from that used for children. This follows independent research for DWP that concluded that the method used for children (where lacking an item only counts towards being materially deprived if the respondent states they cannot afford the item) would be inappropriate for pensioners.<sup>131</sup> In essence, the questions have been reformulated so that they better capture goods generally seen as necessary for older people, and the set of responses deemed to indicate being deprived of a good (as opposed to not wanting or needing the good) has been expanded to include health and social reasons.<sup>132</sup> This means that, to some extent, the concept of material deprivation for pensioners is broader than that for children (which focuses on purely monetary constraints on access to an item). The threshold deprivation score for defining a pensioner as materially deprived is also lower (i.e. more stringent): 20 rather than 25. Using this official measure, the rate of material deprivation among pensioners aged 65 or over fell from 9.4% to 8.6% between 2009–10 and 2010–11, although it should be noted that this change was not statistically significant.

In last year’s poverty and inequality report,<sup>133</sup> we noted that the relationship between low income and material deprivation is much weaker for pensioners than it is for children, and it is clear that the inclusion of non-monetary constraints in the pensioners’ measure of material deprivation may be one factor driving this difference. Figure 6.4 shows the extent to which low income and material deprivation overlap when the official measure of pensioners’ material deprivation is used (the top panel) and when only monetary constraints are used to define deprivation (the bottom panel). Of the 0.84 million pensioners who are materially deprived under the official definition, around 0.19 million (22.1%) are also income poor (BHC). Of the 0.55 million who are materially deprived due to monetary constraints, around 0.13 million (24.3%) are also income poor. Hence, restricting attention to monetary constraints increases the link between material deprivation and low income *slightly* but not dramatically.

Figure 6.5 shows how the mean score of each pensioner material deprivation measure varies with income. The solid black line shows the official measure of deprivation, whilst the solid grey line shows the measure calculated based on monetary constraints only. Average scores are volatile at incomes below around £150 per week, reflecting the fact that few pensioners have incomes below this level, although, as with children, it does seem that those with the very lowest measured incomes are not the most materially deprived on either measure. Using the official measure of material deprivation, the average score is between 7 and 8 for incomes between around £150 and £350 per week, before steadily falling at higher levels of income. Using the measure based on monetary constraints only, the average score is around 5 on incomes between around £175 and £325 a week, before falling steadily. Figure 6.5 also confirms that defining material deprivation based only on monetary constraints leads to a stronger relationship with low income. For instance, whilst at an equivalised income of around £200 a week, defining deprivation

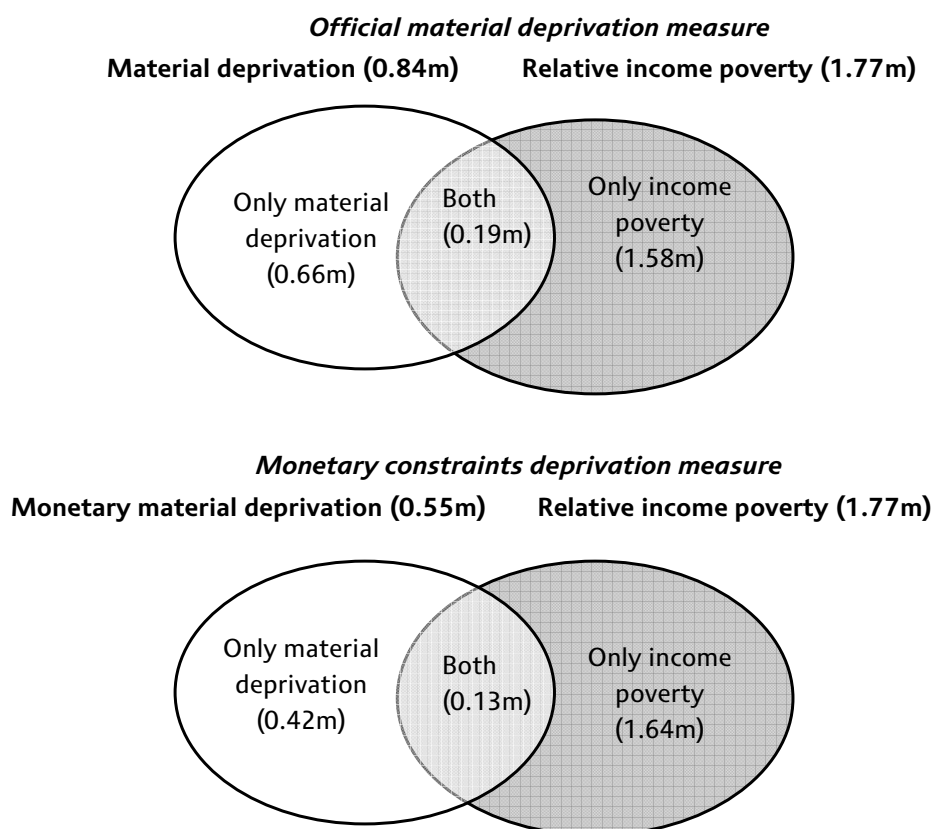
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<sup>131</sup> McKay, 2008.

<sup>132</sup> Specifically, the additional reasons for deprivation are ‘My health/disability prevents me’, ‘It is too much trouble/too tiring’, ‘There is no one to do this with or help me’ and ‘Other’. It is also worth noting that the ‘cannot afford’ response to child material deprivation questions is replaced with two separate reasons: ‘I do not have the money for this’ and ‘This is not a priority for me on my current income’.

<sup>133</sup> Jin et al., 2011.

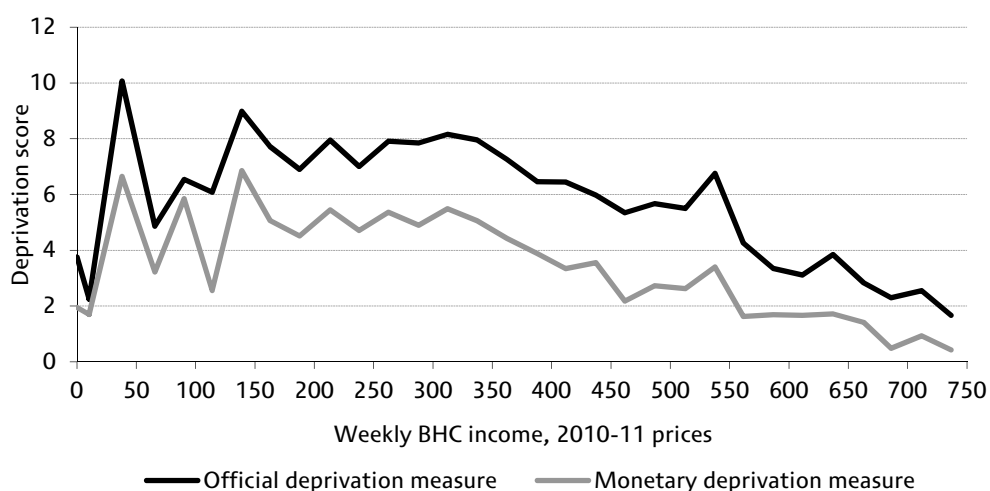
Figure 6.4. Overlap of low income (BHC) and material deprivation among pensioners (aged 65 or over)



Notes: The measure of relative income poverty is based on a threshold of 60% of contemporary median BHC income. The measure of material deprivation is based on having a material deprivation score of at least 20.

Source: Authors' calculations based on Family Resources Survey, 2010–11.

Figure 6.5. Relationship between BHC income and mean material deprivation scores among pensioners



Source: Authors' calculations based on Family Resources Survey, 2010–11.

scores based on monetary constraints only reduces the average score by around one-third, at equivalised incomes of around £450 and above, average scores fall by one-half or more. This confirms that a larger part of the deprivation observed among pensioners with higher incomes is driven by health and social reasons than is among pensioners with lower incomes.

However, even when based on monetary constraints only, the link between income and material deprivation is less strong for pensioners than it is for children: for instance, the average material deprivation score at incomes of £500 a week is around one-third that at £250 a week for children, but around one-half for pensioners. On the one hand, this is somewhat surprising. As pensioners are mostly retired and rely on state benefits and private pensions for a large fraction of their incomes, one might expect their incomes to be more stable than those of families with children, and therefore a pensioner with low income would be less likely to have only a temporarily low income than a child. One would also expect material deprivation to be more strongly associated with permanently low as opposed to temporarily low income. Together, this would imply a *stronger* link between measured income and material deprivation due to monetary constraints for pensioners than for children. How can the *opposite* be explained? One possibility is that pensioners have higher wealth than families with children, and this can be drawn down to pay for necessities. This would tend to reduce the link between income and material deprivation for pensioners, as wealth is not perfectly correlated with income (so, for instance, there are income-poor, asset-rich pensioners who may be able to avoid deprivation by drawing down their savings). Another possibility is that the availability of financial or other support from children (or a need to provide support to children) creates variation in material deprivation that is not related to the household income of the pensioner.

It is also worthwhile seeing how relative income poverty (BHC) and the official and monetary constraints measures of material deprivation vary across different sub-categories of pensioners. Table 6.6 does this and shows the following:

- The rate of pensioner material deprivation varies much more across the country than the rate of income poverty, particularly when material deprivation is defined on the basis of monetary constraints only. For instance, the rate of income poverty is only 2 percentage points lower in the South East of England than in London, whereas the rate of material deprivation is between 6 and 8 percentage points lower depending on how it is defined.
- While the oldest pensioners are most likely to be income poor, they are least likely to be materially deprived using both the official measure and the measure based on monetary constraints only. This may reflect lower expectations about living standards among the oldest pensioners (in general, a greater proportion say items are not wanted or relevant). The increasing gap between the official measure of material deprivation and the monetary constraints measure as age increases shows that health and social constraints play a larger role in overall deprivation as age increases, as one might expect. Perhaps surprisingly, the rate of material deprivation is higher among pensioners living in households containing working-age adults than among those living on their own or with other pensioners only (this group contains both pensioners with a working-age partner – who are likely to be relatively young themselves – and those living with other working-age people such as their children – who may be old and frail).
- Differences in the rates of material deprivation between single pensioners and pensioners living in a couple are much larger than differences in the rate of income poverty. For instance, while the rate of income poverty for pensioners in a couple (15.6%) is similar to that for single male pensioners (15.8%), the rate of material deprivation (5.3%) is less than half (11.7%). The gap is rather smaller when only monetary constraints are considered, suggesting that individuals living alone face greater social or health constraints.



- While income poverty is highest for those living in owner-occupied housing and lowest for those in social housing, the opposite is true of material deprivation. This is driven by our use of a BHC measure of income poverty: using an AHC measure shows income poverty fall (from 19.6% to 11.9%) among owner-occupier pensioners and rise (from 10.2% to 22.4%) among pensioners in social rented housing. Even so, the rate of material deprivation among social renters exceeds the rate among owner-occupiers by more than AHC income poverty, suggesting that owner-occupiers have other resources (for example, wealth) which can be utilised to avoid material deprivation.

Table 6.6. Income poverty (BHC) and material deprivation by pensioner characteristics

	<i>Rate (%), 2010–11</i>		
	<b>Income poverty</b>	<b>Official material deprivation</b>	<b>Monetary material deprivation</b>
<b>Region</b>			
London	20.1	13.2	9.3
West Midlands	18.8	12.2	8.3
Wales	16.0	10.9	7.5
Northern Ireland	22.3	10.7	8.8
North West	16.6	9.0	6.5
East Midlands	21.4	8.3	5.1
South West	17.0	8.0	4.9
North East	15.7	7.9	6.9
Yorkshire and the Humber	18.8	7.6	4.0
Scotland	16.7	7.5	4.5
East of England	16.6	6.1	3.6
South East	18.1	5.5	3.2
<b>Age of pensioner</b>			
80+	23.1	8.1	3.3
70–79	17.3	8.5	6.1
65–69	14.1	9.2	7.1
<b>Household contains working-age adults</b>	19.8	12.5	8.0
<b>Family type</b>			
Couple	15.6	5.3	3.7
Single female	24.1	14.0	8.9
Single male	15.8	11.7	7.1
<b>Housing</b>			
Owner-occupied	19.6	4.9	3.1
Social rented	10.2	23.2	15.5
Private rented and other	18.4	21.0	15.0
<b>Disability</b>			
Someone has a limiting condition	15.8	11.6	7.5
No one has a limiting condition	20.6	5.0	3.5
<b>All</b>	18.0	8.6	5.6

Notes: Official measures are highlighted in bold. DWP generally publishes regional analysis based on three-year averages. Figures based on one year of data will be subject to greater sampling error, but the pensioner material deprivation indicator is available for the last two years of data only. Threshold for relative income poverty is 60% of median household BHC income.

Source: Authors' calculations based on Family Resources Survey, 2010–11.

- Income poverty is lower for pensioners who have a limiting disability, or whose partner does, than among other pensioners. On the other hand, the rate of material deprivation is higher when a pensioner or their partner has a limiting disability than for the rest of the pensioner population. Furthermore, more than half of this difference is accounted for by monetary as opposed to social or health constraints. This suggests that the current HBAI practice of including disability benefits as part of income, but making no adjustment (for instance, via the equivalisation process) for the additional costs that disability may involve, might be inappropriate.

## 6.4 Deprivation among working-age adults

Whilst the government has had official measures of material deprivation among children since 2004–05 and among pensioners since 2009–10, there is no official measure of material deprivation among working-age adults. In this section, we make use of the ‘adult’ questions used to assess child material deprivation to investigate how material deprivation among working-age adults with and without dependent children may have been changing in recent years.

Table 6.7 shows the percentage of adults, separately by whether or not they have dependent children, who report they are unable to afford each adult item in 2004–05, 2007–08 and 2010–11. We do not construct an overall index of material deprivation for working-age adults, in large part due to there being relatively few questions (11).

The fraction of families reporting that they cannot afford an item is higher for families with dependent children *for every item for every year* shown, with the difference most notable for items that might be considered more of a luxury (such as a holiday or money left over for oneself). It is therefore clear that, on average, adults with dependent children are more deprived than adults without dependent children. It is also notable that while income poverty has fallen among adults with dependent children and risen among adults without dependent children, inability to afford these items has *increased* for both groups between 2007–08 and 2010–11, with no notable difference in the magnitude of the changes in affordability between the two groups.

The rate of income poverty among working-age adults with children is only 9.2% (or 1.4 percentage points) higher than that among working-age adults without children in the latest year of data, 2010–11. However, the difference in the fraction reporting an inability to afford an item is, generally, rather higher. For instance, the smallest difference among the material deprivation questions is 10.5% (or 0.9 percentage points) for an inability to afford to keep accommodation warm, while in the case of having money to spend on oneself the difference is around 100% (15.8 percentage points). What could be driving this pattern? One possibility is that existing equivalence scales do not fully reflect the additional costs that families face when they have children (so that their ‘equivalised’ incomes are overstated relative to those of families without children). Another possibility is that a larger part of the income poverty among working-age adults without children is temporary than it is for working-age adults with children. In other words, the difference in the rates of ‘long-term’ income poverty (which may be more important in causing material deprivation) may be larger than the difference in the snapshot measures of poverty reported in Table 6.7. Finally, it could be the case that parents focus resources on their children, leaving them less to spend on their own needs. Further research is needed to ascertain which, if any, of these effects is driving the results found.

Table 6.7. Percentage of working-age adults who *cannot* afford adult items

	With dependent children			Without dependent children		
	2004–05	2007–08	2010–11	2004–05	2007–08	2010–11
Able to keep accommodation warm	5.4	7.4	9.4	4.0	6.6	8.5
Two pairs of all-weather shoes for each adult	8.0	7.5	8.7	4.4	4.3	5.7
Money for decent decoration of home	15.4	15.6	15.7	9.0	9.5	10.6
Household contents insurance	13.4	14.6	16.7	7.6	8.5	9.8
Replace or repair major electrical goods (e.g. refrigerator) when broken	17.8	17.7	21.9	9.7	10.2	13.6
A small amount of money to spend each week on yourself, not on your family	28.2	28.8	31.6	11.9	12.3	15.8
Have friends or family around for a drink or meal at least once a month	13.6	13.8	15.5	8.9	9.7	11.3
Replace any worn-out furniture	25.9	25.5	31.0	14.7	14.4	18.1
Adult has a hobby or leisure activity	15.3	14.8	15.7	6.0	6.4	8.4
A holiday for at least one week a year, not at home or relative's home	32.9	33.3	39.5	22.2	24.3	28.9
Regular savings of £10 a month or more for rainy days or retirement	35.1	35.5	38.4	24.9	25.7	30.4
<b>Memo: income poverty rate (BHC)</b>	<b>16.9</b>	<b>18.1</b>	<b>16.0</b>	<b>12.6</b>	<b>14.0</b>	<b>14.6</b>

Note: Percentages are calculated excluding those families that do not respond to the questions but including those families who respond that an item 'does not apply' to them. Threshold for relative income poverty is 60% of median household BHC income.

Source: Authors' calculations based on Family Resources Survey, 2004–05, 2007–08 and 2010–11.

## 6.5 Conclusion

Concerns about whether income accurately captures the living standards of different households, particularly towards the bottom of the income distribution, mean that measures of material deprivation are useful. Indeed, as we have shown, analysis of how material deprivation varies with income and of the overlap between material deprivation and income poverty provides further evidence that low measured income does not necessarily translate into low living standards.

Unfortunately, it is difficult to measure material deprivation in a way that is consistent across time. As general living standards change and as the items important for material well-being change, it is important to keep the measure of deprivation relevant by updating the items used to calculate material deprivation. But doing this can lead to big changes in the numbers of people defined as materially deprived, making it hard to track long-term changes in material deprivation. In future, when items are changed, it would be a good idea to calculate material deprivation according to both 'old' and 'new' measures for several years so that detailed comparisons of the trends can be made. DWP should also consider how it weights the responses to individual questions when calculating material deprivation and how the threshold for being defined as materially deprived is set: the current approach has some distinct drawbacks that may lead to perverse results.

It is also difficult to measure material deprivation in a way that allows meaningful comparisons between different types of families or individuals. For instance, the items relevant to families with children are likely to differ substantially from those relevant to pensioners, and the constraints that prevent access to these items may also differ. The government has recognised this, with the measures of material deprivation for children and pensioners being quite different. However, such differences do entail problems. When deciding whether to allocate resources to tackle deprivation, the government may want to know whether pensioners or children suffer from higher levels of deprivation. But if the measures used differ significantly, it may be hard to determine which group is more deprived.

While these are genuine concerns, it is important that measures of material deprivation continue to be monitored in future. As discussed in Chapters 4 and 5, income poverty (both relative and absolute) is likely to increase substantially between 2010–11 and 2020–21 for children and for working-age adults. Whether or not these increases translate into increases in material deprivation will provide useful information on how falls in income are affecting living standards, and will provide some indication of whether the expected increases in income poverty reflect an increase in the population with temporarily low or persistently low incomes.

# Appendix A. The Households Below Average Income (HBAI) methodology<sup>134</sup>

## 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 or happiness, let alone to measure it. The main approach to living standards taken in the government's HBAI document (and therefore in this Commentary too) is to focus solely on material circumstances, and to use income as a proxy for most of the analysis. For families with children and pensioners, 'material deprivation' indicators are also used, to supplement and perhaps improve upon 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. The precise procedures used differ between families with children and pensioners, and are covered in detail in Chapter 6 of this Commentary.

Even as a measure of material well-being, the HBAI income measure has some important limitations. For example, it is a 'snapshot' measure – reflecting actual, or in some cases 'usual', income at around the time of the Family Resources Survey (FRS) interview. Income measured in this way will 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 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>135</sup>

## The treatment of housing costs

The government's HBAI publications look at two measures of income. One measure captures income before housing costs are deducted (BHC) and the other is a measure after housing costs have been deducted (AHC). The government presents both in its HBAI publications, but the previous government's 2010–11 target for child poverty was defined solely in terms of income measured BHC, as are the measures of child poverty defined in the 2010 Child Poverty Act.

The case for using these different income measures arises from variation in housing costs. When deciding whether to measure living standards on an AHC basis as well as BHC, the main issues are whether people face genuine choices over their housing and whether housing cost differentials accurately reflect differences in housing quality.

It is often argued that some individuals do not have much choice over the type or cost of housing services that they consume, whereas they have considerably more choice over the purchase of other consumption goods (such as food or clothing). For these individuals, it could be argued that an AHC measure is a more

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<sup>134</sup> Many of these issues are also discussed in Berthoud and Zantomio (2008).

<sup>135</sup> See Brewer, Goodman and Leicester (2006) and Brewer and O'Dea (2012).

suitable measure of their well-being. Lack of choice over housing cost and quality is particularly important 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.

For low-income individuals, AHC measures also have an advantage over BHC measures that arises due to the existence of Housing Benefit – an income-related benefit that reimburses people specifically for their housing costs. Consider a household with no private income whose rent increases by £10 per week. This would 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 relative supply of rented accommodation – 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.

Pensioners are another group for whom an AHC measure has often been considered appropriate. This is because more than seven in ten pensioners own their homes outright (most of the remainder are social renters).<sup>136</sup> People who own their homes outright will be able to attain a higher standard of living than individuals with the same income level but who have mortgage or rental payments, since housing is an asset which is of benefit to those who own their own homes. On a BHC measure, an individual who owns their own house 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>137</sup>

However, for individuals who do exercise a considerable degree of choice over housing cost and quality, housing can be seen more as a consumption good like any other, and a BHC income measure may therefore be preferable. For instance, consider two households with the same BHC income, one of whom decides to spend a larger fraction of that income on a larger house in a better neighbourhood, and the other spends the difference on consumer durables. On an AHC basis, the former household would be considered poorer, whilst their living standards may be comparable (and, indeed, the household spending more on housing has revealed through its choice that it is ‘better off’ spending more on housing rather than having more to spend on other goods and services).

For these reasons, commentators (including the authors of this Commentary) have often focused on AHC incomes when considering the living standards of individuals at the lower end of the income scale, or when measuring poverty, but looked at incomes measured BHC when considering the entire income distribution. However, for a fuller picture of living standards, it is best to keep in mind both measures.

## 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 some households, this assumption may provide a reasonable approximation – for example, some couples may benefit equally from all income coming into the household. For others, such as students sharing a house, it is unlikely to be appropriate. 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 of a household but not *between* them, by measuring incomes at the benefit unit level rather than at the household level. However, given the data

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<sup>136</sup> Authors’ calculations using Family Resources Survey 2010–11.

<sup>137</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.

available, perfect income sharing is one of the least arbitrary and most transparent assumptions that could be made.

## Comparing incomes across households

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 scale, and a DWP AHC variant, shown in Table A.1, to adjust incomes on the basis of household size and composition, expressing all incomes as the amount that a childless couple would require to enjoy the same standard of living. 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’.

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

The modified OECD scale does not take into account other characteristics of the household besides the age and number of individuals in the household, although there may be other important factors 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>138</sup>

## Sample weighting, and adjusting the incomes of the ‘very rich’

The incomes analysed in this Commentary 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, marital status, region and a number of other variables) reflects the true UK population.<sup>139</sup> For example, if there are proportionately fewer lone parents in the sample than there are in

<sup>138</sup> See also section 5.3 of Brewer, Muriel, Phillips and Sibieta (2008).

<sup>139</sup> See Department for Work and Pensions (2012).

the population, then relatively more weight must be placed upon the data from those lone parents who actually do respond.

Second, a special procedure is applied to incomes at the very top of the income distribution to correct for the particular problems in obtaining high response rates from very rich individuals and the volatility in their reported incomes. This adjustment procedure uses projected data from HMRC's Survey of Personal Incomes (SPI) – a supposedly more reliable source of data for the richest individuals based on income tax returns. The very richest individuals, for whom the SPI adjustment is applied, are assigned an income level derived from the SPI survey. More details, and further discussion in the context of changes in the marginal rates of tax for very high-income individuals which came into effect in April 2010, can be found in Appendix C. 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.

## **The income measure summarised**

In the analysis in this Commentary, we therefore follow the government's HBAI methodology, using *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 2010–11 prices, as our measure of living standards. For brevity, we often use this term interchangeably with 'income'.



## Appendix B. Revisions to 2008–09 and 2009–10 HBAI data

Alongside the publication of the 2010–11 HBAI statistics, the Department for Work and Pensions has made small revisions to the HBAI data for 2008–09 and 2009–10. These correct two issues, regarding the measurement of Rates in Northern Ireland (the equivalent of Great Britain’s Council Tax) and estimates of the number of households of different tenure types in Great Britain (this latter issue affects the grossing weights that are applied to the data to enable the sample of households to be representative of the nation as a whole – see Appendix A).

Table B.1 sets out the impacts of these revisions on a number of key summary statistics.

Table B.1. Effects of revisions to HBAI data for 2008–09 and 2009–10 (UK)

	<i>2008–09</i>		<i>2009–10</i>	
	Pre-revision	Post-revision	Pre-revision	Post-revision
<b>Living standards</b>				
Median income (£)	429.53	428.93	433.54	432.05
Mean income (£)	534.42	533.88	543.05	542.01
Median income growth	0.13%	0.56%	0.93%	0.73%
Mean income growth	1.10%	0.90%	1.62%	1.52%
<b>Poverty rates</b>				
Overall	18.1%	18.0%	17.1%	17.0%
Children	21.8%	21.8%	19.7%	19.7%
Working-age parents	18.2%	18.2%	17.1%	17.1%
Working-age non-parents	14.7%	14.7%	15.0%	15.0%
Pensioners	20.4%	20.1%	18.5%	18.1%
<b>Inequality measures</b>				
Gini	0.357	0.357	0.357	0.357
90/10 ratio	4.207	4.200	4.088	4.081
50/10 ratio	2.029	2.025	1.986	1.979
90/50 ratio	2.074	2.075	2.059	2.063

Note: Incomes have been measured before housing costs have been deducted and are expressed in 2010–11 prices.

Source: Authors’ calculations using Family Resources Survey, 2008–09 and 2009–10.

The revisions slightly lower the estimates of median and mean household income in 2008–09 and 2009–10. They also lower the estimates of relative poverty in 2008–09 and 2009–10 very slightly, by lowering the estimates of relative poverty among pensioners. Impacts on inequality measures are very small: estimates of the Gini are unchanged; estimates of the 90/10 and 50/10 inequality ratios are slightly reduced; and estimates of the 90/50 ratio are slightly increased.

## Appendix C. Incomes at the top of the distribution

In order to address the concern that the Family Resources Survey (FRS) does not accurately capture the incomes of the very rich, because of undersampling of such individuals and because of misrecording of their incomes, the incomes of very rich individuals in the HBAI series are adjusted based on a separate data source, the Survey of Personal Incomes (SPI). The SPI is an administrative data set of income tax records collated by HM Revenue and Customs (HMRC), which is likely to give a significantly more accurate picture of very high incomes than a household survey such as the FRS.

The SPI adjustment is applied to the richest 0.32% of non-pensioners and the richest 1.16% of pensioners, according to their gross incomes as recorded by the FRS, and the adjustment is applied separately for Great Britain and Northern Ireland. Since the Survey of Personal Incomes is not yet available for 2010–11, the adjustment is made using data from the 2009–10 SPI projected forward by HMRC using assumptions laid out in Office for Budget Responsibility (2011). The incomes of the richest *individuals* in the 2010–11 HBAI data are then replaced by the mean income among individuals above the same income threshold in the projected data based on the 2009–10 SPI.

In 2009–10, all non-pensioners in Great Britain with a gross income of over £256,000 (in 2010–11 prices) were subject to the SPI adjustment. In 2010–11, those with a gross income over £203,000 were subject to the adjustment. The reason for the real fall in the income threshold above which people are SPI-adjusted is that a fixed fraction of cases are adjusted in each year (see above), and this implies a lower real income threshold in 2010–11 given the projected falls in real income at the top of the income distribution.

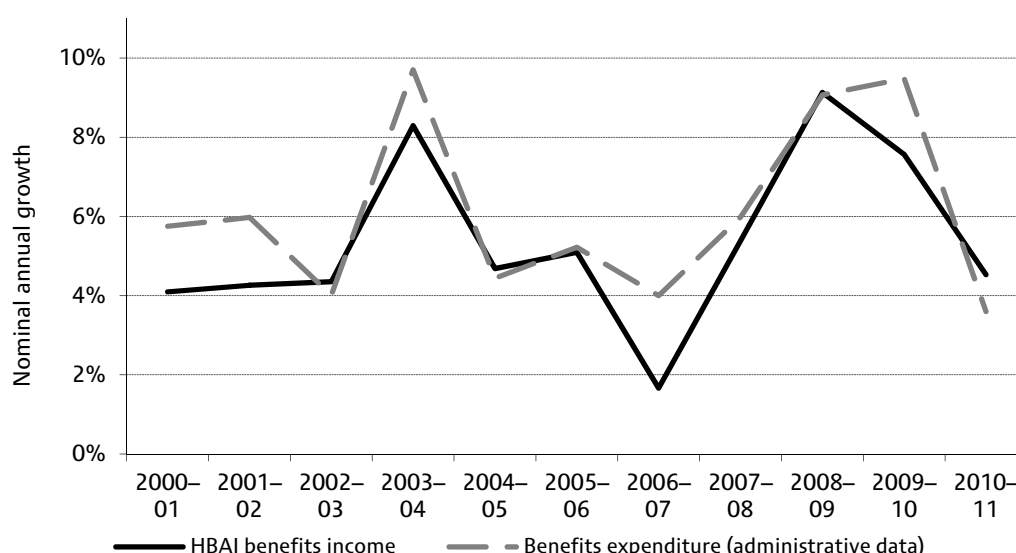
A particular difficulty with the adjustment of top incomes in 2010–11, using a projection based on the 2009–10 SPI, is the introduction of the 50% marginal income tax rate on income exceeding £150,000 per year, which came into effect on 6 April 2010. This created an incentive for affected individuals to bring forward income into the 2009–10 tax year in order to reduce their tax liability – a phenomenon known as ‘forestalling’ – as well as to change their behaviour in more permanent ways in response to the higher marginal tax rate that they face. The SPI adjustment takes this into account, assuming large falls in earnings and self-employment income among the very rich in 2010–11, partly due to the ‘unwinding’ of forestalling. Such an assumption seems broadly consistent with the findings of HM Revenue and Customs (2012), which documented strong evidence of substantial forestalling in 2009–10 and unwinding of this in 2010–11. However, the SPI adjustment is based on estimates that preceded the HMRC report, and that report found large falls in investment income in 2010–11 which are not accounted for in the SPI adjustment. Therefore, top incomes may have been lower in 2010–11 than measured in HBAI (and higher in 2009–10).

The evolution of top incomes in 2010–11 and beyond remains a key area of uncertainty, particularly given the changes in marginal tax rates for these individuals and the subsequent range of possible behavioural responses (both temporary and permanent) that these might induce. This is important for some measures of living standards and for measures of inequality that are sensitive to the incomes of people at the very top of the distribution, such as the Gini coefficient.

## Appendix D. Benefit and tax credit income: comparing HBAI and administrative data

Figure D.1 shows total benefit spending (including tax credits) as recorded in administrative data by the Department for Work and Pensions (DWP) and HM Revenue and Customs (HMRC), compared with nominal growth in benefit and tax credit income measured by HBAI. (Reflecting the availability of administrative data, tax credit and Child Benefit income is for the UK and other benefit income is for Great Britain.) It shows that the increase in benefit and tax credit receipts found in the HBAI data in 2010–11 was 4.5%, which is slightly larger than the 3.6% increase in the amount that the government records as being paid out in its administrative records. As mentioned in Chapter 5, specific high-expenditure items which are driving this relatively small overall difference are Disability Living Allowance (on which nominal spending grew by 16.4% according to the HBAI series but just 4.0% according to administrative data) and tax credits (where the respective growth rates were 7.3% and 4.8%).

Figure D.1. Nominal growth in total spending on benefits and tax credits: comparing HBAI and administrative data



Notes: Tax credit and Child Benefit income is for the UK. Other benefit income is for Great Britain.

Sources: HBAI benefits income from authors' calculations using Family Resources Survey, various years. Administrative expenditure from DWP benefit expenditure table 1 ([http://research.dwp.gov.uk/asd/asd4/index.php?page=medium\\_term](http://research.dwp.gov.uk/asd/asd4/index.php?page=medium_term)) and HMRC annual accounts, various years (available at <http://www.hmrc.gov.uk/about/reports.htm>).

The graph shows that this discrepancy is by no means large by historical standards, however. Differences from year to year are to be expected due to random sampling variation in the underlying survey data, as well as possible fluctuations in the survey's ability to correctly record benefit and tax credit income from those who are sampled. In recent history, the HBAI data have been getting progressively worse at recording benefit and tax credit receipt, so 2010–11 partially reverses this trend and it is possible that this reflects an improvement in the capturing of benefit and tax credit income in the survey. Taking the period since 1999–2000 as a whole, administrative data show a cash increase in benefit and tax credit spending of 92%, whilst HBAI records an increase of 77%.

Table D.1 documents the extent of under-recording of the largest benefits and tax credits (in expenditure terms, according to administrative data) in the HBAI data. Overall, the HBAI data captured 80% of benefit

and tax credit spending in 2010–11. Within that aggregate figure, the general pattern that emerges is particularly poor recording of receipt of means-tested payments. For example, whilst HBAI picked up 95% of Child Benefit spending and 91% of Basic State Pension spending in 2010–11, it recorded just 55% of Pension Credit spending and 69% of tax credit spending. The particularly poor recording of Pension Credit receipt is of continuing concern, given its potential implications for the measurement of pensioner poverty. More generally, the effect of this under-recording on median income, inequality and poverty is not known, as it depends upon precisely where those with under-reported incomes are in the income distribution. But the general tendency for means-tested benefits to be recorded poorly is suggestive that the largest bias caused may be an underestimation of the incomes of low-income households.

Table D.1. Total annual expenditure on major benefits in 2010–11

	Administrative data (£ billion)	HBAI data (£ billion)	% of total expenditure recorded in HBAI data
Basic State Pension	69.8	63.4	91
Pension Credit	8.3	4.5	55
Tax credits	28.1	19.5	69
Child Benefit	12.0	11.4	95
Housing Benefit	21.4	16.3	76
Disability Living Allowance	11.9	9.5	80
<i>All benefits and tax credits</i>	<i>193.1</i>	<i>154.4</i>	<i>80</i>

Notes: Figures for tax credits and Child Benefit are for the UK. Other figures are for Great Britain.

Sources: HBAI benefit receipts data from authors' calculations using Family Resources Survey, 2010–11. Administrative benefit expenditure data from DWP benefit expenditure table 1 ([http://research.dwp.gov.uk/asd/asd4/index.php?page=medium\\_term](http://research.dwp.gov.uk/asd/asd4/index.php?page=medium_term)) and HMRC annual accounts (<http://www.hmrc.gov.uk/about/reports.htm>).

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