

Living Standards, Poverty and Inequality in the UK: 2013

IFS Report R81

Jonathan Cribb
Andrew Hood
Robert Joyce
David Phillips

Living Standards, Poverty and Inequality in the UK: 2013

Jonathan Cribb

Andrew Hood

Robert Joyce

David Phillips

Institute for Fiscal Studies

Copy-edited by Judith Payne

Institute for Fiscal Studies
7 Ridgmount Street
London WC1E 7AE

Published by

The Institute for Fiscal Studies

7 Ridgmount Street

London WC1E 7AE

Tel: +44 (0) 20-7291 4800

Fax: +44 (0) 20-7323 4780

Email: mailbox@ifs.org.uk

Website: <http://www.ifs.org.uk>

in association with

London Publishing Partnership

<http://www.londonpublishingpartnership.co.uk>

© The Institute for Fiscal Studies, June 2013

ISBN 978-1-909463-09-7

Preface

The Joseph Rowntree Foundation has supported this project as part of its programme of research and innovative development projects, which it hopes will be of value to policymakers, practitioners and service users. The facts presented and views expressed in this report are, however, those of the authors and not necessarily those of the Foundation. Neither are the views expressed necessarily those of the other individuals or institutions mentioned here, including the Institute for Fiscal Studies, which has no corporate view. Co-funding from the ESRC-funded Centre for the Microeconomic Analysis of Public Policy at IFS (grant number RES-544-28-0001) is also very gratefully acknowledged. Data from the Family Resources Survey were made available by the Department for Work and Pensions, which bears no responsibility for the interpretation of the data in this report. The authors would like to thank Paul Johnson and Luke Sibieta for their helpful comments. Any errors and all views expressed are those of the authors.

Contents

Executive Summary	1
1. Introduction	9
2. Living Standards	10
2.1 The UK income distribution	11
2.2 Trends in UK living standards	13
2.3 Why did living standards fall?	18
2.4 Inflation and changes in living standards	23
2.5 Prospects for living standards	26
2.6 Conclusion	28
3. Inequality	29
3.1 Income changes across the income distribution	30
3.2 Summary measures of inequality	35
3.3 The distribution of earnings and private incomes	40
3.4 Prospects for income inequality	48
3.5 Conclusion	50
4. Income Poverty	52
4.1 Relative income poverty	55
4.2 Absolute income poverty	73
4.3 Prospects for poverty	76
4.4 Conclusion	79
5. The Income Distribution over the Long Run	81
5.1 Changes by family type	82
5.2 Changes by age	94
5.3 Conclusion	107
6. The Changing Face(s) of Poverty	109
6.1 Changes in relative poverty by individual type and age	110
6.2 Explaining the long-term fall in pensioner poverty	116
6.3 Explaining the long-term rise in poverty among working-age adults without children	122
6.4 The rise and fall in child poverty	127
6.5 Conclusion	134
Appendix A. The Households Below Average Income (HBAI) methodology	136
Appendix B. Benefit and tax credit income: comparing HBAI and administrative data	140
Appendix C. The decomposition of the Gini coefficient	142
Appendix D. Material deprivation	144
Appendix E. After-housing-cost analysis, supplementary to Chapter 5	145
Appendix F. Non-pensioner incomes in families with and without children: quantile regression analysis	149
References	151

Executive Summary

How have household incomes evolved since the onset of the financial crisis? How has the gap between rich and poor changed? How many people are in poverty and what groups are most likely to face poverty? How have living standards changed over time for different parts of the population?

Each year, the government produces statistics about the distribution of income in the UK ('Households Below Average Incomes' or HBAI) which help answer these questions and many more. This report is the twelfth in an annual series published by the Institute for Fiscal Studies (IFS) that analyses these statistics and digs deeper to explore the driving forces behind key trends in living standards, inequality and poverty. Our first such report in 2002 showed a picture of robust year-on-year growth in living standards and falling levels of poverty, while inequality was creeping up. This latest report covers data up to and including 2011–12. The picture is strikingly different. In the aftermath of the recession, average incomes have fallen for two consecutive years. Inequality has fallen back to levels last seen in the mid-1990s. And whilst relative poverty held steady in the latest year of data, this was only because the poverty line fell as average incomes fell: on average, the poor have become worse off in absolute terms, just as other income groups have.

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 income, 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

Average incomes tend to grow over time as the economy expands. Since our consistent data series began more than 50 years ago in 1961, mean household net incomes have grown by about 1.6% per year in inflation-adjusted terms. An alternative measure of 'average income' is median income, which is the income of the individual right in the middle of the income distribution. Median household net income has grown by an annual average 1.4% since 1961. However, income growth has tended to fluctuate over time. For instance, there was strong growth in the late 1990s, but weak growth between 2002 and 2007, even before the financial crisis hit.

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

- Average incomes in the UK fell in 2011–12. After accounting for inflation, official HBAI statistics recorded a fall of 2.8% in median household income, from £440 per week to £427 per week (both in 2011–12 prices), and a fall of 1.6% in mean household income, from £537 to £528. These latest falls came on top of large falls in

2010–11; by 2011–12, real median income was 5.8% below its 2009–10 level and real mean income was 7.2% lower.

- This two-year fall in average incomes was preceded by a slight rise in average incomes during the recession between 2007–08 and 2009–10. Two key factors explain this pattern. First, average gross earnings were remarkably stable between 2007–08 and 2009–10 despite increases in unemployment. However, gross earnings then fell by 6.6% between 2009–10 and 2011–12. Second, while income from benefits and tax credits grew significantly between 2007–08 and 2009–10, it fell by 5.3% over the following two years. This was partly the result of discretionary increases to benefits during the recession and discretionary cuts made since. Changing inflation also played an important role. Falling inflation during the recession helped support real earnings and benefit rates, while rising inflation since has exacerbated the real-terms falls in earnings and benefits.
- Using different measures of inflation to compare incomes over time can substantially alter the picture of changes in living standards. This is particularly significant given that the HBAI statistics continue to use the retail price index (RPI), which is generally agreed to overstate inflation. Comparisons with trends in average incomes according to the Office for National Statistics (ONS)'s new inflation measures, RPIJ and CPIH, suggest that using the RPI leads the HBAI statistics to understate the growth in living standards over time. While the RPI suggests that real median income was a full 4% lower in 2011–12 than in 2005–06, using the RPIJ to adjust incomes gives a fall of 1.1% and using the CPIH gives a fall of only 0.3%. In light of this, the government should consider changing the measure of inflation used to ensure that the HBAI statistics give an accurate picture of changes in living standards.
- What do the data available suggest happened to living standards in 2012–13? Real average earnings continued to fall, but employment levels rose. And whilst there were further discretionary cuts to benefit and tax credit entitlements, falling inflation meant that the default uprating of benefits and tax credits resulted in increases in their value. Taken together, these factors point to broadly stable average incomes in the last financial year. Looking at the following couple of years, there are good reasons to expect further falls in living standards. Real average earnings are forecast to continue falling into 2014–15, and there are further cuts to benefits and tax credits, including the below-inflation 1% uprating of most working-age benefits and tax credits for three years from April 2013 to April 2015.

Chapter 3 – Inequality

Inequality is often described as the gap between rich and poor, but more generally it refers to differences in income between different parts of the population. For this reason, we stress the importance of looking at a range of inequality measures.

The most widely-used measure of income inequality is the Gini coefficient. This ranges from 0 to 1, with higher numbers indicating higher 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. As measured by the Gini coefficient, inequality reached its highest level since at least 1961 between 2007–08 and 2009–10, before falling back sharply in 2010–11.

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

- Income inequality in the UK was broadly unchanged between 2010–11 and 2011–12. Real incomes fell by similar amounts across the income distribution – by 2.5% at the 10th percentile, 2.8% at the median and 2.6% at the 90th percentile.
- Although inequality was unchanged in 2011–12, it was substantially lower than before the recession. The Gini coefficient stood at 0.34 in 2011–12, compared with 0.36 in 2007–08. This was a result of income changes right across the distribution, not just a consequence of falling incomes at the very top of the distribution. Whereas income at the 10th percentile rose by 1.4% in real terms between 2007–08 and 2011–12, the cumulative fall in income at the 90th percentile was 5.9%. Inequality as measured by the Gini was lower than at any point during the 2000s, but still much higher than it was before the dramatic widening of the income distribution that occurred in the 1980s.
- These falls in income inequality came despite increases in earnings inequality. Real weekly earnings fell for everyone between 2007–08 and 2011–12, and the percentage falls were largest for those with modest earnings, although those with the very lowest weekly earnings fared a little better. Household incomes before taxes and benefits therefore became more unequal, but this was outweighed by the effect of the tax and benefit system, which led to reductions in inequality of net incomes.
- There were two key reasons for the fall in inequality between 2007–08 and 2011–12. First, because earnings make up a larger fraction of overall income at the top of the income distribution than at the bottom, falling real earnings had a bigger negative impact on incomes for richer households, despite the increase in earnings inequality. Second, real increases in income from benefits and tax credits supported household incomes towards the bottom of the income distribution.
- Looking forward, a return to real earnings growth and cuts to benefit and tax credit entitlements imply an upward trajectory for income inequality. The reduction in inequality as a result of the recession is likely to prove a temporary rather than permanent phenomenon. In the short run, however, year-on-year movements in inequality will be affected by the fact that ongoing changes to the taxation of very-high-income individuals influence when they choose to realise their incomes. This is likely to continue until at least 2013–14.

Chapter 4 – Income Poverty

The most widely-quoted measure of income poverty in the UK and the rest of the European Union is the proportion of individuals with household incomes less than 60%

of the contemporary median. 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.

Of course, it is not the only measure of poverty nor is it universally accepted as the best. 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 a society's view of what is a minimum acceptable living standard is independent of time and place – for example, it has probably changed since the 19th century. For this reason, it is sensible to consider trends in relative poverty as well as in absolute poverty. 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. The fraction of the population in relative poverty increased substantially during the 1980s, at the same time as inequality more generally was increasing. 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 it stood at 19.6% on this measure in 1997–98 when the last government came to office. From then on, relative poverty fell as the government substantially increased the level of fiscal redistribution. Apart from a brief rise between 2004–05 and 2007–08, there was an almost continuous fall in relative poverty over this period, and it had fallen to 16.1% by 2010–11.

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

- The number of individuals in relative poverty was unchanged in 2011–12, at 13.0 million or 21.1% of the population on an after-housing-costs (AHC) basis and 9.8 million or 15.9% of the population on a before-housing-costs (BHC) basis. Measuring incomes AHC, this puts relative poverty at a level a little above that in 2004–05, but statistically significantly below its level in 2007–08, just prior to the recession. Measuring incomes BHC, relative poverty remains at its lowest level since 1986.
- 2011–12 followed three years during which relative poverty fell substantially. This means relative poverty in 2011–12 was 0.4 million (1.4 percentage points) lower on an AHC basis and 1.2 million (2.4 percentage points) lower on a BHC basis than in 2007–08, the last year prior to the recent recession.
- However, the trends in poverty since 2007–08 have not been the same for different parts of the population. Relative pensioner poverty has fallen to its lowest level since records began in 1961, driven by robust growth in income from state

pensions and benefits. Indeed, pensioner poverty has fallen by over a quarter since before the recession.

- Relative child poverty has also fallen substantially, driven by falling rates of poverty among lone parents and couples with children who have no one in work or only part-time workers. Despite difficult labour market conditions, there has been a small fall in the number of children living in workless households and an increase in those living with two working parents.
- Poverty among working-age adults without children increased, driven largely by a fall in employment among single adults and an increase in the rate of poverty among one-earner couples.
- In contrast to the picture for relative poverty, falling real incomes in 2010–11 and 2011–12 mean that absolute poverty was 1.5 million (1.8 percentage points) higher in 2011–12 than in 2007–08 on an AHC basis. Relative poverty has fallen not because the incomes of poor households have grown relatively faster than median income, but because their incomes have *fallen* relatively less. Measured BHC, absolute poverty has increased by 0.3 million, with falls in absolute poverty among children (0.2 million) and pensioners (0.3 million) just more than offset by rises among working-age adults (0.8 million).
- The majority of poor working-age adults and children live in families containing at least one worker. Poverty is higher among those working in sectors and occupations associated with low hours of work and low hourly pay than among those working in other parts of the economy. This is particularly the case where their earnings are the main source of earnings for their household. Analysis suggests that it is low hourly wages rather than low hours of work that are most strongly linked to being in poverty, although unsurprisingly those working few hours for a low wage have the highest rates of poverty.
- Looking to the future, both absolute and relative poverty among children and working-age adults look set to increase, in large part due to cuts in benefits and tax credits being implemented as part of the fiscal consolidation. The supposedly binding target of ‘eradicating’ child poverty by 2020 will not be achieved.
- Pensioners, who are protected from most of the benefit cuts, are likely to continue to fare rather better than children and the working-age population in the coming years.

Chapter 5 – The Income Distribution over the Long Run

Changes in the economy, demographics, family structure, savings and employment behaviour over the last few decades have had important effects on the income distribution. There are now more elderly people and more single parents. Significant policy reforms have altered the way that different groups are treated by the tax and benefit system. Pensioners are much more likely to have saved through private or occupational pensions during their working lives, and entitlements to state pensions have also increased. The labour market has changed radically too: for example,

earnings inequality increased rapidly during the 1980s; lone parents are much more likely to be employed than they were 20 years ago; and the employment rates of young adults have recently been falling rapidly.

Over time, these kinds of changes have dramatically altered the types of people who are relatively rich and relatively poor, and the levels of inequality within different parts of the population.

Key findings in this year's report that relate to long-run changes in the distribution of income include:

- Income (measured before housing costs have been deducted, BHC) is distributed much more evenly across the major family types than in decades past. Pensioners remain the lowest-income group, and working-age adults without dependent children remain the highest-income group, on average. But the gaps have closed very significantly since the late 1970s.
- The proportion of pensioners with incomes in the lowest income quintile has fallen from 47% in the late 1970s to 21% in 2011–12. Over the same period, the proportion with incomes in the highest two income quintiles has risen from 18% to 31%. This strong improvement in the relative position of pensioners has been driven mostly by higher private pension incomes for younger cohorts of pensioners, and by higher benefit receipts due to increases in benefit rates and increases in the numbers entitled to state pensions. Meanwhile, the relative position of working-age adults without dependent children has worsened significantly since the late 1970s, at both the top and bottom of the distribution.
- The experience for parents and children has been more mixed: a large increase in inequality within the group means that they are both more likely to be in the lowest income quintile and more likely to be in the highest income quintile than in the late 1970s. Their risk of falling into the lowest quintile has, however, fallen since 1996–97.
- Although differences in income *between* the major family types have narrowed since the late 1970s, there have been large rises in inequality *within* these family types. There are now much larger gaps between the richest and poorest individuals in families with children, and between the richest and poorest working-age adults without children. The main factor behind this is an increase in earnings inequality. The poorest pensioners have also fallen further behind middle-income pensioners, although inequality within most of the top half of the pensioner income distribution has changed little. Since 1996–97, inequality within each of these family types has generally stopped rising, except that approximately the highest-income 5% of each group have continued to 'race away'.
- Income inequality is now clearly lower among pensioners than among other adults aged 30 and above. This is a big transformation. In the late 1970s, income inequality was almost constant across the adult age distribution; and when our consistent time series began in the early 1960s, incomes were more unevenly distributed among pensioners than among any other age group.

- Income now tends to vary less with age. This is largely because income now dips less at older ages than it used to. Median income growth among pensioners has averaged around 2% per year since the late 1970s. Median income growth has been relatively uniform across the rest of the adult age spectrum over the same period, at an average of just over 1% per year.
- Recently, the incomes of young adults have started to fall behind those of the rest of the population. In the immediate pre-recession years between 2001–02 and 2007–08, median income among adults in their 20s did not grow at all. Between 2007–08 and 2011–12, median income among the group fell by an annual average of about 3% per year – more than for any other group. This is not surprising given their falling employment rates during and since the recession, at a time when employment among older age groups has been remarkably robust.

Chapter 6 – The Changing Face(s) of Poverty

Changes in the relative incomes of different age groups over the last 50 years have also affected the pattern of poverty across the population.

Key findings in this year’s report that relate to the changing face of poverty include:

- There have been significant changes in the pattern of poverty across the population during the last 50 or so years. In the 1960s and 1970s, poverty rates were much higher for pensioners than for the rest of the population: around six to eight times as high as for working-age adults without children, for instance. However, substantial and sustained falls in pensioner poverty since the late 1980s, and increases in poverty rates among the rest of the population, mean that pensioners now have a similar risk of poverty to the rest of the population on a BHC basis, and a substantially lower risk on an AHC basis. The face of poverty has become substantially younger during recent decades.
- The large falls in pensioner poverty have been driven by a substantial increase in income from state pensions and benefits, as well as private pensions. This has led to a broad-based improvement in the relative position of lower-income pensioners compared with the rest of the population. One reason why pensioner poverty has fallen particularly far on an AHC basis is that lower-income pensioners increasingly own their homes outright, which means their housing costs have fallen substantially relative to the rest of the population.
- Rising poverty among working-age adults without children partly reflects substantial increases in the number living in workless families and a decline in the relative value of out-of-work benefits. More importantly, poverty among those living in families containing at least one worker has increased. During the period 1978–1980 to 1996–97, this reflected an increase in hourly and weekly earnings inequality. Post 1996–97, it reflects the fact that earnings growth was generally weak for this group right across the income distribution.

- The increase in in-work poverty means that almost half of all poor working-age adults without children work or have a partner who works, compared with just 30% in 1978–1980.
- The story for children was similar to that for working-age adults without children between 1978–1980 and 1996–97. However, since 1996–97, relative child poverty has fallen. There was some increase in parental employment rates. But overwhelmingly this fall was driven by substantial increases in the generosity of means-tested benefits for low- and middle-income families with children.
- Substantial reductions in out-of-work poverty mean that by 2011–12 a poor child was almost twice as likely to be from a working family as from a workless one (whereas in both 1978–1980 and 1996–97 they were substantially less likely to be from a working family than from a workless one). However, the risk of relative poverty for children of workless families does remain substantially higher (40% on a BHC basis) than for children of working ones (14%).

1. Introduction

In this report, we examine the distribution of household income in the UK. We assess the changes to average incomes, income inequality and income poverty that occurred in the latest year of data (2011–12), 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 13 June 2013. The HBAI series is derived from the Family Resources Survey (FRS), a survey of more than 20,000 households in the UK that asks detailed questions about income from a range of sources. Further details regarding the methodology of HBAI can be found in Appendix A, but a few key points are worth summarising here:

- It uses a household measure of income, i.e. the total income of all individuals living in the same household. A household 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 with a look at average living standards in 2011–12, and how they have changed over time. Chapter 3 analyses the trends in income inequality, with a particular focus on earnings and incomes before taxes and benefits. Chapter 4 contains analysis of trends in poverty, looking at both absolute and relative measures of poverty. Chapter 5 takes a long-run perspective on the distribution of income, highlighting dramatic changes in the types of people who are relatively rich, relatively poor and relatively unequal. Finally, Chapter 6 documents the changing face of poverty over the last fifty years.

2. Living Standards

Key findings

- Average incomes in the UK fell in 2011–12. After accounting for inflation, official HBAI statistics recorded a fall of 2.8% in median household income, from £440 per week to £427 per week (both in 2011–12 prices), and a fall of 1.6% in mean household income, from £537 to £528. These latest falls came on top of large falls in 2010–11; by 2011–12, real median income was 5.8% below its 2009–10 level and real mean income was 7.2% lower.
- This two-year fall in average incomes was preceded by a slight rise in average incomes during the recession between 2007–08 and 2009–10. Two key factors explain this pattern. First, average gross earnings were remarkably stable between 2007–08 and 2009–10 despite increases in unemployment. However, gross earnings then fell by 6.6% between 2009–10 and 2011–12. Second, while income from benefits and tax credits grew significantly between 2007–08 and 2009–10, it fell by 5.3% over the following two years. This was partly the result of discretionary increases to benefits during the recession and discretionary cuts made since. Changing inflation also played an important role. Falling inflation during the recession helped support real earnings and benefit rates, while rising inflation since has exacerbated the real-terms falls in earnings and benefits.
- Using different measures of inflation to compare incomes over time can substantially alter the picture of changes in living standards. This is particularly significant given that the HBAI statistics continue to use the retail price index (RPI), which is generally agreed to overstate inflation. Comparisons with trends in average incomes according to the Office for National Statistics (ONS)'s new inflation measures, RPIJ and CPIH, suggest that using the RPI leads the HBAI statistics to understate the growth in living standards over time. While the RPI suggests that real median income was a full 4% lower in 2011–12 than in 2005–06, using the RPIJ to adjust incomes gives a fall of 1.1% and using the CPIH gives a fall of only 0.3%. In light of this, the government should consider changing the measure of inflation used to ensure that the HBAI statistics give an accurate picture of changes in living standards.
- What do the data available suggest happened to living standards in 2012–13? Real average earnings continued to fall, but employment levels rose. And whilst there were further discretionary cuts to benefit and tax credit entitlements, falling inflation meant that the default uprating of benefits and tax credits resulted in increases in their value. Taken together, these factors point to broadly stable average incomes in the last financial year. Looking at the following couple of years, there are good reasons to expect further falls in living standards. Real average earnings are forecast to continue falling into 2014–15, and there are further cuts to benefits and tax credits, including the below-inflation 1% uprating of most working-age benefits and tax credits for three years from April 2013 to April 2015.

In this chapter, we focus on average incomes as measured in the latest year of Households Below Average Income (HBAI) data¹ for 2011–12 and place these in the context of changes in average incomes over time. Before describing these changes, 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 2011–12 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.² Section 2.4 provides a discussion of the effect of using different measures of inflation on reported changes in living standards in light of the problems with the RPI as a measure of inflation. 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 without children. In this chapter, income is always measured net of taxes and benefits but before housing costs have been deducted (BHC) unless otherwise stated.

Throughout this report, some statistics will be presented on a UK basis, while some will be presented on a Great Britain (GB) basis (mainly those looking at longer-term trends). This is because Northern Ireland was only introduced to the HBAI series in 2002–03.

This chapter proceeds as follows. In Section 2.1, we describe the UK income distribution in 2011–12. Section 2.2 examines changes in average incomes, focusing on the large falls in 2010–11 and 2011–12, and putting these in historical and economic context, while Section 2.3 examines the reasons for these trends by analysing changes in the different sources of income. In Section 2.4, we illustrate the effect of using different measures of inflation when comparing incomes over time. Section 2.5 discusses the prospects for living standards and Section 2.6 concludes.

2.1 The UK income distribution

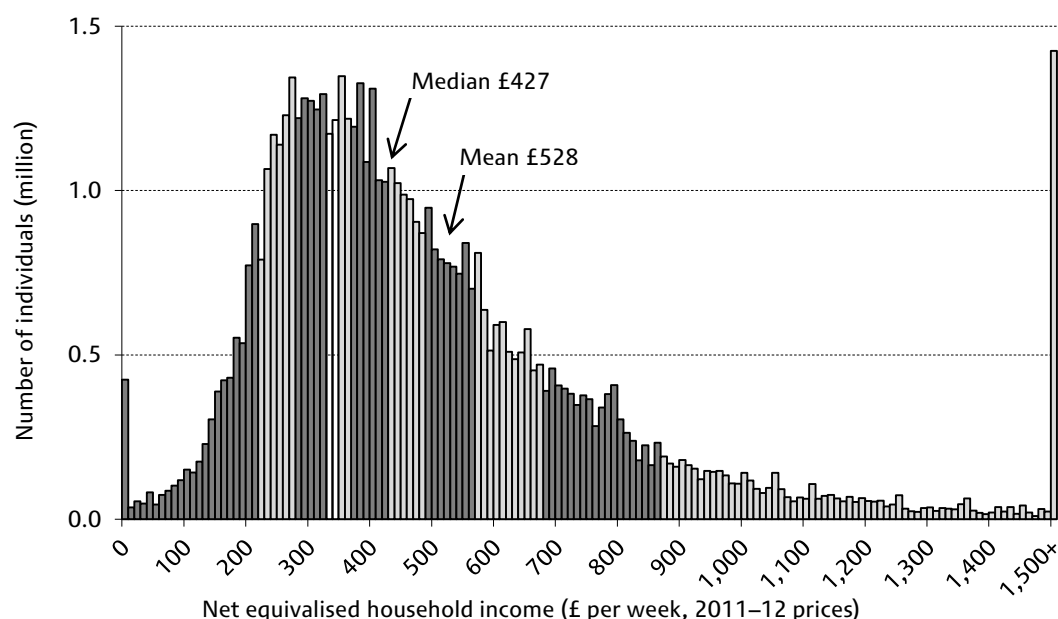
Figure 2.1 presents the UK income distribution in 2011–12. It shows the number of people living in households with different income levels, grouped into £10 weekly income bands. The height of the bars represents the number of people in each income band. Income has been equivalised to the level for a couple without children and is calculated net (after all taxes have been deducted and benefits and tax credits added).³

¹ The HBAI data series is based on the Family Resources Survey (FRS) with supplementary information from the Survey of Personal Incomes (SPI). 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 FRS data are therefore replaced by the mean value of income among the richest individuals in the SPI.

² The inflation rate used to deflate before-housing-costs (BHC) incomes is equivalent to the RPI excluding council tax.

³ For a detailed definition of HBAI incomes, see Department for Work and Pensions (2013).

Figure 2.1. The UK income distribution in 2011–12



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

Source: Authors' calculations using the Family Resources Survey 2011–12.

According to the HBAI data, mean equivalised income in the UK in 2011–12 was £528 per week and median income was £427 per week. 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, 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 over 1.4 million individuals (2.3%) have equivalised household incomes above £1,500 per week.

The figure also shows that there are around 400,000 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.⁴ Previous research⁵ 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).

⁴ See Brewer, Phillips and Sibieta (2010) for further details on the types of payments and deductions that lead to zero or negative incomes.

⁵ See Attanasio, Battistin and Ichimura (2005) and Brewer, O'Dea, Paull and Sibieta (2009).

Focusing again on the alternately-shaded sections, it can be seen that the distribution is particularly concentrated within a fairly narrow range of incomes. Over half the population have household incomes between £200 and £500 per week, but only around a quarter of the population have incomes in the next £300 band, and less than 10% in the band above that. 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.

For the rest of this chapter, we will focus on average living standards. Chapter 3 focuses on the distribution of income and how that has changed over time.

2.2 Trends in UK living standards

In 2011–12, the UK economy stagnated, with GDP per capita unchanged on the previous financial year.⁶ In the light of this macroeconomic performance, at first glance one might expect average incomes to have likewise stayed flat between 2010–11 and 2011–12. Instead, 2011–12 saw significant falls in average incomes. Median income is estimated to have fallen by 2.8% in real terms (from £440 to £427 per week), while mean income is estimated to have fallen by 1.6% in real terms (from £537 to £528).

The significant falls in average incomes seen in 2011–12 were *not* unexpected, however. While the employment rate held steady, real average earnings fell by around 3%.⁷ All else equal, falling real earnings will lead to falling real incomes. In addition, 2011–12 saw a number of tax rises and welfare cuts as part of the fiscal consolidation,⁸ further reducing household incomes. Based on these changes, previously-published projections of household incomes by IFS researchers⁹ estimated that median income would fall by 2.6% in 2011–12, almost exactly the fall recorded in the newly-released HBAI data.

Table 2.1 puts the falls in average incomes in 2011–12 in their immediate context, showing the estimated changes in mean and median income each year from 2002–03, along with the estimated 95% confidence intervals for these changes.¹⁰ If the lower and upper bounds are both above (or both below) zero, the change in income is statistically significantly different from zero.

⁶ Real GDP figures are from the UK Economic Accounts (ONS series IHXW for GDP per capita). Data downloaded 15 April 2013. ONS data for GDP can be subject to revision.

⁷ Employment is the official measure based on the Labour Force Survey (ONS series MGRZ) and earnings are average weekly earnings (ONS series KAB9). Data downloaded 3 May 2013.

⁸ See Browne (2011).

⁹ Browne, Hood and Joyce, 2013.

¹⁰ For information on confidence intervals, see source to Table 2.1.

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%
2011–12	97.8	-4.2%	-2.8%	-1.5%	99.1	-3.7%	-1.6%	0.7%
Total change between:								
2002–03 & 2011–12		-3.4%	-2.2%	-0.8%		-3.1%	-0.9%	1.5%
2007–08 & 2011–12		-6.2%	-4.6%	-3.1%		-7.8%	-5.0%	-2.4%
2009–10 & 2011–12		-7.2%	-5.8%	-4.4%		-10.0%	-7.2%	-4.5%

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

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

There are three important things to note. First, the latest falls in average incomes came in addition to large falls in 2010–11. The size of the cumulative fall in living standards across the two years is dramatic; median income was 5.8% lower in 2011–12 than in 2009–10, and mean income was 7.2% lower. In interpreting these figures, however, it is worth bearing in mind that changes in mean income are sensitive to what has happened to the very highest incomes. In particular, 'forestalling' to avoid the 50% tax rate is likely to have boosted top incomes and hence mean incomes in 2009–10 and depressed them in 2010–11.¹¹ This would increase the rate of mean income growth in 2009–10 and increase the size of falls in mean income in 2010–11, and therefore increase the overall fall in income between 2009–10 and 2011–12. Thus, the change in mean income may somewhat overstate the *underlying* change in average incomes.

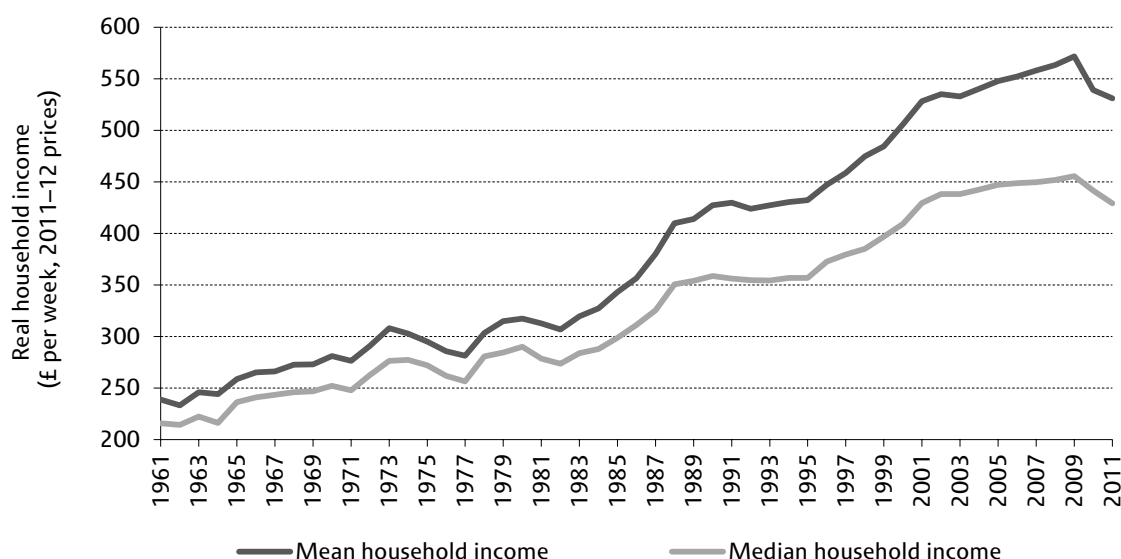
Second, the effect of the recession on average incomes was delayed, but not avoided. Mean and median incomes continued to rise in 2008–09 and 2009–10, despite a cumulative fall in GDP per capita of 6.5% in those two years. By 2011–12 however, median income was 4.6% lower than before the recession, and mean income was 5.0% lower. Third, the last decade as a whole was characterised by a very poor performance

¹¹ See Box 3.1 for further details of forestalling.

for average incomes. Between 2002–03 and 2009–10, no single year saw an increase in median income of more than 1.0% or an increase in mean income of more than 1.5%. In neither case was any single year-on-year change statistically significant. The large falls between 2009–10 and 2011–12 reversed all of these years of sluggish growth, leaving average incomes lower in 2011–12 than in 2002–03 (with median income statistically significantly lower).

To get a clearer picture of the importance of the fall in living standards since 2009–10, we can compare the cumulative falls in average incomes with those seen in previous periods of falling incomes. In order to do this, we use data on Great Britain instead of the UK to allow consistent comparisons over longer periods of time (Northern Ireland was first included in the HBAI data in 2002–03). The effect on average incomes of excluding Northern Ireland is minimal, since Northern Ireland is small relative to the rest of the UK and trends in incomes in Northern Ireland are very similar to those in Great Britain.

Figure 2.2. Average household incomes since 1961 (GB)



Note: Incomes have been measured before housing costs have been deducted, and are expressed in 2011–12 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Years refer to calendar years up to and including 1992 and to financial years from 1993–94 onwards.

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

Figure 2.2 plots the evolution of average incomes since 1961, at both the mean and the median. We can see that there have been four periods of falling incomes: the mid-1970s, the early 1980s, the early 1990s and the last two years of data. Table 2.2 compares the cumulative fall in income in each of these periods, alongside income growth in the first year of each recovery. We can see that the falls in living standards that accompanied the recession of the early 1990s were not on the same scale as those seen in recent years. In fact, the cumulative fall in average incomes over the last two years of data is the largest since the mid-1970s, when mean and median income both fell for three consecutive years. It is important to bear in mind when making these comparisons that we are comparing 'peak-to-trough' changes in previous periods of

falling incomes with the cumulative fall from 2009–10 *so far*; average incomes may continue to fall into 2012–13 and beyond.

Figure 2.2 also shows that cumulative falls in income of the magnitude seen between 2009–10 and 2011–12 have previously only occurred in the context of much greater volatility in average incomes. The large falls in average incomes seen in the mid-1970s and early 1980s followed even larger increases in the years beforehand, in contrast to the sluggish growth in average incomes throughout the 2000s. For instance, while the cumulative fall in both mean and median incomes between 1973 and 1977 was larger in percentage terms than over the last two years of data, incomes in 1977 were still higher than in 1971; four years of falling incomes failed to undo all of the growth in just the *two* years preceding them. The reversal of nearly a decade of growth in average incomes is unprecedented in recent history.

Table 2.2. Cumulative change in household income during periods of falling income (GB)

	<i>Cumulative fall in income</i>		<i>Growth in income in first year of recovery</i>	
	Mean	Median	Mean	Median
1973 to 1977	–8.6%	–7.3%	7.8%	9.5%
1980 to 1982	–3.4%	–5.7%	4.2%	3.7%
1990 to 1993–94	0.0%	–1.2%	0.7%	0.7%
2009–10 to 2011–12 ^a	–7.1%	–5.8%	n/a ^a	n/a ^a

^a 2011–12 is the latest year of data. Growth in average income has not restarted, so growth in the first year of the recovery is unknown. Income may or may not continue to fall in 2012–13.

Note: ‘Period of falling income’ defined as two or more consecutive years in which either mean or median income fell.

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

The different economic context in which previous falls of a similar magnitude occurred is also made apparent by the income growth in the first year of previous recoveries. In 1978, median income grew by 9.5%, more than reversing the cumulative fall across the previous four years. In 1983, median income grew by 3.7%, reversing most of the fall in the previous three years. A similarly rapid recovery from the current falls in average incomes, on the other hand, seems highly unlikely. Instead, the recovery in living standards, when it comes, looks set to be very weak. (Section 2.5 examines the prospects for living standards in more detail.)

In addition to placing recent experience in a historical perspective, it is informative to compare the figures for average household incomes from HBAI with other measures of real incomes, to gain a fuller picture of trends in living standards.

Table 2.3 compares six measures of growth in average living standards. Two are derived from the National Accounts: real gross domestic product (GDP) per capita and real household disposable income per capita (RHDI). The remaining four are mean and median income from the HBAI data, both before and after housing costs. 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 focuses on the household sector,¹² and so excludes the incomes of companies and the government. RHDI does not deduct rental payments, but it is measured after mortgage costs, making it neither a purely BHC nor a purely AHC measure of income.

Since the onset of the financial crisis, all the measures of household incomes have displayed a broadly similar pattern. Although GDP per capita fell substantially between 2007–08 and 2009–10, the other measures all show household incomes continuing to rise, or only falling very slightly, over that period, before falling in 2010–11 and 2011–12. However, the cumulative fall in real household disposable income is significantly smaller than in all the HBAI measures. More than half of this difference is accounted for by the fact that the measure of inflation used to compare RHDI across years was lower than the inflation measures used for the HBAI series in those years, leading to smaller year-on-year falls in real terms.¹³ The remaining gap is likely to be explained, in part, by the fact that self-employment income is a lagged measure in HBAI, but not in RHDI;¹⁴ any recovery in self-employment income in 2011–12 would have been captured in RHDI, but not in HBAI incomes. As a mean measure, RHDI is affected by changes in incomes at the very top of the distribution and so year-on-year changes are subject to high levels of volatility, particularly because of the impact of the 50% tax rate on the timing of incomes.¹⁵

Table 2.3. Annualised changes in living standards according to National Accounts and HBAI measures

	Gross domestic product per head (UK)	Real household disposable income per head (UK)	Mean HBAI income (GB, BHC)	Median HBAI income (GB, BHC)	Mean HBAI income (GB, AHC)	Median HBAI income (GB, AHC)
1970s	2.4%	2.8%	1.4%	1.4%	1.3%	1.2%
1980s	2.5%	2.5%	2.8%	2.2%	2.7%	2.2%
1990s	2.3%	3.2%	1.6%	1.1%	1.8%	1.3%
2000s	1.4%	1.7%	1.7%	1.4%	1.4%	1.3%
2007–08 to 2009–10	–3.3%	0.7%	1.2%	0.6%	0.2%	–0.4%
2009–10 to 2010–11	1.1%	–1.4%	–5.7%	–3.1%	–6.4%	–3.8%
2010–11 to 2011–12	0.0%	–1.0%	–1.5%	–2.8%	–2.2%	–3.4%

Note: The annualised growth in each decade is calculated by comparing the last year in the given decade with the last year of the previous decade.

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

¹² Though the household sector used for this measure also includes charities and universities.

¹³ See Section 2.4 for a detailed discussion of the effect of using different measures of inflation to adjust incomes.

¹⁴ This is one of a number of differences between the definitions of the two measures.

¹⁵ This issue is discussed in detail in Box 3.1.

Taking a longer-run perspective, it is noticeable that the 1980s saw the fastest growth in living standards according to most of the measures in Table 2.3. Mean income grew significantly faster than median income across the decade (both before and after housing costs), hinting that income growth in the 1980s was particularly strong among 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. In contrast, the 2000s saw growth in living standards of less than 2% a year according to all the measures. If anything, RHDI suggests a greater slowing in the growth of living standards in the past decade than we have documented using HBAI average incomes. All the measures of household incomes show the same broad pattern – slow growth throughout the 2000s, even before the significant falls in income in 2010–11 and 2011–12.

2.3 Why did living standards fall?

It is important to identify the key reasons why average incomes fell between 2009–10 and 2011–12, having continued to rise during the recession itself. A helpful way to do this is to consider changes in the various components of income and to identify their contribution to the overall change. To this end, Table 2.4 shows the change in the mean amount of each component of income and how this contributes to the change in overall mean income since the recession began.¹⁶

We look at each of the sources of private income (such as gross earnings), as well as taxes and benefits. 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 row of Table 2.4 shows the fraction of total net income attributable to each individual component. Gross earnings contribute an amount equal to 87% 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 across all the different sources of income, it is instructive to contrast changes over the two years of falling incomes (2009–10 to 2011–12) with those during the two years of recession (2007–08 to 2009–10), when incomes actually grew. Two clear differences are apparent.

First, gross earnings were very similar in 2007–08 and 2009–10, but then fell significantly between 2009–10 and 2011–12. This delayed fall was the key reason for declining living standards across those two years. In fact, the 6.6% fall in gross earnings alone would have led average incomes to fall by 5.7% (compared with the 7.5% fall observed). Note, however, that the tax system automatically counteracts the effect of

¹⁶ It is worth noting that this 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 these households explains the small difference in the latest year between the fall in mean net income as calculated by summing the components (1.7%) and the fall in mean net income for the entire distribution (1.6%).

Table 2.4. Change in income sources and contributions to income growth, 2007–08 to 2011–12

	Gross earnings	Gross self-employment income	Benefits and tax credits	Gross income from savings, investments and personal pensions	Other income	Taxes and other deductions from income	Total income	Mean HBAI income
Share of income (2011–12)	87%	11%	20%	13%	3%	-34%	100%	
2007–08 to 2011–12								
Growth of income source	-6.7%	-13.3%	6.5%	-10.2%	-5.3%	-7.7%	-5.3%	-5.0%
Contribution to total income growth	-5.9ppt	-1.6ppt	1.2ppt	-1.5ppt	-0.1ppt	2.7ppt	-5.3ppt	
<i>of which:</i>								
2007–08 to 2009–10								
Growth of income source	-0.1%	3.7%	12.5%	-4.9%	9.9%	-0.7%	2.4%	2.4%
Contribution to total income growth	-0.1ppt	0.4ppt	2.2ppt	-0.7ppt	0.3ppt	0.2ppt	2.4ppt	
2009–10 to 2011–12								
Growth of income source	-6.6%	-16.4%	-5.3%	-5.9%	-13.8%	-7.0%	-7.5%	-7.2%
Contribution to total income growth	-5.7ppt	-2.0ppt	-1.0ppt	-0.7ppt	-0.4ppt	2.4ppt	-7.5ppt	
<i>of which:</i>								
2010–11 to 2011–12								
Growth of income source	0.5%	-7.4%	-3.9%	0.5%	-21.8%	-0.4%	-1.7%	-1.6%
Contribution to total income growth	0.5ppt	-0.9ppt	-0.8ppt	0.1ppt	-0.7ppt	0.1ppt	-1.7ppt	

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

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

falling gross earnings on incomes. The falls in gross earnings in 2010–11 and 2011–12 will have reduced household tax bills, explaining much of the 7% fall in the income lost through taxes and other deductions in those two years. This 7% fall itself acted to *increase* household incomes by 2.4%, mitigating the effect of falling gross earnings.

Of course, changes in average gross earnings may reflect both changes in the earnings of those in work and changes in the level of employment. In fact, the fraction of individuals in workless households was 0.7% lower in 2011–12 than in 2009–10, so the large falls in earned income were driven by falling real earnings among those employed. On the other hand, average earnings held up reasonably well during the recession itself, despite falls in employment, because the real earnings of those in work increased on average.¹⁷

Second, the effect of the benefit system on average incomes was very different during the recession and in its aftermath. As described in Jin et al. (2011), growth in income from benefits and tax credits was a key reason for the increases in average incomes in 2008–09 and 2009–10, at a time when employment was falling. Between 2007–08 and 2009–10, income from benefits and tax credits grew by 12.5%, contributing 2.2 percentage points of the 2.4% increase in mean income across that period. In contrast, the cumulative fall in income from benefits and tax credits between 2009–10 and 2011–12 was 5.3%, contributing 1 percentage point of the fall in mean income across that period. It is striking that, despite this fall, benefit income remained 6.5% higher in 2011–12 than it was in 2007–08.¹⁸

Looking at the most recent year of data, we see that gross earnings actually rose by 0.5% in real terms in 2011–12. To a significant extent, this was driven by an unwinding of ‘forestalling’ among the very highest paid in response to the 50p income tax rate.¹⁹ That explains why the increase in the mean was accompanied by a fall in median gross household earnings of 2.6%,²⁰ almost exactly the same as the fall in overall median income.

The year 2011–12 also saw falls in mean gross self-employment income (7.4%) and mean income from benefits and tax credits (3.9%).²¹ It is important not to read too much into a single year’s data, especially for self-employment income: it makes up a

¹⁷ Note that changes in mean earnings are sensitive to changes in earned income among the very well paid. Forestalling to avoid the 50% tax rate will have boosted top incomes in 2009–10 and depressed them in 2010–11. (See Box 3.1 for further details of forestalling.) As we shall see, the patterns for median gross employment income differ somewhat. In Section 3.3, we look in detail at how earnings have changed across the distribution since the recession began, and analyse the effect these changes have had on household incomes.

¹⁸ For working-age households, benefit income was 8.7% higher in 2011–12 than in 2007–08, compared with a 4.4% increase for households with at least one pensioner. This reflects increased entitlement to benefits and tax credits among the working-age population, as a result of higher unemployment etc.

¹⁹ See Box 3.1 for further details of forestalling.

²⁰ This is the change in real median household earnings (including households with no earnings). Real median household earnings among those with earnings have fallen by 4.9%.

²¹ Note that the fall in benefit income according to the HBAI data was substantially larger than the fall recorded in administrative data (see Appendix B).

small fraction of overall income and changes are often volatile from year to year.²² However, this year's fall comes on top of a similarly large fall in 2010–11, with a cumulative fall of 16.4% since 2009–10. One possible explanation for this pattern is that reported gross self-employment income is only measured with a lag: the 2011–12 data are based on self-employment earnings in 2010–11 or, in some cases, 2009–10. The most recent data may well therefore still be capturing the effect of the recession. The 3.9% fall in income from benefits and tax credits in 2011–12 contributed half (0.8 percentage points of 1.7%) of the fall in mean income, and continued an important trend; having risen very substantially during the recession, incomes from this source fell in both 2010–11 and 2011–12. Below, we investigate in detail the possible explanations for these changes in benefit and tax credit receipt.

Income from benefits and tax credits

A significant factor in the large increases in benefit income seen during the recession is likely to have been a shrinking economy. As employment falls, more people become eligible for means-tested benefits, leading to an increase in overall benefit and tax credit receipt. One might therefore seek to explain the fall in benefit income over the last two years as the reversal of this effect – as the economy recovers, we would expect the observed falls in benefit income. The problem with that explanation is that although the labour market has performed much better than expected (and than in previous recessions), the employment rate was still falling in the first half of 2011–12, before recovering slightly in the second half. As a result, the average employment rate was lower in 2011–12 than in 2008–09, 2009–10 or 2010–11.²³ Given this pattern in employment, it is hard to see how the weak economic recovery can explain the fall in benefit income in 2011–12.

In previous years, an important factor in changes to benefit income has been the effect of default uprating on the real changes to benefit and tax credit rates. In the absence of discretionary changes to benefits, most benefit and tax credit rates are increased in April of each year in line with a lagged measure of inflation (the rate of annual inflation to the previous September). Therefore, differences between the inflation figure used for uprating and annual inflation in 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. Comparing year-on-year inflation rates with inflation rates to the previous September allows us to see whether the default uprating of benefits increased or decreased their real value in any given year.

Table 2.5 presents year-on-year RPI inflation alongside RPI, CPI and Rossi inflation to the previous September. Before 2011–12, the default was for means-tested benefits to be uprated in line with the Rossi index, with non-means-tested benefits uprated in line with the RPI. From 2011–12 onwards, the default is for all benefits (with the exception

²² In addition, self-employment losses are a common source of negative household income (households with negative income are excluded from this analysis).

²³ Employment is the official measure based on the Labour Force Survey (ONS series MGRZ). Data downloaded 3 May 2013.

of the state pension and pension credit) to be uprated in line with the consumer price index (CPI).

The table illustrates three key things. First, the difference between lagged RPI and Rossi inflation and year-on-year RPI inflation is an important explanation for why benefit income grew so quickly during the recession, and then fell in 2010–11. The falling rate of inflation in 2009–10 meant default uprating in that year led to large real-terms increases in benefits. The reverse occurred in 2010–11, as rising inflation led to real falls in benefit and tax credit rates. In general, these year-on-year changes will even out over time; the average rates of annual RPI and RPI to the previous September shown in the table are similar. Second, the default uprating of benefits in 2011–12 led to a 1.7% real-terms fall in benefit and tax credit rates in 2011–12, just under half the overall fall in benefit income recorded. It is important to note that this real-terms fall was almost entirely a result of the government’s decision to move to uprating benefits and tax credits in line with CPI inflation. If the government had uprated benefits in line with RPI inflation to the previous September, benefit and tax credit rates would only have fallen by 0.2% in real terms in 2011–12.

Third, the government’s decision to move to using the CPI to uprate benefit and tax credits is likely to mean that default uprating will have a systematic effect on benefit income as measured in HBAI. As outlined at the beginning of this chapter, the HBAI series uses a measure of inflation based on the RPI to account for price changes when comparing incomes across years. As Table 2.5 shows, inflation is almost always lower according to the CPI than according to the RPI. As a result, uprating benefits and tax credits in line with the CPI is likely to result in their real value falling year after year according to HBAI.

Table 2.5. Annual RPI inflation compared with RPI, CPI and Rossi^a inflation to the previous September

	Annual RPI	RPI to previous September	CPI to previous September	Rossi to previous September
2002–03	2.1%	1.7%	1.3%	1.7%
2003–04	2.8%	1.7%	1.0%	1.3%
2004–05	3.1%	2.8%	1.4%	1.8%
2005–06	2.6%	3.1%	1.1%	1.0%
2006–07	3.7%	2.7%	2.5%	2.2%
2007–08	4.1%	3.6%	2.4%	3.0%
2008–09	3.0%	3.9%	1.8%	2.3%
2009–10	0.5%	5.0%	5.2%	6.3%
2010–11	5.0%	–1.4% ^b	1.1%	1.8%
2011–12	4.8%	4.6%	3.1%	4.8%
Average	3.2%	2.8%	2.1%	2.6%

^a The Rossi index is calculated as the RPI excluding some housing costs.

^b Those benefits usually uprated using the RPI were increased by 1.5% in nominal terms.

Source: Authors’ calculations using ONS series CHAW, D7BT and GUMF.

Of course, Table 2.5 only provides a partial explanation of changes to benefit and tax credit levels over time. Discretionary changes to benefit and tax credit entitlements also have an important effect on changes to benefit income. 2011–12 saw a number of discretionary changes to tax credits, housing benefit and pension credit. Combined with the change in indexation, the total net takeaway in 2011–12 was £2 billion (an average of £80 from each household) – £4 billion of cuts were partially offset by £2 billion of giveaways.²⁴ These cuts in entitlement will have contributed to the fall in benefit income, and further cuts coming in over the next few years are likely to lead to further reductions in income from this source.

2.4 Inflation and changes in living standards

When comparing living standards across time, we need to take account of price changes in order to capture real changes to living standards. For this reason, we adjust incomes in years prior to 2011–12 so as to express past incomes in today's prices. The picture of changes in real living standards over time therefore depends on what measure of inflation one uses to adjust past incomes. A higher measure of inflation will imply lower growth in living standards, as past incomes are increased by a greater proportion when expressed in today's prices. At present, official HBAI incomes (measured before housing costs²⁵) are adjusted using a series based on the retail price index – namely, RPI excluding council tax. While different indices are likely to reflect the inflation experiences of different demographic groups with varying accuracy,²⁶ the Office for National Statistics (2013) acknowledges that, due to the formula used, the RPI tends to overstate inflation. There is therefore a concern that the official HBAI income statistics understate the growth in living standards over time, because they use a measure of inflation that overstates the increase in prices over time, and so overstate past incomes in real terms. The rest of this section examines the effect that using different measures of inflation to deflate past incomes has on the impression one gets of changes in living standards over time.

Although the consumer price index is the other main measure of consumer price inflation in the UK, it excludes the mortgage interest payments made by owner-occupiers, which are a substantial part of their overall cost of living. For this reason, the CPI is not a good measure of inflation to use when adjusting past incomes for price changes over time. We instead focus on two new measures of inflation – the RPIJ (described in Box 2.1) and the CPIH, which is a variant of the CPI that includes owner-occupied housing costs.

²⁴ HM Government, 2011b.

²⁵ Incomes measured after housing costs are deflated using the Rossi index, which is RPI excluding housing costs.

²⁶ See Levell and Oldfield (2011).

Box 2.1. The problems with the retail price index

The UK has two main measures of consumer price inflation – the retail price index (RPI) and the consumer price index (CPI). Historically, inflation as reported by the RPI has been somewhat higher than inflation indicated by the CPI. One reason for this is that the RPI and CPI use different mathematical formulae to work out how average prices are changing; even if they were fed the same individual prices, they would report different inflation rates. The size of this ‘formula effect’ nearly doubled (from roughly 0.5% to 1%) in 2010, after a seemingly minor change in the way clothing prices are sampled.^a This prompted the Office for National Statistics (ONS) to consult on whether to change the formulae used in the RPI to match those used in the CPI.^b The consultation concluded that, for reasons of historical continuity, the formulae used in the RPI should remain unchanged. However, since March 2013, the ONS has also reported a new inflation index, the RPIJ. This is identical to the RPI except that it uses (nearly) the same mathematical formulae as the CPI. The RPIJ can therefore be roughly thought of as the RPI minus the ‘formula effect’.

Looking forward, the difference between the RPI and the CPI is expected to increase further.^c In its latest forecasts, the Office for Budget Responsibility (OBR) predicts that RPI inflation will remain stable at 4% in the long run, compared with its forecast of 2% for the CPI.^d Of this difference, at least 1 percentage point can be attributed to the ‘formula effect’.

^a Levell, 2012a.

^b For further details on the formulae used in the RPI and the CPI, see Diewert (2012) and Levell (2012b).

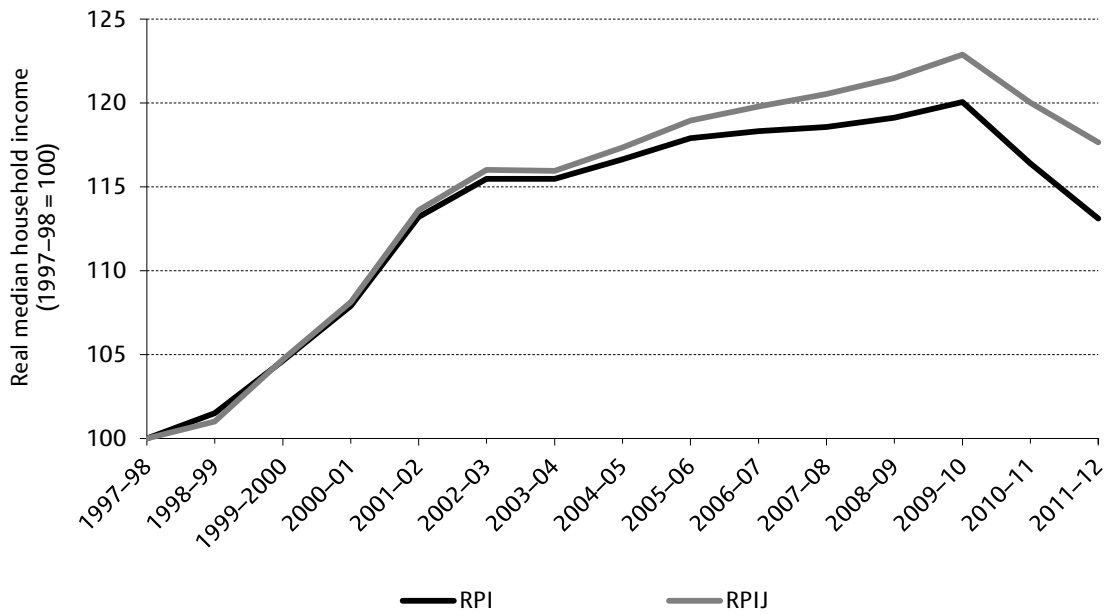
^c See Miller (2011).

^d Office for Budget Responsibility, 2013.

Figure 2.3 shows the growth of median incomes from 1997–98 to 2011–12 when past incomes are deflated by the RPI (minus council tax) and the RPIJ. Unfortunately, the RPIJ is only available back to 1997 and so a longer-run comparison is not possible. It is apparent that the formula effect is increasing over time, with very little difference in median income growth between 1997–98 and 2003–04 according to the two inflation indices. We can also see that the pattern of recent changes in median income is the same according to both inflation measures: incomes continued to rise during the recession before falling in 2010–11 and 2011–12. However, the formula effect in the RPI has had a significant effect on the impression official statistics have given of changes in living standards across the period. While official statistics would suggest that median incomes in 2011–12 were 13% higher than in 1997–98 in real terms, using the RPIJ suggests real median income is in fact 18% higher.

Figure 2.4 shows the growth in median incomes since 2005–06 according to the RPI minus council tax, the RPIJ and the CPIH (the CPIH is only available back to 2005). Median income was lower in 2011–12 than in 2005–06 according to all three inflation measures, but by significantly different amounts. While the RPI suggests that real median income was a full 4% lower, using the RPIJ to deflate gives a fall of 1.1% and using the CPIH gives a fall of only 0.3%.

Figure 2.3. Median incomes according to the RPI^a and the RPIJ (GB)

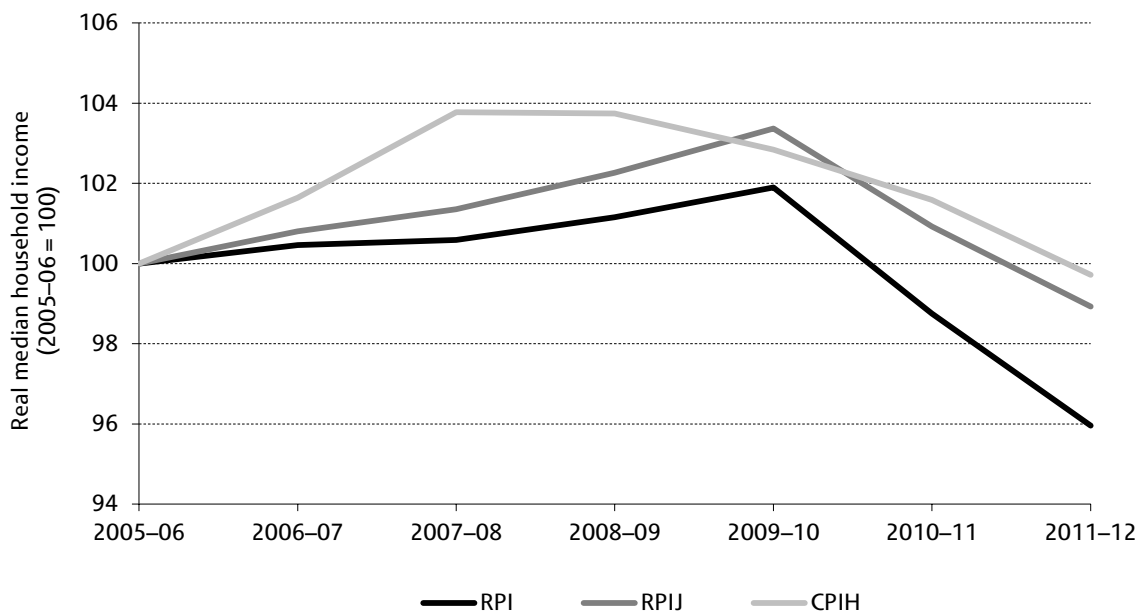


^a Excluding council tax.

Note: HBAI incomes have been measured before housing costs have been deducted.

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

Figure 2.4. Median incomes according to the RPI,^a the RPIJ and the CPIH (UK)



^a Excluding council tax.

Note: HBAI incomes have been measured before housing costs have been deducted.

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

But the waters are muddied further by the quite different pattern of changes over time suggested by RPIJ and CPIH. Incomes appear to have been growing much faster up to 2007-08 using the CPIH measure than using RPIJ (in other words, CPIH itself was growing more slowly). That situation reverses after 2007-08: real incomes start falling

on the CPIH measure but continue rising on the RPIJ measure, before showing a sharp fall on the latter measure.

This difference is very likely to be the result of the difference between the CPIH and the RPI-based measures in the calculation of owner-occupied housing costs. The RPI and RPIJ use changes in mortgage rates to calculate changes to owner-occupied housing costs. The CPIH, however, uses imputed rents; the cost of owner-occupied housing is calculated as the price one would pay to rent it. The reduction of the Bank of England base rate from 4.5% to 0.5% between October 2008 and March 2009 led to a large fall in mortgage rates, cutting housing costs as measured by the RPI and RPIJ. Since rents did not fall as dramatically at that time, the RPI and RPIJ were substantially lower than the CPIH. As a result, nominal median income rose faster than inflation according to the RPI and the RPIJ, but more slowly than inflation according to the CPIH. Median income only continued to rise in real terms during the recession because of the falling price of owner-occupied housing, as measured by mortgage rates.

As would perhaps be expected, the income measures deflated by the RPIJ and the CPIH converge over a slightly longer period, and remain divergent from the RPI-deflated measure.

As Figures 2.3 and 2.4 demonstrate, the measure of inflation used when comparing average incomes over time has an important effect on our perception of changes in living standards, particularly in the longer run. According to the CPIH, median income in 2011–12 was lower than in 2005–06. According to the RPI, it was lower than in 2002–03.

To the extent that the RPI overstates inflation, and that the problem is worsening over time, the use of an inflation measure based on the RPI to deflate past incomes is problematic. Indeed, the government has taken the view that the CPI is the appropriate measure of inflation to use when uprating most parts of the tax and benefit system. Now that the ONS consultation on the RPI has been concluded, it seems a good time for the government to reconsider the measure of inflation used to compare incomes over time, to ensure that official statistics give as accurate a picture as possible of changes in living standards across time.

We recommend moving to using the RPIJ to adjust past incomes. This would represent an unambiguous improvement on the RPI, since the only difference between the two is the unwanted formula effect. In the context of the HBAI data, the RPIJ is also preferable to the CPIH for measuring short-term changes in living standards, since it captures changes in the actual monetary outgoings of owner-occupiers for their housing (whereas CPIH captures the implicit rental income they forgo by not renting their house out).

2.5 Prospects for living standards

HBAI figures are produced with a lag. What do the data available suggest happened to living standards in 2012–13? On one hand, the economic recovery continued to stall, with real GDP largely flat (and, because of population growth, GDP per capita is likely to

have fallen).²⁷ Average earnings rose by less than 1.5% in 2012–13, well below the year-on-year RPI inflation rate of 3.1% (RPIJ inflation rose by 2.5%).²⁸ On the other hand, 2012–13 saw a recovery in employment. Averaged across the year, the employment rate was 0.8 percentage points higher than in 2011–12, and by the end of the financial year, total employment was above its pre-recession peak.²⁹ In addition, rates of benefits and tax credits mostly increased in real terms, due to a spike in inflation in September 2011. Default uprating was 5.2%, compared with annual RPI inflation of 3.1%. However, continuing discretionary cuts to entitlement will have reduced income from benefits and tax credits. Recent IFS research projected little change (a 0.1% fall) in median income in 2012–13, reflecting the counteracting effects described above.³⁰

Looking beyond 2012–13, there are good reasons to expect further falls in living standards. According to the OBR's forecast,³¹ real average earnings will continue to fall throughout 2013–14, before beginning to grow again (slowly) at some point in 2014–15. Importantly, the government's decision to uprate most working-age benefits by 1% in cash terms for the three years from April 2013 will see the rates of benefits and tax credits fall in real terms in each of 2013–14, 2014–15 and 2015–16. And there are other cuts to benefits and tax credits taking effect from 2013–14 (such as reductions in council tax benefit, housing benefit and disability benefits). The same recent research projects that, as a result of these factors, median income will fall in both 2013–14 and 2014–15, before recovering slightly in 2015–16. However, it is important to stress the uncertainty that surrounds macroeconomic forecasts, upon which these projections are based.

Looking further ahead, prospects for real-terms changes in median incomes are extremely sensitive to the measure of inflation used to deflate past incomes. Browne, Hood and Joyce (2013) project that real median income according to the CPI will grow in each year from 2015–16, as one would expect.³² However, the OBR's long-run assumptions about RPI inflation, average earnings growth and CPI inflation (which determines benefit rates and tax thresholds) actually imply that real median incomes according to the RPI will continue to fall indefinitely. Since it seems implausible that living standards will actually fall indefinitely, this must cast additional doubt on the continued use of the RPI to deflate incomes.

²⁷ Real GDP figures are from the UK Economic Accounts (ONS series YBEZ). Data downloaded 10 May 2013. ONS data for GDP can be subject to revision.

²⁸ Earnings are average weekly earnings (ONS series KAB9). Data downloaded 3 May 2013.

²⁹ Employment is the official measure based on the Labour Force Survey (ONS series MGRZ). Data downloaded 3 May 2013.

³⁰ See Browne, Hood and Joyce (2013).

³¹ Office for Budget Responsibility, 2013.

³² It is not possible to project changes in median income according to the RPIJ or CPIH, since forecasts for these indices are not available.

2.6 Conclusion

Headline figures from the last two years of HBAI data, 2010–11 and 2011–12, suggest a large drop in living standards, with cumulative falls of 5.8% in median income and 7.2% in mean income. On this measure, real-terms living standards in 2011–12 were lower than in 2002–03. While we saw large falls in average incomes over some years in the 1970s and 1980s, these followed (and were followed by) even larger increases. The latest falls came after nearly a decade of only very sluggish growth in living standards, which is why we are in the unprecedented position of having official figures suggesting a decade with no growth in living standards.

There is an important rider to this conclusion, though. To compare living standards over time, one needs to adjust incomes for changes in prices. The official HBAI figures do this using the RPI. But the RPI appears increasingly to overstate ‘real’ consumer price inflation. So the official figures are probably understating real income growth (overstating recent falls). In light of these concerns, we recommend moving to the RPIJ – an unambiguous improvement on the RPI that would give a more accurate picture of changing living standards. Using this measure, things do not look so bleak: median incomes in Great Britain in 2011–12 are back to their level in 2004–05 (as opposed to 2001–02 using RPI inflation).

Returning to the recent falls in living standards, lower real earnings and lower benefit incomes were the two key factors driving the falls in average incomes between 2009–10 and 2011–12. Real earnings are forecast to continue falling into 2014–15, and there are further cuts to welfare spending scheduled through to 2015–16. Prospects for living standards are therefore bleak – further falls are likely to be followed by a weak recovery, leaving average income growth even lower in the 2010s than in the 2000s.

3. Inequality

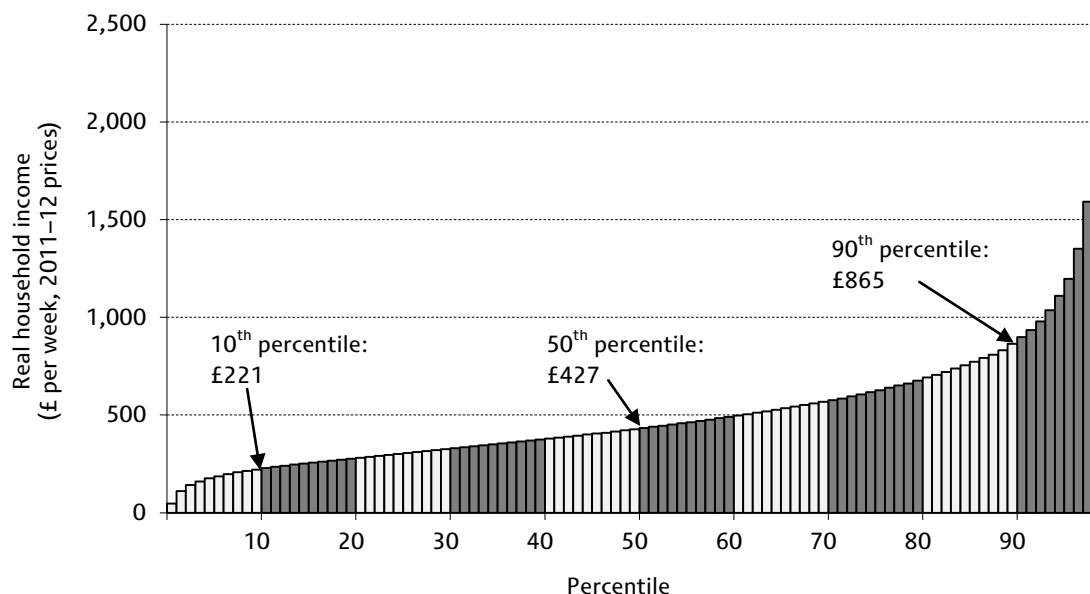
Key findings

- Income inequality in the UK was broadly unchanged between 2010–11 and 2011–12. Real incomes fell by similar amounts across the income distribution – by 2.5% at the 10th percentile, 2.8% at the median and 2.6% at the 90th percentile.
- Although inequality was unchanged in 2011–12, it was substantially lower than before the recession. The Gini coefficient stood at 0.34 in 2011–12, compared with 0.36 in 2007–08. This was a result of income changes right across the distribution, not just a consequence of falling incomes at the very top of the distribution. Whereas income at the 10th percentile rose by 1.4% in real terms between 2007–08 and 2011–12, the cumulative fall in income at the 90th percentile was 5.9%. Inequality as measured by the Gini was lower than at any point during the 2000s, but still much higher than it was before the dramatic widening of the income distribution that occurred in the 1980s.
- These falls in income inequality came despite increases in earnings inequality. Real weekly earnings fell for everyone between 2007–08 and 2011–12, and the percentage falls were largest for those with modest earnings, although those with the very lowest weekly earnings fared a little better. Household incomes before taxes and benefits therefore became more unequal, but this was outweighed by the effect of the tax and benefit system, which led to reductions in inequality of net incomes.
- There were two key reasons for the fall in inequality between 2007–08 and 2011–12. First, because earnings make up a larger fraction of overall income at the top of the income distribution than at the bottom, falling real earnings had a bigger negative impact on incomes for richer households, despite the increase in earnings inequality. Second, real increases in income from benefits and tax credits supported household incomes towards the bottom of the income distribution.
- Looking forward, a return to real earnings growth and cuts to benefit and tax credit entitlements imply an upward trajectory for income inequality. The reduction in inequality as a result of the recession is likely to prove a temporary rather than permanent phenomenon. In the short run, however, year-on-year movements in inequality will be affected by the fact that ongoing changes to the taxation of very-high-income individuals influence when they choose to realise their incomes. This is likely to continue until at least 2013–14.

In this chapter, we examine how income inequality in the UK has changed over time. In order to do this, we look at how income growth has varied across the income distribution, focusing in particular on the changes in the latest year of data (2011–12) and over the period since the recession.

In our discussions of inequality, we adopt a relative notion of inequality. This means that, if all incomes changed by the same proportional amount, we would conclude that income inequality had remained the same. However, we recognise that, even using a

Figure 3.1. Household income at each percentile point in 2011–12 (UK)



Note: Incomes have been measured net of taxes and benefits but before housing costs have been deducted, and are expressed in 2011–12 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Source: Authors' calculations using the Family Resources Survey 2011–12.

relative notion of inequality, there are many different measures of inequality which give different weight to different parts of the distribution. For this reason, we present changes in income across the distribution as well as summary measures of inequality, such as the Gini coefficient.

The chapter proceeds as follows. Section 3.1 looks at how changes in incomes have differed across the income distribution, while Section 3.2 focuses on summary measures of inequality. Section 3.3 examines how changes in earnings and private incomes have differed across the distribution in recent years, and compares these changes with those seen in incomes net of taxes and benefits. Section 3.4 summarises what we know about prospects for future inequality and Section 3.5 concludes.

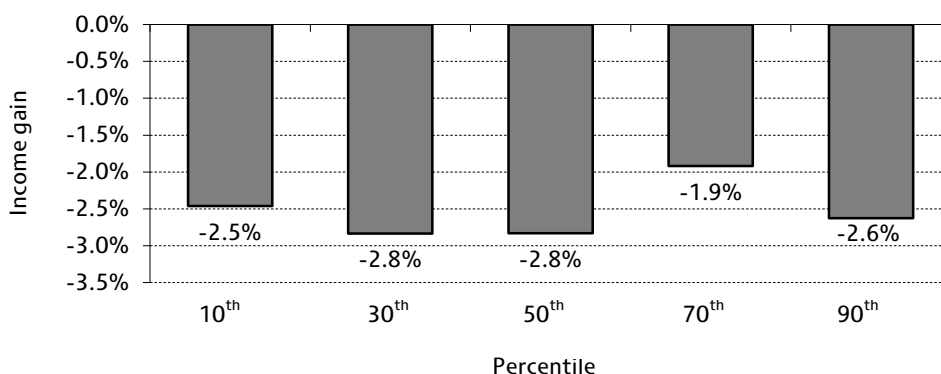
In order to illustrate the current level of income inequality, Figure 3.1 shows the average equivalised household income at each percentile point of the income distribution. Individuals at the median have just under twice the household income of those at the 10th percentile, while those at the 90th percentile have just over twice the household income of those at the median. Importantly, there is greater inequality towards the top of the distribution. The difference in incomes between the 90th and 97th percentiles (around £490) is greater than that between the 90th percentile and the median (around £440). At the 99th percentile, incomes are more than £1,300 a week greater than incomes at the 90th percentile.

3.1 Income changes across the income distribution

The clearest way to see how and why income inequality is changing is to compare changes in incomes at different points in the distribution. One way to do this is to

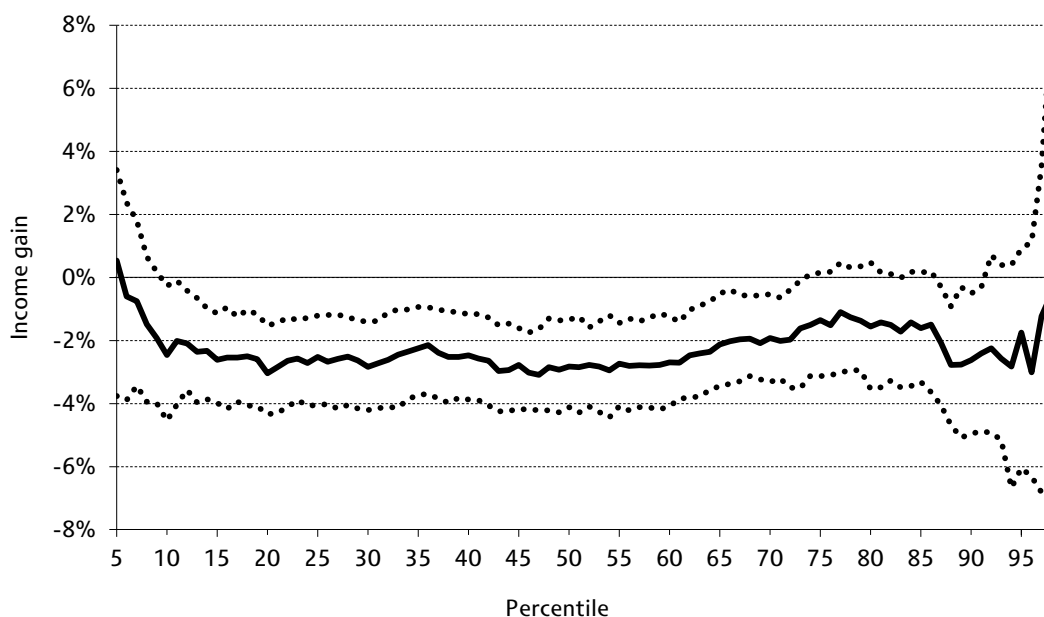
consider average real income growth at the 10th, 30th, 50th, 70th and 90th percentiles of the distribution.³³ Figure 3.2 shows the income growth in 2011–12 at each of these percentiles. We can see that incomes fell across the distribution in 2011–12. Indeed, the falls in income were almost exactly the same, with the exception of a slightly smaller fall at the 70th percentile. Since falls in income were evenly distributed, inequality remained roughly the same.

Figure 3.2. Real income growth at the 10th, 30th, 50th, 70th and 90th percentiles, 2010–11 to 2011–12 (UK)



Note: Incomes have been measured before housing costs have been deducted.
 Source: Authors' calculations using Family Resources Survey, 2010–11 and 2011–12.

Figure 3.3. Real income growth by percentile point, 2010–11 to 2011–12 (UK)



Note: Incomes have been measured before housing costs have been deducted. Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.
 Source: Authors' calculations using the Family Resources Survey, 2010–11 and 2011–12.

³³ Income growth at these percentiles is described by the Department for Work and Pensions (DWP) as income growth by quintile group. For instance, income growth at the 10th percentile is described as income growth for the first quintile group.

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 changed between 2010–11 and 2011–12 right across the distribution, not just at five particular percentile points. Also presented are 95% confidence intervals (the dotted lines) for our estimates of income growth.

Across much of the income distribution, this figure tells a similar story to Figure 3.2 – incomes fell by very similar amounts between the 20th and 60th percentiles. It is also noticeable that even over this one-year period, the income falls in 2011–12 were statistically significant at all points between the 10th and 73rd percentiles.

There were slightly smaller falls in income at both tails of the distribution. At the very bottom, this is likely to be because most households have no income from private sources, and so did not experience falls in earned income, in contrast to those households further up the distribution. At the very top, the smaller falls in income reflect a ‘bounceback’ in top incomes after the large falls seen in 2010–11. These were themselves largely the result of the unwinding of ‘forestalling’ – high-income individuals bringing income forward from 2010–11 and subsequent years into 2009–10 to avoid the 50% tax rate.³⁴ As that effect weakens, we would expect top incomes to recover. However, as Figure 3.3 shows, estimates of changes in incomes towards the top of the income distribution are subject to much greater statistical uncertainty.

Although the falls in income in 2011–12 left inequality almost unchanged, the overall changes in income since the recession have had a substantial effect on inequality. Figure 3.4 again shows real income growth at the 10th, 30th, 50th, 70th and 90th percentiles, but this time we compare the cumulative change in incomes between 2007–08 and 2011–12. Overall, the pattern of changes in income across the recession has reduced inequality. Strikingly, income at the 10th percentile remained higher in 2011–12 than it had been in 2007–08, while income at the 90th percentile was almost 6% lower in real terms. Indeed, the falls in income become progressively larger as one moves up the income distribution.

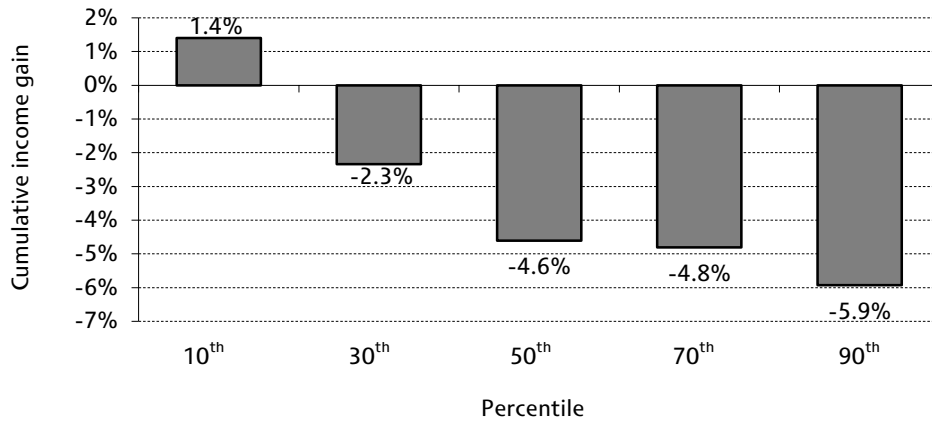
It is interesting to compare the patterns of changes in incomes across the distribution in the periods of rising average incomes (2007–08 to 2009–10) and falling average incomes (2009–10 to 2011–12). Figure 3.5 does this, showing the cumulative change in income by percentile point in both of those two-year periods, as well as in the four years as a whole. Looking first at the period between 2007–08 and 2009–10, we can see that patterns of income growth during the recession itself served to reduce inequality. While incomes increased at all points of the distribution, there were much larger increases towards the bottom, chiefly as a result of real increases in income from benefits and tax credits.³⁵ Looking at changes since 2009–10, a similar pattern emerges. While incomes have fallen across the distribution, the smallest falls have been at the bottom of the income distribution and the largest falls at the top. The reduction in

³⁴ See Box 3.1 for further details.

³⁵ See Cribb, Joyce and Phillips (2012).

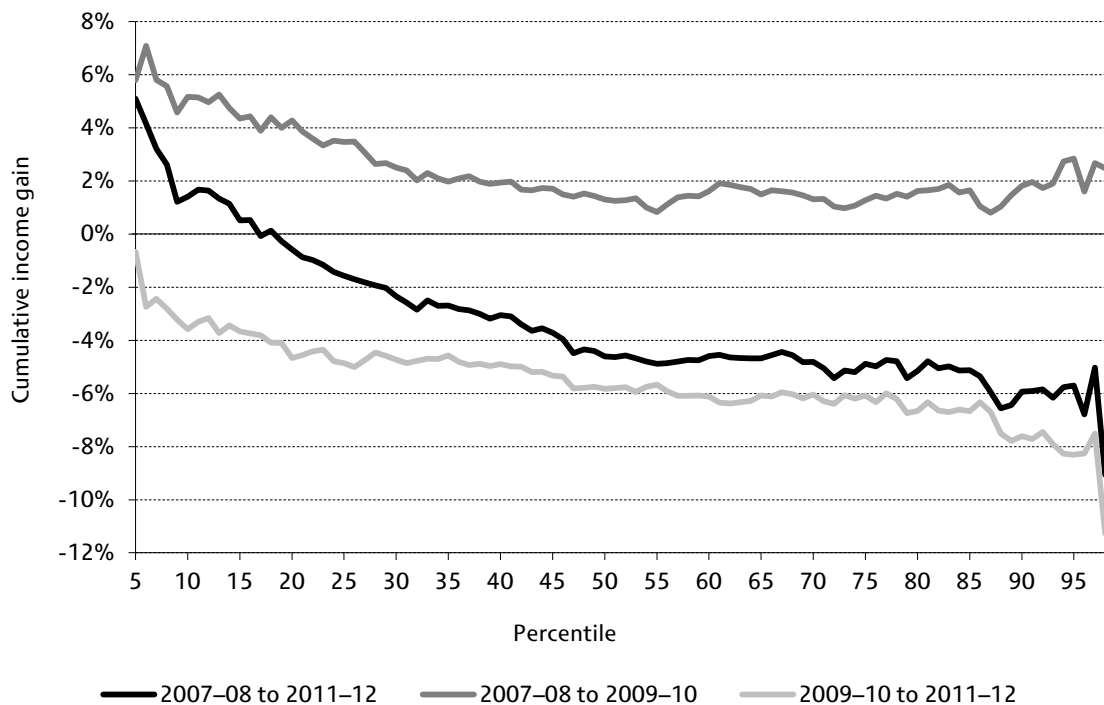
inequality since the recession is thus the cumulative effect of changes in income inequality both during the recession and in the two years afterwards. Across the period as a whole, incomes rose in real terms below the 15th percentile, but fell by 5% or more above the 85th percentile.

Figure 3.4. Real income growth at the 10th, 30th, 50th, 70th and 90th percentiles, 2007–08 to 2011–12 (UK)



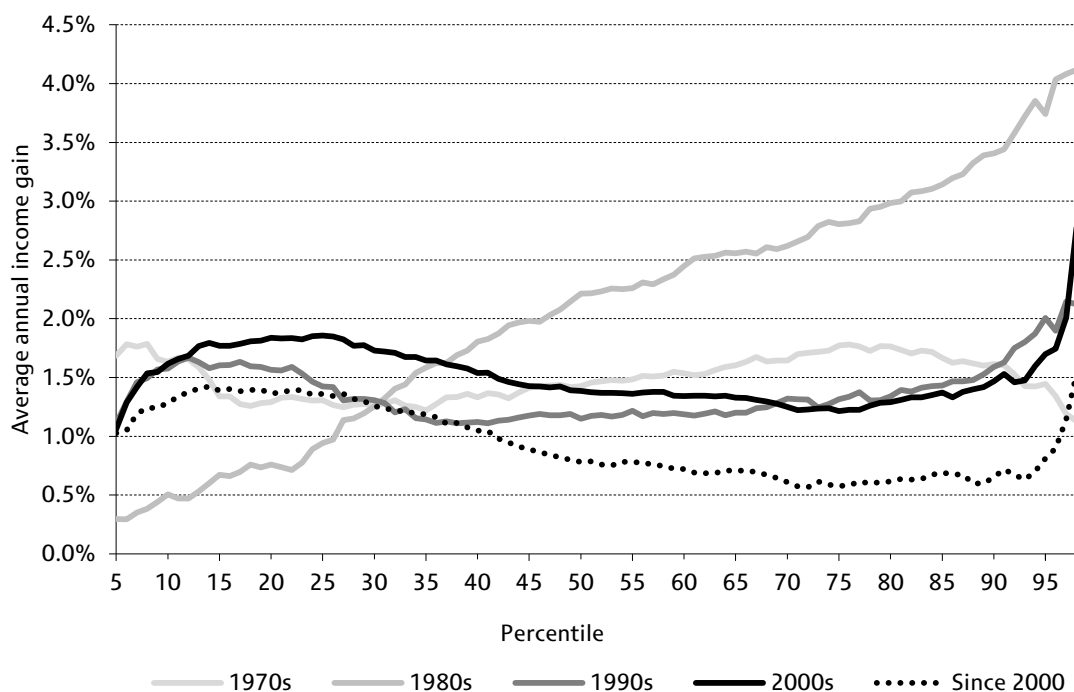
Note: Incomes have been measured before housing costs have been deducted.
 Source: Authors' calculations using Family Resources Survey, various years.

Figure 3.5. Real cumulative income growth by percentile point, 2007–08 to 2011–12 (UK)



Note: Incomes have been measured before housing costs have been deducted. Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.
 Source: Authors' calculations using the Family Resources Survey, various years.

Figure 3.6. Real average annualised income growth by percentile point (GB)



Note: Incomes have been measured before housing costs have been deducted. Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.
 Source: Authors' calculations using the Family Resources Survey and Family Expenditure Survey, various years.

To put the pattern of income growth since the recession in context, it is worthwhile looking at the long-run trends in income growth at different points of the income distribution. To do this, we must look at incomes in Great Britain (GB) only (Northern Ireland was only included in the data from 2002–03 onwards).³⁶ Figure 3.6 compares average annualised income growth at each percentile point of the income distribution in the 1970s, 1980s, 1990s and 2000s. It also shows average annualised income growth since 2000, allowing the effect of the two years of falling incomes (2010–11 and 2011–12) to be seen clearly.

It is obvious from the figure how different the 1980s were from the decades that came before and after. Annualised income growth was slower than in any other decade in the bottom third of the distribution and faster than in any other decade for almost everyone else. This pattern of income growth led to large increases in inequality, with incomes at the median growing nearly five times as fast as those at the 10th percentile, and incomes at the 90th percentile growing one-and-a-half times as fast again. One can also see that those with the very highest incomes began to enjoy much stronger income growth than the rest of the population. Incomes at the 98th percentile increased by an

³⁶ The fact that Northern Ireland represents only a small fraction of the UK population (around 3.0%) and the similarity in economic trends between Northern Ireland and Great Britain mean that the difference between GB and UK-wide figures is likely to be small.

average of over 4% a year through the 1980s, with incomes at the 99th percentile increasing by nearly 7% a year on average.³⁷

In comparison, the patterns of income growth in the 1970s, 1990s and 2000s were similar to each other. There are, however, two differences worth noting. First, income growth across most of the bottom half of the income distribution was stronger in the 2000s than in either the 1970s or the 1990s. This is likely to reflect the concerted effort of the Labour government to reduce child and pensioner poverty through increasing the generosity of benefits and tax credits.³⁸ Second, the trend towards faster income growth among those with the highest incomes seen in the 1980s continued in the subsequent decades, particularly the 2000s. This contrasts with the 1970s, when incomes at the very top actually grew more slowly than those at the median.

It is striking how much of an impact the large falls in income in 2010–11 and 2011–12 make on income growth since 2000. In the bottom half of the distribution, the two years of falling incomes have cancelled out the stronger growth in incomes through the 2000s discussed in the previous paragraph – income growth since 2000 looks no better than that in the 1990s or the 1970s. Towards the top of the distribution, the effect is even more marked: although average annual income growth in the 2000s was similar to that in the 1970s and the 1990s, income growth since 2000 is around a percentage point lower.

Two important points about the recent pattern of income growth emerge. First, the 2000s do not look like a decade of historically low income growth for those in the middle or lower middle of the income distribution. Prior to the impact of the recession, income growth for this group looks similar to, if not a little better than, that in most recent decades. Adding in the immediate effects of a deep recession unsurprisingly changes this pattern, though even then, since 2000, the bottom third have done rather better than in the 1980s, no worse than in the 1970s and barely worse than in the 1990s. Second, there is no evidence in Figure 3.6 of a particularly ‘squeezed middle’ over the last decade or more: income growth was relatively similar across the distribution, with the exception of incomes at the very top.

3.2 Summary measures of inequality

In order to understand how the patterns of income growth seen in Section 3.1 have affected inequality over time, it is useful to construct summary measures of inequality. In this section, we discuss trends in income inequality according to ratio measures of inequality and the Gini coefficient.

³⁷ Note that the change in income at the 99th percentile is subject to a higher level of statistical uncertainty, and so is not shown in Figure 3.6.

³⁸ See Brewer, Browne, Joyce and Sibieta (2010).

Ratio measures

One way to measure income inequality is simply to calculate the ratio between incomes at two particular points in the income distribution. To understand the significance of these ratios, it is important to know the incomes required to reach these different points of the income distribution. To that end, Table 3.1 shows the gross household earnings different household types required to reach the 50th, 90th and 99th percentiles in 2011–12. Again this illustrates the scale of the difference between the 90th and 99th percentiles. It surprises many people to learn that a couple without children each on a gross salary of £30,000 are in the top 10% of the income distribution. They would need to be earning £87,000 each to make it into the top 1%. If only one person in a couple with two children is earning, they would need to be paid an impressive £290,000 a year to reach the top 1%.

Table 3.1. Gross annual household earnings required to reach different percentile points of the 2011–12 income distribution, by household type

	Single individual	One-earner couple, no children	Two-earner couple, ^a no children	One-earner couple, two children under 14
50 th	£18,000	£29,000	£26,000	£39,000
90 th	£41,000	£66,000	£59,000	£94,000
99 th	£125,000	£198,000	£174,000	£290,000

^a With each partner earning the same amount.

Note: Equivalisation and the individual basis of taxation mean different household types need different gross earnings to be at a given percentile point of the income distribution. Figures exclude council tax, and are rounded to the nearest £1,000.

Source: Authors' calculations using Family Resources Survey 2011–12 and TAXBEN, the IFS tax and benefit microsimulation model.

Figures 3.7a and 3.7b show some ratio measures of inequality. Each captures a slightly different measure of inequality; the 50/10 ratio, for example, describes inequality between the middle and the bottom of the distribution. Note that in Figure 3.7a 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 3.7b shows the 50/10, 90/50 and 99/90 ratios because they are all similar in magnitude.

All the ratio measures of inequality show large increases during the 1980s, as one would expect given the pattern of income growth seen in Figure 3.6. Those ratios that capture inequality between the very top incomes and the rest of the distribution saw the most dramatic increase during that period: the 99/50 increased from 3.03 in 1980 to 4.70 in 1990, while the 99/90 increased from 1.74 in 1980 to 2.31 in 1990.

Since the 1980s, the 90/10, 50/10 and 90/50 ratios have all followed almost the same pattern, declining slightly until 2004–05, rising from 2004–05 until around 2007–08, and then falling each year since the recession. More significantly, none of these measures suggests inequality has changed substantially since the 1980s. It is worth noting, however, that while the 50/10 and 90/10 ratios have fallen back to their lowest level since 1987, the 90/50 ratio remains around the same level as in most of the

2000s. This suggests incomes at the bottom of the distribution have caught up somewhat with those in the middle in recent years, while middle incomes have not caught up with those at the top in the same way.

It is at the very top, the 99th percentile, where incomes have continued to rise much more quickly than across the rest of the distribution, with both the 99/50 and the 99/90 ratios continuing to increase across the past two decades. This 'racing away' of top incomes has been documented frequently, both in the UK and in many other countries.³⁹

Figure 3.7a. Measures of inequality: 90/10 and 99/50 ratios

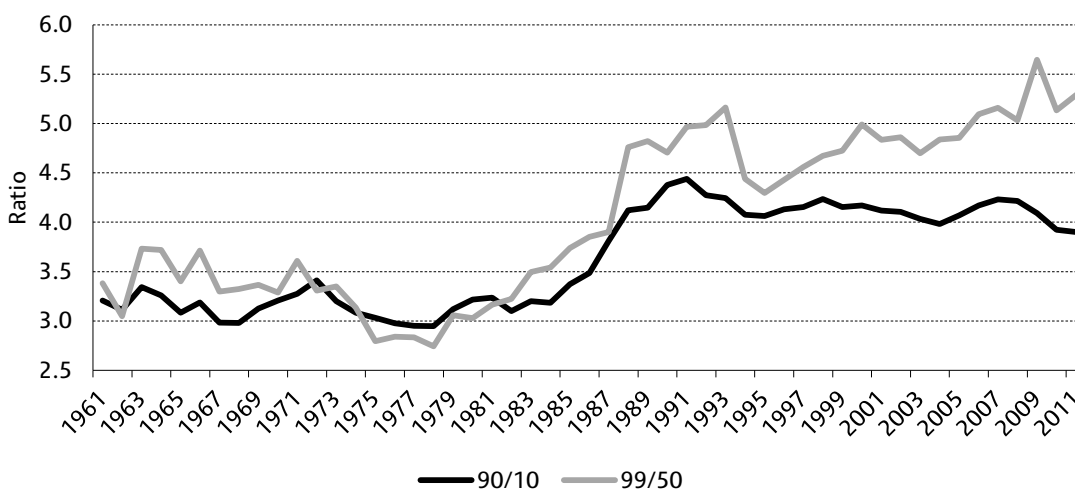
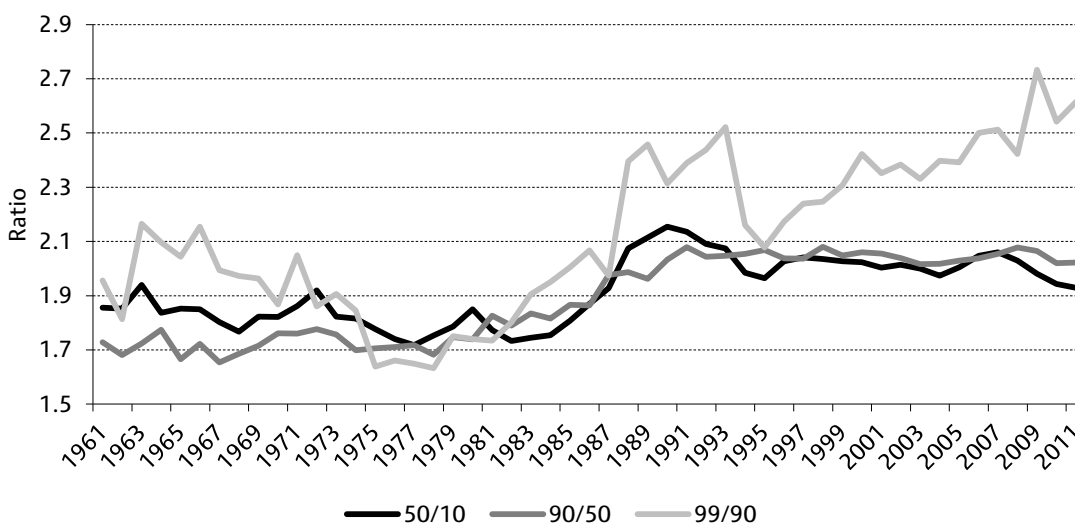


Figure 3.7b. Measures of inequality: 50/10, 90/50 and 99/90 ratios



Note: Income has 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 Family Resources Survey and Family Expenditure Survey, various years.

³⁹ See Brewer, Sibieta and Wren-Lewis (2008) for the UK and Atkinson, Piketty and Saez (2011) for other countries.

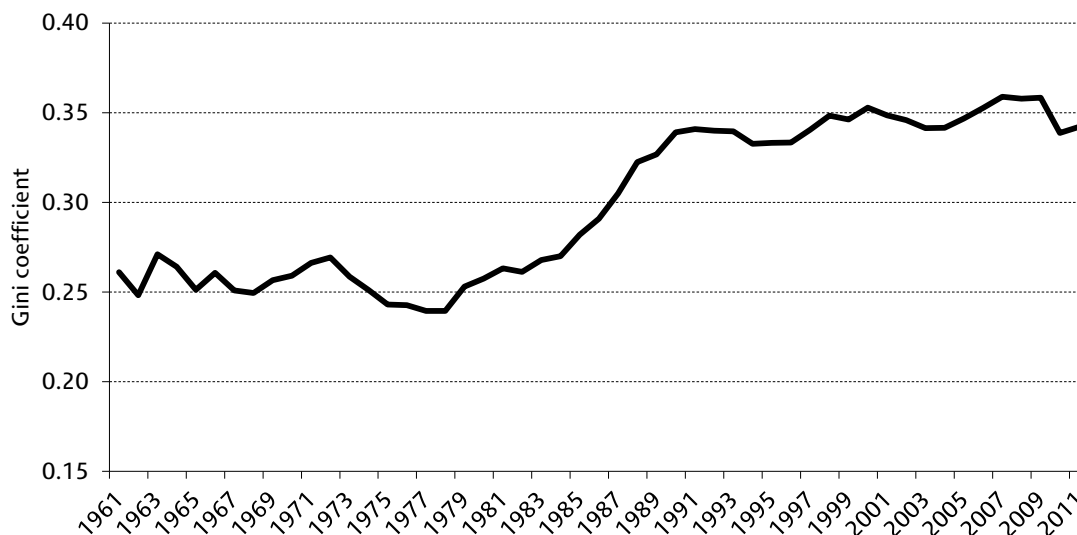
The Gini coefficient

The biggest limitation of the ratio measures of inequality is that they can only capture differences in incomes between particular points in the distribution, rather than across the distribution as a whole. The Gini coefficient, on the other hand, 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.

To get a sense of the level of inequality to which a given value of the Gini corresponds, it is useful to compare Gini coefficients across countries. In 2008 (the most recent year for which international data are available), the Gini coefficients for France, Germany and the United States were 0.29, 0.30 and 0.38 respectively,⁴⁰ compared with 0.36 in the UK (in 2008–09). The Gini coefficient suggests income inequality is greater in the UK than in France or Germany, but a little lower than in the US.

Figure 3.8 shows the evolution of the Gini coefficient for Great Britain since 1961. As was the case with the ratio measures of inequality in Figure 3.7, the 1980s saw a large increase in inequality. From around 0.25 in 1979, the Gini coefficient rose to just over 0.34 by 1991. From the early 1990s onwards, changes in the Gini coefficient were much less dramatic until 2010–11, which saw the largest single-year fall in the Gini

Figure 3.8. The Gini coefficient (GB)



Note: Income has 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 Family Resources Survey and Family Expenditure Survey, various years.

⁴⁰ International Gini coefficients are from the OECD statistics library: <http://stats.oecd.org>. All figures for calendar year 2008. Data downloaded 13 May 2013.

Box 3.1. The effect of the additional rates of income tax on top incomes

Over recent years, an important factor in the changes to top incomes has been the impact of the introduction of the 50% rate of income tax in April 2010.^a This had a ‘permanent’ effect on top incomes, both through its direct impact on net incomes (for a given level of pre-tax income) and because of likely behavioural responses, such as reduced effort, increased tax avoidance and emigrating from the UK. It has also had a temporary effect on top incomes, by incentivising individuals to change when they draw incomes (or when they *report* drawing incomes) in order to minimise their tax liability. Income that would otherwise have been reported after April 2010 was brought forward into 2009–10 to avoid paying the new higher rate of tax on that income, a process known as ‘forestalling’. In 2010–11, this ‘forestalling’ was partially unwound, leading to large reductions in top incomes. According to the Office for Budget Responsibility (OBR), this unwinding will have continued into 2011–12 and 2012–13.^b In 2012–13, top incomes were also affected by what has been called ‘reverse forestalling’: individuals are expected to have delayed reporting income until 2013–14, in order to pay income tax at the reduced rate of 45% (introduced in April 2013). Top incomes are then likely to increase again in 2013–14. This means it will continue to be somewhat difficult to ascertain underlying trends in summary measures of inequality that are sensitive to top incomes for the next few years.

^a See Cribb, Joyce and Phillips (2012) for a more comprehensive discussion.

^b Office for Budget Responsibility, 2012, p. 109.

coefficient since the consistent series began, from 0.36 to 0.34. The Gini rose slightly in 2011–12, but the change was not statistically significant.⁴¹

The Gini coefficient, since it captures inequality across the whole income distribution, is affected by changes in incomes at the very top of the distribution. It is important to take account of this when assessing the significance of the fall in the Gini coefficient in recent years; since 2008–09, the tax-induced shifting of income between years has affected year-on-year changes in top incomes, making it difficult to isolate the underlying trends (for more details of the income shifting, see Box 3.1).

One way to gauge the sensitivity of the Gini coefficient to changes in top incomes is to decompose it into the sum of three components – income inequality within the bottom 99%, within the top 1%, and between the bottom 99% and the top 1%.⁴² Of the fall in the Gini between 2009–10 and 2010–11, two-thirds was due to changes in income inequality between the top 1% and the bottom 99%, with only a third of the fall due to changing income inequality among the 99%. (The contribution of changing inequality among the top 1% was minuscule.⁴³) In other words, most of the dramatic fall in the Gini coefficient in that year can be attributed to the reported fall in the incomes of the

⁴¹ Standard errors were calculated using the bootstrap methodology. See source to Table 2.1 for more detail.

⁴² See Appendix C and Lambert and Aronson (1993) for technical details.

⁴³ This partly reflects the failure of the HBAI data to fully capture inequality among the richest individuals as a result of the SPI adjustment (see Appendix A).

top 1%, which was largely the result of 'forestalling'. The sensitivity of the Gini to changes in top incomes makes it unwise to put too much emphasis on year-on-year changes, particularly in the current context. Note, however, that the ratio measures do show income inequality falling across the distribution in 2010–11.

Looking at the period since the recession, this breakdown of changes in the Gini coefficient reveals a different story. Of the fall in the Gini coefficient between 2007–08 and 2011–12, two-thirds was due to falling income inequality within the bottom 99%, with the remaining third accounted for by falling inequality between the bottom 99% and the top 1%. Unlike the single-year fall in 2010–11, the change in the Gini coefficient since the recession chiefly reflects declining inequality across the distribution, rather than simply the falls in top incomes.

To get a sense of the difference the 'racing away' of top incomes over the long run has made to changes in the Gini coefficient, we can calculate the Gini just for the bottom 99%, excluding the effect of increasing inequality between the top 1% and the bottom 99% (and changes in inequality within the top 1%). Over the past two decades, income inequality among the whole population has remained unchanged: the Gini coefficient in 2011–12 was not statistically significantly different from its 1991 value. However, inequality among the bottom 99% has fallen: the Gini coefficient for the bottom 99% was 5% lower in 2011–12, at 0.30, than in 1991, when it was 0.314 (and the difference was statistically significant).

3.3 The distribution of earnings and private incomes

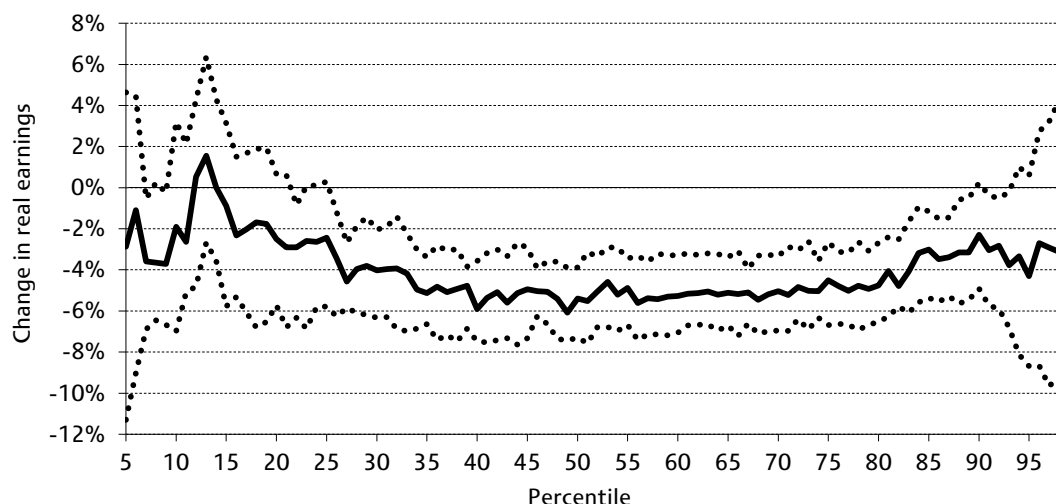
In this section, we turn our attention to the distribution of earnings and private incomes, and how those distributions have been affected by the recession. First, we examine the labour market outcomes of individuals – how the gross earnings of those in work have changed over time. Second, we look at how these changes in individual earnings have played out at the household level, by considering changes in the private household income distribution.⁴⁴ Furthermore, by comparing the changes in private and net household incomes, we are able to gain some insights into the role of state redistribution in reducing inequality.

The earnings distribution

While changes in the household income distribution depend partly on household composition and state redistribution, perhaps the single most important determinant of income inequality is the variation in the earnings of different individuals, as captured by the adult earnings distribution. When presenting earnings distributions, we exclude those individuals with no earned income. This allows us to examine changing earnings inequality among the working population by showing year-on-year changes in earnings at each percentile.

⁴⁴ Gross earnings are the main component of private incomes, with other components including self-employment income, private pensions and income from investments.

Figure 3.9. Real earnings growth by percentile point, 2010–11 to 2011–12 (UK)



Note: Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.

Source: Authors' calculations using the Family Resources Survey, 2010–11 and 2011–12.

Figure 3.9 shows the change in real weekly earnings in 2011–12 at each point of the adult earnings distribution, along with the 95% confidence intervals (the dotted lines). There are two things worth noting. First, real earnings fell substantially across most of the earnings distribution. Indeed, the year-on-year fall was statistically significant between around the 25th and 90th percentiles. Second, falls in earnings across the bottom half of the earnings distribution were inequality-reducing, with much smaller falls at the bottom of the earnings distribution than at the median. While it is important not to read too much into a single year of data, these changes are in line with the trend towards lower earnings inequality among the bottom half of earners seen in the years before the start of the recent recession.⁴⁵

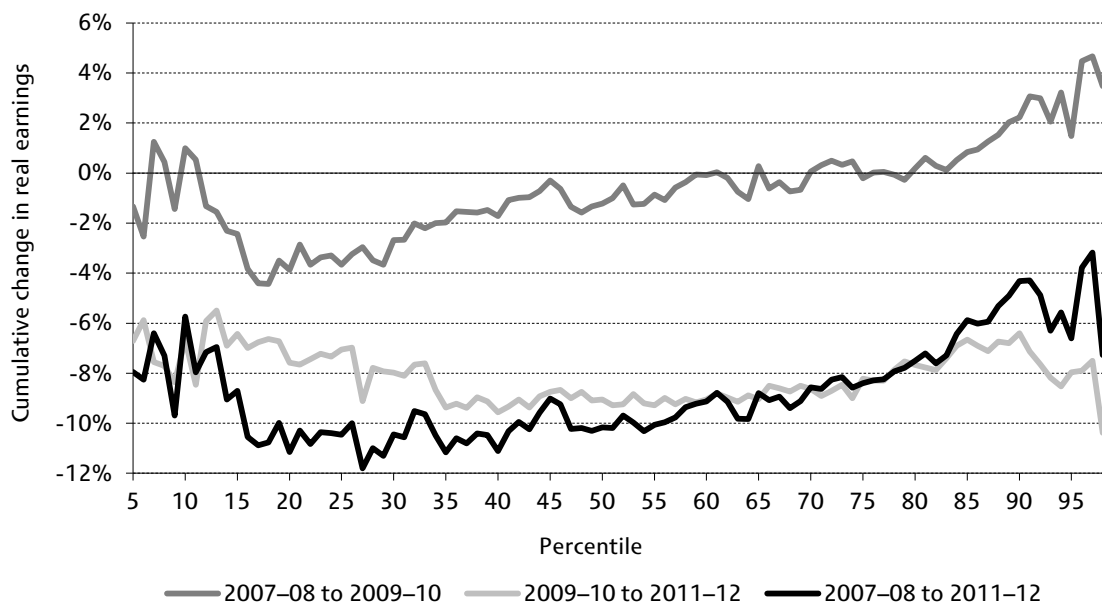
In Section 2.3, we saw that average gross household earnings were flat between 2007–08 and 2009–10, but then fell substantially between 2009–10 and 2011–12.⁴⁶ Figure 3.10 shows changes in the distribution of individual earnings in each of those periods, as well as across the four years as a whole.

The key finding for the period as a whole is that real weekly earnings fell more towards the bottom middle of the distribution than at the top. Earnings at the 20th and 50th percentiles fell by around 10%, compared with a fall of only 4% at the 90th percentile. As a result, earnings inequality rose across most of the distribution. However, earnings fell somewhat less at the very bottom of the distribution; some protection was perhaps offered by the minimum wage.

⁴⁵ See Machin and Van Reenen (2007) and Blundell and Etheridge (2010), who show falling inequality between the bottom and the middle of the hourly earnings distribution. See also Section 6.3 of this report, which considers changes in real weekly earnings for the bottom half of the earnings distribution for working-age non-parents.

⁴⁶ Note that these average changes include those households with zero gross earnings, while here we focus only on individuals with positive earnings.

Figure 3.10. Real weekly earnings growth by percentile point, 2007–08 to 2011–12 (UK)



Note: Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.
 Source: Authors' calculations using the Family Resources Survey, various years.

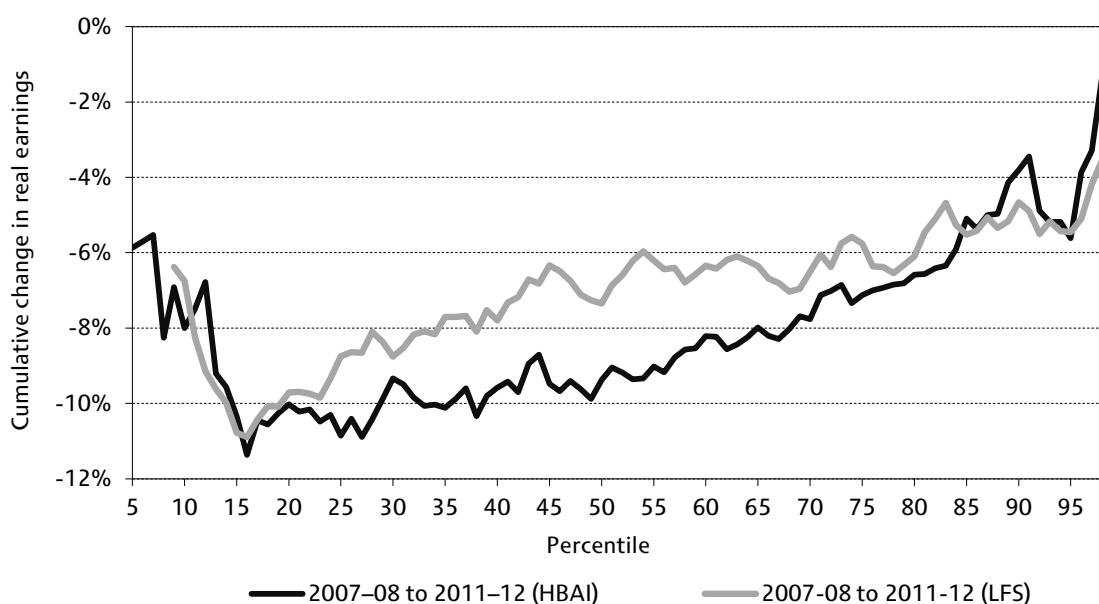
This pattern was driven by a significant increase in earnings inequality during the recession. Between 2007–08 and 2009–10, earnings at the 20th percentile saw a cumulative fall of around 4% in real terms, while earnings at the 50th saw a cumulative fall of 1.2% and the 90th percentile saw real growth of over 2%. However, it is important to note that while weekly earnings fell in real terms across the lower middle of the distribution, hourly earnings were unchanged. This suggests that the falls in weekly earnings for the relatively low-paid during the recession were largely the result of a reduction in working hours (such as greater part-time working), rather than falling hourly earnings.

The period following the recession, from 2009–10 to 2011–12, saw very large falls in real earnings, but those falls were distributed more evenly across the distribution. Weekly earnings fell by 8% at the 20th percentile, compared with 9% at the median and 6% at the 90th percentile.

The Labour Force Survey (LFS), rather than the HBAI data, is the main source of labour market statistics in the UK. Figure 3.11 therefore compares cumulative real earnings growth at each percentile point of the weekly earnings distribution between 2007–08 and 2011–12 according to HBAI and the LFS.⁴⁷

⁴⁷ The LFS does not include data on self-employment income, and so individuals with any such income are dropped from the HBAI data to make the two sources directly comparable.

Figure 3.11. Real weekly earnings growth by percentile point according to HBAI and the Labour Force Survey, 2007–08 to 2011–12 (UK)



Note: Percentiles 1–4 and 99 are excluded because of large statistical uncertainty.

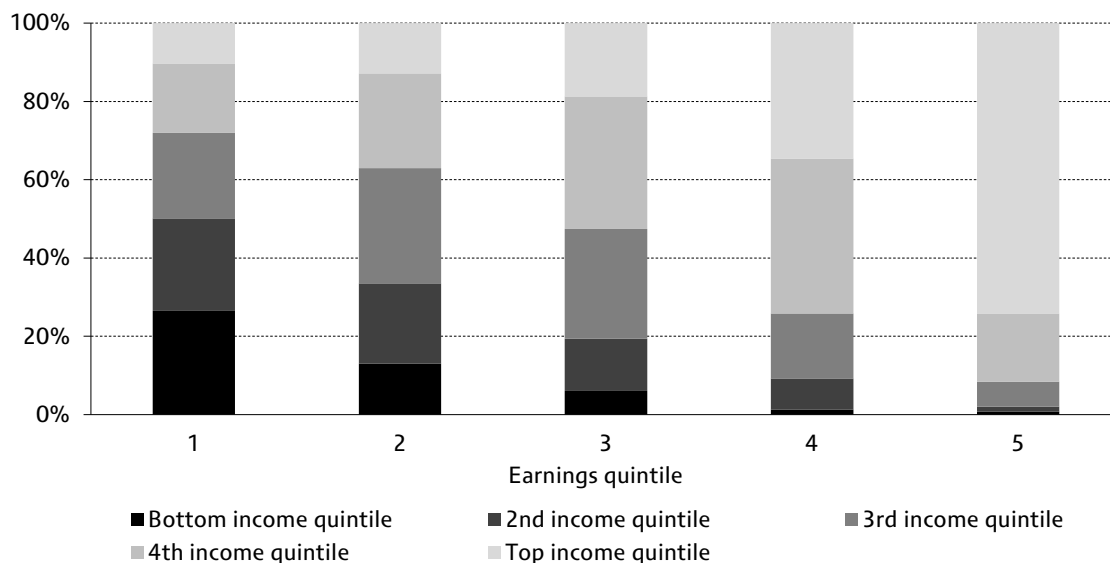
Source: Authors' calculations using the Family Resources Survey and Labour Force Survey, various years.

The LFS and HBAI provide similar pictures of the cumulative change in earnings between 2007–08 and 2011–12. According to both sources, earnings fell across the distribution, but those towards the bottom – but not at the very bottom – of the earnings distribution saw larger falls in percentage terms than those in the middle and top of the earnings distribution. In other words, the conclusion that weekly earnings inequality has increased substantially since the onset of the financial crisis is robust to different sources of earnings data. The falls in earnings in the middle of the distribution do look somewhat smaller in the LFS than in the HBAI data, but the differences are not generally statistically significant.⁴⁸

As well as being of interest in itself, the distribution of falls in real earnings since 2007–08 provides an important explanation of changes in the distribution of net household incomes over that period. In order to assess the contribution of changes in earnings to the income distribution, we first need to know how the two distributions relate. This relationship is illustrated in Figure 3.12. The individuals with positive earnings are divided into quintile groups on the basis of their position in the earnings distribution. The figure then shows what proportion of each earnings quintile group can be found in each quintile of the *household income* distribution (after equivalisation). For example, an individual who works part time but has a high-earning spouse might be in the bottom quintile of the earnings distribution, but have a household income that places them in the top quintile of the household income distribution.

⁴⁸ Standard errors were calculated using the bootstrap methodology. See source to Table 2.1 for more details.

Figure 3.12. Quintiles of the earnings and income distributions (UK)



Source: Authors' calculations using the Family Resources Survey 2011–12.

The far right-hand bar shows that most individuals at the top of the earnings distribution are also at the top of the household income distribution: of the top quintile of earners, around 75% are also in the top quintile of the household income distribution. However, the same relationship does not hold at the bottom of the two distributions: of the bottom quintile of earners, only around 25% are also in the bottom quintile of the household income distribution. There are two main reasons for this. First, low earners might not be the only earner in a given household, as in the example of the spouse of a high-earning individual who works part time. Second, more than half of the individuals in the bottom quintile are pensioners or workless adults, and so do not appear in the earnings distribution.

With this in mind, what can we say about the implication of the changes to the earnings distribution for the household income distribution? In short, changes to earnings help explain the pattern at the top of the income distribution but not at the bottom. Falls in real earnings at the top of the earnings distribution explain falls in household incomes at the top of the income distribution. But the larger falls in real earnings towards the bottom of the distribution are not reflected in larger falls in household incomes in the lower middle of the distribution, where most of the individuals affected are found. Instead, incomes fell by less towards the bottom of the distribution. In the next subsection, we examine the whole private income distribution and analyse the impact of state redistribution in reducing inequality.

The private income distribution

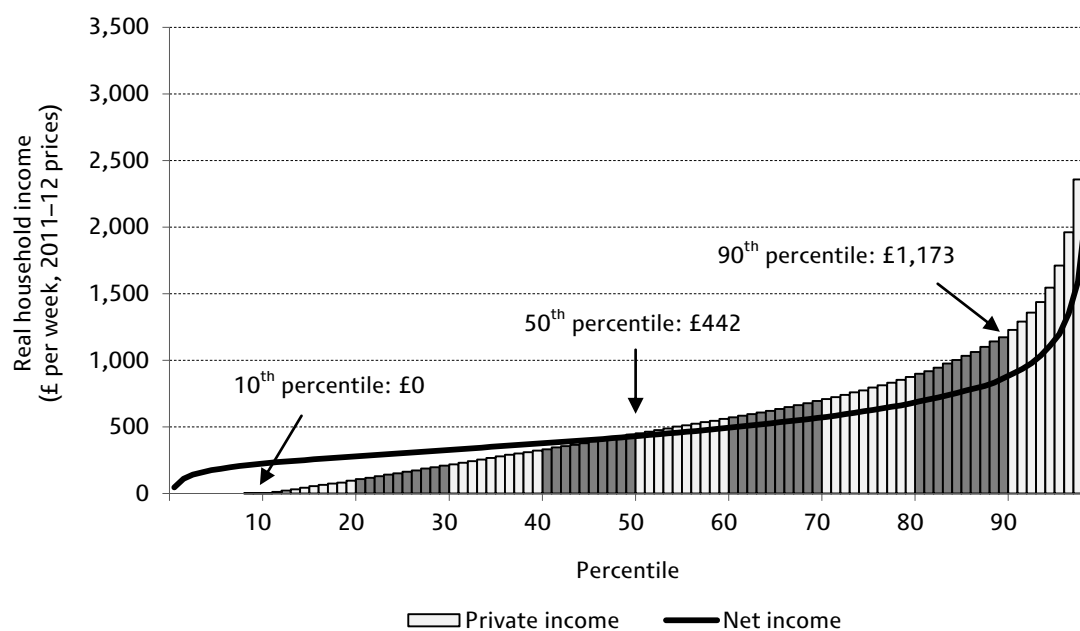
Private income is income received before direct taxes are deducted and before benefits are received by the household.⁴⁹ Earnings are the main component of private incomes,

⁴⁹ 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.

with other components including self-employment income, private pensions and income from investments. By comparing changes in the private income distribution with those in the net income distribution, we can get a sense of the effect of state redistribution during and after the recession.

In Figure 3.13, we show private and net household income at each percentile point of their respective distributions in 2011–12. As one might expect, inequality is significantly higher for private incomes than for net incomes. While income at the 90th percentile of the net income distribution is almost exactly twice the income at the median, income at the 90th percentile of the private income distribution is more than two-and-a-half times that at the median. Most strikingly, around one in ten individuals lives in a household with no private source of income. Transfers from the government ensure that most of these individuals have positive net incomes, while taxes bring the net incomes of those towards the top of the distribution substantially below their private incomes.

Figure 3.13. Private and net household income at each percentile point in 2011–12 (UK)



Note: Incomes have been measured before housing costs have been deducted, and are expressed in 2011–12 prices. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple.

Source: Authors' calculations using the Family Resources Survey 2011–12.

The remainder of this subsection examines changes in the private income distribution since the recession, alongside the changes seen in the net income distribution. It is important to note that the difference in these changes at a given percentile point cannot be straightforwardly interpreted as the effect of changes to the tax and benefit system, since tax and benefit changes are also likely to shift individuals within the net income distribution (in other words, those individuals at, for example, the 25th percentile of the private income distribution are not necessarily the same individuals as at the 25th percentile of the net income distribution). Throughout, we exclude the bottom 25% of

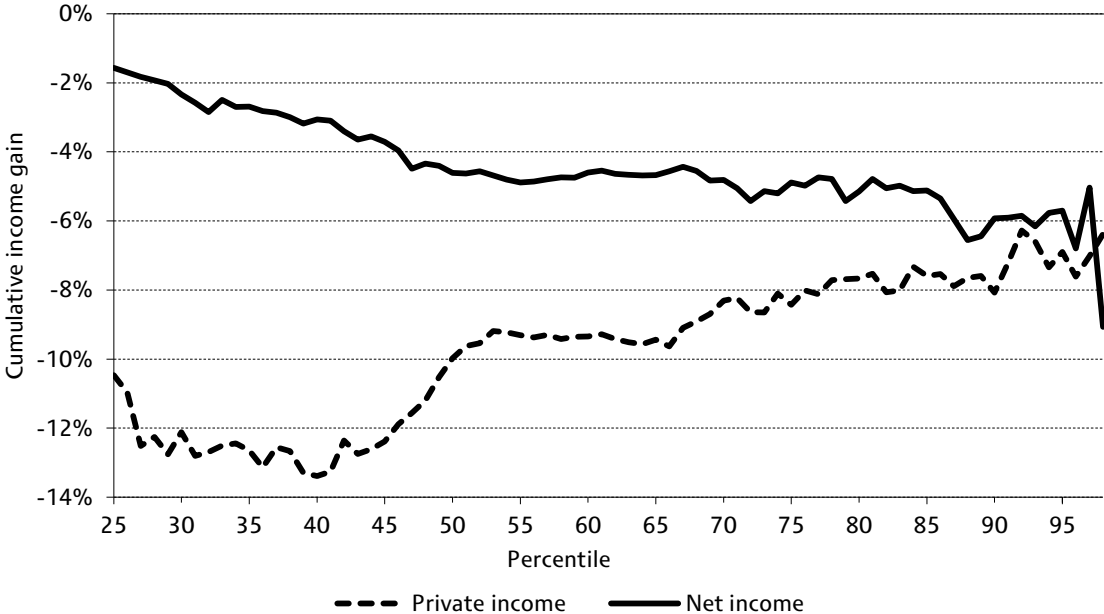
both income distributions, since households below that point in the private income distribution have very low private incomes, and so the year-on-year percentage changes at each percentile point can be extremely volatile.

In 2011–12, the changes in private and net household incomes were very similar. Median private income fell by 2.3%, compared with the 2.8% fall in median net income. More important, however, is the comparison of changes in private and net incomes since the onset of the financial crisis.

Figure 3.14 shows the cumulative change in private and net incomes between 2007–08 and 2011–12. While both private and net incomes fell in real terms across the distribution, the pattern of those changes was strikingly different. Inequality in private incomes increased: private incomes fell by 10.5% at the 25th percentile, 10.0% at the median and 8.1% at the 90th percentile. In contrast, inequality in net incomes fell substantially: net incomes fell by only 1.6% at the 25th percentile, compared with 4.6% at the median and 5.9% at the 90th percentile. The fall in income inequality since the recession was not the result of changes to private incomes. Rather, taxes and transfers resulted in falling net income inequality, despite the increasing inequality in earnings and hence in private incomes.

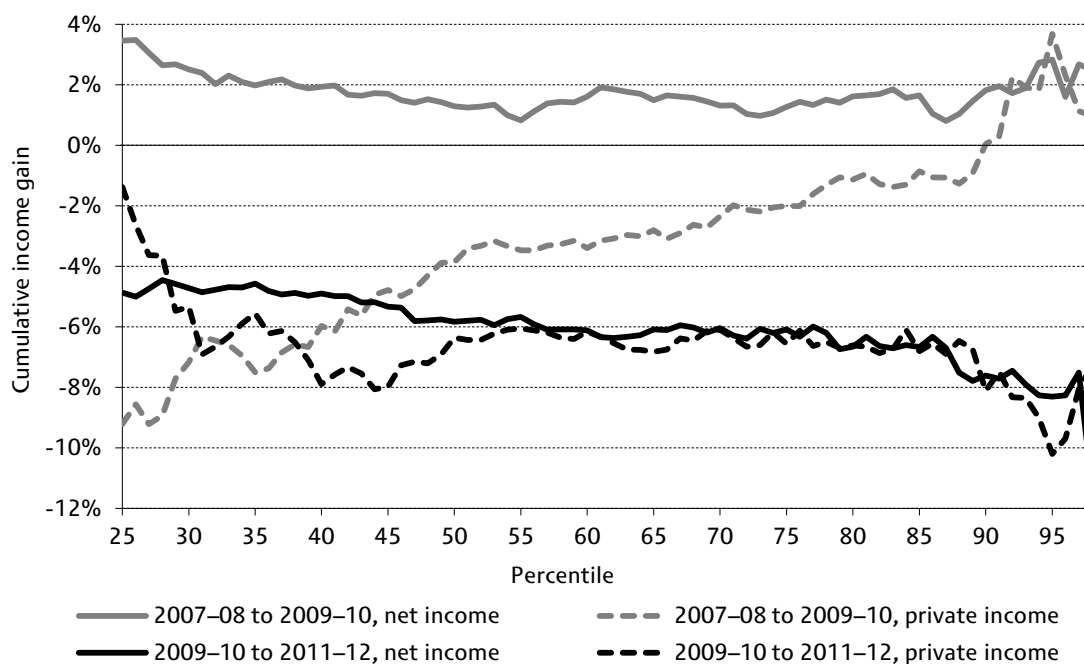
It is interesting to compare changes in private and net incomes during and after the recession, to get a sense of the different ways in which the tax and benefit system operated. Figure 3.15 does this, separating the cumulative changes shown in Figure 3.14 into the change during the recession (2007–08 to 2009–10) and in the two subsequent years of falling average incomes (2009–10 to 2011–12).

Figure 3.14. Real private and net income growth by percentile point, 2007–08 to 2011–12 (UK)



Note: Incomes have been measured before housing costs have been deducted. The bottom 25% has been omitted because the private incomes are very low, and so subject to large year-on-year changes in percentage terms. The 99th percentile is omitted because of statistical uncertainty.
 Source: Authors’ calculations using the Family Resources Survey, various years.

Figure 3.15. Real private and net income growth by percentile point, 2007–08 to 2009–10 and 2009–10 to 2011–12 (UK)



Note: Incomes have been measured before housing costs have been deducted. The bottom 25% has been omitted because the private incomes are very low, and so subject to large year-on-year changes in percentage terms. The 99th percentile is omitted because of statistical uncertainty.

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

Looking first at the changes between 2007–08 and 2009–10, there are two important things to note. First, while net incomes rose across the distribution, private incomes fell at all points below the 90th percentile. This illustrates clearly that without the 'automatic stabilisers' of lower tax bills and higher benefit and tax credit payments, incomes would have fallen during this period. Second, the direct impact of the tax and benefit system on incomes was to reverse the effect of the recession on inequality. Inequality in private incomes increased significantly between 2007–08 and 2009–10: while private income at the 90th percentile remained unchanged, private incomes fell by 3.9% at the median and 9.2% at the 25th percentile. In contrast, inequality actually fell among the bottom half of the net income distribution: net incomes rose by around 3.5% at the 25th percentile, compared with 1.3% at the median (the figure for the 75th percentile was also 1.3%).

In contrast, changes in private and net incomes between 2009–10 and 2011–12 were broadly similar. The cumulative fall in median private income was 6.3%, compared with the 5.8% fall in median net income. Mean private income fell by 7.4%, compared with the 7.2% fall in mean net income. In both cases, the falls in income were somewhat larger towards the top of the distribution than at the bottom; at the 90th percentile, private incomes fell by 8.1% and net incomes by 7.6%, whilst at the 30th percentile, private incomes fell by 5.3% and net incomes by 4.7%.

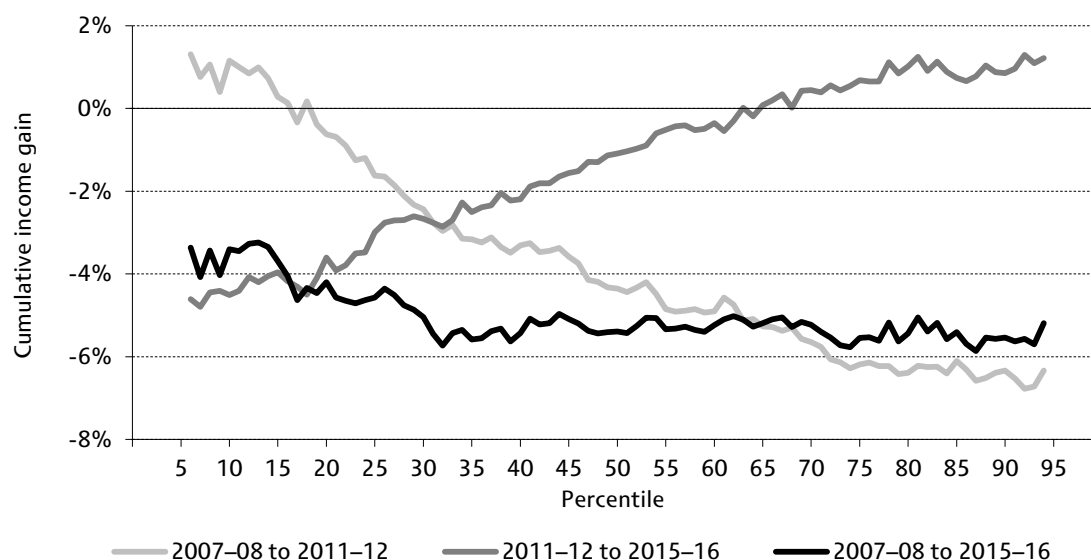
3.4 Prospects for income inequality

Falls in income inequality since the recession can be largely explained by two factors – falling real wages and increased incomes from benefits and tax credits. As the economy recovers, real earnings growth will return. As the government continues to reduce welfare spending, incomes from benefits and tax credits will fall. The reduction in income inequality as a result of the recession is therefore likely to be a temporary rather than permanent phenomenon.

Quite how temporary the fall in income inequality is likely to be is illustrated in Figure 3.16, taken from Brewer, Browne, Hood, Joyce and Sibieta (2013). They simulate changes in income across the distribution up to 2015–16 based on macroeconomic forecasts from the OBR and taking into account planned changes to the direct tax and benefit system. Strikingly, the projected changes in income between 2007–08 and 2015–16 are similar across the distribution. This implies that inequality will be at almost the same level in 2015–16 as it was in 2007–08; in other words, that most of the fall in inequality seen in the last four years will be reversed in the next four years. Indeed, the figure shows a pattern of income growth between 2011–12 and 2015–16 that would be strongly inequality-increasing: incomes are projected to fall by 4.5% at the 10th percentile and by only 1.1% at the median, and to rise by 0.9% at the 90th percentile.

What is driving this projected increase in income inequality between 2011–12 and 2015–16? Part of the explanation is changes in earnings. The latest forecasts from the OBR suggest earnings will continue to fall in real terms throughout 2012–13 and 2013–

Figure 3.16. Projected real net income growth by percentile point, 2007–08 to 2015–16 (UK)

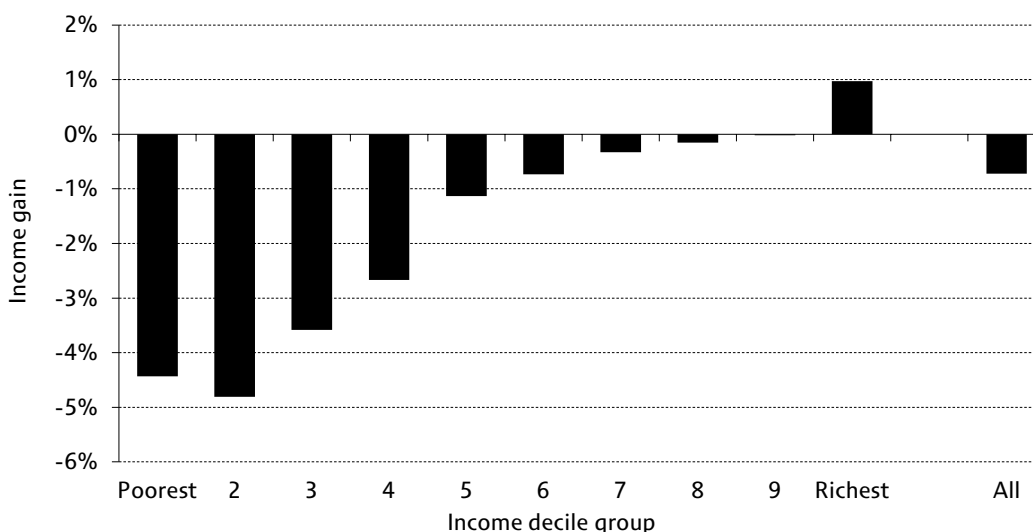


Note: Income growth at the top and bottom five percentile points is not shown due to uncertainty from sampling and measurement error.

Source: Brewer, Browne, Hood, Joyce and Sibieta, 2013.

14, before real earnings growth returns at some point in 2014–15.⁵⁰ This growth in real earnings in the last two years of the period explains why incomes are projected to increase above the 65th percentile. The key explanation for the large falls in income towards the bottom of the distribution is changes to the tax and benefit system. Indeed, Brewer et al. state that ‘the cuts to social security almost entirely explain the projected reductions in incomes within the bottom half of the distribution in the post-recession period of fiscal consolidation’.⁵¹

Figure 3.17. Impact of direct tax and benefit reforms introduced or planned between April 2012 and April 2015, by income decile group



Note: Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 2011 tax and benefit system according to income adjusted for household size using the McClements 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 and excludes Universal Credit, which will be rolled out from October 2013 but not fully in place until the end of 2017. Results look qualitatively very similar if one assumes Universal Credit were fully in place in 2015.

Source: Authors' calculations using TAXBEN, the IFS tax and benefit microsimulation model, run on updated 2010–11 Family Resources Survey data.

Only a small proportion of these cuts to social security have so far been seen in the HBAI data. By 2017–18, the government plans to have cut spending on welfare by £21 billion in today's terms. Of those £21 billion of cuts, only £2 billion were in place in 2011–12. The distributional impact of the remaining cuts is therefore an important determinant of future trends in income inequality. Figure 3.17 separates this from other forecast changes in income, showing the effect of discretionary changes to taxes and benefits between April 2012 and April 2015 by decile group. The impact of these changes towards the bottom of the distribution is significant, with individuals in the second decile group left nearly 5% worse off. The pattern is also clearly inequality-increasing, with much smaller losses for individuals further up the distribution. This is

⁵⁰ Office for Budget Responsibility, 2013.

⁵¹ Brewer, Browne, Hood, Joyce and Sibieta, 2013, p. 195.

unsurprising given the magnitude of welfare cuts, and the fact that households towards the bottom of the distribution rely on benefits and tax credits for a larger proportion of their income. At the top of the income distribution, the reduction in the additional rate of income tax from 50% to 45% in April 2013 acts to increase incomes in the top decile group. It is important to note that Figure 3.17 captures the impact on household incomes, not government revenues – even if the lower rate of tax raises the same amount of revenue because individuals respond and work harder or engage in less avoidance and evasion, the households affected will be better off.

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, the combination of stronger growth in real wages (albeit still negative in 2012–13 and 2013–14) and the falls in income from benefits and tax credits resulting from the fiscal consolidation is very likely to result in rising underlying income inequality over the next few years. It is entirely possible that by 2015–16 income inequality will have returned to its pre-recession level.

3.5 Conclusion

The large falls in incomes in 2011–12 were relatively evenly spread across the distribution, leaving summary measures of inequality broadly unchanged. However, the cumulative changes to incomes since the recession have served to reduce inequality; in 2011–12, real income at the 10th percentile was higher than in 2007–08, while real income at the 90th percentile was substantially lower. Inequality has fallen right across the income distribution, not just as a result of the large falls in incomes at the very top. Only a third of the fall in the Gini coefficient since 2007–08 can be explained by the falling incomes of the top 1% – the remaining two-thirds is down to lower inequality among the 99%.

Investigating the causes of these falls in income inequality uncovers a more complex picture of changes in inequality in recent years. Earnings inequality actually increased between 2007–08 and 2011–12; real earnings fell for everyone, but low earners saw their pay fall by more (in percentage terms). Unlike the large rises in income inequality seen in the 1980s, the recent falls do not reflect changes in the individual earnings distribution. Instead, they are the product of two key factors. First, falling real earnings reduced the incomes of households towards the top of the income distribution. These falls in real earnings have been substantial and widespread, with earnings frozen in cash terms from 2009–10 to 2011–12 across the middle of the earnings distribution. Second, large increases in income from benefits and tax credits between 2007–08 and 2009–10 supported the incomes of households towards the bottom of the distribution.

Given that it was these recession-specific factors which drove the recent falls in income inequality, those falls are likely to prove temporary. The £21 billion of welfare cuts planned as part of the fiscal consolidation will reduce incomes towards the bottom of the distribution, where benefits and tax credits make up a larger share of household incomes. The return to real earnings growth should lead to stronger income growth

towards the top of the distribution, although changes at the very top will continue to reflect the tax-induced shifting of income between years until at least 2013–14. As a result, it seems likely that the next few years will see income inequality return to pre-recession levels.

4. Income Poverty

Key findings

- The number of individuals in relative poverty was unchanged in 2011–12, at 13.0 million or 21.1% of the population on an after-housing-costs (AHC) basis and 9.8 million or 15.9% of the population on a before-housing-costs (BHC) basis. Measuring incomes AHC, this puts relative poverty at a level a little above that in 2004–05, but statistically significantly below its level in 2007–08, just prior to the recession. Measuring incomes BHC, relative poverty remains at its lowest level since 1986.
- 2011–12 followed three years during which relative poverty fell substantially. This means relative poverty in 2011–12 was 0.4 million (1.4 percentage points) lower on an AHC basis and 1.2 million (2.4 percentage points) lower on a BHC basis than in 2007–08, the last year prior to the recent recession.
- However, the trends in poverty since 2007–08 have not been the same for different parts of the population. Relative pensioner poverty has fallen to its lowest level since records began in 1961, driven by robust growth in income from state pensions and benefits. Indeed, pensioner poverty has fallen by over a quarter since before the recession.
- Relative child poverty has also fallen substantially, driven by falling rates of poverty among lone parents and couples with children who have no one in work or only part-time workers. Despite difficult labour market conditions, there has been a small fall in the number of children living in workless households and an increase in those living with two working parents.
- Poverty among working-age adults without children increased, driven largely by a fall in employment among single adults and an increase in the rate of poverty among one-earner couples.
- In contrast to the picture for relative poverty, falling real incomes in 2010–11 and 2011–12 mean that absolute poverty was 1.5 million (1.8 percentage points) higher in 2011–12 than in 2007–08 on an AHC basis. Relative poverty has fallen not because the incomes of poor households have grown relatively faster than median income, but because their incomes have *fallen* relatively less. Measured BHC, absolute poverty has increased by 0.3 million, with falls in absolute poverty among children (0.2 million) and pensioners (0.3 million) just more than offset by rises among working-age adults (0.8 million).
- The majority of poor working-age adults and children live in families containing at least one worker. Poverty is higher among those working in sectors and occupations associated with low hours of work and low hourly pay than among those working in other parts of the economy. This is particularly the case where their earnings are the main source of earnings for their household. Analysis suggests that it is low hourly wages rather than low hours of work that are most strongly linked to being in poverty, although unsurprisingly those working few hours for a low wage have the highest rates of poverty.

- Looking to the future, both absolute and relative poverty among children and working-age adults look set to increase, in large part due to cuts in benefits and tax credits being implemented as part of the fiscal consolidation. The supposedly binding target of ‘eradicating’ child poverty by 2020 will not be achieved.
- Pensioners, who are protected from most of the benefit cuts, are likely to continue to fare rather better than children and the working-age population in the coming years.

In this chapter, we summarise recent trends in income poverty. In Chapter 6, we place these changes in the context of longer-run changes in the patterns of poverty across the population.

We begin with a brief discussion of the approach to measuring poverty. In Section 4.1, we analyse recent changes in relative income poverty both for the population as a whole and for separate subgroups of the population (pensioners, working-age adults without children, and children), while Section 4.2 examines what has happened to absolute income poverty. Section 4.3 looks to the future and briefly outlines the prospects for income poverty in the next few years. Section 4.4 concludes.

Throughout this chapter, we focus almost 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 material deprivation⁵² (Appendix D discusses recent changes in material deprivation and compares them with changes in income poverty) and adequacy.⁵³ A broader concept of deprivation has become more prominent as the Child Poverty Strategy has introduced additional measures covering areas such as health, education, crime and employment. 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.⁵⁴

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 person 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 is used to measure progress against the government’s

⁵² See Gordon et al. (2000), Berthoud, Bryan and Bardasi (2004), McKay (2004) and Brewer, O’Dea, Paull and Sibieta (2009).

⁵³ See Bradshaw et al. (2008) and Davis et al. (2012).

⁵⁴ See Aldridge et al. (2012).

commitments to 'eradicate' 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 US 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 2010–11, which is used as the definition of absolute poverty in the government's Child Poverty Strategy.

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).⁵⁵ 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 who 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.

Poverty rates can be measured using incomes measured before housing costs (BHC) or after housing costs (AHC),⁵⁶ 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.⁵⁷ The government reports poverty rates rounded to the nearest full percentage point. Here we depart from its methodology and round percentages to the nearest 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.

⁵⁵ The size of the discontinuity caused by the inclusion of Northern Ireland is small: using a UK-wide poverty line, the risk of poverty (BHC) in 2011–12 in the UK was 15.9% measuring incomes BHC, the same as in Great Britain. 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.

⁵⁶ See Appendix A.

⁵⁷ 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.

4.1 Relative income poverty

In the UK in 2011–12, there were 9.8 million individuals (15.9% of the population) in relative poverty measuring incomes before housing costs and 13.0 million (21.1%) measuring them after housing costs, using a poverty line equal to 60% of median income.

Between 2010–11 and 2011–12, poverty was unchanged in terms of absolute numbers on both a BHC and AHC basis. As a percentage of the population, AHC poverty was 0.1 percentage points lower, and BHC poverty 0.2 percentage points lower, than in 2010–11, although neither change was statistically significant. This follows on from three years of falling relative poverty levels since the onset of the financial crisis in 2007. As a result, relative income poverty (BHC) has fallen from 18.3% to 15.9% between 2007–08 and 2011–12, a fall of 1.2 million people. Measuring incomes AHC, the fall is smaller, from 22.5% to 21.1% or 0.4 million people. So relative poverty in the UK has fallen significantly during the years of the ‘Great Recession’ and its immediate aftermath.

To put this in historical context, Figure 4.1 shows relative poverty rates in Great Britain (GB) 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, before stabilising and then falling during the 1990s and early 2000s. The last Labour government had high-profile targets to reduce child poverty and also increased state support for pensioners in an effort to reduce pensioner poverty. In the period between 1996–97 (just before Labour came to power) and 2004–05, the poverty rate fell by a total of 4.7 percentage points (AHC) and by 2.4 percentage points (BHC). The period since 2004–05 first saw relative income poverty increase for three consecutive years, then decrease for three consecutive years as the incomes of poorer households held up better than median income during the recession of the late 2000s and its aftermath. With relative income poverty holding steady in 2011–12, measured BHC, relative poverty in 2011–12 was at its lowest level since 1986; measured AHC, however, it remained above its level of 2004–05 (though that year also represented the lowest rate since 1986). Overall relative poverty is now at similar levels to those last seen in the mid-1980s.

Figures 4.1a and 4.1b also allow us to see whether these large falls in poverty occurred using 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 since 2007–08 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.

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

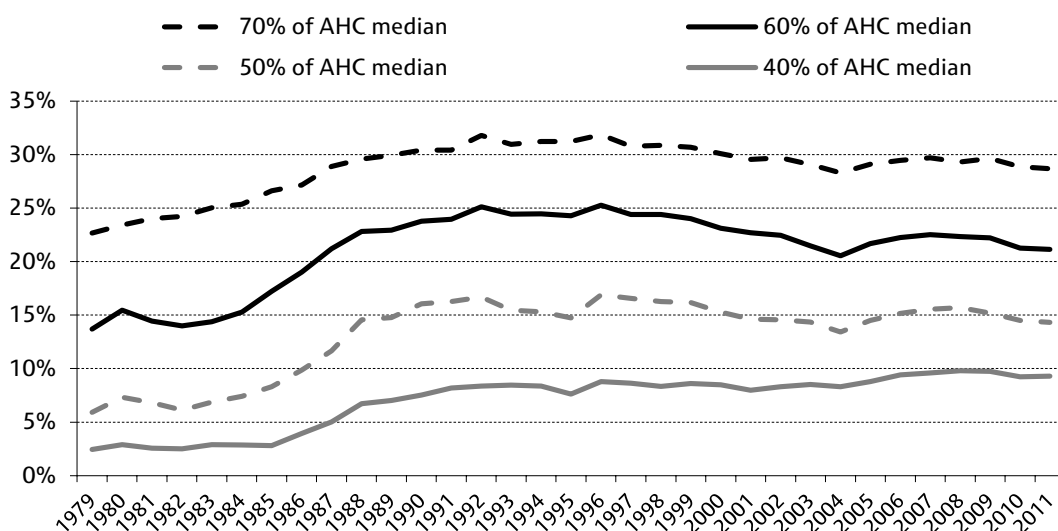
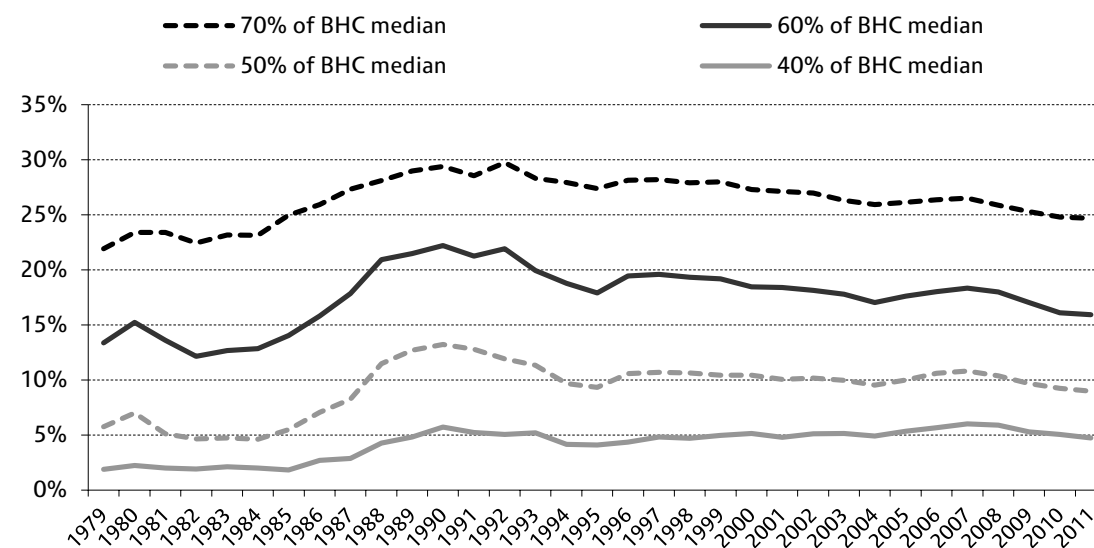


Figure 4.1b. Relative poverty: percentage of individuals in households with incomes below various fractions of median income (BHC)



Note: 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.

Measuring poverty as the fraction of individuals with incomes less than 40% of the median shows a different pattern: poverty remains near its historic high (especially on an AHC basis) 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.⁵⁸ 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 stated that children will be considered to be severely poor if they live in a household with income less than 50% of the median *and* are materially deprived.⁵⁹

We now turn to examine how poverty has changed for different subgroups of the population in recent years.

Relative income poverty among different groups

This subsection examines poverty amongst pensioners, children and working-age adults without children. There are good reasons to expect differential trends in poverty amongst these groups in the recent past, and in the future. Pensioners were generally beneficiaries of tax and benefit reforms under the last Labour government and have been relatively protected from benefit cuts under the coalition government. Low-income families with children were generally beneficiaries of tax and benefit reforms under the last Labour government but have been – or will be – hit relatively hard by benefit cuts under the coalition government. Working-age adults without dependent children were not favoured by benefit and tax credit reforms under either the last Labour government or the current coalition government.⁶⁰

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).

Looking at the latest figures in detail and using incomes measured AHC, the number of pensioners in poverty fell by 100,000 (0.7 percentage points) and the number of working-age parents in poverty also fell 100,000 (down by 0.8 percentage points) in 2011–12. The number of children in poverty was unchanged (but down 0.2 percentage points). These changes are not statistically significant. On the other hand, relative poverty among working-age adults without children increased by 200,000 (0.6 percentage points) to reach 4.7 million (20.2%), which, although not a statistically significant change, brings poverty for this part of the population to its highest level since consistent data began in 1961.

Using incomes measured BHC, the conclusions reached are similar. Again, there were small measured falls in poverty for pensioners and working-age parents in 2011–12, but the changes were not statistically significant. The increase in poverty among working-age adults without children (200,000, or 0.6 percentage points) was

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

⁵⁹ HM Government, 2011a.

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

Table 4.1. 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
2011–12 (UK)	27.0	3.5	13.5	1.6	23.5	3.2	20.2	4.7	21.1	13.0
Changes										
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 2011–12	-4.0	-0.4	-4.6	-0.4	-2.1	(-0.1)	2.1	0.5	-1.4	-0.4
2010–11 to 2011–12	(-0.2)	(-0.0)	(-0.7)	(-0.1)	(-0.8)	(-0.1)	(0.6)	(0.2)	(-0.1)	(0.0)

Note: 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.

statistically significant in terms of numbers, and brought poverty for this part of the population to its highest level since consistent data began in 1961.

Therefore, on both an AHC and a BHC basis, across the population as a whole, relative poverty was largely stable in 2011–12: falls in poverty amongst pensioners and working-age adults with children in 2011–12 were largely offset by rises in poverty amongst working-age adults without children.

Tables 4.1 and 4.2 also 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 amongst working-age adults without dependent children did not fall in the same way; there was a small fall

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
2011–12 (UK)	17.4	2.3	16.4	1.9	15.3	2.1	15.2	3.5	15.9	9.8
Changes										
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 2011–12	–5.1	–0.6	–6.3	–0.6	–2.9	(–0.2)	1.2	0.3	–2.4	–1.2
2010–11 to 2011–12	(–0.1)	(–0.0)	(–1.1)	(–0.1)	(–0.7)	(–0.1)	(0.6)	0.2	(–0.2)	(–0.0)

Note: 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.

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 rising 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 up to and including 2011–12, the most recent year of data available. Poverty amongst pensioners fell from 18.1% to 13.5% on an AHC basis (or 22.7% to 16.4% on a BHC basis), the lowest levels since consistent data began in 1961. Although child poverty was stable in 2011–12, this came on top of large falls during the previous three years, such that child poverty fell from 31.1% to 27.0% on an AHC basis (22.5% to 17.4% on a BHC basis). However, poverty amongst working-age adults without children increased from 18.1% to 20.2% on an AHC basis (14.0% to 15.2% on a BHC basis) to reach the highest level since our data begin in 1961.

However, in the two most recent years of data (2010–11 and 2011–12), the incomes of the poor have fallen in absolute terms (see Chapter 3 of this report). The falls in relative poverty in these two years are driven by the fact that low-income households saw their incomes fall by less than median income. We shall return to this issue when examining absolute poverty in the next section.

Before looking at relative poverty amongst each of the groups in more detail, we examine how changes in benefit rates may have impacted upon poverty in recent years.⁶¹ 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 £97.65 per week in basic state pension in 2010–11 and £102.15 per week in 2011–12.⁶² This is an annual increase of £4.50 per week or 4.6%, as shown in the relevant cell in Table 4.3. 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 the RPI – which is approximately equal to the price index used to deflate BHC incomes and to uprate the BHC absolute poverty line in the HBAI series⁶³ – and the Rossi index, which is used to deflate AHC incomes and to uprate the AHC absolute poverty line in the HBAI series).⁶⁴ Shaded cells mark instances where

Note and source to Table 4.3

Note: 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 (or over the relevant period for the last two rows) in the annual averages of the RPI all-items and the Rossi indices respectively. For 2013–14, these inflation measures are forecasts from the supplementary economic tables in Office for Budget Responsibility (2013). Values in bold are greater than both the change in RPI and the change in the Rossi index over the same period; shaded cells are greater than the change in both the BHC and AHC relative poverty lines. RPI and Rossi are very similar, but not identical, to the measures of inflation used to adjust BHC and AHC incomes, respectively, when comparing HBAI incomes across years.

Source: Authors’ calculations.

⁶¹ 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.

⁶² In order to claim the full amount of basic state pension, a single pensioner needs to have paid sufficient amounts of NI contributions or to 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.

⁶³ 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.

⁶⁴ Note that we use the RPI and the Rossi index here only because they are currently used to adjust incomes over time in the HBAI data. As discussed in Section 2.4 of this report, problems with the RPI and Rossi formulae mean that there are good reasons to use different measures of inflation, such as the RPIJ, when assessing real-terms changes in incomes over time.

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	2.4
1998-99	2.4	-3.8	-5.5	2.4	3.6	2.4	2.4	3.8	4.3	3.1	2.1
1999-00	9.3	8.6	9.3	2.1	3.2	7.7	7.4	5.0	5.5	1.6	1.7
2000-01	13.4	8.8	12.7	1.6	1.1	7.0	6.1	5.9	5.8	3.0	1.4
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	1.5
2003-04	8.6	6.6	10.1	1.3	2.6	3.9	3.9	2.4	2.4	2.8	1.7
2004-05	6.0	4.5	5.0	1.8	2.8	3.2	3.2	4.0	2.6	3.1	1.4
2005-06	2.5	2.0	3.1	1.0	3.1	3.7	3.7	3.5	3.2	2.6	1.9
2006-07	3.1	2.7	3.0	2.2	2.7	4.1	4.1	4.1	3.7	3.7	3.1
2007-08	3.6	3.3	3.7	3.0	3.6	4.2	4.3	4.3	3.3	4.1	2.8
2008-09	7.0	5.4	6.2	2.3	3.9	4.8	4.6	3.5	3.1	3.0	4.5
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	5.4
2011-12	6.1	5.0	4.1	3.1	4.6	2.8	3.1	2.0	2.2	4.8	5.7
2012-13	4.3	4.1	1.7	5.2	5.2	3.8	3.8	n/a	n/a	3.1	3.3
2013-14	0.8	0.9	0.6	1.0	2.5	1.8	1.9	n/a	n/a	3.1	2.8
1996-97 to 2011-12	130.1	84.0	105.0	40.9	67.0	110.6	105.1	74.1	74.9	54.4	49.1
2011-12 to 2013-14	5.2	5.0	2.3	6.2	7.8	5.7	5.8	n/a	n/a	6.3	6.2

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.⁶⁵

In considering the living standards of the poorest households and the changes in relative poverty discussed above, two key points are worth noting:

- Given that the BHC and AHC poverty lines grew by just 2.0% and 2.2%, respectively, in cash terms in 2011–12, entitlements to benefits and tax credits for all the example families shown increased by more than the relative poverty lines in 2011–12.
- Of the family types shown, only the non-working couple with three children saw the real value of their entitlements to benefits and tax credits increase in 2011–12 (due to above-inflation increases in the child element of the child tax credit).

Therefore, the main income source for poorer households (benefits and tax credits) fell in real terms in 2011–12, 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, as we discuss in Section 4.2, absolute poverty rose in 2011–12 whereas relative poverty did not. Indeed, on the basis of changes in maximum benefit entitlements relative to median incomes, it may seem surprising that relative income poverty did not fall in 2011–12, especially among children (families with children saw some of the largest increases in maximum benefit entitlement, due to increases in the child element of the child tax credit). This emphasises that changes in poverty are driven by things other than just changes in maximum benefit entitlements: other changes to benefits may play a role, as may changes in earnings and other private income, and household structures.

But changes in maximum benefit entitlements have still been an important driver of changes in income poverty rates. For instance, looking at a longer time period, we note:

- 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). Between 2003–04 and 2010–11, this was because entitlements to pension credit increased each year in line with average earnings, growth in which has tended to be above the growth in median income. Since 2011–12, the guarantee credit element of pension credit has been increased by the same cash amount as the state pension, which means it has continued to outpace changes in the poverty line. Overall, entitlements in 2011–12 were up 110.6% in cash terms for single pensioners and 105.1% in cash terms for pensioner couples since 1996–97, compared with increases in prices of

⁶⁵ 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 nine of those years.

54.4% as measured by the RPI and 49.1% as measured by the Rossi index, and increases in the poverty line of around 75%. The basic state pension outpaced inflation over the period 1996–97 to 2011–12 but did not keep pace with the relative income poverty line.

- Benefit rates for the example families with children generally increased by more than inflation and the growth of the relative income poverty lines in the period between 1998–99 and 2004–05, before generally lagging both inflation and the poverty line between 2004–05 and 2007–08. As shown in Tables 4.1 and 4.2, this corresponds closely to two distinct periods when child poverty fell, and then rose a little. Benefit rates again increased faster than the relative income poverty line in the years after 2007–08, a period during which relative child poverty has again fallen fairly substantially (although this fall came to a halt in the latest year of data).
- Between 1996–97 and 2008–09, cash increases in benefits for workless single people without children on jobseeker’s allowance were, on average, below both inflation and increases in the poverty line. Since 2008–09, increases in benefits have been above increases in the poverty line, but, with the exception of 2009–10, have been below inflation.

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 increases in the poverty line in 2012–13, and going forwards. 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,⁶⁶ 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.
- For other groups, whilst maximum benefit entitlements increased by more than inflation in 2012–13 (with the exception of the working lone parent, facing freezes to working tax credit), entitlements are expected to increase by less than inflation for all groups in 2013–14 as benefits are increased by just 1% in that year and the two subsequent years. All else equal, this would suggest 2013–14 will see measured income poverty rise.

Before moving on to a discussion of absolute income poverty in Section 4.2, we delve a little deeper into trends in poverty among pensioners, working-age adults without children, and children in recent years.

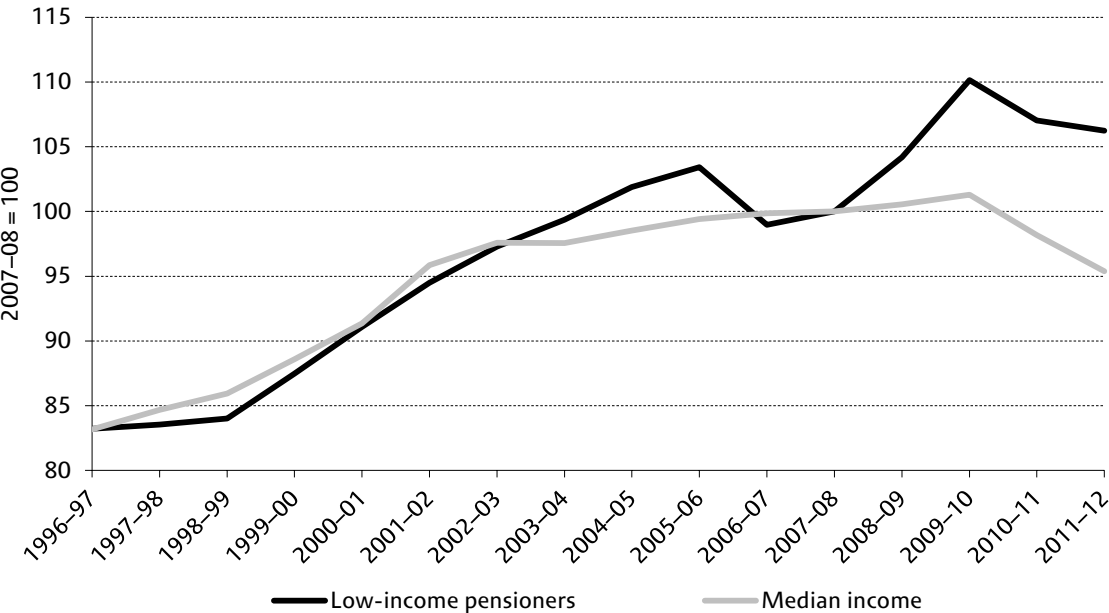
⁶⁶ See Bozio, Crawford and Tetlow (2010) for more details.

Pensioner poverty and pensioner incomes

Pensioner poverty fell substantially during the Great Recession and its immediate aftermath, declining by 4.6 percentage points AHC and 6.3 percentage points BHC – a fall of over a quarter in each case – between 2007–08 and 2011–12. This follows the patterns of previous recessions: pensioner poverty also fell substantially in the early 1980s and the early 1990s as the incomes of poorer pensioners (and pensioners more generally) held up relatively well whilst those of younger people were hit by rising unemployment.

Figure 4.2 compares median BHC income with the average BHC income of the poorest 30% of pensioners (those below and just above the poverty line) since 1996–97. It shows that during the late 1990s and early 2000s, the incomes of poorer pensioners were just about keeping pace with median income as strong growth in real wages drove up median income and increases in the generosity of benefits for low-income pensioners drove up their incomes. This translated into relatively steady pensioner poverty measured using incomes BHC (see Table 4.2).⁶⁷

Figure 4.2. A comparison of the incomes of poorer pensioners and median income (BHC)



Note: The series ‘Low-income pensioners’ 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 equivalised and are measured at the household level and before housing costs have been deducted.

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

⁶⁷ Note that during this same period, pensioner poverty using incomes measured AHC fell fairly substantially (see Table 4.1) as the housing costs of lower-income pensioners fell relative to those of the rest of the population (and, particularly, the median household). See Chapter 6 of this report for more details on the factors driving long-term changes in pensioner poverty.

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

	<i>Source of income</i>					Deductions from income (incl. council tax)	Total income (BHC)
	Earnings and self-employment income	Benefits and tax credits	Occupational pensions	Income from savings, investments and personal pensions	Other income		
Share of total income in 2011–12	3%	88%	13%	5%	1%	–11%	100%
Change in income 2007–08 to 2011–12	21.0%	6.2%	10.5%	–24.3%	–1.3%	–5.3%	6.2%
Contribution to growth 2007–08 to 2011–12	0.6ppt	5.4ppt	1.3ppt	–1.8ppt	0.0ppt	0.6ppt	6.2ppt
<i>Post-recession</i>							
Cumulative change 2009–10 to 2011–12	–1.6%	–4.3%	1.7%	–8.6%	–17.4%	–6.9%	–3.6%
Contribution to overall growth 2009–10 to 2011–12	–0.1ppt	–3.8ppt	0.2ppt	–0.5ppt	–0.2ppt	0.8ppt	–3.6ppt
<i>During late 2000s recession</i>							
Cumulative change 2007–08 to 2009–10	23.0%	10.9%	8.7%	–17.2%	19.4%	1.7%	10.2%
Contribution to overall growth 2007–08 to 2009–10	0.7ppt	9.6ppt	1.1ppt	–1.2ppt	0.2ppt	–0.2ppt	10.2ppt

Note: 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 equivalised and are measured at the household level and before housing costs have been deducted. The percentage change between 2007–08 and 2011–12 is not a simple sum of the percentage changes during the two subperiods because of changes in the denominator used to calculate percentage change between 2007–08 and 2009–10.

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

From 2007–08, though, the trends diverge significantly. The incomes of poorer pensioners grew by 5.0% per year in real terms in 2008–09 and 2009–10, on average, compared with 0.6% per year for the overall median. After 2009–10, low-income pensioners saw their incomes fall, but by less than median income fell (falling by 1.8% per year in real terms, on average, between 2009–10 and 2011–12, compared with a fall of 3.0% per year for median household income). Since 2007–08, the poorest 30% of pensioners have seen their incomes increase by 6.2% in real terms, on average, whilst median income among the population as a whole has fallen by 4.6%; it is therefore unsurprising that the relative position of such pensioners has improved substantially.

Table 4.4 focuses particularly on the period since 2007–08 and examines what has happened to the income sources of the poorest 30% of pensioners. This can be compared with Table 2.4, which shows how various income sources have changed since 2007–08 for the population as a whole.

The first row of Table 4.4 shows the fraction of total income contributed by each source, with income from benefits and tax credits (including the state pension) clearly

the largest source. The next two rows show the growth rate and the contribution to overall growth (in percentage points) for each source for the period 2007–08 to 2011–12. Taking the four years together, the incomes of the poorest 30% of pensioners have grown by 6.2% on average. Incomes from earnings and self-employment and from occupational pensions have increased by more than this. On the other hand, income from savings, investments and personal pensions has fallen by nearly a quarter, reflecting lower interest rates. However, the overwhelming importance of benefits and tax credits for the incomes of poorer pensioners means that changes in this type of income have had the biggest impact on their overall incomes: growth of 6.2% for this source has contributed 5.4 percentage points of the overall 6.2% growth in their incomes. The relatively small size of earnings and savings income means that large changes in these translate into small changes in overall incomes. Examining the periods 2007–08 to 2009–10 and 2009–10 to 2011–12 separately shows that it was increases in income from benefits and tax credits that drove virtually all the increase in incomes during the first period, and that falls in benefits and tax credits drove virtually all the fall in incomes during the second period.

Material deprivation among pensioners has also fallen, although the falls have not been statistically significant: whilst 9.4% of pensioners aged 65 or over were materially deprived in 2009–10 (the first year for which figures are available), in 2011–12 just 7.9% were.⁶⁸ Appendix D provides more detail.

Poverty among working-age adults without children

Whilst relative income poverty among pensioners and children has declined substantially in recent years, relative income poverty among working-age adults without children has continued to rise. Table 4.5 shows that the increase in relative income poverty among working-age adults without children since 2007–08 has been largely driven by compositional changes – particularly an increase in the number of single people who are workless. Overall, such compositional changes explain around three-quarters of the increase in poverty. There were, however, increases in the rates of poverty for single adults working full time and couples with only one worker who works full time, perhaps reflecting falls in real earnings. Together, these incidence effects (partially offset by small falls in the rates of poverty among other groups of working-age adults without children) accounted for one-quarter of the overall increase in poverty among working-age adults without children.

This pattern differs from what was seen between 1996–97 and 2007–08, when employment among working-age adults without children increased somewhat and the (small) rise in overall poverty was driven by increased poverty among single adults working full time and one-earner couples.⁶⁹ Thus, increased poverty amongst working-age adults without children seems to have been driven by an increasing incidence of poverty conditional upon family type and work status up to 2007–08, with falls in

⁶⁸ Pensioners aged 60–64 were not asked the pensioner material deprivation questions in 2009–10 and 2010–11.

⁶⁹ The analysis underlying this is available from the authors on request.

Table 4.5. Decomposition of the rise in relative poverty amongst working-age non-parents (AHC), 2007–08 to 2011–12, by family type and work status

	<i>Poverty rate</i>		<i>Percentage of working-age non-parent population</i>		<i>Compositional effect</i>	<i>Incidence effect</i>	<i>Total change in poverty</i>
	2007–08	2011–12	2007–08	2011–12			
Single individuals							
Full-time	10%	11%	26%	24%	0.2%	0.3%	0.5%
Part-time	29%	30%	6%	6%	0.1%	0.1%	0.1%
Workless	53%	52%	14%	17%	1.0%	–0.1%	0.9%
Couples, no children							
Self-employed	17%	17%	8%	7%	0.0%	0.0%	0.0%
Two full-time earners	3%	2%	22%	21%	0.2%	–0.1%	0.1%
One full-time, one part-time	6%	6%	8%	8%	0.0%	0.0%	0.0%
One full-time, one not working	14%	21%	8%	8%	0.0%	0.5%	0.5%
One or two part-time	28%	28%	3%	4%	0.0%	0.0%	0.0%
Workless	44%	42%	5%	5%	0.0%	–0.1%	–0.1%
All working-age non-parents	18.1%	20.2%	100%	100%	1.6%	0.5%	2.1%

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

Source: Authors' calculations based on Family Resources Survey, 2007–08 and 2011–12.

worklessness partly offsetting this. Since then, increasing levels of worklessness have been the main drivers.

Child poverty

Since the onset of the recession, child poverty has fallen substantially. Here we examine how changes in the composition of families with children and the incidence of poverty across family types since 2007–08 (i.e. the last year prior to the recession) have contributed to this overall fall. Our decomposition is for incomes BHC in order to be consistent with previous analysis⁷⁰ and because a BHC measure of child poverty is used in the targets contained in the 2010 Child Poverty Act. However, results are very similar using incomes measured AHC.

Table 4.6 shows that between 2007–08 and 2011–12, it was mainly reductions in the incidence of poverty conditional upon family and work status that drove reductions in the overall child poverty rate. In particular, poverty fell substantially among children living with parents who work only part time or not at all. This continues a trend observed since the late 1990s.⁷¹ Compositional changes, including a fall in the number

⁷⁰ Cribb, Joyce and Phillips, 2012.

⁷¹ See Jin et al. (2011) and Cribb, Joyce and Phillips (2012).

Table 4.6. Decomposition of the fall in relative child poverty (BHC), 2007–08 to 2011–12, by family type and work status

	<i>Poverty rate</i>		<i>Percentage of child population</i>		<i>Compositional effect</i>	<i>Incidence effect</i>	<i>Total change in poverty</i>
	2007–08	2011–12	2007–08	2011–12			
Lone parents							
Full-time	11%	8%	6%	6%	0.0%	–0.2%	–0.2%
Part-time	25%	17%	6%	6%	0.0%	–0.5%	–0.5%
Workless	56%	34%	11%	10%	–0.3%	–2.4%	–2.7%
All/Total	36.1%	22.5%	23.8%	22.7%	–0.3%	–3.0%	–3.3%
Couples with children							
Self-employed	24%	23%	13%	12%	–0.1%	–0.1%	–0.2%
Two full-time earners	4%	4%	15%	17%	–0.4%	0.0%	–0.4%
One full-time, one part-time	4%	6%	22%	23%	0.0%	0.4%	0.4%
One full-time, one not working	21%	20%	17%	16%	0.0%	–0.2%	–0.2%
One or two part-time	57%	39%	3%	5%	0.5%	–0.7%	–0.2%
Workless	70%	54%	6%	5%	–0.5%	–0.7%	–1.2%
All/Total	18.3%	16.0%	76.2%	77.3%	0.0%	–1.6%	–1.6%
All children	22.5%	17.4%	100%	100%	–1.0%	–4.3%	–5.3%

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

Source: Authors' calculations based on Family Resources Survey, 2007–08 and 2011–12.

of children living in workless families and an increase in the number living in couples where both parents work full time, have also acted to reduce child poverty a little. In the context of a general weakening of the labour market and lower employment rates, this is perhaps a surprising finding.

The table also shows that the declines in child poverty were much larger among children living with lone parents (from 36.1% to 22.5%) than among those living with couples (18.3% to 16.0%), which means that the fraction of poor children who are living with lone parents fell from 38.2% to 29.3% during this period. This reflects the fact that the falls in poverty were substantially larger for children whose parents did not work or only worked part time: these groups make up the majority of the children of lone parents, but only a small minority of the children living with two parents. This continues a trend going back to at least 1996–97, when the child poverty rate was 48.7% among children living with lone parents and 20.7% for children of couples.⁷²

The 2020 child poverty targets

The Child Poverty Act (2010) commits the government to the 'eradication' of child poverty by 2020, with four indicators being targeted: a relative income poverty

⁷² The analysis underlying this is available from the authors on request.

measure based on 60% of contemporaneous median BHC income; an absolute income poverty measure based on 60% of median BHC income in 2010–11; a combined relative low income and material deprivation indicator; and an indicator of persistent relative income poverty (a child is classified as being in persistent poverty if he/she is in relative income poverty for at least three out of four consecutive calendar years).

Reducing measured income poverty amongst 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 reason 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;⁷³ 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 poverty and 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, and indeed, following the replacement of the British Household Panel Survey with the Understanding Society survey, this indicator is currently not being tracked.

Table 4.7 shows that there was practically no improvement between 2010–11 and 2011–12 in the relative poverty measure, and increases in absolute poverty made reaching the 2020 targets even harder. Looking ahead, as discussed in Section 4.3, the next few years look highly likely to see child poverty rise further rather than fall. The only indicator on which there was (a little) progress was the combined low income and material deprivation measure (although the fall was not statistically significant). Appendix D discusses material deprivation in a little more detail.

The Child Poverty Act also requires 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,⁷⁴ 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. As we argued in 2011,⁷⁵ this broader assessment of the lives and prospects of children should be seen as a good thing, although it was unclear that the particular policies trumpeted would materially improve things, especially by as soon as 2020.

⁷³ See Appendix B of this report and appendix C of Brewer, Muriel, Phillips and Sibieta (2008).

⁷⁴ HM Government, 2011a.

⁷⁵ Jin et al., 2011.

Table 4.7. Child poverty relative to 2020–21 targets

	<i>Relative low income</i>		<i>Absolute low income</i>		<i>Material deprivation and relative low income</i>	
	%	Million	%	Million	%	Million
2010–11	17.5	2.3	17.5	2.3	12.7	1.7
2011–12	17.4	2.3	19.5	2.6	11.9	1.6
2020–21 target	10%	n/a	5%	n/a	5%	n/a

Source: Authors' calculations based on Family Resources Survey, 2010–11 and 2011–12.

At the time of the release of the last set of HBAI statistics in June 2012, the government also announced a consultation on introducing a new multidimensional measure of poverty that included indicators of material living standards, other current circumstances, the causes of child poverty and the future life chances of children. This consultation closed in early 2013, and the government is expected to have announced its response by the time this report is published (or, if not, soon after). The detailed response of IFS researchers to this consultation is available online.⁷⁶ Our key recommendation was that the government define distinct sets of indicators to cover each of the various phenomenon it wishes to track. It would be difficult or impossible to build a single index that combined the multiple indicators in a way that could be understood and achieve consensus – two of the stated aims of the new measure. Indeed, the particular dimensions suggested cover distinct concepts (for instance, the causes of low incomes and the consequences of low incomes), providing valuable but different kinds of information; aggregating them would result in something less informative than having and tracking multiple indicators.

Work and relative poverty

Increases in in-work poverty mean that in 2011–12, almost two-thirds of poor children and almost one-half of poor working-age adults without children lived in families where someone worked. With this growing group of 'working poor' families in mind, this subsection briefly examines the relationship between different employment characteristics (specifically sector, occupational group, hours of work and hourly wage) and poverty in the two most recent years of HBAI data.⁷⁷

The first thing worth noting is that the rate of poverty among adults who are self-employed is substantially higher than that among those who are employed:⁷⁸ 17.2% compared with 5.8% on a BHC basis and 20.6% compared with 9.6% on an AHC basis. This reflects the fact that, at least in part because of the volatility of self-employment income, there are substantially more self-employed individuals reporting low levels of

⁷⁶ Browne et al., 2013.

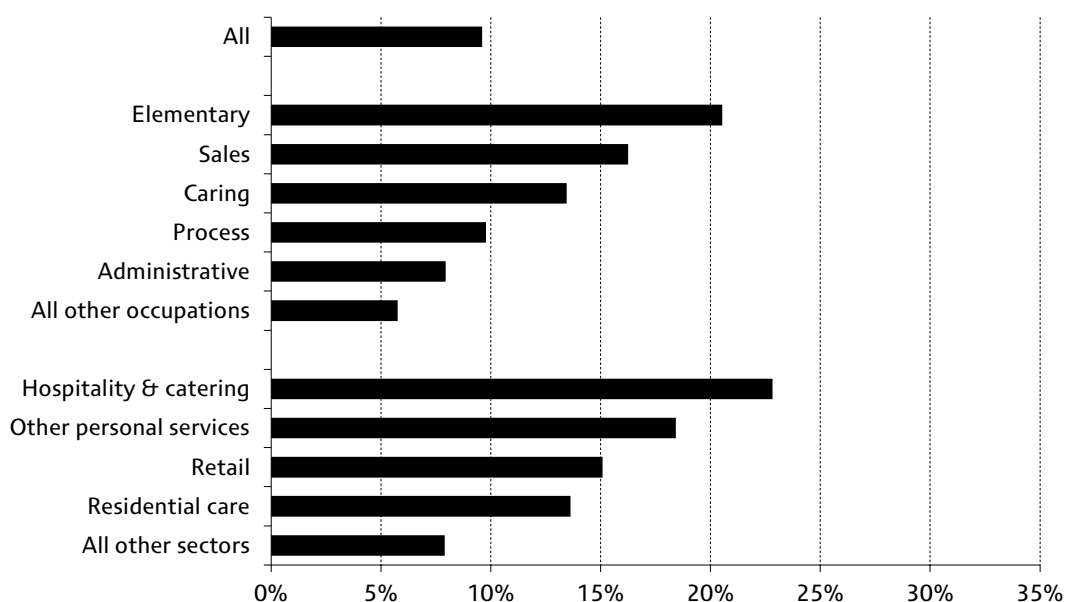
⁷⁷ Two years of data have been used to increase sample sizes.

⁷⁸ In this subsection, we define being 'self-employed' as listing a form of self-employment as the main job and recording a profit or loss from that self-employment. The 'employed' are those who report that their main job is a form of employment and who record positive earnings from that employment.

earnings (but also more reporting earnings of more than about £900 a week). However, previous analysis has shown that higher levels of relative income poverty among the self-employed do not translate into higher levels of material deprivation or lower levels of expenditure, at least among families with children.⁷⁹

Second, among those who are employed (rather than self-employed), unsurprisingly poverty is higher for those who are working in low-pay sectors such as retail, hospitality and catering, residential care homes, and other personal services. For instance, workers in these sectors had a poverty rate of 17.1% (AHC) or 9.9% (BHC) compared with 7.9% (AHC) or 4.9% (BHC) among all other employees in 2010–11 and 2011–12. However, because those working in the low-paid sectors made up less than one-fifth of all employees in 2010–11 and 2011–12, despite a substantially higher rate of poverty among those in low-paid sectors, only around three out of ten poor employed adults worked in those sectors: the remaining 70% were employed in other sectors. Figure 4.3 shows that, measured AHC, poverty was particularly high for those working in hospitality and catering (this result, and others discussed below, holds qualitatively using incomes measured BHC too).

Figure 4.3. AHC poverty rates by sector and occupation group



Source: Authors' calculations based on Family Resources Survey, 2010–11 and 2011–12.

Figure 4.3 also shows AHC poverty rates for a number of occupation groups. Poverty is highest for those employees working in elementary (20.5%) and sales (16.3%) occupations, followed by caring (13.5%), process (9.8%) and administrative (7.9%) occupations. The AHC poverty rate among all other occupations was 5.8%. Together, these occupations account for just under half of all employed adults but around 70% of all poor employed adults. Those working in elementary, sales or caring jobs, whilst

⁷⁹ See Brewer, O'Dea, Paull and Sibieta (2009).

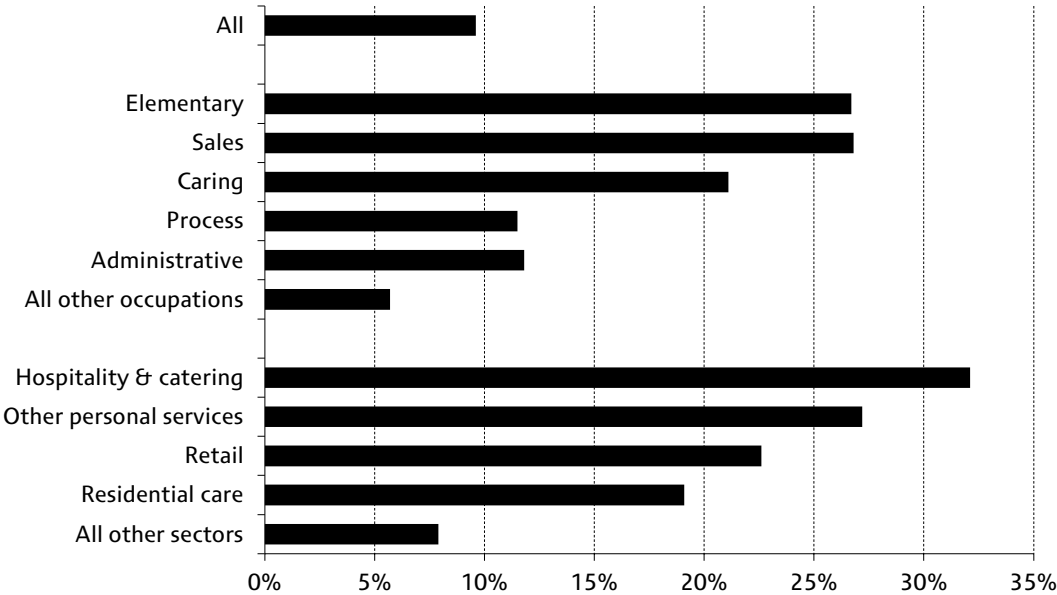
accounting for just under three out of ten employees, account for just over five out of ten poor employees.

Of course, many households have more than one worker, and those working in low-paid sectors or occupations are often not the main earner in a household: earnings of other household members weaken the link between working in a low-paid sector or occupation and being in poverty. As shown in Figure 4.4, poverty rates are substantially higher among those working in the lower-paid sectors and occupations if they are the main earner in their household. For instance, among employees who are working in elementary or sales jobs who are their household’s main earner, the rate of poverty is around 27% (compared with around 21% of all those working in elementary occupations and 16% of all those working in sales occupations).

Unsurprisingly, once one controls for hours of work and hourly wages, differences in poverty rates between people in different occupation groups and industrial sectors look very much smaller.⁸⁰ But is it low wages or low hours of work that are a better predictor of whether someone is in poverty?

Table 4.8 shows the results of a statistical regression that examines AHC poverty rates among those with low wages or low hours, both low wages and hours, or neither. The first row shows that full-time employees whose hourly wage is in the top 75% of the

Figure 4.4. AHC poverty rates by sector and occupation group (main earners only)



Source: Authors’ calculations based on Family Resources Survey, 2010–11 and 2011–12.

⁸⁰ This was investigated by a regression of an indicator for being in AHC poverty upon occupation or industrial sector classifications, and indicators for region, sex and age, as well as hours and wages. Differences in other sources of income, notably those of their partners and other household members, and from benefits and tax credits, explain any remaining differences in poverty rates.

Table 4.8. AHC poverty rates by wage and hours

Employee group	AHC poverty rate
Top 75% of hourly wage distribution, working 30 or more hours a week	4.3%
Top 75% of hourly wage distribution, working 16–29 hours a week	10.5%
Top 75% of hourly wage distribution, working under 16 hours a week	16.7%
Lowest 25% of hourly wage distribution, working 30 or more hours a week	21.0%
Lowest 25% of hourly wage distribution, working 16–29 hours a week	27.7%
Lowest 25% of hourly wage distribution, working under 16 hours a week	28.1%

Source: Authors' calculations based on Family Resources Survey, 2010–11 and 2011–12.

wage distribution have a rate of AHC poverty of 4.3%. The rate of poverty increases to 10.5% for those working 16–29 hours a week and to 16.7% for those working under 16 hours a week. Clearly, low hours of work are associated with being in AHC income poverty. The fourth row shows that full-time employees whose wage is in the bottom 25% of the wage distribution have a rate of AHC poverty of 21.0%, which rises to 27.7% among low-wage workers working 16–29 hours a week and to 28.1% among those working under 16 hours a week.

The evidence is clear that having a low hourly wage is a stronger predictor of being in poverty than is working part time (something which is confirmed by statistical tests). Of course, combining part-time work with a low hourly wage produces the highest rates of poverty.

4.2 Absolute income 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. With falls in real incomes across most of the income distribution in 2011–12 (see Chapter 3), changes in absolute poverty will differ from changes in relative poverty. Changes in absolute poverty in 2011–12 will be a better measure of the changes of material living standards of poor households. Tables 4.9 and 4.10 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 2010–11, adjusted for inflation.^{81,82} The choice of base year is

⁸¹ The HBAI publication presents a measure of absolute low-income poverty which also uses the 2010–11 median to define the absolute poverty line. This is the basis of the absolute child poverty targets set out in the 2010 Child Poverty Act.

⁸² Note that, as with calculating real income changes over time, changes in absolute poverty are sensitive to the choice of inflation measure used to adjust incomes to account for the changing cost of living over time. The figures in this section use the measures of inflation used in the official HBAI publication – the RPI and the Rossi index – which, as discussed in Section 2.4 of this report, are likely to overstate the rate of inflation due to problems with the formulae on which they are based. This means that levels of absolute poverty in years prior to 2010–11 are likely to have been a little higher than reported, and the level in 2011–12 is likely to be a little lower than reported. Thus, increases in absolute poverty in the last few years recorded in the HBAI data are likely to overstate the true increases in absolute poverty.

Table 4.9. Absolute poverty: percentage and number of individuals in households with incomes below 60% of 2010–11 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)	44.1	5.6	42.4	4.2	36.0	4.5	22.4	4.6	34.0	18.9
1997–98 (GB)	42.6	5.4	40.8	4.1	34.5	4.2	20.5	4.3	32.3	18.0
1998–99 (GB)	41.9	5.3	39.0	3.9	33.6	4.1	19.8	4.1	31.3	17.5
1999–00 (GB)	39.5	5.0	35.9	3.6	31.5	3.8	19.5	4.1	29.6	16.6
2000–01 (GB)	35.8	4.5	31.7	3.2	28.6	3.5	18.5	3.9	27.0	15.2
2001–02 (GB)	32.7	4.1	28.5	2.9	25.9	3.1	16.2	3.5	24.2	13.7
2002–03 (UK)	29.8	3.9	24.1	2.5	24.1	3.0	16.4	3.7	22.4	13.1
2003–04 (UK)	28.4	3.7	19.8	2.1	23.2	2.9	16.4	3.7	21.1	12.4
2004–05 (UK)	27.4	3.5	15.9	1.7	22.2	2.8	15.5	3.5	19.6	11.5
2005–06 (UK)	27.6	3.5	14.6	1.6	23.2	2.9	16.7	3.8	20.1	11.9
2006–07 (UK)	27.8	3.6	16.3	1.8	23.0	2.9	16.5	3.8	20.3	12.1
2007–08 (UK)	28.7	3.7	15.3	1.7	23.8	3.1	17.1	3.9	20.7	12.4
2008–09 (UK)	27.7	3.5	13.9	1.6	23.7	3.1	18.3	4.2	20.6	12.4
2009–10 (UK)	26.9	3.5	13.4	1.5	23.6	3.2	18.8	4.3	20.5	12.5
2010–11 (UK)	27.3	3.6	14.2	1.7	24.3	3.3	19.7	4.5	21.3	13.0
2011–12 (UK)	29.2	3.8	15.4	1.8	25.0	3.4	21.0	4.9	22.6	13.9
Changes										
1996–97 to 2004–05	–16.8		–26.5		–13.8		–6.9		–14.4	
2004–05 to 2007–08	(1.4)	(0.2)	(–0.6)	(0.0)	1.6	0.3	1.6	0.4	1.1	0.9
2007–08 to 2011–12	(0.4)	(0.1)	(0.1)	(0.1)	(1.2)	0.4	3.9	0.9	1.8	1.5
2010–11 to 2011–12	1.9	(0.3)	1.2	0.1	(0.7)	(0.1)	1.3	0.4	1.3	0.9

Note: 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.

essentially arbitrary. This poverty line is roughly 3% higher than the relative poverty line in 2011–12, reflecting the substantial fall in median income between 2010–11 and 2011–12. (The absolute poverty line in 2010–11 was £264 per week BHC – in terms of the equivalent income for a two-adult household without children – versus £256 per week for the relative poverty line.)

In 2011–12, there were 13.9 million individuals (22.6% of the UK population) living in absolute poverty measuring incomes AHC, a rise of 900,000 since 2010–11. Measuring incomes BHC, there were 10.8 million individuals (17.5%) in absolute poverty, also 900,000 more than in 2010–11. Both of these changes are statistically significant, and on an AHC basis absolute poverty in 2011–12 was at its highest level since 2001–02, whilst on a BHC basis absolute poverty was at its highest level since 2003–04. This reflects the falls in real household net incomes among poorer households in 2010–11

Table 4.10. Absolute poverty: percentage and number of individuals in households with incomes below 60% of 2010–11 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)	37.2	4.7	41.0	4.1	29.3	3.6	17.8	3.7	28.9	16.1
1997–98 (GB)	36.4	4.6	39.5	3.9	28.4	3.5	16.7	3.5	27.8	15.5
1998–99 (GB)	34.9	4.4	39.0	3.9	26.9	3.3	15.8	3.3	26.7	14.9
1999–00 (GB)	32.7	4.2	34.7	3.5	25.4	3.1	15.6	3.3	25.0	14.0
2000–01 (GB)	28.4	3.6	31.2	3.1	22.2	2.7	14.7	3.1	22.4	12.6
2001–02 (GB)	25.1	3.2	27.4	2.8	19.9	2.4	13.1	2.8	19.8	11.2
2002–03 (UK)	23.0	3.0	24.9	2.6	18.3	2.3	12.8	2.9	18.4	10.8
2003–04 (UK)	22.4	2.9	23.3	2.5	18.1	2.3	13.0	2.9	18.0	10.5
2004–05 (UK)	21.0	2.7	21.0	2.2	16.8	2.1	12.5	2.8	16.8	9.9
2005–06 (UK)	21.1	2.7	19.9	2.2	17.6	2.2	13.0	3.0	17.0	10.0
2006–07 (UK)	20.9	2.7	21.9	2.4	16.9	2.1	12.8	2.9	17.1	10.1
2007–08 (UK)	21.3	2.7	21.6	2.4	17.2	2.2	13.5	3.1	17.5	10.5
2008–09 (UK)	20.2	2.6	18.7	2.1	17.1	2.2	14.1	3.3	16.9	10.2
2009–10 (UK)	17.5	2.3	16.1	1.9	15.3	2.1	14.0	3.2	15.5	9.4
2010–11 (UK)	17.5	2.3	17.5	2.0	16.0	2.2	14.6	3.3	16.1	9.8
2011–12 (UK)	19.5	2.6	17.9	2.1	17.0	2.3	16.4	3.8	17.5	10.8
Changes										
1996–97 to 2004–05	-16.2		-20.0		-12.5		-5.2		-12.1	
2004–05 to 2007–08	(0.3)	(0.0)	(0.6)	0.2	(0.4)	(0.1)	1.0	0.3	(0.6)	0.6
2007–08 to 2011–12	-1.8	(-0.2)	-3.6	-0.3	(-0.2)	(0.1)	2.9	0.7	(0.0)	(0.3)
2010–11 to 2011–12	2.0	0.3	(0.5)	(0.1)	(1.0)	(0.1)	1.7	0.5	1.4	0.9

Note: 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.

and 2011–12 (which, whilst somewhat smaller than the falls in median income, were still substantial) and the more general poor performance of real household incomes in the mid- to late 2000s.

Absolute child poverty increased by 300,000 measured using incomes both AHC and BHC (1.9 and 2.0 percentage points, respectively) in 2011–12 (all statistically significant apart from the numerical increase on a BHC basis). This leaves absolute poverty among children at its highest level since 2002–03 using incomes measured AHC, but, because income grew strongly in the late 1990s and early 2000s, absolute child poverty on this measure is still considerably below its level of the mid-1990s (for instance, 15.0 percentage points lower than in 1996–97). Using incomes measured BHC, the performance is somewhat better, with the fall in incomes in 2011–12 taking

absolute child poverty on this measure to just below its 2008–09 level and 17.6 percentage points below its 1996–97 level.

Absolute pensioner poverty increased by a statistically significant 100,000 (1.2 percentage points) on an AHC basis (the increase using incomes BHC was also 100,000, or 0.5 percentage points, but this was not statistically significant). Measured AHC, pensioners have by far the lowest rate of absolute poverty of any group, at 15.4%, which is a substantial change since 1996–97, when they had the second-highest rate, at 42.4%. Using incomes measured BHC, pensioners still have the second-highest rate of poverty, at 17.9%, but this again represents the largest fall (23.0 percentage points) since 1996–97. As with children, most of this fall took place in the late 1990s and early 2000s when income growth was strong.

The tables also show that there was a substantial and statistically significant increase in absolute poverty among working-age adults without children: 400,000 (1.3 percentage points) using incomes AHC and 500,000 (1.7 percentage points) using incomes BHC. Absolute poverty among working-age adults without children is now higher than it was in 1997–98 (AHC) or 1998–99 (BHC). Indeed, as we shall see in Chapter 6, using incomes measured AHC, absolute poverty among this group is now at levels little changed since the 1970s.

In summary, the trends in absolute poverty in 2011–12 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 2011–12, 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.

4.3 Prospects for poverty

Researchers at IFS have recently produced projections of poverty among working-age adults and children (see Table 4.11).⁸³ These predicted that absolute income poverty among both groups would increase between 2011–12 and 2015–16: by 600,000 (4.0 percentage points) for children and 800,000 (1.6 percentage points) for working-age adults using incomes AHC and by 700,000 (4.5 percentage points) for children and 800,000 (1.8 percentage points) for working-age adults using incomes BHC. This reflects further predicted falls in real incomes towards the bottom of the income distribution in the last and current financial years. Indeed, absolute poverty is predicted to continue rising to 2020 as incomes fail to keep pace with RPI and Rossi inflation.⁸⁴

⁸³ Browne, Hood and Joyce, 2013.

⁸⁴ These are the measures of inflation used to adjust BHC and AHC incomes, respectively. Note that most benefits and personal taxes are now indexed instead to CPI inflation. See the discussion in Section 2.4 for how the choice of inflation index matters when assessing long-term changes in living standards (and thus poverty).

Table 4.11. Projections for child and working-age poverty (UK)

	<i>AHC poverty</i>				<i>BHC poverty</i>			
	<i>Children</i>		<i>Working-age adults</i>		<i>Children</i>		<i>Working-age adults</i>	
	Million	%	Million	%	Million	%	Million	%
Relative income poverty								
2011–12	3.5	27.1	7.9	21.5	2.3	17.5	5.7	15.5
2015–16	4.1	30.6	8.5	22.6	2.9	21.4	6.4	16.9
Absolute income poverty								
2011–12	3.9	29.6	8.4	22.9	2.5	19.3	6.1	16.5
2015–16	4.5	33.6	9.2	24.5	3.2	23.8	6.9	18.3

Note: Relative poverty line is 60% of contemporary median income. Absolute poverty line is 60% of median income in 2010–11. Forecast poverty rates in 2011–12 were close to those revealed in the actual 2011–12 data but were not exact (for instance, absolute BHC child poverty was 2.6 million as opposed to 2.5 million).

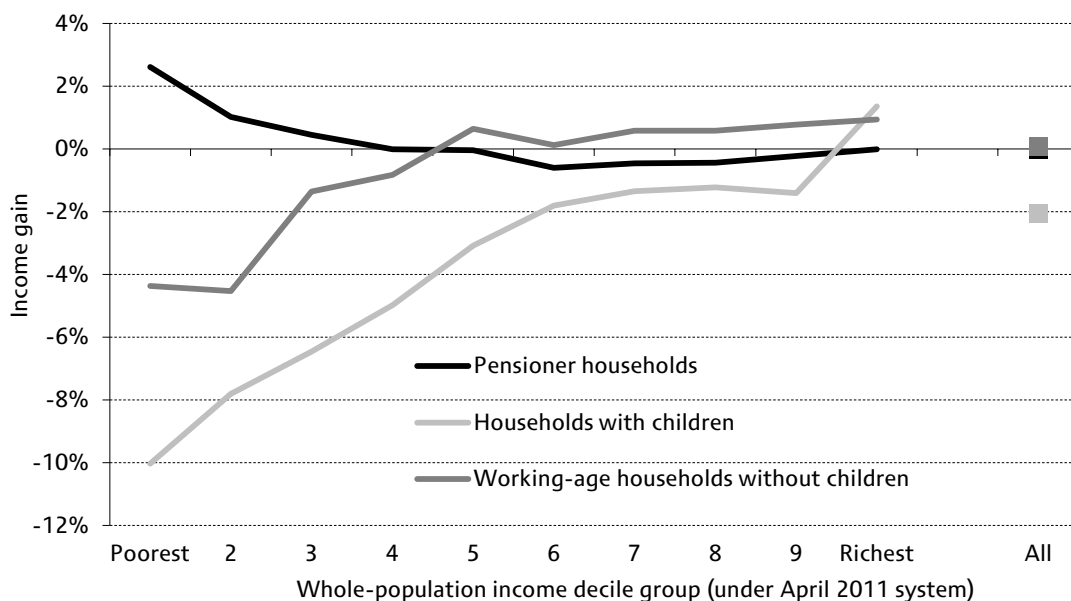
Source: Browne, Hood and Joyce (2013), based on Family Resources Survey, 2010–11.

Relative income poverty is also predicted to increase between 2011–12 and 2015–16: by 600,000 (3.5 percentage points) for children and 600,000 (1.1 percentage points) for working-age adults using incomes AHC and by 600,000 (3.9 percentage points) for children and 800,000 (1.4 percentage points) for working-age adults using incomes BHC. Relative income poverty is expected to continue to rise in the years until 2020 as benefit rates are indexed to CPI inflation, which is likely to be lower than the growth in median income.

Of course, the changes to benefit indexation announced in Budget 2010 are just one element of large-scale cuts to benefits announced and in the process of being implemented as part of the coalition government's fiscal consolidation. Figure 4.5 shows the distributional impact of tax and benefit changes taking effect from 2012–13 excluding the introduction of universal credit.⁸⁵ It shows that the changes tend to hit low-income households with children the most as a proportion of income, which is a key reason why child poverty is forecast to rise most quickly. Indeed, working-age families without children towards the top of the income distribution are expected to gain from the reforms, as they are hit relatively little by cuts to benefits and tax credits, but do gain from increases in the personal allowance and, at the very top, the cut in the 50% rate of income tax to 45%.

⁸⁵ If one assumes that universal credit were fully rolled out by 2015–16, the picture looks marginally less regressive among families with children, but the basic picture is unchanged. Note that universal credit will only be partly rolled out by this time and will not be fully in place until the end of 2017.

Figure 4.5. Impact of direct tax and benefit reforms introduced or planned between April 2012 and April 2015 (excluding Universal Credit), by income decile group and household type



Note: Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 2011 tax and benefit system according to income adjusted for household size using the McClements 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 2010–11 Family Resources Survey data. Analysis ignores the introduction of universal credit, which begins in October 2013 but is not due to be complete until the end of 2017.

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 4.5 suggests that the direct impacts of tax and benefit reforms tend to increase the incomes of low-income pensioner households. This reflects the facts that most of the planned welfare cuts by 2015–16 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 introduced in April 2013, which would otherwise have affected both pensioners and non-pensioners), and that increases in the basic state pension and pension credit have been larger than under the policy inherited by the coalition government.⁸⁶ Considered in isolation, this would suggest that the outlook for pensioner poverty is better than that for other groups, but this will also depend very importantly on how the private income sources of pensioners evolve.

⁸⁶ Pensioners higher up the income distribution see small falls in their incomes, on average, due to the freezes in the age-related income tax allowance.

4.4 Conclusion

Relative income poverty was broadly unchanged in 2011–12, but following three consecutive years of quite substantial falls, it remained around 0.4 million (1.4 percentage points) lower on an AHC basis and 1.2 million (2.4 percentage points) lower on a BHC basis than in 2007–08, just prior to the recent recession. This was the result of substantial falls in relative poverty among pensioners and families with children, partly offset by increases among working-age adults without children.

However, having started falling in 2010–11, the incomes of poorer households were, in 2011–12, lower on average in real terms than in 2007–08. In other words, relative poverty was lower in 2011–12 than in 2007–08, not because the incomes of poor households had grown, but because they had fallen by less than median income.

Absolute income poverty in 2011–12 was around 1.5 million (1.8 percentage points) higher on an AHC basis and 0.3 million (0.0 percentage points) higher on a BHC basis than in 2007–08, driven by increases in 2010–11 and 2011–12. The idea that poverty can fall during a period in which the poor have seen their incomes fall seems strange and has led to some criticism of relative measures of poverty. In periods of falling income, absolute measures, which capture changes in the numbers with incomes below a fixed point, clearly do accord more closely with our intuitions about what constitutes poverty. However, in the longer run, it is likely that we care not only about the absolute living standards of the poor, but also about whether they are keeping up with or falling behind the rest of society. It is therefore important to keep both absolute and relative measures of poverty in mind – both contain important and useful information. The story that emerges from this chapter and the last is that whilst 2010–11 and 2011–12 were difficult years for poorer households, they did not witness quite as large a drop in living standards as middle- or higher-income households.

There have also been differences in the experiences of different demographic groups in the years since the Great Recession hit. Falls in relative pensioner poverty since 2007–08 have been driven by strong real-terms growth in their income from state benefits and pensions between 2007–08 and 2009–10, and a relatively small real-terms fall in this income source thereafter. Falls in child poverty have been concentrated among families with no one in work or only part-time workers, again suggesting an important role has been played by benefits and tax credits. On the other hand, rising levels of worklessness and, to a lesser extent, falls in real earnings have contributed to an increase in poverty among working-age adults without children.

Falling rates of poverty among workless families, and rising rates among working families, mean that almost two-thirds of children in poverty and almost one-half of poor working-age adults without children were living in a family with at least one worker in 2011–12. Analysis suggests, unsurprisingly, that poverty is concentrated among those working in low-pay sectors such as retail, hospitality, and residential care, and that it is low hourly wages rather than low hours of work that are more associated with poverty.

The growing importance of the 'working poor', together with reduced resources available for fiscal redistribution, will mean reducing poverty in the coming years will require a different approach from what was used in the 2000s to reduce child poverty. Indeed, on current forecasts, both absolute and relative income poverty are expected to increase substantially among children and working-age adults in the years ahead, in large part due to cuts to benefits and tax credits enacted as part of the government's fiscal consolidation.

Pensioners, who have been relatively protected from the changes, are likely to fare rather better. This means the long-run improvement in the relative living standards of pensioners looks set to continue, whilst the relative position of working-age adults will continue to decline. Chapters 5 and 6 examine in detail the changes in living standards, inequality and poverty for different age and demographic groups that have taken place since the 1960s, putting more recent changes and the next few years in their proper historical context.

5. The Income Distribution over the Long Run

Key findings

- Income (measured before housing costs have been deducted, BHC) is distributed much more evenly across the major family types than in decades past. Pensioners remain the lowest-income group, and working-age adults without dependent children remain the highest-income group, on average. But the gaps have closed very significantly since the late 1970s.
- The proportion of pensioners with incomes in the lowest income quintile has fallen from 47% in the late 1970s to 21% in 2011–12. Over the same period, the proportion with incomes in the highest two income quintiles has risen from 18% to 31%. This strong improvement in the relative position of pensioners has been driven mostly by higher private pension incomes for younger cohorts of pensioners, and by higher benefit receipts due to increases in benefit rates and increases in the numbers entitled to state pensions. Meanwhile, the relative position of working-age adults without dependent children has worsened significantly since the late 1970s, at both the top and bottom of the distribution.
- The experience for parents and children has been more mixed: a large increase in inequality within the group means that they are both more likely to be in the lowest income quintile and more likely to be in the highest income quintile than in the late 1970s. Their risk of falling into the lowest quintile has, however, fallen since 1996–97.
- Although differences in income *between* the major family types have narrowed since the late 1970s, there have been large rises in inequality *within* these family types. There are now much larger gaps between the richest and poorest individuals in families with children, and between the richest and poorest working-age adults without children. The main factor behind this is an increase in earnings inequality. The poorest pensioners have also fallen further behind middle-income pensioners, although inequality within most of the top half of the pensioner income distribution has changed little. Since 1996–97, inequality within each of these family types has generally stopped rising, except that approximately the highest-income 5% of each group have continued to ‘race away’.
- Income inequality is now clearly lower among pensioners than among other adults aged 30 and above. This is a big transformation. In the late 1970s, income inequality was almost constant across the adult age distribution; and when our consistent time series began in the early 1960s, incomes were more unevenly distributed among pensioners than among any other age group.
- Income now tends to vary less with age. This is largely because income now dips less at older ages than it used to. Median income growth among pensioners has averaged around 2% per year since the late 1970s. Median income growth has been relatively uniform across the rest of the adult age spectrum over the same period, at an average of just over 1% per year.

- Recently, the incomes of young adults have started to fall behind those of the rest of the population. In the immediate pre-recession years between 2001–02 and 2007–08, median income among adults in their 20s did not grow at all. Between 2007–08 and 2011–12, median income among the group fell by an annual average of about 3% per year – more than for any other group. This is not surprising given their falling employment rates during and since the recession, at a time when employment among older age groups has been remarkably robust.

The main focus of the previous chapters has been on recent trends in incomes, including the newly released data for 2011–12. This chapter takes a longer-term view. We utilise the long time series of consistent income data available in order to analyse some of the major changes to the way that incomes are distributed, and to place more recent trends in their historical context.

In the last few decades, there have been major changes in the economy and in society, and many of these affect the distribution of living standards. The demographic structure of the population has changed. For example, there are now more elderly people and more single parents. Big policy reforms have altered the way that some of these groups are treated by our system of taxes and benefits. For example, the benefits system is far more generous to low-income pensioners and low-income families with children than it was 20 years ago. We have seen changes in the way that people plan for retirement, such as the rise of private pensions. And the labour market has changed radically. Lone parents are now much more likely to be employed than they were 20 years ago. The employment rates of young adults have recently been falling rapidly. There was a large, well-documented increase in earnings inequality during the 1980s, both between occupation and education groups and within those groups. Lower-paid workers have done somewhat better more recently, due at least in part to the introduction of the national minimum wage. But all the while, a group of individuals at the very top of the income distribution have been pulling further away from the rest.

We explore the implications of these kinds of changes for the long-run evolution of the income distribution. There are two main parts to the chapter: Section 5.1 focuses on long-run changes by family type and Section 5.2 focuses on long-run changes by age. Section 5.3 summarises and concludes. The next chapter explores in detail the implications of long-run changes specifically towards the bottom of the income distribution, looking at the changing face of poverty.

5.1 Changes by family type

We begin with an analysis of the major family types. Figure 5.1 splits the population into three groups – parents and children, pensioners, and working-age adults without dependent children. It shows the proportions of these groups with household incomes in each quintile of the overall (BHC) income distribution, in 1978 to 1980, 1996–97 and 2011–12 (for brevity, denoted in the figure as ‘1979’,⁸⁷ ‘1996’ and ‘2011’ respectively).

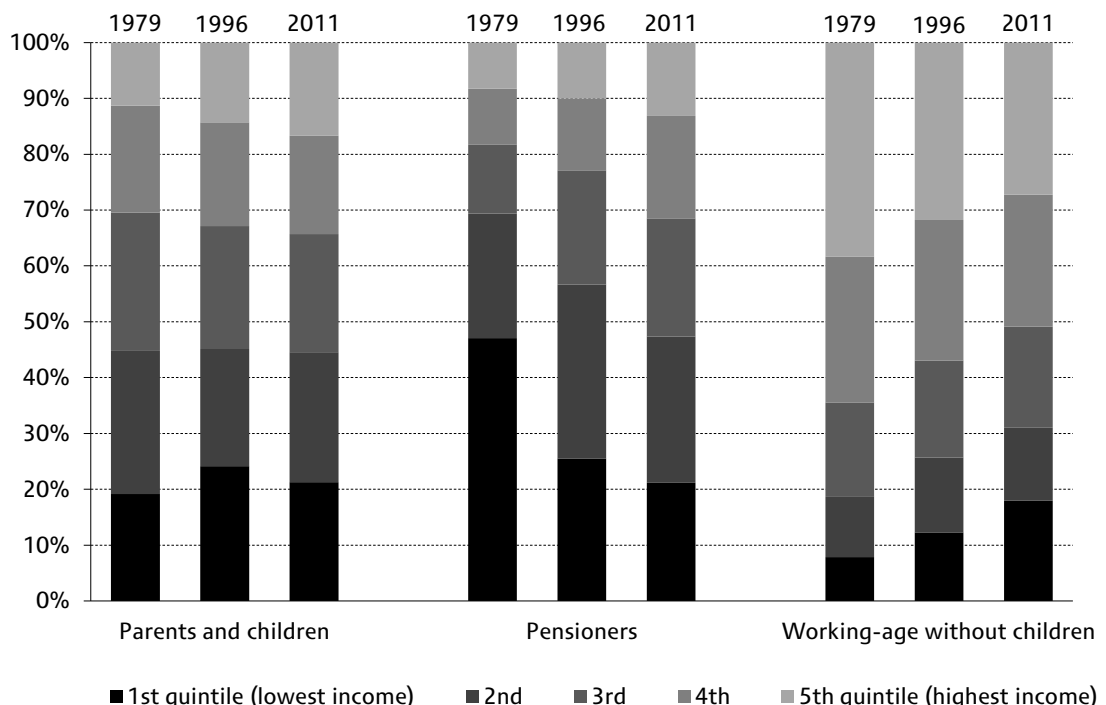
⁸⁷ Here and throughout the chapter, when analysing data before 1994, three years of data are pooled, to ensure sufficient sample sizes for the analysis to be robust. This is necessary because the pre-1994 data are from the Family Expenditure Survey, which contained a much smaller sample than the Family Resources Survey.

If incomes were distributed in the same way among each of the groups, then 20% of each group would fall into each quintile. Table 5.1 provides more detail, splitting each of the groups into two depending on whether the family contains a single adult or a couple. It gives the proportions falling into the top and bottom income quintiles, and reports the proportions of the population accounted for by each subgroup.

Several clear patterns stand out. First, pensioners are now much less likely to be relatively poor than they used to be, and more likely to be in the higher income groups. For example, the fraction of pensioners with incomes in the lowest income quintile has fallen from 47% in 1978–1980 to 21% in 2011–12, while the fraction with incomes in the highest two income quintiles has risen from 18% to 31%. The reduction in the number of relatively low-income pensioners was particularly sharp between 1978–1980 and 1996–97, but it has continued since. Table 5.1 highlights that this is true for both single and couple pensioner families. It also shows that the increased proportion of pensioners falling into the highest income quintile is driven by couple pensioner families and by an increase in the number of couple pensioners relative to single pensioners.

The trends for working-age adults without dependent children are qualitatively the opposite of those for pensioners. Individuals in this group are now more likely to be found towards the bottom of the income distribution than in 1978–1980 and they are also less likely to be found towards the top. Both of these trends have been progressing steadily throughout most of the intervening period and, as Table 5.1 shows, they apply both to single adults and to couples without children.

Figure 5.1. Position in overall income distribution, by family type (BHC, GB)



Note: Incomes have been measured before housing costs have been deducted. '1979' refers to the pooled three-year period between 1978 and 1980. '1996' and '2011' refer to financial years.

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

Table 5.1. Position in overall income distribution, by detailed family type (BHC, GB)

	Single, no children	Couple, no children	Single parents	Couples with children	Single pensioners	Couple pensioners
1978–1980						
<i>% of population</i>	15%	19%	4%	45%	8%	9%
Lowest-income fifth	10%	6%	47%	17%	55%	41%
Highest-income fifth	31%	45%	4%	12%	7%	9%
1996–97						
<i>% of population</i>	16%	21%	8%	37%	8%	10%
Lowest-income fifth	16%	9%	48%	19%	31%	22%
Highest-income fifth	24%	38%	3%	17%	6%	13%
2011–12						
<i>% of population</i>	18%	20%	8%	35%	7%	12%
Lowest-income fifth	24%	13%	31%	19%	26%	18%
Highest-income fifth	20%	34%	3%	20%	7%	17%

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

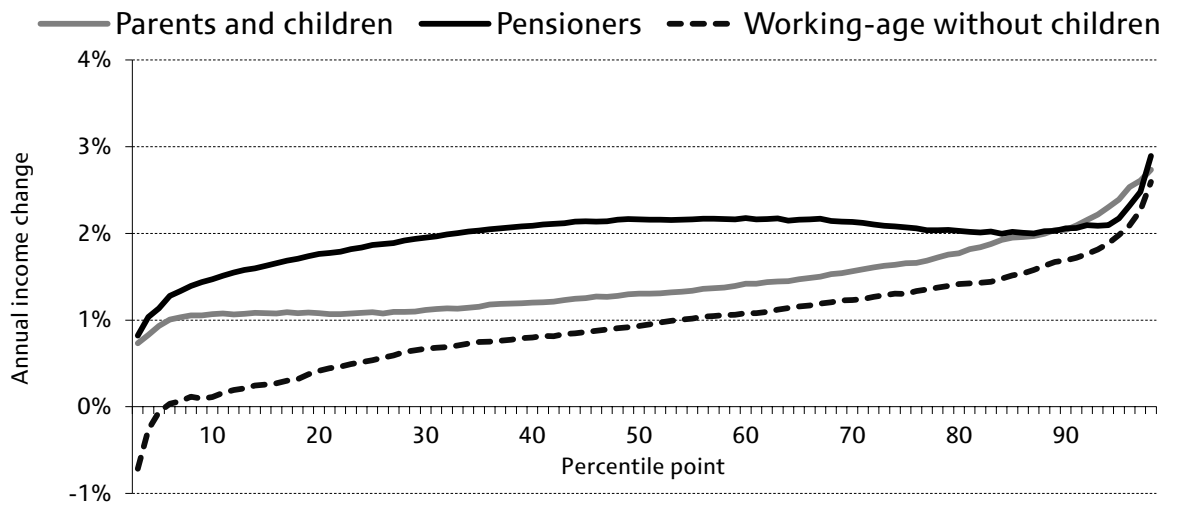
Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

The story is more mixed for individuals in families with children. This group is now somewhat more concentrated in the bottom income quintile *and* in the top income quintile than in 1978–1980. Their increased prominence at both ends of the distribution reflects a widening of income inequality within the group (shown explicitly later, in Figure 5.2). The bar for 1996–97 also shows that trends at the bottom end have not been uniform. The small overall increase in the group's likelihood of low income over the period is due to a more substantial rise during the 1980s partly offset by a fall during the late 1990s and 2000s.

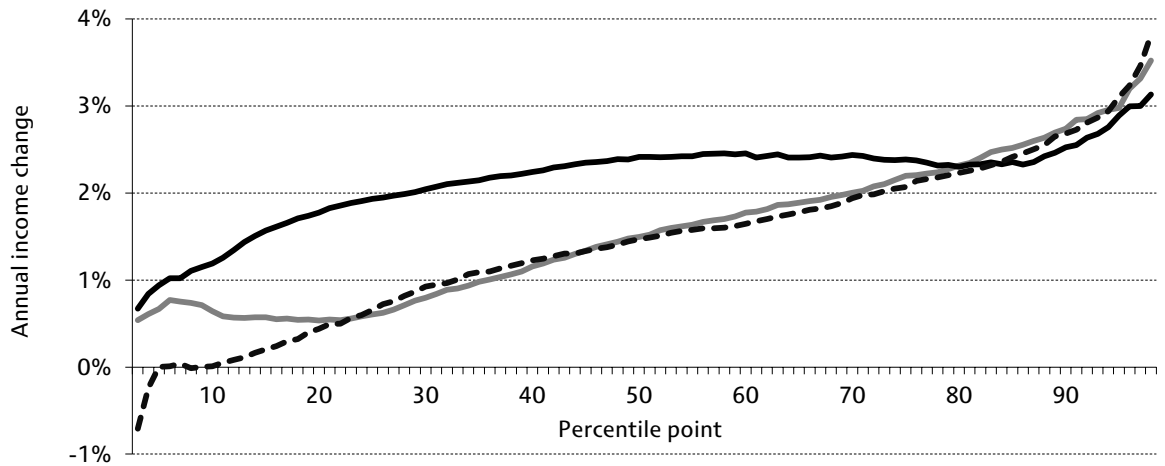
Table 5.1 highlights a rise in the incidence of lone parenthood, and a corresponding decline in the number of couples with children, between 1978–1980 and 1996–97 – a demographic change that contributed to the increased likelihood of low income in families with children over the period. The proportion of individuals in lone-parent families has stabilised since 1996–97, and the risk of falling into the lowest income quintile in that group has fallen substantially, from 48% to 31% (the group remain very unlikely to be in the highest income quintile). Individuals in couple families with children, meanwhile, are now much more likely to be in the highest income quintile than in 1978–1980, but no less likely to be in the lowest income quintile. In summary, this suggests that the overall increase in inequality among individuals in families with children is driven by greater inequality amongst couples with children and by an increase in the number of lone-parent families (a small and poorer group); inequality *between* those in lone-parent families and those in couple-parent families has actually decreased.

Figure 5.2. Real income growth by percentile point for different family types (BHC, GB)

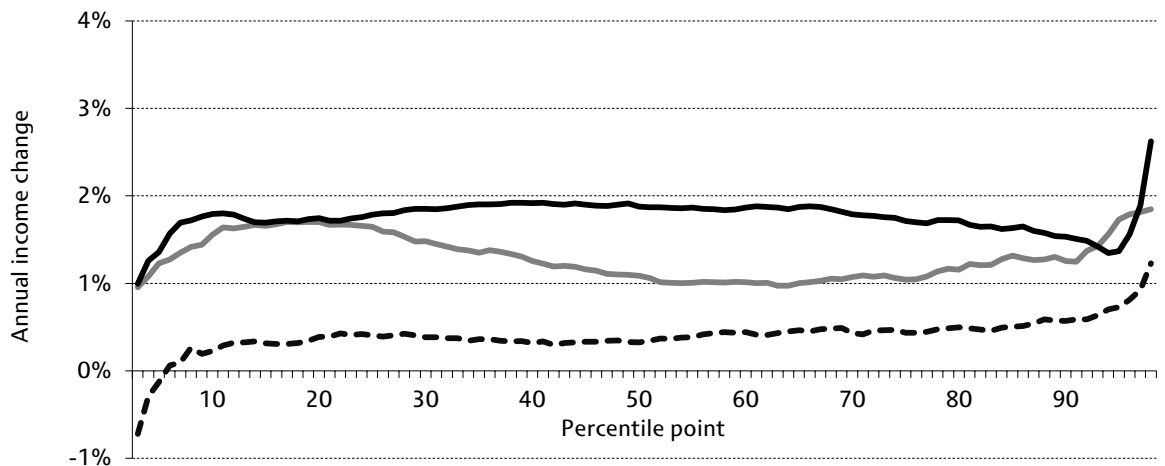
1978–1980 to 2011–12



1978–1980 to 1996–97



1996–97 to 2011–12



Note: The changes in income at the 1st, 2nd and 99th percentiles are not shown on this graph due to high levels of statistical uncertainty. Incomes have been measured before housing costs have been deducted. Since the distributions of household income in different family types are different, the same percentile points of each distribution do not correspond to the same absolute income levels.

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

A consequence of these combined changes is that the incomes of the major family types now look much more similar than used to be the case. Of the three groups, the highest-income one – the working-age childless – is now less over-represented at the top of the distribution than it used to be; and the lowest-income group – pensioners – is much less over-represented at the bottom. In fact, the risk of low income (measured BHC) is now similar for all three groups. This is a big transformation: in the late 1970s, the probability that a pensioner was in the lowest income quintile was more than double that for an individual in a family with children, which was itself double that for a working-age individual without children.⁸⁸

We now examine in detail the absolute changes in income that underlie these shifting positions of the family types in the overall income distribution. Figure 5.2 shows real income changes at each percentile point of the distributions for parents and children, pensioners, and the working-age childless for the whole period between 1978–1980 and 2011–12 (top panel), and also splits between the periods before and since 1996–97 (middle and bottom panels respectively).⁸⁹

One of the most striking features of Figure 5.2 is the comparative income growth across family types. Figure 5.1 suggested that pensioners have seen higher proportionate income growth than parents and children, who in turn have seen higher growth than working-age adults without children. Figure 5.2 makes clear that this is true across almost the entire distribution, i.e. when comparing the poorest pensioners with the poorest working-age adults without children, comparing the median pensioner to the median childless working-age adult, and so on. The largest differences are in the middle of the distributions – where pensioners have higher income growth than other family types – and at the bottom, where working-age adults without children have seen lower income growth than others. In fact, incomes for the bottom 10% of the working-age childless have barely changed at all since 1978–1980. There have tended to be smaller differences in income growth between family types towards the top of the distribution, however. The highest-income 5% within each family type have all seen similar, and strong, income growth of about 2% per year or more since 1978–1980.⁹⁰

Since 1978–1980, incomes *within* each of the groups have generally become more unequally distributed. This is most striking for non-pensioners, for whom income growth has been unambiguously inequality-increasing over the period – that is, growth has been higher at higher points in the distribution, regardless of the region of the distribution. This was mostly due to the large increase in inequality during the 1980s, as evidenced by the middle and lower panels. Previous work has shown that a key factor behind this was a rise in earnings inequalities between high and low education groups, and between higher- and lower-paid occupations, as well as rising earnings

⁸⁸ This has clear implications for the long-run changes in patterns of income poverty, which are explored in detail in Chapter 6.

⁸⁹ Note that, since the distributions of household income in different family types are different, the same percentile points of each distribution do not correspond to the same absolute income levels.

⁹⁰ Brewer, Sibieta and Wren-Lewis (2008) analyse in detail trends at the very top of the income distribution (up to 2004–05).

inequalities *within* these groups.⁹¹ Rises in income inequality have tended to slow down or stop altogether since 1996–97, except that approximately the highest-income 5% of each family type have continued to ‘race away’. Inequality within the middle 80% of individuals in families with children has actually narrowed since 1996–97, but this has only partially offset the earlier rises in inequality among the group.

For pensioners, the pattern of income changes has also been inequality-increasing within the bottom half – again, mostly due to changes between 1978–1980 and 1996–97. And, as with non-pensioners, the highest-income 5% have continued to pull further away (both before and after 1996–97). However, income growth has been uniform or slightly inequality-reducing within the fifth to ninth decile groups of the pensioner income distribution.

A key implication of the analysis presented so far is that the substantial rise in income inequality since the late 1970s (see Chapter 3) has been driven by rises in inequality *within* – rather than between – the major family types. The income distributions of these family types actually look *more* alike than they used to. This tallies with analysis in Brewer, Muriel and Wren-Lewis (2008). On the basis of results from a decomposition analysis of changes in inequality since 1968, those authors concluded that ‘changes in income inequality are largely accounted for by within-family-type inequality changes’ (p. 33). They also noted that ‘... lone parents and pensioner households ... have seen their average incomes increase over the course of the 1990s and 2000s, which has acted to reduce between-group inequality’ (p. 33).

Qualitatively, the same trends discussed so far are evident when using an after-housing-costs (AHC) measure of income. (Figures 5.1 and 5.2 are reproduced on an AHC basis as Figures E.1 and E.2 in Appendix E.) The most noticeable effect of using an AHC measure to look at where family types fit into the income distribution is to lower the risk of low income for pensioners, and particularly so in more recent years (i.e. it exaggerates further the trends seen for BHC income discussed above). In other words, low-income pensioners tend to have lower housing costs than the low-income working-age population, and this differential has widened as increasing numbers of low-income pensioners have come to own their homes outright and therefore face no mortgage interest payments or rent (see Section 6.2). As highlighted in Chapter 4, on an AHC basis the risk of low income is now lower for pensioners than for the working-age childless and for parents and children. Brewer and O’Dea (2012) construct a measure of ‘broad income’, which adds to BHC income the difference between the estimated flow of consumption from housing services and the housing costs faced, and this similarly improves the apparent relative position of pensioners. The flip side of this is that low-income working-age adults without children have done even worse since 1978–1980 on an AHC basis than on a BHC basis: real AHC incomes have fallen or stayed the same for the lowest-income 20% of the working-age childless since 1978–1980. Income among low-income individuals in families with children also performed less well on an AHC basis than a BHC basis between 1978–1980 and 2011–12 (driven largely by a poorer performance in the 1980s and early 1990s).

⁹¹ Brewer, Muriel and Wren-Lewis, 2008.

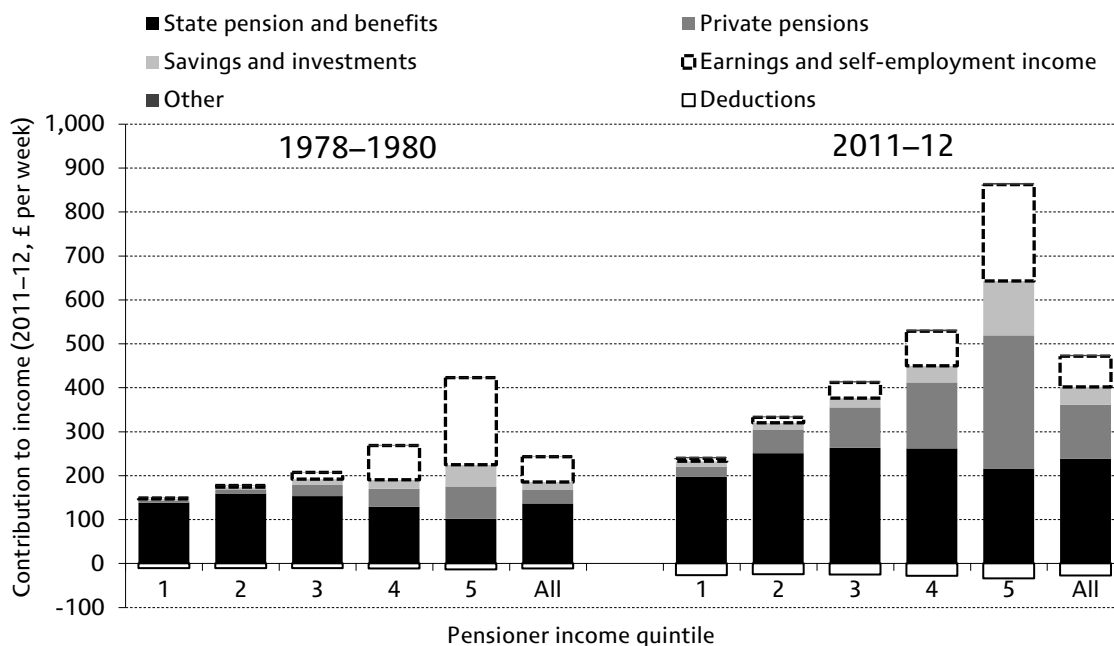
In summary, the analysis presented so far has shown that incomes are distributed much more evenly across the major family types than in decades past. Pensioners remain the lowest-income group, and working-age adults without dependent children remain the highest-income group, on average. But the gaps have closed very significantly since the late 1970s. Given the well-documented rise in overall income inequality over the period, this may come as a surprise. These facts are reconciled because inequalities within family types have generally increased, particularly among non-pensioners. The growth in inequality between the very highest-income members of each family type (approximately the top 5%) and the rest has been particularly sharp.

The following subsections investigate the reasons for the differences in income growth between family types since 1978–1980. We look first in more detail at the reasons for the rapid growth in pensioner incomes across the distribution since 1978–1980, and then at the reasons for the higher income growth among families with children than among the working-age childless since 1996–97.

Drivers of growth in pensioner incomes since 1978–1980

Figure 5.3 shows the average amount of income coming from different sources in each quintile of the pensioner income distribution, in both 1978–1980 and 2011–12. It shows that the strong growth in pensioner incomes over this period is primarily due to growth in state benefits and in private pension incomes.

Figure 5.3. Pensioner income sources by pensioner income quintile (BHC, GB)



Note: All monetary amounts have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. The highest-income 1% of pensioners in each period have been dropped from the analysis, as the net income components of the very richest are not available on a consistent basis back to 1978. Those whose income components sum to a negative number are also excluded, as their measured income in the HBAI series would be set to zero (i.e. it would not equal the sum of their income components).

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey 2011–12.

Benefits income is by far the largest income source for lower-income pensioners. It therefore explains a large majority of the overall growth in their incomes since 1978–1980. And it explains a relatively small fraction of the growth in incomes towards the top of the pensioner income distribution. Nevertheless, the figure shows that increases in pensioner benefits have actually been spread widely throughout the distribution. In fact, real benefit income has increased *more* at the top of the pensioner income distribution (both in cash terms and proportionately) than at the bottom. For example, benefits going to the highest-income 40% of pensioners have doubled since 1978–1980. This likely reflects the relatively small role of means-testing in the pensioner benefits system and hence lack of targeting on those on low incomes relative to the working-age welfare system.⁹² In particular, younger cohorts of pensioners have been retiring with higher entitlements to (non-means-tested) state pensions than their predecessors. The first individuals with full entitlements to the State Earnings-Related Pension Scheme (SERPS) retired in 1998, and spending on additional state pensions (i.e. beyond the basic state pension) trebled between 1997–98 and 2010–11.⁹³ Note that the changes made to pensioner benefit *rates* have had a somewhat different distributional impact, particularly under the period of Labour government, when the inception and expansion of pension credit were much more focused on lower-income pensioners than the pattern of benefit increases shown in Figure 5.3 (see Figure 5.4 later).

Private pensions are the second income source that has grown dramatically for pensioners since 1978–1980. They have been by far the biggest contributor to growth in incomes at the top of the pensioner income distribution. Income from this source has increased more than fourfold for the highest-income 20% of pensioners over the period, and has doubled as a share of their total net income, from 18% to 36%. Income from earnings and self-employment has been the main income source to correspondingly decline in relative importance for high-income pensioners, falling as a share of income for the top pensioner quintile from 48% to 26%. Private pension income remains a relatively low share of total income for the lowest-income pensioners, so is far less important than benefits income in explaining income growth at the bottom of the pensioner income distribution. Nevertheless, proportionate growth in private pension income has been high for low-income groups too: it has increased almost sixfold, and has grown from 4% to 15% as a share of total income, within the bottom two pensioner income quintiles since 1978–1980. It is thus not surprising that private pensions appear to have played an important role in reducing pensioner poverty (see Section 6.2).

Non-pensioners in families with and without children since 1996–97

Figure 5.2 showed that income growth for individuals in families with children has been higher than that for working-age adults without children since 1996–97. This pattern was not evident throughout most of the distribution in the earlier period

⁹² See also Browne, Hood and Johnson (2013).

⁹³ Browne, Hood and Johnson, 2013.

between 1978–1980 and 1996–97. We now investigate the reasons for this divergence over the last 15 years. We show that the key factors seem to be benefit and tax credit increases, and some differences in earnings growth among working parents relative to working non-parents.

When trying to explain changes over a number of years, one important factor to consider is the role of basic demographic change. For example, families with children in 2011–12 tend to have fewer children than families with children had in 1996–97. The proportion of families with children in Great Britain who have one child has risen from 42% to 50%, while the proportion who have at least three children has fallen from 17% to 12%.⁹⁴ Because families with more children tend to have lower (equivalised) household incomes, the mechanical effect of this demographic change is to raise the incomes of families with children, all else equal – both in absolute terms and relative to families without children.

However, this change does not account for the substantial differences between the income growth seen in families with and without children since 1996–97. This is evident from comparing non-pensioners in families without children and individuals in families with a *given* number of children (so that changes in the number of children that families are having cannot play a role). When this is done, one obtains the same result as implied by Figure 5.2: having a given number of children is now associated with a substantially smaller reduction in income – relative to having no children – than it was in 1996–97. Quantile regression estimates presented in Appendix F show that this is true at the 20th percentile, at the median and at the 80th percentile. The analysis also shows that this still applies if parents' ages are controlled for; in other words, changes to the ages at which people have children since 1996–97 do not account for the faster income growth in families with children over the period either.

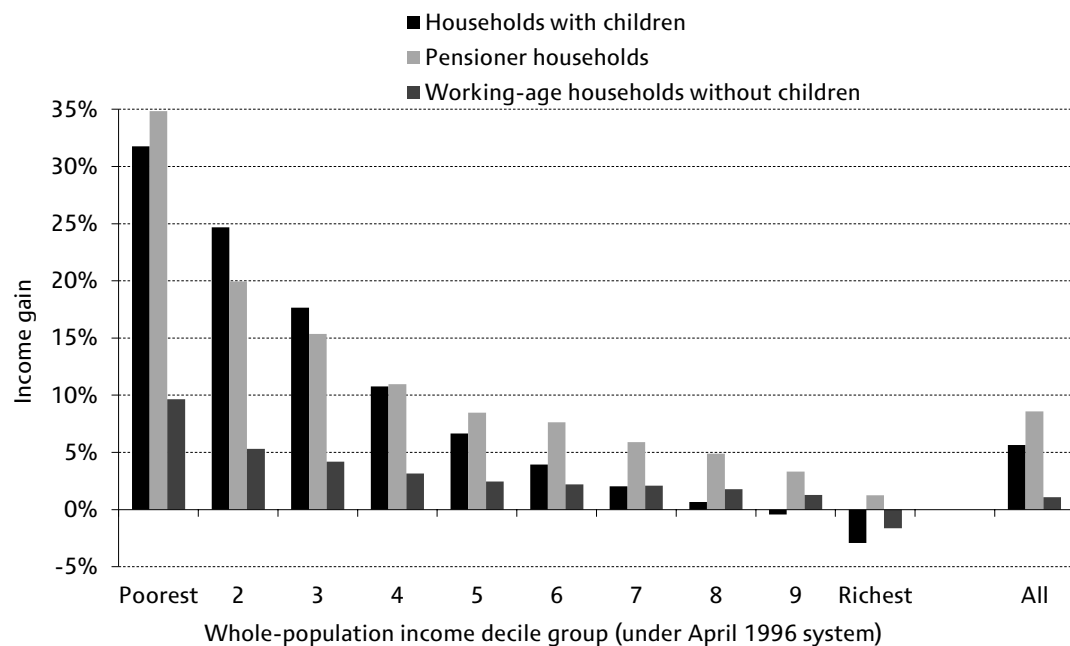
So what can account for the differences? Focusing first on the bottom of the income distribution, Figure 5.4 highlights that low-income households with children (and pensioner households) benefited far more from direct tax and benefit changes between 1996–97 and 2011–12 than low-income working-age households without children. This is due to large increases in state support aimed primarily at this group under Labour – in particular, the growth of the tax credit system. Overall, government spent £18 billion more on benefits and tax credits aimed at families with children in 2010–11 than it would have done if it had just uprated the system in line with the defaults inherited in 1997.⁹⁵ A substantial rise in the lone-parent employment rate also played a role in boosting incomes for some lower-income families with children, particularly in the late 1990s and early 2000s. But this has been shown to account for much less of the group's income growth over the period than benefit increases.⁹⁶

⁹⁴ Source: authors' calculations using Family Resources Survey, 1996–97 and 2011–12.

⁹⁵ Browne and Phillips, 2010. The increases in entitlements started to be unwound in April 2011 as part of the fiscal tightening but, even by the end of the parliament, they will have been unwound only partially (Browne, Hood and Johnson, 2013).

⁹⁶ Joyce and Sibieta, 2013.

Figure 5.4. Impact of direct tax and benefit reforms introduced between April 1996 and April 2011, by income decile group and household type



Note: The base system that the April 2011 system is compared with is the April 1996 system, uprated in line with the public finance defaults in place at the time (mostly price indexation). Income decile groups are derived by dividing all households into 10 equal-sized groups based on their simulated income under the April 1996 tax and benefit system. Decile group 1 contains the lowest-income tenth of the population, decile group 2 the second lowest-income, and so on up to decile group 10, which contains the highest-income tenth. Assumes full take-up of means-tested benefits and tax credits. Ignores the introduction of the additional marginal rate of income tax in April 2010.

Source: Authors' calculations using TAXBEN, the IFS tax and benefit microsimulation model, run on uprated 2010–11 Family Resources Survey data.

Table 5.2 shows median income growth among non-pensioners by family type and work status. It highlights that individuals in families with children of almost *all* work statuses – including those associated with relatively high incomes, such as two-earner couples – experienced faster median income growth over the period than the corresponding working-age adults without children. This fits with what we saw in Figure 5.2, which showed that there were also differences between the growth in incomes of families with and without children in middle and higher income groups between 1996–97 and 2011–12.

So what can explain those differences? Table 5.2 highlights one reason: it shows that median net *earnings* from employment among two-earner couples grew more quickly in families with children than in working-age families without children. These tend to be relatively high-income families, so this can also account for some of the differences between families with and without children further up the income distribution. The difference was largest for couples with one full-time and one part-time worker.⁹⁷

⁹⁷ Table 5.2 also suggests that changes in the number of parents employed, relative to the number of working-age non-parents employed, could have played only a minor role. Median earnings among all families with children (i.e. including workless families, whose earnings are zero) grew only slightly more quickly than median earnings among working families with children. If employment changes were driving income growth, one would expect this difference

Table 5.2. Changes in median income and earnings among non-pensioners between 1996–97 and 2011–12, by family type and work status (BHC, GB)

	<i>Average annual median income growth</i>		<i>Average annual median earnings growth</i>	
	With children	Without children	With children	Without children
Singles				
Full-time	0.7%	0.4%	–0.1%	0.5%
Part-time	2.0%	0.6%	1.8%	1.1%
Out of work	2.0%	1.0%	n/a	n/a
Couples				
Self-employed	0.4%	0.7%	–0.1%	0.7%
2 full-time	0.6%	0.3%	0.6%	0.4%
1 full-time, 1 part-time	0.9%	0.4%	0.9%	0.1%
1 full-time	0.5%	–0.1%	–0.3%	0.2%
1 or 2 part-time	2.1%	0.1%	1.7%	1.5%
Out of work	1.9%	0.7%	n/a	n/a
All in working families	0.7%	0.4%	0.3%	0.4%
All	1.1%	0.3%	0.5%	0.4%

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

Source: Authors' calculations using Family Resources Survey, 1996–97 and 2011–12.

Second, even further up the income distribution, families with children tended to benefit more from tax and benefit changes than the working-age childless. Table 5.3 shows the contributions to income growth of different sources of income within each income quintile, separately for non-pensioners in families with and without children. It highlights that growth in benefit and tax credit income explains much of the difference between families with and without children as far up as the fourth income quintile. It accounted for 0.8 and 0.4 percentage points of average annual income growth in the third and fourth quintiles of individuals in families with children over the period. The corresponding numbers for working-age adults without children are just 0.1 and 0.0 percentage points. The distributional impact of reforms to direct taxes and benefits over the period, as was shown in Figure 5.4, also suggests that households with children gained more from these than working-age households without children even as far up as the sixth whole-population decile group. (Note also that households with children in the sixth whole-population decile group will tend to be even further up the distribution of households with children.) Contributing factors include the family element of the child tax credit,⁹⁸ and a substantial increase in (non-means-tested) child benefit in 1999.

to be substantial. In addition, much of the increase in parental employment that did occur over the period was among lone parents (Joyce and Sibieta, 2013), and working lone parents are still unlikely to be high up the income distribution.

⁹⁸ This is worth £545 per year and, until April 2011, families were entitled to it in full until their incomes reached £50,000. This threshold was reduced to £40,000 in April 2011, and in April 2012 the family element started to be withdrawn as soon as other tax credit entitlements are exhausted.

Table 5.3. Percentage point (ppt) contributions to average annual income growth among non-pensioners between 1996–97 and 2011–12, by income quintile (BHC, GB)

Within-group income quintile	Earnings and self-employment income	Benefits and tax credits	Deductions	Other income sources	All
Families with children					
1 st (lowest income)	1.3ppts	0.2ppts	–0.2ppts	0.1ppts	1.4ppts
2 nd	1.2ppts	0.7ppts	–0.1ppts	0.0ppts	1.8ppts
3 rd	0.5ppts	0.8ppts	–0.1ppts	0.0ppts	1.2ppts
4 th	0.8ppts	0.4ppts	–0.1ppts	0.1ppts	1.2ppts
5 th (highest income)	1.9ppts	0.1ppts	–0.1ppts	0.1ppts	1.9ppts
All	1.2ppts	0.4ppts	–0.1ppts	0.1ppts	1.6ppts
Families without children					
1 st (lowest income)	0.9ppts	–0.4ppts	–0.2ppts	–0.1ppts	0.2ppts
2 nd	0.5ppts	0.1ppts	–0.1ppts	0.0ppts	0.6ppts
3 rd	0.3ppts	0.1ppts	–0.1ppts	0.1ppts	0.5ppts
4 th	0.4ppts	0.0ppts	–0.1ppts	0.1ppts	0.5ppts
5 th (highest income)	0.9ppts	0.0ppts	–0.1ppts	0.0ppts	0.8ppts
All	0.6ppts	0.0ppts	–0.1ppts	0.1ppts	0.6ppts

Note: The highest-income 1% of each family type in each period have been dropped from the analysis, as the net income components of the very richest are not available on a consistent basis back to 1996–97. Those whose income components sum to a negative number are also excluded, as their measured income in the HBAI series would be set to zero (i.e. it would not equal the sum of their income components). Source: Authors' calculations using Family Resources Survey, 1996–97 and 2011–12.

Table 5.3 also highlights that, in addition to more rapid growth in entitlements to benefits and tax credits, low-income families with children saw substantially greater growth in earned income as parental employment rates increased. It is worth bearing in mind that this increase in private income acts to reduce entitlements to means-tested benefits. This helps to explain the relatively small role of benefit and tax credit income in accounting for income growth within the lowest income quintile of families with children in the HBAI data, despite the generosity of *policy changes* that increased benefit rates for the group (as shown in Figure 5.4).⁹⁹

In summary, the largest differences between the income growth of non-pensioners in families with and without children since 1996–97 have been towards the bottom of the income distribution. The major driver of those differences has been the fact that benefit and tax credit increases over the period have been particularly generous to families with children. For higher income groups, the smaller differences in income growth

⁹⁹ Note also that Figure 5.4 assumes full take-up of benefits, whereas many of those with the lowest incomes are those not taking up their entitlements in full; and low-income individuals who receive very large increases in benefit entitlements may move out of the bottom quintile as a result, and hence that additional benefit income would be attributed to the second quintile group.

between non-pensioners in families with and without children are due to a combination of benefit changes and patterns of earnings growth.

5.2 Changes by age

We have seen that pensioners now tend to have much higher incomes relative to non-pensioners than used to be the case. Contrastingly, there has been concern recently about the economic plight of young adults due to the fall in employment among the group since the recession. This section looks at trends in incomes by age. We begin by setting out what incomes look like for individuals of different ages and how this has changed. We then look in more detail at what has been happening at each end of the adult age spectrum.

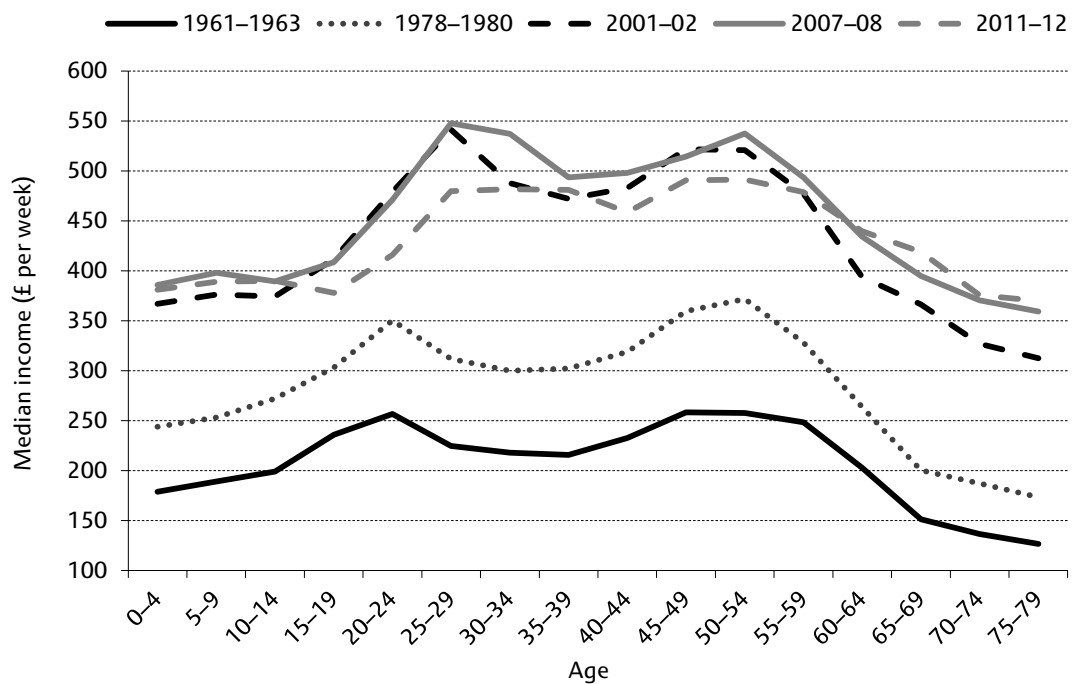
As in the rest of this report, the focus is on household equivalised incomes unless otherwise stated. Therefore, a person's income can include the individual income of someone of a different age, if they live in the same household. This is most obvious and important for children, who usually do not have income of their own but whose parents typically do. It also tends to be relatively important for young adults. Towards the end of the section, we explicitly look at the role of other household members (for example, parents) in determining the household incomes of young adults and we separate this from the impacts of trends in the individual incomes of young adults and their partners.

As always, equivalisation is also an important process when attempting to construct a measure of household incomes that reflects the material living standards of households of different sizes and structures. As we point out below, equivalisation has an important impact on the pattern of incomes by age, because adults tend to have dependent children at particular stages in the life cycle.

Median income by age

Figure 5.5 shows median BHC income across the age distribution for a number of years since the 1960s, grouping individuals into five-year age bands. Throughout the period, incomes have been relatively high for those in their 20s and those in their early 50s. This is approximately what we would expect. Younger adults are less likely to have children than those in their 30s and 40s. Having children both reduces material living standards at a given level of income (which is accounted for here through equivalisation) and is associated with lower employment rates (and full-time employment rates). The second peak in individuals' early 50s also makes sense given that this is around the time dependent children typically start to leave the family home and given that working individuals are generally able to command higher wages as they age due to returns to experience. On an unequivalised basis, incomes tend to peak between the mid-30s and mid-50s, which highlights the importance of changing family structure over the life cycle. Children and the elderly have the lowest (equivalised) household incomes – the former for the reasons just discussed and the latter because they are less likely to have labour market income.

Figure 5.5. Median income by age (BHC, GB)



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

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

The shapes of the age-income profiles have changed over time. Income now varies less with adult age than in the past, and in particular it clearly declines less rapidly at older ages. In 1978-1980, median BHC income among 65- to 69-year-olds was at least one-third lower than in any of the five-year age bands between 25-29 and 40-44. In 2011-12, the difference is no greater than 13%.

As indicated by the analysis in the previous section, the 'catching up' of incomes at older ages has happened partly over the past decade. In fact, Figure 5.5 shows that over-60s are the only adult age groups for which median income is any higher than it was for individuals of the same age in 2001-02.¹⁰⁰ The figure also suggests that the incomes of people in their 20s have begun to fall behind much of the rest of the population since 2001-02.

The treatment of housing costs is particularly important when looking at income differences by age. Pensioners are more likely than working-age individuals to own homes outright, which implies not needing to spend any of their BHC income on mortgage payments or rents. And differentials in housing costs across the age distribution have changed over time. The price of rental accommodation, which

¹⁰⁰ Note, however, that incomes at older ages had been catching up proportionately before 2001-02 as well. This is brought out more clearly later in Figure 5.7, which looks at percentage growth in incomes rather than cash amounts.

working-age individuals are relatively likely to inhabit, has risen rapidly relative to owner-occupied housing costs, which tend to be more important for pensioners.¹⁰¹ Therefore, the increase in pensioner median incomes relative to the rest of the population in recent decades that was shown in Figure 5.5 is even greater on an AHC basis. Contrastingly, the incomes of young adults have grown less since 1978–1980 on an AHC basis (likely due to rapid rises in rents). (The AHC analogue of Figure 5.5 is included as Figure E.3 in Appendix E.)

The result is an even smaller decline in incomes at older ages now on an AHC basis than on a BHC basis. Figure 5.6 highlights this, comparing median incomes by age in 2011–12 before and after deducting housing costs. In fact, median AHC incomes for people in their early and late 60s are now at least as high as those for individuals in their late 30s and early 40s respectively. The vertical distance between the BHC and AHC lines in the graph also clearly indicates the substantially lower housing costs faced by pensioners relative to the rest of the population.

To look more comprehensively at changes in incomes by age, Figure 5.7 shows average annual real growth in median BHC income across the age distribution over a number of periods. It shows that median income for individuals in their 60s and 70s has clearly tended to grow by more (proportionately) than that for people at younger ages, and

Figure 5.6. Median income by age in 2011–12 (BHC and AHC, GB)

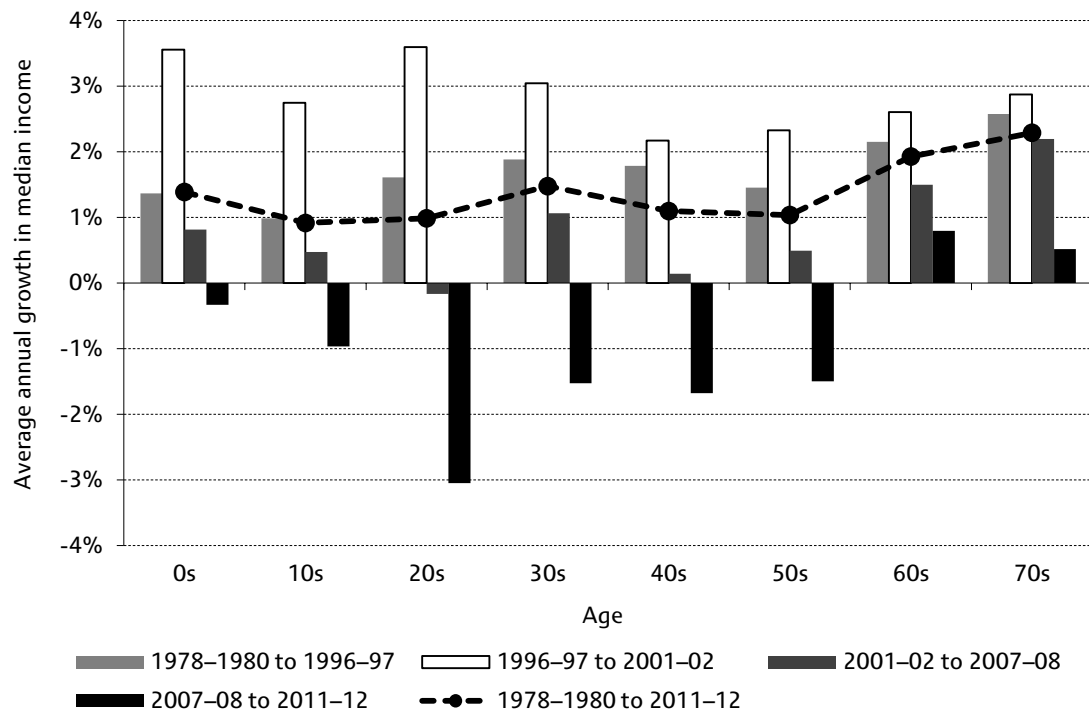


Note: All monetary amounts have been equivalised using the modified OECD equivalence scale and the DWP AHC variant of this, and are expressed in terms of equivalent amounts for a childless couple.

Source: Authors’ calculations using Family Resources Survey 2011–12.

¹⁰¹ See Chapter 6 for more on this in relation to poverty.

Figure 5.7. Average annual growth in median income by age since 1978–1980 (BHC, GB)



Note: Incomes have been measured before housing costs have been deducted.
 Source: Authors’ calculations using Family Expenditure Survey and Family Resources Survey, various years.

that this has been quite a consistent trend since 1978–1980. It has grown particularly quickly for older pensioners (i.e. those in their 70s).¹⁰² One exception was 1996–97 to 2001–02 – a period when young adults did relatively well (see below). The figure also shows that the household incomes of children fell behind those of most adult age groups between 1978–1980 and 1996–97, but grew relatively strongly between 1996–97 and 2001–02, and have fallen less than for working-age adults since 2007–08. Overall, children and working-age adults have seen similar levels of income growth since 1978–1980, and both have seen weaker growth than pensioners.

Figure 5.7 reiterates that median income among young adults has performed relatively poorly recently, particularly due to trends since the financial crisis hit. Having barely changed in the pre-recession years between 2001–02 and 2007–08, median income among those in their 20s has fallen by an average of 3% per year since 2007–08. The net result is that, after adjusting for RPI inflation, median household income for the group fell by about 13% in the decade from 2001–02 to 2011–12 (from £511 to £447 per week).

Taking a longer-run perspective, the dashed line on Figure 5.7 shows that there has been little change in relative incomes by age across the working-age population.

¹⁰² We do not look beyond age 79 in this analysis, because the effects of substantial changes in life expectancies over long periods of time, and the link between life expectancy and income, make interpreting the results difficult.

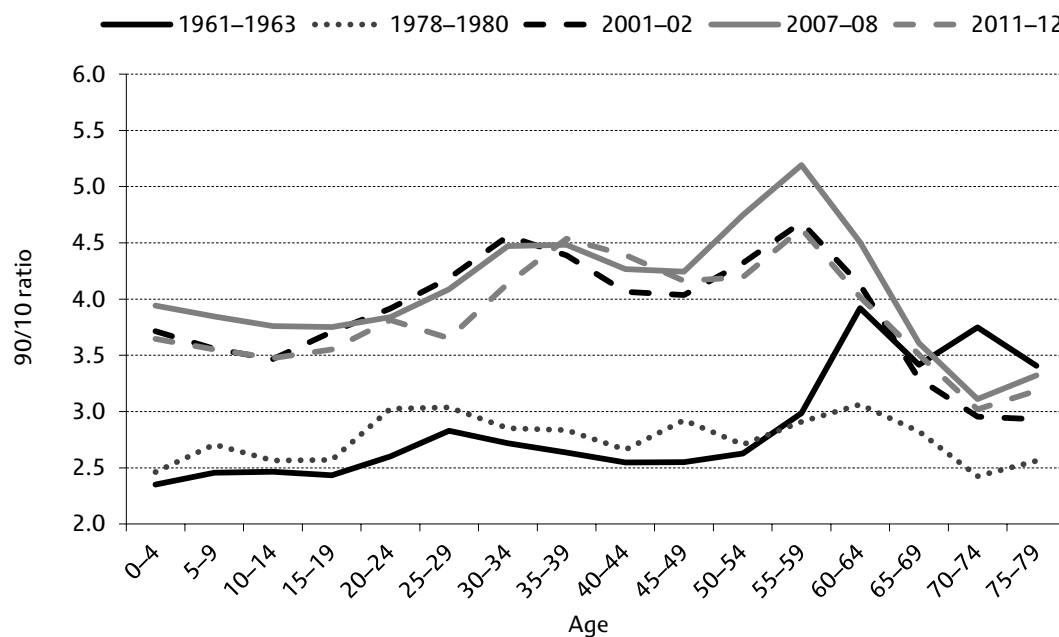
Overall, median income growth has averaged about 1% per year since 1978–1980 across the working-age adult age spectrum. A reason for this is that, just before the incomes of the young stalled in 2001–02, they had experienced a period of rapid growth: between 1996–97 and 2001–02, median income among individuals in their 20s rose by almost 4% per year according to the HBAI data.¹⁰³ However, the clearest pattern once again is that pensioner incomes have grown more quickly than incomes at other ages by a substantial margin since the late 1970s, with average annual median income growth of about 2% for those in their 60s and 70s.

Income inequality by age

Figure 5.8 highlights how the pattern of income inequality across the age distribution has changed. It shows 90/10 ratios – income at the 90th percentile divided by income at the 10th percentile – within each of the same five-year age bands as in Figure 5.5.

This measure of income inequality increases with age throughout the 20s and early 30s, and is quite stable between the late 30s and early 50s. It then peaks in the late 50s before dropping sharply at pensioner ages. This peak just before pensioner ages is likely partly due to the effects of early retirement and disability – adults start to retire or leave work due to disability in significant numbers at this stage and hence lose

Figure 5.8. 90/10 ratios by age (BHC, GB)



Note: Incomes have been measured before housing costs have been deducted. Data points show the ratio between incomes at the 90th and 10th percentiles.

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

¹⁰³ Later, we show that the HBAI data record a larger rise in employment among young adults over this period than Labour Force Survey data – a reason to be cautious about interpreting the precise magnitude of the income growth recorded among young adults at this time in HBAI.

labour market income, while a substantial part of their cohort remain in employment, increasing income inequality within the group.

One of the most striking features of Figure 5.8 is the fall in income inequality at pensioner ages, and how this contrasts with decades past. Inequality is now lower among pensioners than it is among all other age groups over 30. The figure reveals that this pattern is heavily driven by changes that have occurred since 1978–1980, when income inequality was much more uniform across the age distribution. Since then, the rise in inequality among working-age adults has been less marked for those aged 30 and below, and most marked for those in their late 30s, early 40s and late 50s; and inequality has generally risen much less rapidly among pensioners than among working-age adults (as shown in Figure 5.2). Figure 5.8 also shows that income inequality among pensioners is actually lower than it was when our consistent time series first began in 1961–1963. Note that these trends are accentuated even further on an AHC basis (shown in Figure E.4 in Appendix E). Measured AHC, pensioner inequality is now clearly lower than inequality for all other age groups. This reflects the fact that, whereas housing costs eat up a large fraction of poorer working-age households' incomes, dragging down their AHC incomes and thereby boosting inequality in AHC incomes, most poorer pensioners own their homes outright and therefore have low housing costs.

A final point of interest relates to the changes in inequality by age since the start of the recent recession (i.e. since 2007–08). We know that income inequality in the whole population has generally fallen over this period (see Chapter 3). Figure 5.8 highlights that, looking within age groups, falls in inequality are evident primarily among non-pensioners (including children, as suggested by the large fall in relative child poverty since 2007–08 – see Chapter 4). This is consistent with the fact that the falls in inequality between 2007–08 and 2011–12 occurred largely because growth in benefits outpaced earnings growth (see Chapter 3). Among the working-age population (and their children), this tends to reduce the gap between those more reliant on benefit income and those more reliant on labour market income. Inequalities between pensioners would tend to be less affected by relativities between benefits and earnings, because few pensioners have much earned income.¹⁰⁴

We have seen that patterns of income by age have changed significantly in recent decades. Income levels now tend to vary less with age, largely because income dips less at older ages. And over the last decade – particularly since 2007–08 – the incomes of young adults have been falling behind those of the rest of the working-age population. There has also been a transformation in the pattern of income inequality by age. When our consistent time series began in the early 1960s, incomes were more unevenly distributed among pensioners than among any other age group. In the late 1970s, income inequality was almost constant across the adult age distribution. Now, inequality is lower among pensioners than among other adults aged 30 and above.

¹⁰⁴ Note that the level of inequality in the whole population also depends on inequalities *between* pensioners and non-pensioners. Because pensioners remain poorer on average than non-pensioners, the fact that their incomes have continued to grow since 2007–08, whilst the incomes of non-pensioners have fallen, will also have acted to reduce overall inequality.

With these important changes in mind, we now look in more detail at the contrasting income trends at each age of the adult age spectrum.

The changing fortunes of young adults

Earlier we saw that median income among the young grew rapidly between 1996–97 and 2001–02. The introduction of the national minimum wage in 1999 likely played some role in boosting the incomes of young adults over this period. It acted to increase earnings for those close to the bottom of the hourly pay distribution,¹⁰⁵ which includes a disproportionate number of young adults.¹⁰⁶ This was also a period of rising employment, including among young adults, as shown by Figure 5.9. However, it can also be seen from the figure that the HBAI data show a larger rise in employment among the 20–24 age group over this period than the Labour Force Survey (LFS) (5.0 and 1.7 percentage points respectively), which is the primary source of labour market statistics in the UK. This is a reason to be cautious about the exact magnitude of income growth recorded among the group over this period by the HBAI data.

Figure 5.7 showed that median income among adults in their 20s barely changed in the immediate pre-recession years – an experience even worse than the slow growth seen across most of the working-age spectrum – and has clearly fallen more than for other age groups since 2007–08. The relatively large declines in median income in the 20–29 age group since 2007–08 mirror the fall in their employment rates, at a time when employment rates at other ages have been unusually robust (for a recession). Figure 5.9 confirms that the HBAI data reveal essentially the same patterns of employment by age as the LFS data during this recession and post-recession period. The disproportionate incidence of falls in employment on the young since the financial crisis hit has been an experience shared by other developed countries.¹⁰⁷

When analysing the economic experiences of young adults, it is important to pay attention to two particular issues. First, changes in rates of participation in education can affect changes in the incomes of young adults over time. The long-term rise in higher education participation will have acted to reduce the incomes of some young adults, as little or nothing tends to be earned whilst in full-time education. But the returns to education may mean that, very shortly afterwards, the incomes of the same adults are higher than they would otherwise have been. So we need to think about the effects of higher education participation on the incomes of young adults very differently from the effects of (for example) higher unemployment among the group.

How important is education in explaining the trends just outlined in young adults' incomes over the past decade? It can have played only a small role in explaining the lack of median income growth among adults in their 20s in the pre-recession years, between 2001–02 and 2007–08. The proportion of such adults in education rose by 0.8

¹⁰⁵ See Chapter 3 of this report and Lindley and Machin (2013).

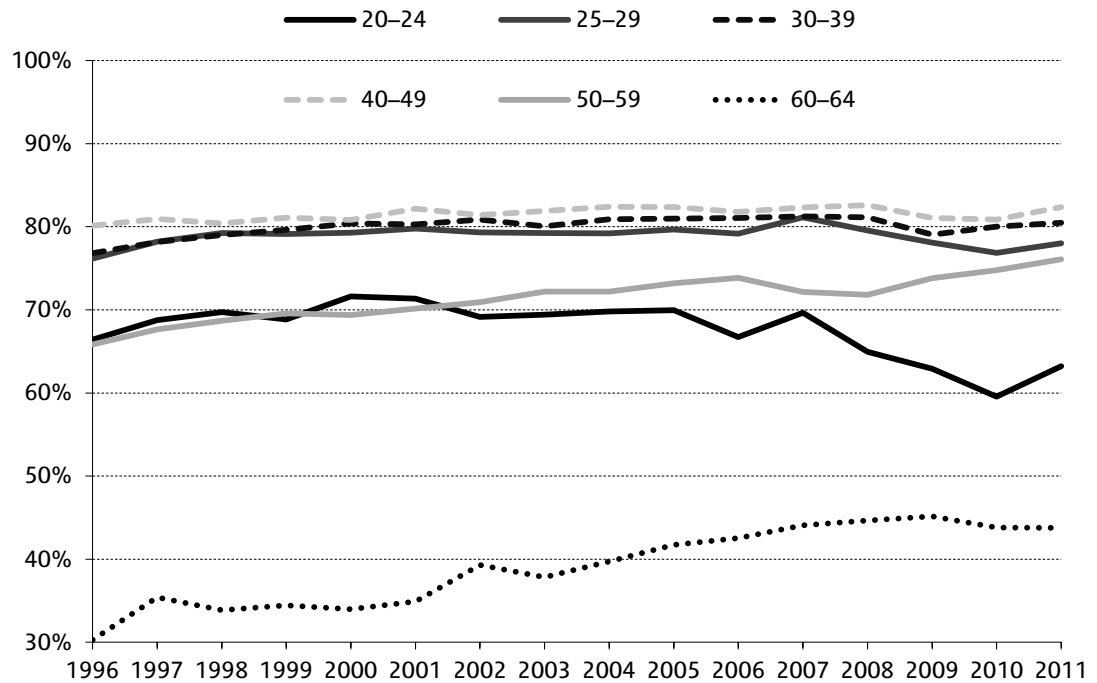
¹⁰⁶ Brewer, May and Phillips, 2009.

¹⁰⁷ Bell and Blanchflower, 2011.

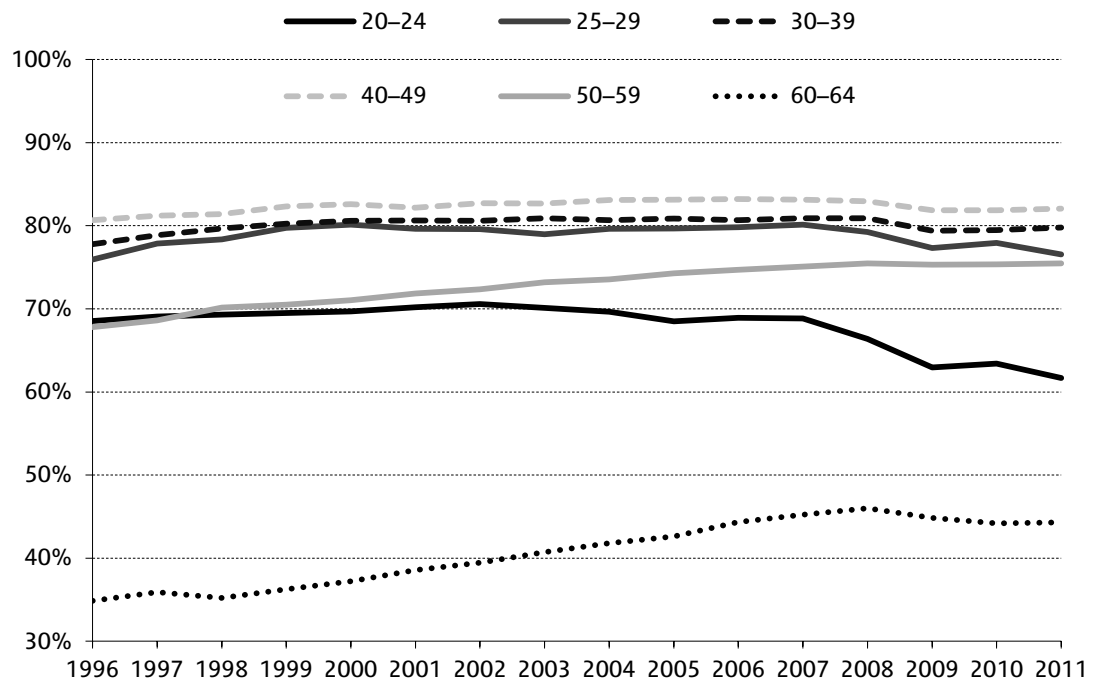
percentage points over those six years in the HBAI data. This is very similar to the 0.7 percentage point rise recorded by the LFS. What about the period since the recession hit, between 2007–08 and 2011–12, when the employment rates and incomes of young

Figure 5.9. Individual employment rates by age (GB)

HBAI data



Labour Force Survey data



Note: Years refer to financial years.

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

adults fell by more than those of other groups? Rises in education participation do not account for these trends in the HBAI data, according to which the proportion of adults in their 20s in education essentially stayed the same. However, this *is* somewhat different from the trend recorded in the LFS, which shows a 1.7 percentage point rise in the rate of education participation among the group. If the LFS is correct, current incomes among the young may have fallen by even more than the HBAI data suggest since 2007–08 (since there would have been a larger rise in the number in education with little or no current income). As discussed, however, the implications of that for the economic prospects of young adults are not necessarily negative. Much depends on the economic returns that they get from their education later in life.

A second pertinent factor for the economic experiences of young adults is the composition of their households. About four in ten adults aged under 30 live with parents, and a further 15% live with other individuals besides their partners. Given that older individuals' labour market outcomes have been on a better trajectory than those of younger adults since 2007–08, we might expect that the recent shock to household income has been smoothed somewhat for those individuals who live with parents (or perhaps with others). It could also be that young people use the possibility of living with parents as an insurance mechanism, becoming more likely to do this when they suffer shocks to their own incomes. Evidence from the US indicates that this happens when economic conditions deteriorate, at least among the low-skilled.¹⁰⁸

Table 5.4 sheds some light on these issues. It splits adults aged under 30 into three groups: those who live on their own or with a partner only; those who live with parents; and those who live with others (for example, friends). It then documents changes in median household income, changes in median 'benefit unit' income and changes in the relative size of each group. (We use the term 'benefit unit' income to mean the combined income of an individual and (where applicable) their partner.) The table compares the immediate pre-recession period (2006–07 and 2007–08) with the most recent period of data (2010–11 and 2011–12). Two years of data are pooled in each case to ensure sufficient sample sizes.

Table 5.4. Income changes for adults aged under 30 between 2006–07 to 2007–08 and 2010–11 to 2011–12, by household type (BHC, GB)

	Living on own or with partner only	Living with parents	Living with others
Change in median household income	–10.8%	–5.7%	–14.7%
Change in median benefit unit income	–10.8%	–16.8%	–16.9%
% of all adults <30, 2006–07 and 2007–08	44%	39%	16%
% of all adults <30, 2010–11 and 2011–12	47%	38%	15%

Note: Incomes have been measured before housing costs have been deducted. 'Parents' here include biological parents, step-parents, foster parents and parents-in-law. The final two rows may not sum across to 100% due to rounding.

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

¹⁰⁸ Kaplan, 2012.

For those who live on their own or with a partner only, reductions in both measures of income are by definition identical, at about 11% over the four years. For those who live with parents, there is evidence that this cohabitation has indeed acted to moderate the fall in household income, relative to what would have happened if these young adults lived alone or with their partners only. Median household income among the group has fallen by about 6% over the four years, whereas the median benefit unit income of the group has fallen by about 17%. The difference between the reductions in these two measures of income for the group is statistically significant. Those who live with other adults (not parents) have also seen a fall of about 17% in median benefit unit income over the period; but the other adults in those households have played a much smaller role in mediating the ultimate effect on household income.

It is noteworthy that individuals living with parents (and others) have seen larger falls in the incomes of themselves and their partners since the recession than individuals who live on their own or with a partner only (and this difference is statistically significant). It is possible that this is partly because those who suffered negative income shocks *responded* by living with parents, when they would otherwise have left (or remained away from) the family home. However, the aggregate figures given by the FRS data and shown in Table 5.4 do not show a significant change in the proportion of young adults living with parents since the beginning of the recession.¹⁰⁹ It will be interesting to follow this trend when further years of data become available, which will also provide sufficient sample sizes to look for effects on particular subgroups of young adults (for example, the low-educated).

In summary, the household incomes of adults in their 20s have been falling faster than those of any other age group since 2007–08. This fits with a substantial decline in their employment rates. There is evidence that the group's household incomes would have fallen by even more, were it not for the fact that about 40% of them live with parents, whose individual incomes tend to have fallen by less.

In the long run, a crucial issue is how current cohorts of young adults are affected by these poor initial outcomes as they age. Many studies have highlighted apparent detrimental effects of periods of unemployment on future earnings¹¹⁰ and employment probabilities.¹¹¹ A related literature has looked at 'scarring' effects on cohorts who start working-age life during recessions. Detectable impacts on earnings and employment can persist for up to a decade for these cohorts.¹¹² The extent to which current cohorts of young adults can avoid such persistent scarring effects of poor early outcomes will be crucial for their lifetime incomes, and hence their living standards.

¹⁰⁹ The same is true over the past decade as a whole: the proportion of young adults in the FRS living with their parents in 2001–02 was 38%, just as in 2011–12.

¹¹⁰ For example, Arulampalam (2001) and Gregory and Jukes (2001).

¹¹¹ For example, Heckman and Borjas (1980).

¹¹² For example, Burgess et al. (2003), Kahn (2010) and Oreopoulos, von Wachter and Heisz (2012).

Elderly adults: has the timing of income over the life cycle changed?

We have seen that the rise in relative incomes of elderly adults has been one of the most dramatic changes in the income distribution over recent decades. And we have seen that, in terms of income sources, this is primarily due to growth in state pensioner benefits and in private pensions (see Figure 5.3). Here we again ask why older people are now better off relative to younger people than in the past, but in a different sense. Do the incomes that individuals receive over their life cycle now come more towards the end of their lives? Or do generations who have been retiring have higher *lifetime* incomes relative to the generations below them (than their predecessors had relative to them)?

The answers to these questions matter for our interpretation of what has happened to the living standards of different groups. In many cases, an individual's living standards at a particular age will depend more on their lifetime income than on their income at that particular age, because they can save (when current income is relatively high) and borrow (when current income is relatively low). And clearly lifetime income is the more relevant metric when gauging an individual's standard of living over their life cycle (rather than just at one point in time).

The HBAI data do not follow the same individuals over time. But, in each year, the data provide a representative sample of people of each age. Since birth year is implied by the combination of year and age, this means that summary statistics for a 'synthetic' birth-

Figure 5.10. Median income from age 50, by birth cohort (BHC, GB)



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

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

year cohort can be tracked over time using only repeated cross-sections of data. Figure 5.10 exploits this fact and plots the age profiles of median income for four birth cohorts as they approached pensioner age. Birth cohorts are grouped into 10-year bands in order to ensure sufficient sample sizes.

The figure shows, unsurprisingly, that successive cohorts tend to have higher median incomes at each age than previous cohorts had at that age. This reflects the sustained growth in living standards that has occurred over the post-war period.

The shapes of the age–income profiles also change across cohorts. The profiles for the 1901–1910 and 1911–1920 cohorts between ages 60 and 80 are approximately parallel. In other words, the younger cohort had higher median income at given ages than the older cohort, but the *changes* in median income between ages 60 and 80 were similar for the two cohorts. But the paths of median income for the 1911–1920 and 1921–1930 cohorts at older ages look quite different. By age 65, the gap between the cohorts is much larger than it was between ages 50 and 60. This is because the 1921–1930 cohort experienced a smaller drop in median income when they reached pension age. This cohort passed age 65 between 1986 and 1995, so this does account for at least some of the improvement in the relative position of pensioners during the 1980s and 1990s. Banks, Blundell and Tanner (1998) documented a similar change in cohorts’ age–income profiles around retirement, comparing the 1911–1914 and 1923–1926 cohorts.¹¹³

We can also add a more recent cohort to investigate whether this change in age–income profiles looks persistent. If it were simply a step change between cohorts, then the age–income profiles for the 1921–1930 cohort and the younger 1931–1940 cohort should be roughly parallel to each other. This was indeed the case up to age 65. By this age, median incomes had dipped sharply for the two older cohorts but not for the two younger ones, which is suggestive that there has been a persistent change in the extent to which median incomes dip when cohorts reach pensioner age. But median income for the 1931–1940 cohort has dipped down in their late 60s (during the 2000s), whilst median income for the 1921–1930 cohort stayed flat at that age. This may just reflect the economic cycle, however, and in particular the recent recession. At this stage, we cannot therefore establish beyond doubt how persistent the change in the shape of age–income profiles at older ages will be. We will know more when we have seen what happens to incomes among these cohorts as they age further.

We see the same changes between cohorts in the age profiles of median income on an after-housing-costs basis, as shown in Figure E.5 in Appendix E. Median AHC incomes generally decline less rapidly than BHC incomes as cohorts age. This again reflects the lower housing costs that tend to be faced by older individuals, who are more likely to own their homes outright and hence make no mortgage payments. For example, median BHC income was 18% lower at age 70 than at age 50 for the 1931–1940 cohort, whereas median AHC income fell by only 10% for that cohort between those ages.

¹¹³ Those authors looked at the mean of the logarithm of income, rather than median income.

Figure 5.11. Income at the 20th percentile from age 50, by birth cohort (BHC, GB)



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

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

We know from the analysis presented in Chapter 6 and in Section 5.1 that pensioner incomes have not only increased rapidly at around the median: there have been substantial reductions in the risk of low income for pensioners as well. Figure 5.11 presents an analysis of age–income profiles at around retirement by cohort, analogous to Figure 5.10 except that it shows incomes at the 20th percentile rather than at the median.

This highlights two further important points. First, incomes towards the bottom of the pensioner distribution dropped less in retirement for the 1921–1930 cohort than for the 1911–1920 cohort, just as was the case at the median. Second, we see a *further* change in the shape of the age–income profile when comparing the 1921–1930 cohort with the 1931–1940 cohort: the gap between these cohorts in incomes at the 20th percentile clearly grows from age 60 onwards, and has stayed at its new higher level up to age 70. In fact, although income at the 20th percentile declined for the 1931–1940 cohort during their late 50s, there was *no* such decline as they passed pensioner age: instead, incomes at the 20th percentile actually flattened out at age 60 (the pensioner age for women) and increased slightly at age 65 (the pensioner age for men). By age 70, income at the 20th percentile for this cohort was £243 per week, just 2% lower than it had been at age 50. Figure E.6 in Appendix E shows that the same patterns hold on an AHC basis, and if anything are even more pronounced: income at the 20th percentile for the 1931–1940 cohort was 2% *higher* at age 70 than at age 50.

The 1931–1940 cohort reached pensioner age between 1991 and 2000 (for women) and 1996 and 2005 (for men). This suggests that a change in the timing of income over the life cycle has been important in explaining increases in incomes towards the bottom of the pensioner income distribution in the 1990s and early 2000s. The introduction in 1999 of the minimum income guarantee (MIG) for low-income pensioners – which subsequently became pension credit (PC) – is likely to have played a role here. Note also that this shift in the age–income profile around retirement for more recent cohorts was not evident when looking at their median income levels (i.e. incomes upon retirement seem to drop less at the 20th percentile for the most recent cohort than for the cohort before them, whereas incomes at the median seem to have evolved similarly for the two cohorts). This indicates that a change in the age profile of income *inequality* among pensioners (at least in the bottom half of the distribution) has contributed to the decline in pensioner inequality relative to working-age inequality in the 1990s and early 2000s.

In summary, there have been important changes to the timing of income over the life cycle in recent decades. These have underpinned at least some of the rise in pensioner incomes relative to those of the rest of the population over that period. In particular, median income now drops less at around retirement ages than used to be the case. This explains at least some of the improvement in the relative position of middle-income pensioners during the 1980s and 1990s. And incomes lower down the distribution also seem to drop less at around retirement than in the past. This explains at least some of the improvement in the relative position of low-income pensioners in the 2000s, as well as in the 1980s and 1990s.

5.3 Conclusion

This chapter has taken a long-run perspective on the distribution of income. It has highlighted dramatic changes to the types of people who are relatively rich, relatively poor and relatively unequal.

It is well known that one of the most dramatic changes to the distribution of income in recent history was the large and rapid rise in inequality during the 1980s. It might therefore come as a surprise that incomes are now distributed much more similarly across the age spectrum, and across the major family types, than used to be the case. Incomes within these different groups have, for the most part, grown and become more unequal – but at different speeds. The result has been a significant convergence between the income distributions for old and young, and families with and without children.

Trends by age are perhaps the most striking, and the most topical, given the poor recent performance of young adults in the labour market. When our consistent series began in 1961–1963, pensioners had the lowest incomes, and the most unequal incomes, of any age group. By the late 1970s, pensioners still had the lowest incomes, and inequality was quite uniform across the age distribution. By 2011–12, due mainly to a rapid rise in inequality among the working-age population in the 1980s, pensioners had lower levels of inequality than almost any other adult age group on a BHC basis, and the lowest of all age groups on an AHC basis. Their incomes still tend to

be lower than those of working-age adults, but the gap has closed considerably (particularly when measured AHC). And, as was shown in this chapter and the last, their risk of low income is now almost the same as that for others when measured BHC, and lower than for others when measured AHC.

Looking to the future, a natural question is whether the trends will continue. Will this ultimately look like convergence between groups? Or will it be just the start, with those groups that used to have the better economic outcomes – such as the young, and the working-age childless – simply being overtaken and falling further behind over time? In the short run, there seems little reason to expect the trends by age to reverse in future releases of HBAI data. The employment rates of young adults continue to perform poorly in the recession's aftermath. The earnings of those who are in work are generally struggling to keep pace with inflation. Those of working age who are out of work are experiencing real benefit cuts as part of the post-recession fiscal tightening. And pensioners are the one major demographic group who have been relatively protected from those cuts.

Longer-run developments are, as ever, much more difficult to predict. One central issue will be the extent to which current cohorts of young adults are 'scarred' persistently by their early economic experiences as they age. Given the fall in their employment rates since the recession, it is no surprise to see that the household incomes of adults in their 20s have been falling faster than those of any other age group since 2007–08. This is despite the fact that about 40% of the group live with their parents, and that this has tended to cushion the impacts on their household incomes. But that is unlikely to be a long-term solution for many. A key policy question is how these cohorts can be prevented from becoming detached from the labour market, so that their future employment and earnings prospects are damaged as little as possible.

6. The Changing Face(s) of Poverty

Key findings

- There have been significant changes in the pattern of poverty across the population during the last 50 or so years. In the 1960s and 1970s, poverty rates were much higher for pensioners than for the rest of the population: around six to eight times as high as for working-age adults without children, for instance. However, substantial and sustained falls in pensioner poverty since the late 1980s, and increases in poverty rates among the rest of the population, mean that pensioners now have a similar risk of poverty to the rest of the population on a BHC basis, and a substantially lower risk on an AHC basis. The face of poverty has become substantially younger during recent decades.
- The large falls in pensioner poverty have been driven by a substantial increase in income from state pensions and benefits, as well as private pensions. This has led to a broad-based improvement in the relative position of lower-income pensioners compared with the rest of the population. One reason why pensioner poverty has fallen particularly far on an AHC basis is that lower-income pensioners increasingly own their homes outright, which means their housing costs have fallen substantially relative to the rest of the population.
- Rising poverty among working-age adults without children partly reflects substantial increases in the number living in workless families and a decline in the relative value of out-of-work benefits. More importantly, poverty among those living in families containing at least one worker has increased. During the period 1978–1980 to 1996–97, this reflected an increase in hourly and weekly earnings inequality. Post 1996–97, it reflects the fact that earnings growth was generally weak for this group right across the income distribution.
- The increase in in-work poverty means that almost half of all poor working-age adults without children work or have a partner who works, compared with just 30% in 1978–1980.
- The story for children was similar to that for working-age adults without children between 1978–1980 and 1996–97. However, since 1996–97, relative child poverty has fallen. There was some increase in parental employment rates. But overwhelmingly this fall was driven by substantial increases in the generosity of means-tested benefits for low- and middle-income families with children.
- Substantial reductions in out-of-work poverty mean that by 2011–12 a poor child was almost twice as likely to be from a working family as from a workless one (whereas in both 1978–1980 and 1996–97 they were substantially less likely to be from a working family than from a workless one). However, the risk of relative poverty for children of workless families does remain substantially higher (40% on a BHC basis) than for children of working ones (14%).

Chapter 4 of this report examined trends in relative and absolute poverty for different parts of the population during the 15 years from 1996–97 to 2011–12, focusing in particular, on the years since the financial crisis of the late 2000s and its associated

recession. A key finding of this analysis was significant falls in the fraction of children and pensioners who are poor in relative terms, but an increase in the fraction of working-age adults without children who are relatively poor. In this chapter, we take a longer-run perspective and show how poverty has changed for different parts of the population over the past few decades (from 1961 or 1979), and how this has changed the composition of the poor population.

In doing this, it is important to bear in mind the analysis of Chapter 5. Changes in the relative incomes of different types of individual in the income distribution (such as the improvement in the relative position of pensioners) are likely to have implications for patterns of poverty. And the same broad socio-economic changes that have played a part in trends in average incomes and income inequality will also have been important in driving changes in relative income poverty. As we shall see, increases in worklessness, growing earnings inequality during the 1980s, a substantial increase in the number of lone parents, changes to benefits, and increases in accrued pension rights and home ownership among pensioners, have all played a role in explaining the substantial changes in patterns of poverty in the UK.

The rest of this chapter proceeds as follows. In Section 6.1, we examine how poverty has changed for different parts of the population and we delve deeper to see if there have been particular changes for more precise age groups. Sections 6.2, 6.3 and 6.4 then examine the changes in poverty experienced by pensioners, working-age adults without children, and children, respectively, with a focus on the factors that underlie the changes in poverty rates for each group. Section 6.5 concludes.

6.1 Changes in relative poverty by individual type and age

Figures 6.1a and 6.1b show the rates of relative income poverty among pensioners, working-age adults with and without children, and children using incomes measured AHC and BHC respectively.

The trends in poverty among the different parts of the population are clearly very different:

- Relative income poverty was much higher among pensioners than in the rest of the population during the 1960s and 1970s. Pensioner poverty then fell during periods of recession (such as the mid-1970s, early 1980s and early 1990s) and rose during periods of rapid economic growth, particularly in the mid- to late 1980s. The relative position of pensioners improved during recessions as they were little affected by higher unemployment and falls in wages, while their relative position deteriorated during booms as, similarly, they gained little from the strong growth in employment and wages. Finally, from the early 1990s, there has been a substantial and sustained fall in pensioner poverty, especially on an AHC basis.
- Relative income poverty among families with children was fairly steady during the 1960s and 1970s. The rates of poverty then rose substantially during the 1980s, rising by close to 15 percentage points (AHC) and 10 percentage points (BHC). After

stabilising or falling a bit in the early 1990s, poverty began falling on a consistent basis in the late 1990s and early 2000s, especially on a BHC basis. After a modest reversal, it has fallen again in the period since 2007–08. The fall, however, has been larger for children than for parents, reflecting the fact that poverty fell more for lone parents than for couples and more amongst families with at least three children than amongst smaller families.

- Relative income poverty among working-age adults without children rose during the 1980s and again during the late 2000s, leaving it around three or four times its levels of the 1960s and 1970s (of around 5%) by 2011–12.

Figure 6.1a. Relative poverty for different groups of the population (AHC)

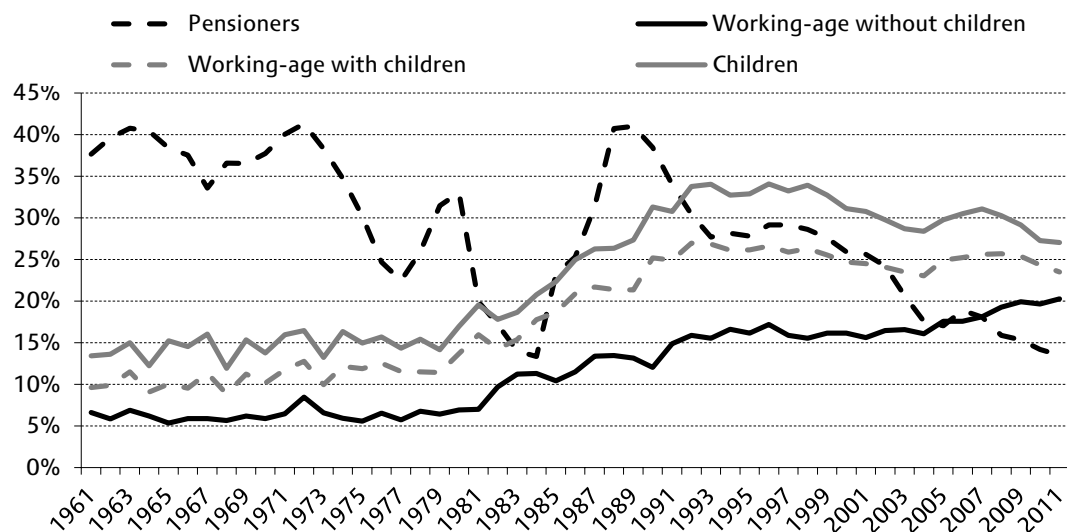
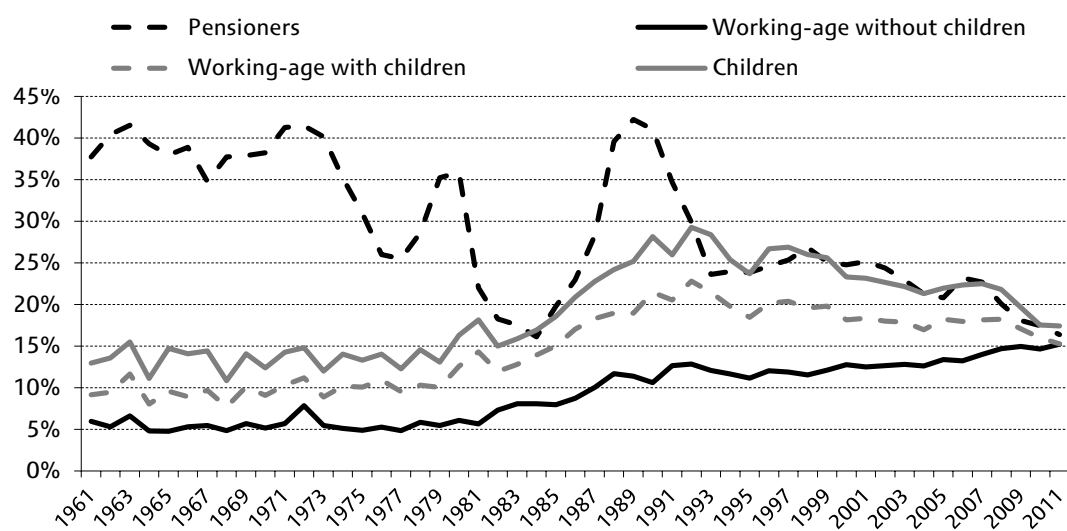


Figure 6.1b. Relative poverty for different groups of the population (BHC)



Note: 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.

These changes in poverty rates mean that there has been a striking convergence in poverty rates amongst these groups over the past 50 years. In the 1960s and 1970s, pensioner poverty was about double that of children and around six to eight times that of working-age adults without children. In 2011–12, poverty rates are very similar on a BHC basis, and pensioner poverty is now lower on an AHC basis than poverty for the rest of the population. This is a dramatic change. Working-age adults without children have seen their poverty rate rise from just over one-third to over two-thirds that of children since the 1960s and 1970s. Poverty is much more incident on working-age adults and, to a lesser extent, children than it was 50 years ago.

Figure 6.2a. Fraction of the poor made up by each population group (AHC)

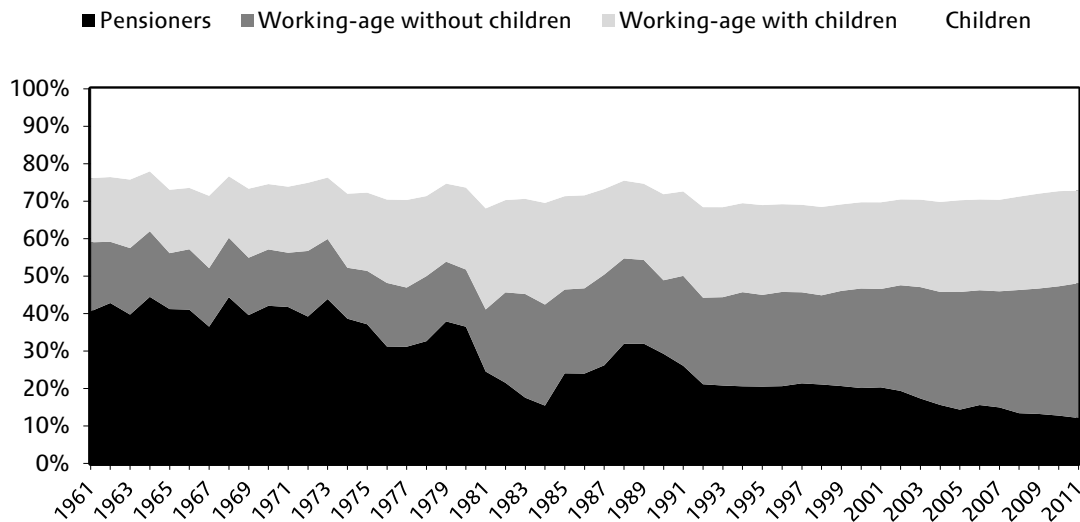
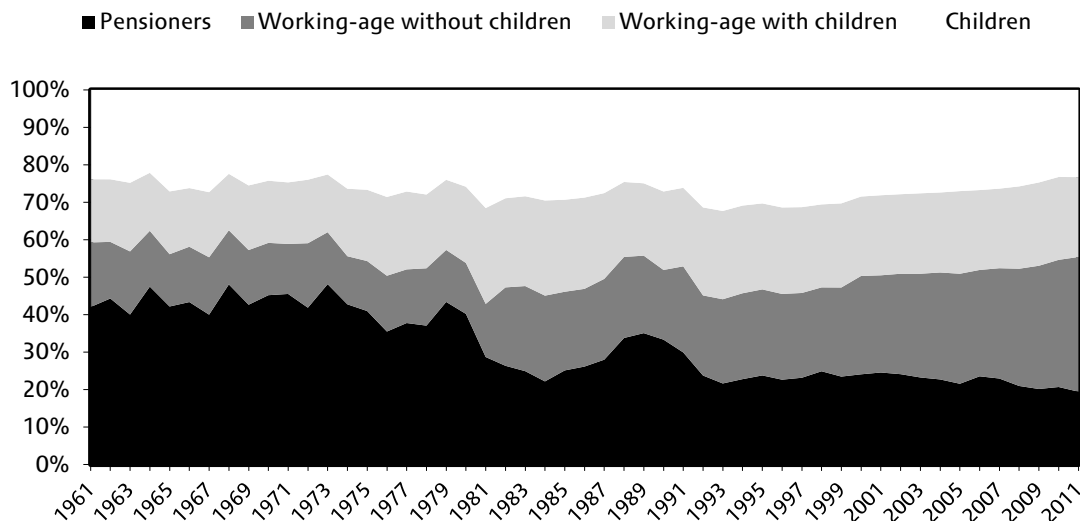


Figure 6.2b. Fraction of the poor made up by each population group (BHC)



Note: 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.

This is shown even more clearly in Figures 6.2a (AHC) and 6.2b (BHC), which plot the fraction of people in poverty who are pensioners, working-age with or without children, and children.

In the 1960s and early 1970s, pensioners made up around 40% of people in relative income poverty, despite representing only around 15% of the population. By 2011–12, when pensioners made up 19% of the population, they accounted for just 12% of poor people on an AHC basis and 19% on a BHC basis. By way of contrast, working-age adults without children accounted for 36% of the population in the 1960s and early 1970s but just 16% (AHC) or 15% (BHC) of the poor. By 2011–12, they represented a slightly larger share of the population (38%) but a much larger share of the poor (36%, both AHC and BHC). Indeed, in just the last four years from 2007–08 to 2011–12 (corresponding to the recession of the late 2000s and its aftermath), the fraction of the poor who were working-age adults without children increased by around 5 percentage points (AHC) or 7 percentage points (BHC) as their rate of poverty climbed whilst that among pensioners and children fell. This is a very dramatic shift in the composition of the poor over a short period of time.

Of course, the groups analysed so far are quite diverse. For instance, working-age adults without children include both young adults (who may still be living at home with their parents, and those in their 50s. Figures 6.3a and 6.3b show poverty rates for five-year age groups in selected years: 1961–1963, 1978–1980, 1996–97 and 2011–12.

In the early 1960s, poverty rates were broadly flat across working ages from 16 through to adults in their late 50s. There was then a sharp rise in poverty at older ages. Pensioners aged 75 to 79 had the highest rates of poverty at over 50%. By 2011–12, the pattern has shifted dramatically. Poverty rates are now largely flat across age groups measuring incomes BHC, and actually decline with age measuring incomes AHC.

Looking at the years in between, by the late 1970s there had been little change for most of the population under state pension age, but poverty rates fell significantly for pensioners, particularly on an AHC basis (where the fall was around 15 percentage points for those aged 75 to 79). Over the 1980s and early 1990s, poverty rates then rose substantially for those aged under 59. On an AHC basis, the increases were largest in percentage points for children (around 18–20 percentage points) but represented more than a doubling for nearly all age groups from 0 to 59 (and a more than trebling for those aged 15 to 19). Increases were somewhat smaller on a BHC basis, suggesting that housing costs had increased for lower-income households relative to the median household. On the other hand, poverty rates among pensioners were lower.

Between 1996–97 and 2011–12, poverty further declined among pensioners, especially on an AHC basis and among those in their 70s and 80s. Child poverty also fell. On a BHC basis, this reversed virtually all the increase in poverty during the 1980s and early 1990s for children aged under 15, though on an AHC basis poverty for the under-15s remained substantially higher than in the late 1970s.

The working-age population did not share in the falls in poverty experienced by the young and old during the 15 years from 1996–97 to 2011–12. Indeed, poverty increased slightly for those aged 15 to 24 and 40 to 54. Looking at just those without

dependent children, relative poverty increased for all age groups between 15 and 55 between 1996–97 and 2011–12.¹¹⁴

By 2011–12, therefore, on an AHC basis, poverty was highest for children aged 0 to 4 and those aged 15 to 24, and then generally declined with age (ticking up a little for the oldest pensioners). On a BHC basis, the rate varied remarkably little between ages 25 and 79, though poverty was somewhat higher for children and the very oldest adults. This is a significant change from 1996–97, when poverty was clearly highest among

Figure 6.3a. Poverty rates by age (AHC)

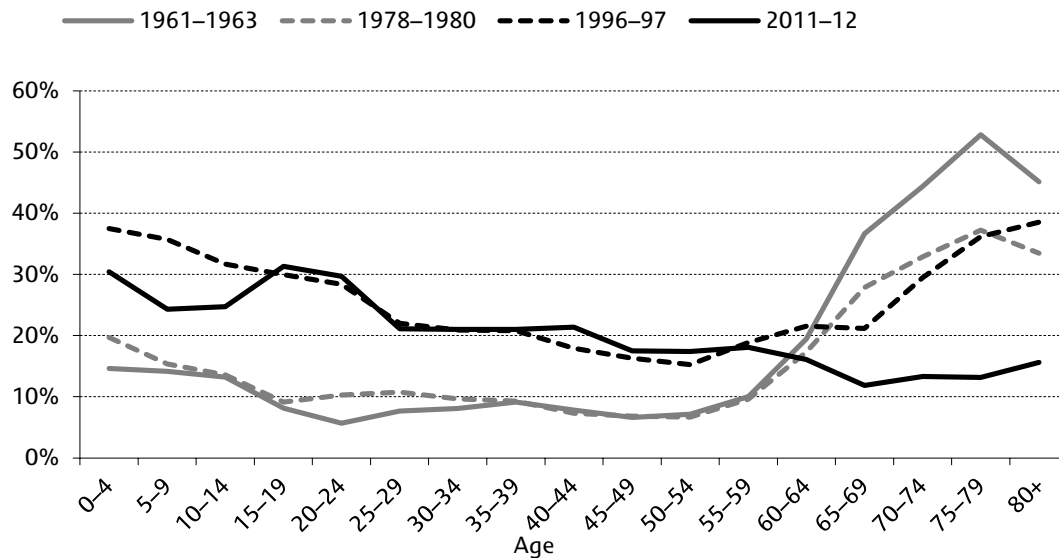
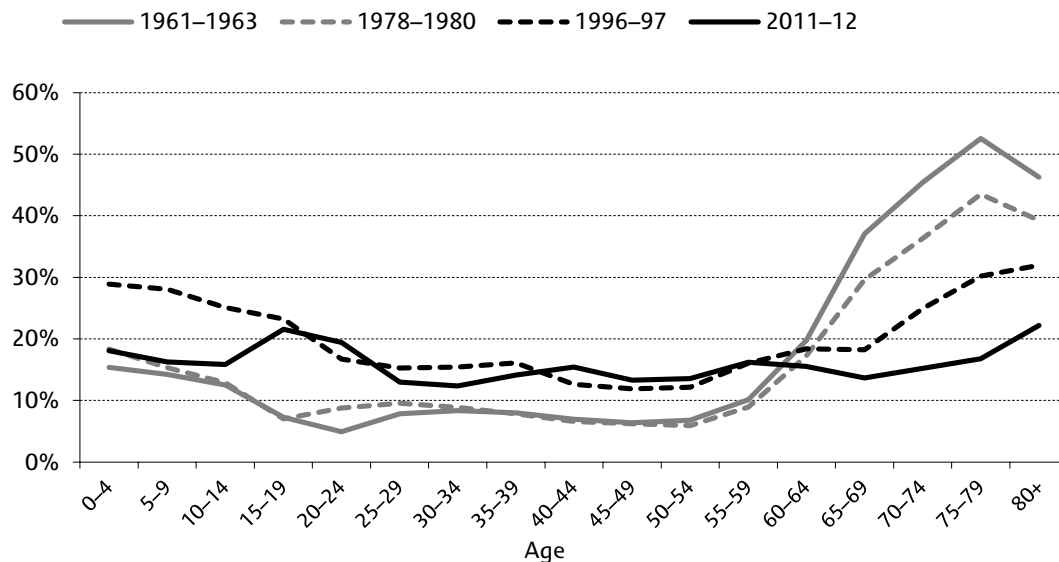


Figure 6.3b. Poverty rates by age (BHC)



Note: 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.

¹¹⁴ The analysis underlying this claim is available from the authors on request.

older pensioners and young children, and from the 1960s and 1970s, when poverty was much higher for pensioners than for everyone else.

Changes in persistent poverty

The deprivation associated with having a relatively low income is likely to be worse the longer one has a low income. This has led the government and others to measure and monitor the level of persistent (or long-term) poverty, in addition to the overall numbers in income poverty in a given year. Unfortunately, figures for persistent poverty (defined as being in poverty in at least three out of the last four years) are available covering the period between 1991–1994 and 2005–2008 only. Table 6.1 shows the percentage of pensioners, children, working-age adults and the population as a whole who were estimated to be in persistent poverty for selected years during the 1990s and 2000s.

Table 6.1. Persistent poverty rates (%) (AHC and BHC)

	1991–1994	1995–1998	2001–2004	2005–2008
AHC				
Pensioners	21	23	17	8
Working-age adults	10	9	8	8
Children	25	23	17	17
All	15	15	12	10
BHC				
Pensioners	19	20	18	14
Working-age adults	8	7	6	6
Children	19	17	12	12
All	12	11	10	9

Source: British Household Panel Survey 1991–2008, taken from Department for Work and Pensions (2012).

Unsurprisingly, the levels of persistent poverty are substantially lower than the levels of overall poverty: volatility in incomes means that many households that have incomes low enough to be deemed poor in one year do not have such incomes in the following year. For instance, whereas 10% of the population were in persistent poverty on an AHC basis in the period 2005–2008, the average overall AHC poverty rate for the same period was around 22%. The trends in persistent poverty, though, mirror those for overall poverty, with a notable fall between the mid- to late 1990s and the mid- to late 2000s, especially on an AHC basis.

Persistent poverty among children and working-age adults fell during the 10-year period between 1991–1994 and 2001–2004, and then held steady to 2005–08. In the case of children, this mirrors the changes to overall poverty, with falls in the late 1990s and early 2000s, and small increases between 2004–05 and 2007–08. Among working-age adults, overall poverty did not decline during the 1990s and 2000s, suggesting that falls in persistent poverty were offset by increases in short-term or ‘transitory’ poverty. At least in part, this is likely to be explained by the fact that poverty fell among working-age adults with children (who are more likely to be in persistent poverty) and

rose among working-age adults without children (who are more likely to be only temporarily poor).

On both an AHC and a BHC basis, persistent pensioner poverty rose slightly during the early to mid-1990s, before falling substantially in the decade between 1995–98 and 2005–08 (especially on an AHC basis). If anything, the falls in persistent poverty are larger than the falls in overall poverty. The gap between the rate of persistent poverty and overall poverty is *smaller* for pensioners than for the rest of the population, reflecting the greater stability of pensioners' incomes (most of which comes from private or state pensions). This means that pensioners had a similar rate of persistent AHC poverty to working-age adults (as opposed to lower for overall poverty) in 2005–08, and a higher rate of persistent BHC poverty than children (as opposed to lower for overall poverty). This means the face of *persistent* poverty is more likely to be old than that of overall poverty, although declines in persistent pensioner poverty mean that this was less true in 2005–08 than in the 1990s. This trend is likely to continue when updated figures using the new Understanding Society survey become available.

6.2 Explaining the long-term fall in pensioner poverty

In order to better understand the substantial and sustained falls in pensioner poverty that took place during the 1990s and 2000s, this section explores the changes to the benefit entitlements, private incomes and housing costs of pensioners. However, first, it is worth examining whether the falls in poverty reflect a comprehensive upwards shift in the income distribution for pensioners, or a movement of many pensioners from just below to just above the poverty line. To do this, Figures 6.4a (AHC) and 6.4b (BHC) examine the distributions of pensioner incomes between 0% and 150% of median income (incomes are shown as a percentage of median income) for various years between the late 1970s and 2011–12. The height of the lines represents the percentage of pensioners that can be found in each percentile of the overall income distribution in each of the various years. For instance, Figure 6.4a shows that the densest part of the AHC income distribution for pensioners in 1978–1980 was just below 60% of median income, with around 2.5% of pensioners having an income of between 59% and 60% of median income.

The key message of the graphs is to confirm that pensioner poverty has not fallen because large numbers have moved from just below to just above the poverty line. Whilst it used to be the case that large numbers of pensioners were very close to the relative poverty line and hence the measured numbers in poverty were very volatile, this is no longer the case. Rather, as shown in Figure 5.1 in the last chapter and Figure E.1 in Appendix E, the whole pensioner income distribution has shifted, with substantially more pensioners having incomes far above the poverty line (and, indeed, above median income). The fall in poverty is real and robust, and reflects a broad-based increase in pensioners' relative (and absolute) living standards.

As Table 4.4 in Chapter 4 showed, by far the largest components of overall income for poorer pensioners are state pensions and other benefits (such as pension credit). So one might expect changes in benefit and state pension rates to play a major role in explaining changes in pensioner poverty. Figure 6.5 shows means-tested benefit rates

(excluding housing and council tax benefits) for both a single pensioner and a pensioner couple, along with the basic state pension for a single adult,¹¹⁵ measured as a percentage of the AHC poverty line.

Figure 6.4a. Distribution of pensioners' household incomes in 1978–1980, 1996–97, 2007–08 and 2011–12 (AHC)

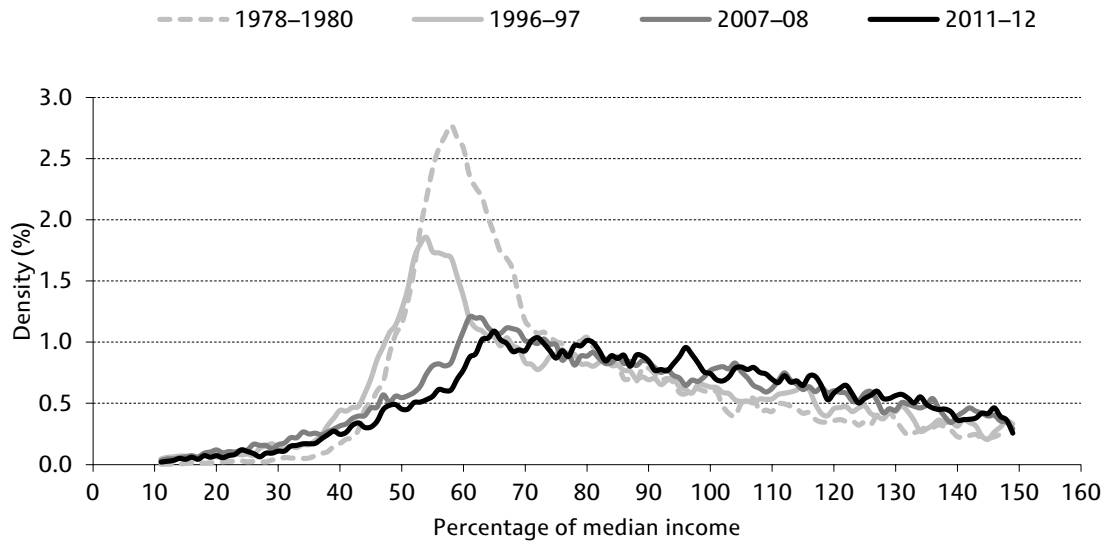
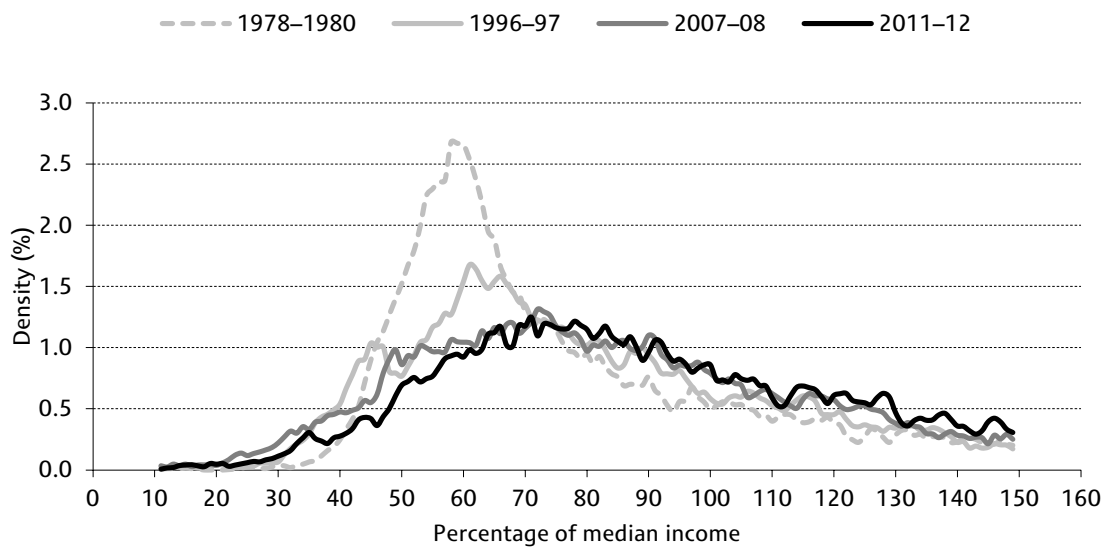


Figure 6.4b. Distribution of pensioners' household incomes in 1978–1980, 1996–97, 2007–08 and 2011–12 (BHC)

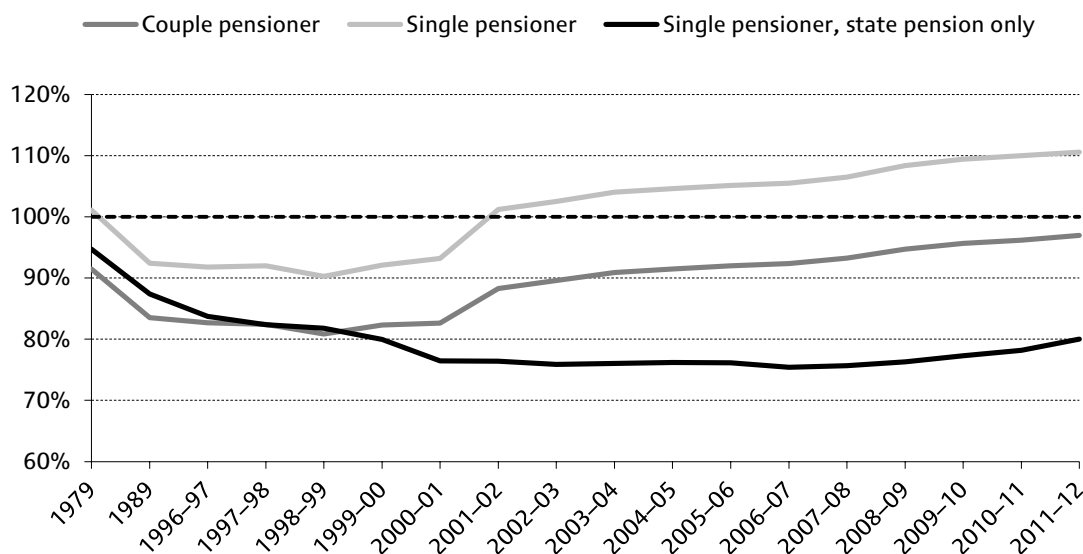


Note: Figures are presented for GB up until 2001–02 and for the whole of the UK from 2002–03 onwards. Years refer to calendar years up to and including 1992, and financial years thereafter.

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

¹¹⁵ Significant non-take-up of means-tested benefits and a reduction in the amount payable to those with significant amounts of savings (for instance, entitlement to pension credit is reduced by £1 per week for every £500 of savings above £10,000) mean that a small but significant number of pensioners may have an income equal to or even less than the basic state pension.

Figure 6.5. Benefit rates for pensioners as a percentage of poverty line (AHC)



Note: Excludes any entitlement to housing or council tax benefits.

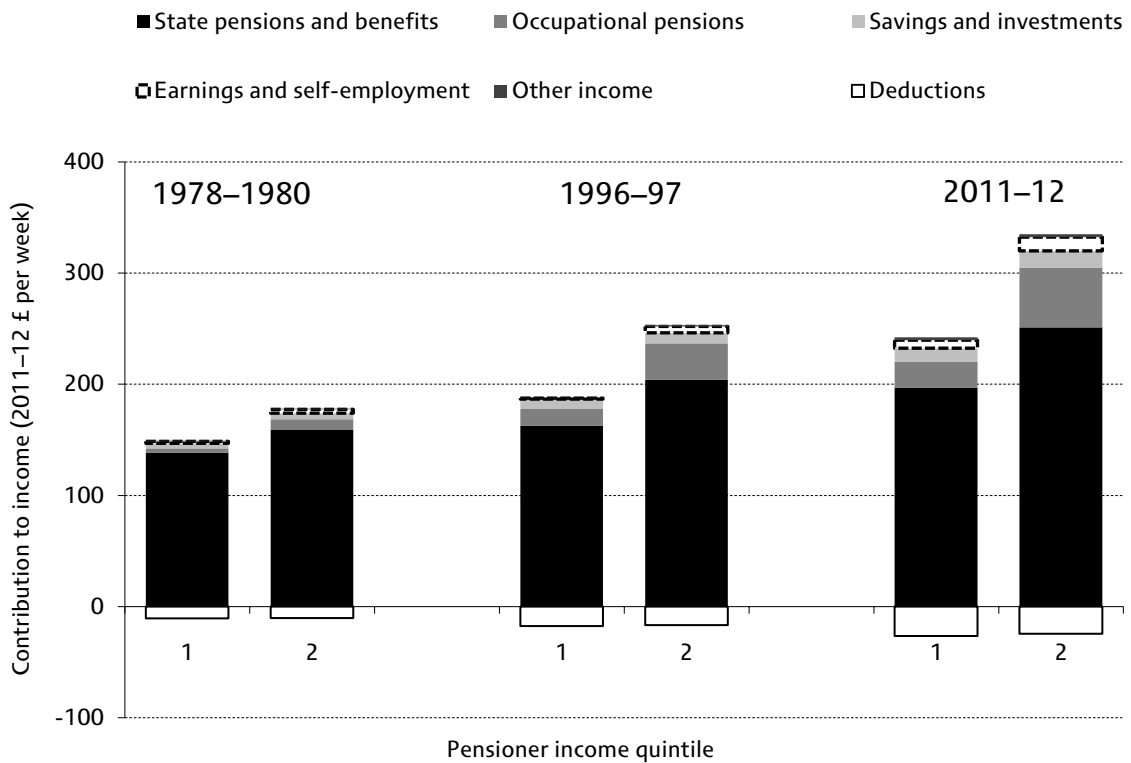
Source: Authors' calculations based on published benefit rates and various years of the Family Expenditure Survey and Family Resources Survey.

Between 1979 and 1989, benefit entitlements for pensioners fell relative to the poverty line (although they increased in real terms): means-tested benefits for a single pensioner fell from 101% to 92% of the poverty line, those for a couple fell from 91% to 84% of the poverty line, and the basic state pension for a single pensioner fell from 95% to 87% of the poverty line. This in large part reflects the shift to inflation-indexing of pensioners' benefits from 1984 during a period of strong growth in real incomes and is likely a factor underlying the substantial increase in pensioner poverty in the mid- to late 1980s.

Between 1989 and 1996-97, there was a further fall in the basic state pension relative to the poverty line (to 84%), whilst means-tested benefits roughly kept pace with the poverty line. Thus the substantial fall in pensioner poverty by 1996-97 does not seem to be due to increases in benefit rates for pensioners. However, as we see shortly, this does not mean that changes in benefit *income* did not play a role.

Real-terms increases to means-tested benefit rates meant they then grew broadly with the poverty line between 1996-97 and 2000-01, before increasing sharply in 2001-02 due to a substantial increase in the pensioners' minimum income guarantee (MIG, the forerunner of the guarantee element of pension credit). In the case of a single pensioner, benefit rates went back to a level above the AHC poverty line. Interestingly, neither AHC nor BHC pensioner poverty fell particularly substantially in that year but they did so in 2002-03, 2003-04 and 2004-05. In addition to further increases in benefit rates, the falls in 2003-04 and 2004-05 may reflect, at least in part, the replacement of the MIG by pension credit, which, although not increasing maximum entitlements to a large degree, did taper entitlements away less aggressively, and boost entitlements for those with savings and modest amounts of other income. Means-tested benefit rates have continued to increase relative to the poverty line since 2004-05, during which time (except in 2006-07) pensioner poverty has continued to fall.

Figure 6.6. Pensioner income sources for the two poorest pensioner income quintiles (BHC, GB)



Note: All monetary amounts have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Those whose income components sum to a negative number are excluded, as their measured income in the HBAI series would be set to zero (i.e. it would not equal the sum of their income components).

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996-97 and 2011-12.

Thus whilst it seems highly likely that more generous benefits for pensioners have been a factor in falling pensioner poverty, changes in benefit *rates* alone cannot be the whole story: pensioner poverty fell between the late 1970s and mid-1990s even while benefit rates for pensioners fell relative to the poverty line. However, it is not only changes in benefit rates that may have affected the amount of income pensioners receive from benefits; other changes to the benefit system, or differing eligibility for benefits among new cohorts of pensioners, may also have been a factor in increasing incomes. Figure 6.6 therefore examines the amount of income the poorest two-fifths of pensioners received from the state pension and private incomes in 1978-1980, 1996-97 and 2011-12.¹¹⁶

It shows that between 1978-1980 and 1996-97, income from state pensions and other benefits grew in real terms by 18% for the poorest fifth of pensioners and 28% for the second-poorest fifth. In the latter case, this significantly exceeds the increase in means-tested benefit rates (18%) or the basic state pension (15%). This growth reflects increasing entitlements to the state pension (in part due to the increasing impact of

¹¹⁶ Figure 6.6 replicates part of Figure 5.3 in Chapter 5.

earnings-related state pension schemes and in part due to later cohorts of women having longer employment histories), as well as increasing amounts received in disability benefits and housing benefits. Increases in benefits *income* explain part of the fall in pensioner poverty that took place between 1978–1980 and 1996–97 even while headline rates fell relative to the poverty line.

On the other hand, between 1996–97 and 2011–12, income from benefits increased by less (21% and 23% for the poorest and second-poorest fifth of pensioners respectively) than means-tested benefit rates (up around 40%). This suggests that the increase in state transfers to low income pensioners has not been as great in recent years as the headline benefit rates suggest, likely reflecting a number of factors. First, many pensioners do not claim the means-tested benefits to which they are entitled, and non-means-tested benefits such as the state pension have increased much less in real terms (13%). Second, it may reflect the fact that increasing home ownership means fewer pensioners are now in receipt of housing benefit (we discuss the changing housing tenure of pensioners in more detail below). Third is the fact that ‘low-income pensioners’ did not have such low private incomes in 2011–12 as they did in 1996–97 or 1978–1980, and therefore fewer were entitled to maximum means-tested benefit entitlements.¹¹⁷

Although income from state pensions and benefits still makes up a large majority of the income of the poorest two-fifths of pensioners, their incomes from occupational pensions, savings and investments, and, in the last few years, employment and self-employment have been increasing more rapidly, though from a very low base. For instance, between 1978–1980 and 1996–97, income from occupational pensions more than trebled (increasing its share from 3% to 9% of income among the poorest fifth and from 5% to 14% among the next-poorest fifth). It then increased by more than half again by 2011–12 (to 11% and 17% of overall income, respectively). Increases in private incomes are therefore likely to have been a key driver of lower pensioner poverty.

As shown in Figures 6.3a and 6.3b, a notable feature of the fall in pensioner poverty is that the fall has been considerably greater for older pensioners than for younger pensioners. However, this does not appear to be due to more rapid growth in income at older ages among poorer pensioners. The average incomes of the poorest 40% of pensioners in their 60s have grown more rapidly since 1978–1980 (by 76% in real terms) than the incomes of the poorest 40% of pensioners in their 80s (by 66%). This suggests that the much larger declines in pensioner poverty at older ages reflect the fact that there used to be a particular concentration of elderly pensioners just below the poverty line (who could then be pushed above the poverty line). Older pensioners have enjoyed particularly large increases in their non-benefits incomes (increasing over tenfold since 1978–1980 for the over-80s, compared with around fourfold for pensioners in their 60s), suggesting that increases in private pension incomes – for

¹¹⁷ Furthermore, the FRS, the survey underlying the HBAI data, has become less good at picking up benefit incomes over time, and now significantly understates the total amount of benefits received. For instance, in 2011–12, it picked up only around 89% of all spending on the state pension and 52% of spending on pension credit. See Appendix B for further details.

instance, due to the replacement of earlier cohorts of pensioners by newer ones – have had a greater impact on the incomes of the over-80s than on those of people in their 60s.

Another notable feature of the decline in pensioner poverty is that it has been rather larger using incomes measured AHC than BHC. An important reason for this is a change in the housing costs of poorer pensioners relative to those of the rest of the population. Table 6.2 shows the housing tenure status of the poorest 40% of pensioners in 1978–1980, 1996–97 and 2011–12, as well as their median housing costs and the median housing cost for all pensioners and for the population as a whole (unequalised, in cash terms). The table shows that poorer pensioners are much more likely than in the past to be outright owners of their own property, and much less likely to be renters: for instance, whilst similar numbers rented from the local council as owned outright in the late 1970s, more than four times as many lived in a home owned outright as lived in social housing in 2011–12. Largely as a result of this shift in housing tenure, the housing costs of the poorest 40% of pensioners have risen much less quickly than those of the rest of the population and so they have moved far further up the AHC income distribution, and are thus much less likely to be in AHC poverty.

Brewer and O’Dea (2012) show that incorporating the net value of the housing services that people obtain from houses they own, to obtain a measure of ‘broad income’, leads to a substantial improvement in the relative position of pensioner households compared with the rest of the population (who typically rent or own a house with a mortgage). For instance, in 2008, the last year of data in their series, pensioner poverty using this broad measure of income was around 10%, compared with 20% using the HBAI definition of income. This compared with poverty rates for children of around 25% and for working-age adults of around 17% using broad incomes.

Table 6.2. Housing tenure and costs of poorer pensioners (cash terms, GB)

	1978–1980	1996–97	2011–12
Poorer pensioners’ tenure			
Private sector rental	13.5%	3.6%	3.4%
Social rental	42.5%	32.9%	18.1%
Owned with a mortgage	2.2%	5.1%	5.1%
Owned outright	41.9%	58.4%	73.4%
Housing costs (£ per week)			
Median (poorer pensioners)	2.70	9.00	11.60
Median (pensioner)	2.40	9.60	12.70
Median (overall)	6.10	40.10	67.20

Note: ‘Poorer pensioners’ are those pensioners with the lowest 40% of equalised BHC incomes. Housing costs are shown in cash terms and unequalised because inflation indices and equivalence scales do not exist for housing costs.

Source: Authors’ calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

In summary, increases in incomes from state pensions and benefits, an increase in private pension income and a reduction in relative housing costs underlie the broad-based reduction in pensioner poverty during recent decades.

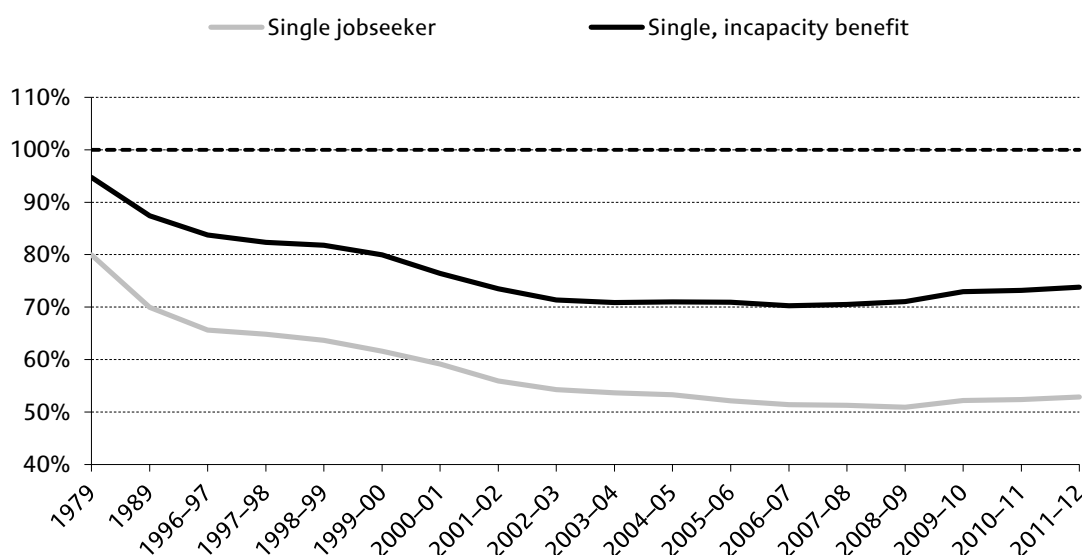
6.3 Explaining the long-term rise in poverty among working-age adults without children

In contrast to pensioners, working-age adults without children have seen their poverty rates increase substantially since the late 1970s, with particularly rapid increases in the 1980s and mid- to late 2000s.

This may reflect, in part, the decline in the relative generosity of benefit rates for this group. For instance, as shown in Figure 6.7, unemployment benefit / jobseeker's allowance fell from around 80% of the AHC poverty line in 1979 to 70% by 1989, around 60% by 2000–01, and a low of 51% in 2008–09 (since when it has increased very slightly, reflecting the economic downturn). This reflects the inflation-indexation of such benefits during a period of substantial growth in real incomes.

Despite this inflation-indexation of benefit rates, the average income from state benefits and tax credits of low-income working-age adults without children has increased substantially in real terms since 1978–1980. Table 6.3 shows the amount of income obtained from different sources for a number of years since 1978–1980, and the contribution of these to the overall change in income, for the poorest 20% of working-age adults without children (i.e. roughly those now in poverty and just above the poverty line). The cash figures have been adjusted for household size (a process

Figure 6.7. Benefit rates for working-age adults as a percentage of poverty line (AHC)



Source: Authors' calculations using various years of the Family Expenditure Survey and Family Resources Survey and published historical benefit rates.

Table 6.3. Sources of net income for the poorest 20% of working-age adults without children (GB), equivalised £ per week (2011–12 prices, GB)

	<i>Source of income</i>			Deductions from income (incl. council tax)	Total income (BHC)
	Earnings and self-employment	Benefits and tax credits	Other income (including savings, investments and private pensions)		
Amount of income					
in 1978–1980	119	67	20	–10	197
in 1996–97	70	113	34	–19	199
in 2007–08	109	105	39	–31	222
in 2011–12	98	101	33	–24	207
1978–1980 to 2011–12					
Average annual change 1978–1980 to 2011–12	–0.6%	1.3%	1.6%	2.9%	0.2%
Contribution to overall annual growth 1978–1980 to 2011–12	–0.3ppt	0.5ppt	0.2ppt	–0.2ppt	0.2ppt
2007–08 to 2011–12					
Average annual change 2007–08 to 2011–12	–2.5%	–1.1%	–4.6%	–5.9%	–1.8%
Contribution to overall annual growth 2007–08 to 2011–12	–1.2ppt	–0.5ppt	–0.8ppt	0.8ppt	–1.8ppt

Note: The table relates to the subsample of households in the HBAI that contain the poorest 20% of working-age adults without children (i.e. those in poverty and those just above the poverty line), but excluding those households with negative reported incomes. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Incomes are measured at the household level and before housing costs have been deducted. Source: Authors' calculations using Family Expenditure Survey and Family Resources Survey, various years.

termed equivalisation) and are expressed as the *equivalent amount for a couple without children*.¹¹⁸

The table shows that, after adjusting for inflation, income from state benefits rose from an average of £67 a week in 1978–1980 to £113 a week in 1996–97 (an increase of around two-thirds). This reflects, in large part, an increase in worklessness (due to disability and unemployment): the average income obtained from employment and self-employment fell from £119 a week to £70 a week during the same period (in

¹¹⁸ It is important to equivalise incomes because there have been substantial changes in household size since the 1970s: we wish to examine the underlying changes in living standards, rather than changes in average incomes driven just by the fact that households have fewer or more members than they used to. Appendix A provides more detail on equivalisation.

addition to changes in disability and unemployment, this may also reflect the growth of higher education participation among young adults). Thus, the benefits system cushioned the incomes of working-age adults without children in the face of substantial falls in their private incomes, which, on their own, would have driven relative poverty even higher for this group.

A recovery in employment rates (see Figure 5.9 in the last chapter) and relatively strong wage growth during the late 1990s and early 2000s then led to an increase in employment income to £109 a week in 2007–08, which was only partly offset by a small fall in benefits income and an increase in deductions from income (most notably, council tax and student loan repayments). That benefits income did not fall back further as earnings increased reflects a combination of factors: an increase in rents driving up housing benefit entitlements; further increases in the numbers of people entitled to disability benefits; and the introduction of the working tax credit. Finally, the period since 2007–08 has seen falls in all sources of income, partly offset by a decline in deductions from income.

Overall, the incomes of the poorest 20% of working-age adults increased by an average of just 0.2% per year between 1978–1980 and 2011–12, which is well below the change in median income for the whole population (1.3% per year). On its own, the average annual fall in earnings and self-employment income of 0.6% would have led to overall income falling by 0.3% per year. It was increases in income from benefits and tax credits and other sources, such as private pensions, that allowed even the tepid income growth seen.

Table 6.4 shows the fraction of the working-age population without children living in families with different numbers of workers (and the poverty rates for each of these subgroups) in 1978–1980, 1996–97 and 2011–12. It confirms the increase in worklessness, but shows that this can only explain part of the increase in poverty among working-age adults without children. The fraction living in workless families increased from just under 14% in 1978–1980 to just over 22% in both 1996–97 and 2011–12, driven largely by an increase in worklessness among single working-age adults without children. Because poverty rates are significantly higher among those living in workless families (for instance, 52% and 42% for singles and couples respectively in 2011–12) than among those in working families (12%), this compositional change will have substantially increased the overall poverty rate for working-age childless adults.

However, the risk of poverty for working-age adults without children *conditional* upon family work status has also increased substantially. The increase among single workless adults, from around 30% in 1978–1980 to 52% in 2011–12, is likely to reflect, at least in part, the decline in the relative value of out-of-work benefits for this group. However, the most striking increases in poverty rates have taken place among those living in working families. For instance, the risk of poverty for single adults increased by over fivefold for full-timers and threefold for part-timers between 1978–1980 and 2011–12. Among couples where one partner works full-time and the other not at all, the risk of poverty increased from 4% in 1978–1980 to 10% in 1996–97 and 21% in 2011–12.

Table 6.4. Poverty (AHC) among working-age adults without children, by family and employment status

	% of the working-age childless population			Poverty rate		
	1978–1980	1996–97	2011–12	1978–1980	1996–97	2011–12
Single individuals						
Full-time	34%	25%	24%	2%	7%	11%
Part-time	2%	4%	6%	10%	28%	30%
Workless	10%	15%	17%	30%	56%	52%
Couples, no children						
Self-employed	4%	8%	7%	8%	15%	17%
Two full-time earners	20%	19%	21%	0%	0%	2%
One full-time, one part-time	10%	9%	8%	0%	2%	6%
One full-time, one not working	14%	9%	8%	4%	10%	21%
One or two part-time	2%	4%	4%	15%	21%	28%
Workless	4%	8%	5%	43%	39%	42%
All	100%	100%	100%	6.8%	17.2%	20.2%

Note: 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. There were some changes to the variables used to classify the employment status of families between the FES and FRS, which likely mean that employment in 1978–1980 is a little lower than it would be if a comparable definition were used.

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

Overall, the risk of poverty among working families without children increased fourfold from just under 2% to just over 7% between 1978–1980 and 2011–12, with roughly half this increase taking place before 1996–97 and roughly half since. Indeed, with worklessness and poverty rates among the workless families little changed between 1996–97 and 2011–12, practically all the increase in poverty among working-age adults without children was a result of higher 'working poverty'. Despite a rise in worklessness, almost half of working-age adults in poverty in 2011–12 were living in families with some kind of paid work, compared with 30% in 1978–1980 and 35% in 1996–97.

These increases in working poverty reflect a substantial increase in inequality in weekly earnings, largely during the 1980s.¹¹⁹ To demonstrate this, Figure 6.8 shows the average annual percentage change in real weekly household earnings between 1978–1980 and 1996–97 and between 1996–97 and 2011–12 for the 5th to the 50th

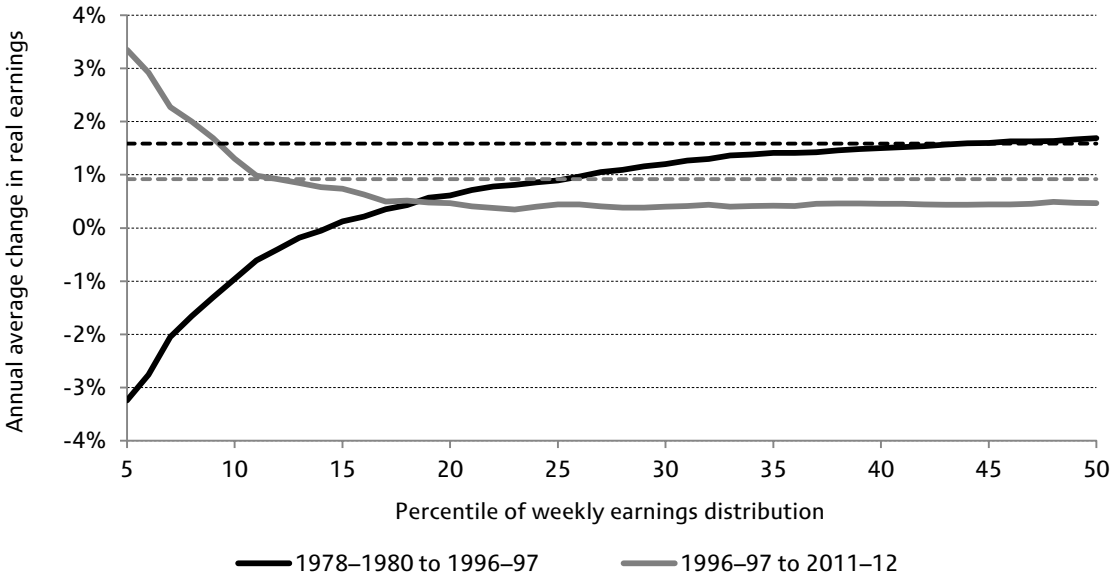
¹¹⁹ In part, this reflects a shift towards part-time work and self-employment (where incomes are more volatile), but it is largely due to an increase in inequality in hourly wages.

percentiles of the weekly household earnings distribution for working-age adults without children.

Between 1978–1980 and 1996–97, there was a clear pattern of increasing inequality, with each consecutive percentile recording stronger growth; weekly earnings amongst the bottom 15% actually fell in real terms. The dashed black line shows the average annual change in median household income between 1978–1980 and 1996–97, which was 1.6% per year and greater than growth at all points of the earnings distribution up to the 44th percentile. Thus, it is easy to see how the pattern of earnings growth increased inequality during the period.

The story between 1996–97 and 2011–12 is more complex. Real weekly earnings growth was actually strongest towards the bottom of the distribution. This is likely to reflect, at least in part, the introduction of the national minimum wage in 1999, and subsequent substantial increases in its level in 2001, 2003 and 2006. However, the change in weekly earnings was actually lower than the change in median income (0.9% per year, on average), and thus the poverty line, for all points above the 12th percentile of the earnings distribution, which equates to earnings of £203 a week. This amount is below the poverty line for a couple (and may be below it for a single adult if they have substantial housing costs or other deductions from income). Thus weak weekly earnings growth, rather than increases in weekly earnings inequality, looks to be the driver of the increases in working poverty among working-age adults without children since 1996–97.

Figure 6.8. Earnings growth by percentile point of the weekly earnings distribution, working-age adults without children (GB)



Note: The dashed black line shows the average annual change in median household income between 1978–1980 and 1996–97. The dashed grey line shows the average annual change in median household income between 1996–97 and 2011–12.

Source: Authors’ calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

In summary, the factors driving increases in poverty among working-age adults without children have changed somewhat over time. During the 1980s and early 1990s, increasing levels of worklessness and growing inequality in weekly earnings played an important role. Increases since 1996–97, on the other hand, appear more related to generally weak growth in weekly earnings. Furthermore, whilst the benefit and tax credit system has provided support for those who have seen their private incomes fall, the fall in the relative value of benefits for working-age adults without children will also have contributed to rising poverty.¹²⁰

6.4 The rise and fall in child poverty

Like poverty among working-age adults without children, poverty among children increased considerably during the 1980s. However, since the late 1990s, trends have differed considerably, with poverty continuing to increase among working-age adults without children but falling substantially for children (and therefore their parents or guardians). Indeed, as shown in Figure 6.3b, using incomes measured BHC, the fall in poverty between 1996–97 and 2011–12 has undone virtually all the increase in relative poverty during the 1980s for children aged under 15 (but not those aged 15 to 19, or on an AHC basis). This section therefore seeks to answer why child poverty first rose and then fell back.

Before doing this, however, it is worthwhile examining whether the changes in poverty since 1978–1980 reflect movements of children from just below to just above the poverty line (or vice versa) or, like pensioners, broader-based changes in the position of households containing children within the income distribution. Figures 6.9a and 6.9b therefore show the proportion of children living in households with income in each 1% band between 0% and 150% of median household income.

The first thing to note is that the substantial rise in child poverty between 1978–1980 and 1996–97 was not simply a matter of children moving from just above to just below the poverty line. Instead, there was a very broad-based reduction in the relative position of families with children in the income distribution. By 1996–97, there were both substantially more children just below the poverty line than 17 years earlier and many more with incomes *far* below the poverty line.¹²¹ On the other hand, there were fewer children living in households with incomes between 70% and 130% of median income.

Second, the fall in poverty between 1996–97 and 2011–12 did not simply reflect a shift in children from just below to just above the poverty line. The fall in poverty was driven by a substantial decline in the number of children with incomes a little below the

¹²⁰ Note that this group did not gain from a relative fall in their housing costs in the way that poorer pensioners did. Indeed, these costs rose and poverty increased somewhat more on an AHC basis than on a BHC basis.

¹²¹ Although it should be noted that evidence suggests that those families with children with the lowest measured incomes do not seem to be the ‘poorest’ in terms of their levels of consumption and material deprivation. See Brewer, O’Dea, Paull and Sibieta (2009).

poverty line, rather than a fall in the number with the very lowest incomes. But rather than being moved just above the poverty line, the late 1990s and 2000s saw an increase in the fraction of children living in households with incomes from just above the poverty line all the way up to median household income. In other words, the big bulge in the number of children just below the poverty line in 1996–97 has not been replaced by a big bulge just above the poverty line. However, it is important to note that the increase in the relative incomes of households with children since 1996–97 has been substantially smaller than the reduction that took place prior to this. This means there are still more children in relative income poverty, and fewer with incomes around the median, than in the late 1970s.

Figure 6.9a. Distribution of children’s household incomes in 1978–1980, 1996–97, 2007–08 and 2011–12 (AHC)

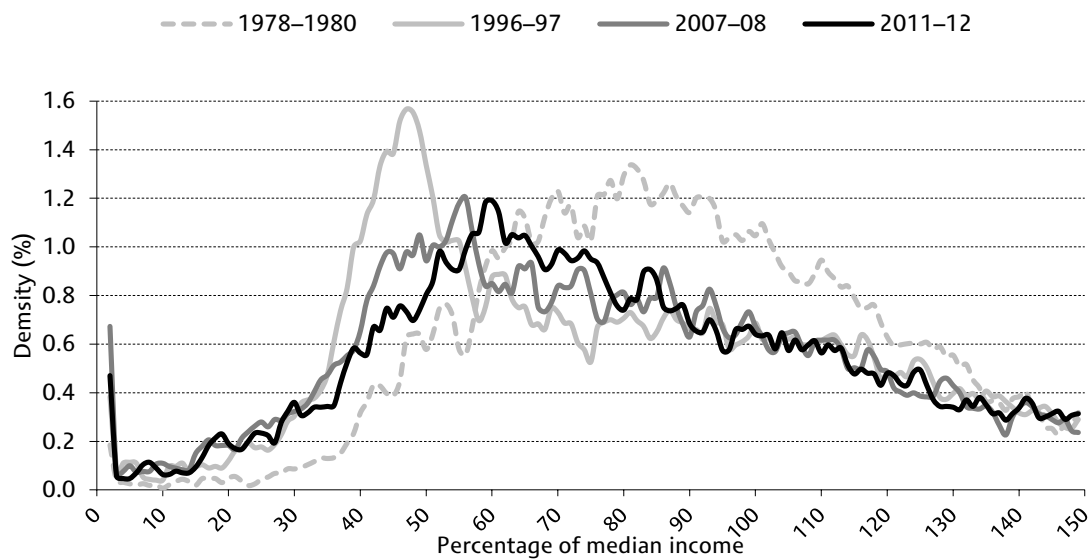
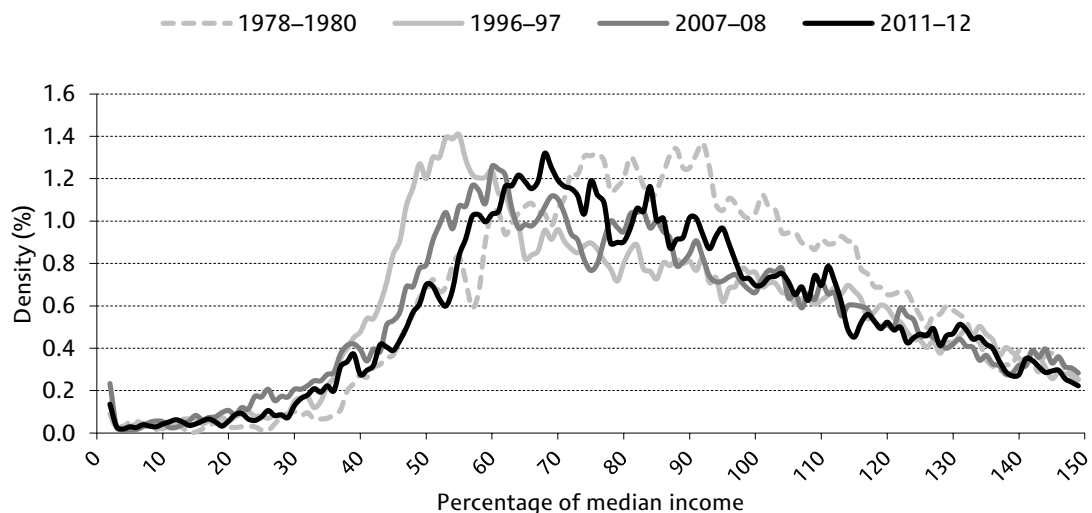
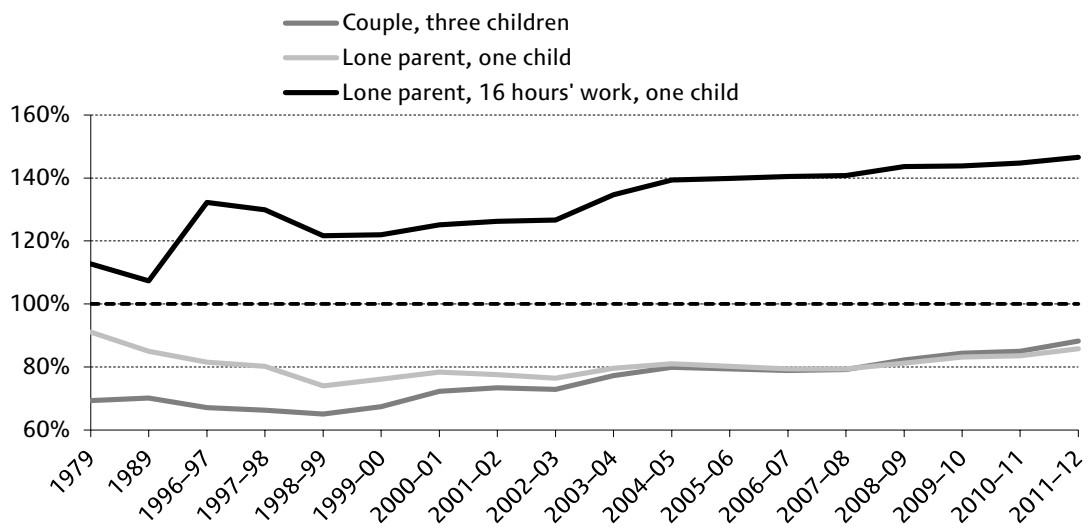


Figure 6.9b. Distribution of children’s household incomes in 1978–1980, 1996–97, 2007–08 and 2011–12 (BHC)



Note: 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 6.10. Benefit rates for families with children as a percentage of poverty line (AHC)



Note: Lone parent is assumed to earn the national minimum wage (NMW) or, in years prior to its introduction, a wage equal to the 1999 NMW after adjusting for RPI inflation.

Source: Authors' calculations using various years of the Family Expenditure Survey and Family Resources Survey and published historical benefit rates.

As shown in Figure 6.10, basic out-of-work benefit entitlements for families with children have been below the poverty line throughout the period. They fell somewhat relative to the poverty line until the early 2000s before recovering. Although the benefit levels are below the poverty line, many people receiving the benefits could have total incomes above the line – for example, as a result of receiving income from other sources such as disability benefits, free school meals (which count as income in HBAI), the earnings of other household members, and, in the case of lone parents, spousal and child maintenance. The decline in the relative value of out-of-work benefits between 1979 and 1996–97 will certainly have played a role in increasing poverty, while the subsequent increase in their relative value will have been a key factor in reducing it (as will the increasing generosity of in-work support for low-income families).

Of course, whilst reductions in the relative generosity of benefits will have increased poverty up to 1998, the *existence* of the benefit system ameliorated the poverty-increasing impact of reductions in employment. This is seen clearly in Table 6.5, which shows the amount of income obtained from different sources for a number of years since 1978–1980, and the contribution of these to the overall change in income, for the households containing the poorest 30% of children (i.e. roughly those now in poverty and just above the poverty line). The cash figures have been adjusted for household size (a process termed equivalisation) and are expressed as the *equivalent amount for a couple without children*. This is done because there have been substantial changes in household size since the 1970s: we wish to examine the underlying changes in living standards, rather than changes in average incomes driven just by the fact that households have fewer or more members than they used to. It does mean, however,

Table 6.5. Sources of net income for the households containing the poorest 30% of children (GB), equivalised £ per week (2011–12 prices, GB)

	<i>Source of income</i>			Deductions from income (incl. council tax)	Total income (BHC)
	Earnings and self-employment	Benefits and tax credits	Other income (including savings, investments and private pensions)		
Amount of income					
in 1978–1980	97	70	7	–9	165
in 1996–97	55	129	10	–12	182
in 2007–08	84	147	12	–17	225
in 2011–12	96	143	11	–16	233
1978–1980 to 1996–97					
Average annual change 1978–1980 to 1996–97	–3.3%	3.6%	2.6%	2.1%	0.6%
Contribution to overall annual growth 1978–1980 to 1996–97	–1.5ppt	2.1ppt	0.1ppt	–0.1ppt	0.6ppt
1996–97 to 2011–12					
Average annual change 1996–97 to 2011–12	3.7%	0.7%	0.3%	2.0%	1.7%
Contribution to overall annual growth 1996–97 to 2011–12	1.3ppt	0.5ppt	0.0ppt	–0.2ppt	1.7ppt

Note: The table relates to the subsample of households in the HBAI that contain the poorest 30% of children (i.e. those in poverty and those just above the poverty line), but excluding those households with negative reported incomes. All incomes have been equivalised using the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Incomes are measured at the household level and before housing costs have been deducted.

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

that the *actual* average cash amount received from each source by households with children will be somewhat higher than reported in the table.¹²²

The table shows that the average income obtained from employment and self-employment fell in real terms from £97 a week to £55 a week during the 1980s and early 1990s, or by 43% (equivalent to 3.3% per year, on average). At the same time, income from state benefits rose from an average of £70 a week in 1978–1980 to £129 a week in 1996–97 (an increase of more than 80%). Thus, the benefits system cushioned the incomes of households with children in the face of substantial falls in their private incomes. Indeed, growth in income from benefits and tax credits was vital for the 0.6%

¹²² For instance, in 2011–12, the average 'unequalised' household income of the poorest 30% of children was £351, of which £149 was earnings, £209 was benefits and tax credits, and £17 came from other sources, from which £24 was deducted. Appendix A provides more detail on equivalisation.

average annual growth in the incomes of the poorest households with children during this period.

An increase in parental employment rates and relatively strong wage growth during the late 1990s and early 2000s then led to an increase in employment income to £84 a week in 2007–08. Increases in the generosity of benefits and tax credits meant that benefit incomes also continued to increase. Both increases in employment income and increases in the generosity of benefits and tax credits look to have played an important role in the fall in child poverty between 1996–97 and 2011–12.

The increase in earnings and reduction in benefits income between 2007–08 and 2011–12 for the households containing the poorest 30% of children at first seems difficult to square with the reductions in employment, falls in real wages, and increases in the relative value of benefits that occurred over that period (see Figure 6.10). However, reductions in employment and real earnings and increases in benefit rates may have led to some re-ranking of households with children in the income distribution: those more dependent on income from benefits may have moved up the distribution and some may no longer be in the bottom 30%, whilst those more dependent on earnings may have fallen down the distribution. Indeed, perhaps reflecting, in part, re-ranking, the next-poorest 20% of children saw a 12% real-terms increase in income from benefits and an 8% reduction in income from earnings (although increases in the real benefits and tax credit rates, and genuine falls in real wages, will also have played a role here).

Furthermore, as shown in Table 4.6 in Chapter 4, despite a fall in employment rates among the population as a whole, HBAI data record an increase in employment for families with children, especially among lone parents, which is likely to have led to increases in earned income among poorer households with children.

The role of changing employment patterns suggested by examining income sources is investigated further in Table 6.6. This shows the fraction of the child population living in families with different numbers of parents and different work statuses, and the poverty rates among these subgroups of the child population, in 1978–1980, 1996–97 and 2011–12.

Between 1978–1980 and 1996–97, there was a substantial increase in the fraction of children living in workless families (from 13% to 23%), largely driven by a dramatic increase in the number of lone parents. As the rate of poverty among children in non-working families (67% in 1978–1980) was substantially higher than that among children living in working families (7%), this explains a fair part of the rise in child poverty.

However, it is not the whole story: whilst poverty rates changed little for children living in out-of-work families (despite the decline in benefit rates relative to the poverty line), there was a substantial increase in poverty rates among children living with working parents. For instance, the poverty rate increased from 4% to 11% among those living with a single parent employed full-time, and from 9% to 22% among those living with a couple where only one parent worked (full-time). Hence, whereas the poverty rate

Table 6.6. Poverty (BHC) among children, by family and employment status

	<i>% of the child population</i>			<i>Poverty rate</i>		
	1978–1980	1996–97	2011–12	1978–1980	1996–97	2011–12
Lone parents						
Full-time	3%	3%	6%	4%	11%	8%
Part-time	2%	4%	6%	22%	27%	17%
Workless	6%	14%	10%	61%	64%	34%
Couple parents						
Self-employed	8%	13%	12%	17%	22%	23%
Two full-time earners	11%	12%	17%	0%	1%	4%
One full-time, one part-time	26%	23%	23%	1%	4%	6%
One full-time, one not working	34%	19%	16%	9%	22%	20%
One or two part-time	3%	4%	5%	26%	53%	39%
Workless	7%	9%	5%	72%	71%	54%
All	100%	100%	100%	14.6%	26.7%	17.4%

Note: 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. There were some changes to the variables used to classify the employment status of families between the FES and FRS, which likely mean that employment in 1978–1980 is a little lower than it would be if a comparable definition were used.

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

among the children of workless families was little changed from 17 years earlier, the poverty rate among children in working families had more than doubled to 15% by 1996–97. This again points towards a major role for the increase in weekly (and ultimately hourly) earnings inequality in explaining the increase in child poverty during the 1980s and early to mid-1990s. It also means that despite the sharp increase in worklessness, the fraction of poor children living in working families (just over two-fifths) barely changed.

Some, but not all, of these trends went into reverse between 1996–97 and 2011–12. First, the fraction of children living in workless families fell from 23% to 15%, and the number living in couples where both parents worked full-time increased fairly substantially (from 12% to 17%). If the risk of poverty conditional upon family type and work status had remained steady, these changes in the work status of their parents would have led to around a 3.9 percentage point fall in child poverty since 1996–97.

Second, there were also falls in the rates of poverty for most subgroups, with these being particularly large for the children of workless families and for children whose parents work part-time. This reflects the importance of increases in the generosity of benefits and tax credits for families with children in reducing child poverty: the increases were targeted at out-of-work families and those with low earnings. The larger falls in poverty seen for younger than older children (see Figure 6.3) are also likely to

be due to benefits reform: benefit rates for younger children were increased to align them with those for older children. Indeed, previous research suggests that although increases in employment contributed to the fall in child poverty, without the increases in generosity of benefits and tax credits made during the late 1990s and 2000s, child poverty would have actually risen rather than fallen.¹²³ This is because, in the absence of reforms, benefits would have been increased in line with inflation, meaning families on benefits would have fallen further behind those with earnings (which increased in real terms). Falls in the relative value of benefits would have increased poverty, which would have offset the falls driven by increases in parental employment.¹²⁴

On the other hand, poverty rates actually increased for the children of self-employed and two-earner couples (though still at very low levels in the latter case), likely due to the fact that such families have not benefited so much from the increase in means-tested benefits and tax credits. Together with falls in worklessness and declines in poverty among workless families, this has led to an increase in the fraction of poor children who are living in working families from just over 40% to almost two-thirds. In other words, there has been a substantial shift towards child poverty being a phenomenon of working families since 1996–97 (although the children of workless families do remain at much higher risk of poverty).

Another notable feature of the decline in child poverty has been that it has been much greater among children living with lone parents than among those living with couples. This reflects a combination of greater employment levels among lone parents in recent years, and the fact that lone parents have benefited more from increases in benefits and tax credits. This means that the fraction of poor children living with lone parents fell from 39% to 29% between 1996–97 and 2011–12, by which point it was only a little bit above the fraction in 1978–1980 (28%), despite a doubling of the proportion of children living with lone parents.

Table 6.7 shows the fractions of children living in families with different numbers of dependent children and the poverty rates for each of these subgroups of children.¹²⁵ There was relatively little change in the fraction of children in each group between 1978–1980 and 1996–97, despite a substantial reduction in the overall number of children. This indicates a reduction in the proportion of families that contained dependent children rather than a reduction in the number of children conditional upon having children at all. However, between 1996–97 and 2011–12, there was a notable shift to families containing fewer children, which will have contributed a little to the reduction in child poverty, given the lower rates of poverty among smaller families.

¹²³ See Brewer, Browne, Joyce and Sibieta (2010) and Dickens (2011).

¹²⁴ Chapter 5 of Cribb, Joyce and Phillips (2012) provided a more detailed discussion of this and the other factors underlying the fall in child poverty between 1998–99 and 2010–11 (the period covered by the last government's child poverty target).

¹²⁵ Note that the numbers refer to the number of dependent children in the family at the time of the survey, and *not* the total number of children that a family has.

Table 6.7. Child poverty by number of children (BHC)

	% of the child population			Poverty rate		
	1978–1980	1996–97	2011–12	1978–1980	1996–97	2011–12
Number of children						
One	22%	23%	30%	10%	18%	15%
Two	46%	45%	45%	10%	20%	15%
Three	21%	21%	17%	19%	34%	23%
Four or more	11%	11%	8%	34%	57%	29%
All	100%	100%	100%	14.6%	26.7%	17.4%

Note: 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 using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

The table also shows that after substantial increases in the rate of child poverty for each group between 1978–1980 and 1996–97, the fall in child poverty since 1996–97 has been greater for larger families. This means that whereas 53% of poor children lived in families of three or more children in 1978–1980 and 50% did in 1996–97 (compared with 32% of all children living in such families), by 2011–12 only 36% did (compared with 25% of all children). In other words, today's poor child is substantially less likely to be from a large family than in the mid-1990s or late 1970s. However, poverty rates for larger families do remain higher than those for smaller families.

To summarise, the fall in employment and increasing inequality in earnings among working families look likely to be the main factors underlying the increase in child poverty during the 1980s and early 1990s. And as with working-age adults without children, whilst the benefit and tax credit system provided support for those who saw their private incomes fall, the reduction in benefit rates relative to median income, and thus the poverty line, also contributed to rising child poverty. On the other hand, since 1996–97, increased parental employment – especially among lone parents – and, above all, increases in the generosity of benefits and tax credits for families with children, have acted to undo a large part of the earlier rise in child poverty, especially for young children and for families with three or more children. However, the increase in earnings inequality since the late 1970s means that there remain more children with incomes below or just above the poverty line than in 1978–1980.

6.5 Conclusion

The last 50 years have seen major changes in the rates of poverty faced by different population groups. Whereas in the 1960s and early 1970s around two out of five poor people were pensioners, by 2011–12 this had declined to less than one out of five on a BHC basis, and less than one out of eight on an AHC basis, despite an increase in the fraction of pensioners in the population. On the other hand, relative poverty rates for working-age adults with and without children have increased since the 1970s.

Overall, falling poverty among pensioners and rising poverty among working-age adults without children mean that, whereas 40 to 50 years ago the rate of poverty among pensioners was around six to eight times higher than that among working-age adults without children, by 2011–12 it was at a similar level on a BHC basis, and just two-thirds of the level among working-age adults on an AHC basis. This is a dramatic improvement in the relative position of pensioners, driven by increased income from state benefits and pensions and from private pensions, and a fall in relative housing costs as more pensioners have come to own their homes outright. Indeed, with most of the improvement having taken place since the early 1990s, today's pensioners find themselves much less likely to be towards the bottom of the income distribution than just a generation earlier.

Rising poverty among working-age adults and children during the 1980s and early 1990s was driven by increasing levels of worklessness, growing inequality in earnings, and falls in benefit rates relative to median incomes, and thus the poverty line. Since 1996–97, weak earnings growth has continued to increase poverty among working-age adults without children, but increases in parental employment rates, and, above all, an increase in the generosity of benefits and tax credits for families with children, have reduced relative child poverty. This is particularly the case for those who live with lone parents, those who live in large families, and those whose parents do not work. Indeed, despite a fall in the fraction of children and working-age adults living in families where someone works since the 1970s, the fraction of poor children and working-age adults from 'working families' has increased substantially, to around half of working-age adults without children and to almost two-thirds of children. Together with the shift in the incidence of poverty from pensioners to working-age families, this means poverty has become much more of an in-work phenomenon since the 1970s, as increased earnings inequality in the 1980s and relatively slow growth in earnings since have pushed more low and middle earners into poverty.

This shift in poverty from something concentrated among the old and workless to something increasingly felt by employed and self-employed working-age adults is a major socio-economic change. The reduction in relative income poverty among pensioners, in particular, can be seen as a real achievement in improving the material living standards of a vulnerable group who previously often had very low incomes. And with current welfare policy protecting pensioner benefits whilst reducing many benefits aimed at working-age adults and children, this trend is likely to continue. Indeed, pensioner poverty looks increasingly like yesterday's problem, with the growing issue of working-age poverty and a resurgence in child poverty being the key concern in the coming years.

Appendix A. The Households Below Average Income (HBAI) methodology¹²⁶

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 report 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, with the precise procedure differing between families with children and pensioners. Appendix D describes the levels and trends in material deprivation according to these indicators.

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. Measuring income in this way means that the HBAI income statistics capture both temporary and permanent variation in income between individuals, but the latter would generally be regarded as a better measure of their relative welfare. For example, having a temporarily low income is unlikely to have severe consequences for current material living standards if individuals are able to draw on previously-accumulated wealth. Statistics based upon current incomes will attribute the same level of welfare to people with the same 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.¹²⁷

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 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 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

¹²⁶ Many of these issues are also discussed in Berthoud and Zantomio (2008).

¹²⁷ See Brewer, Goodman and Leicester (2006) and Brewer and O'Dea (2012).

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).¹²⁸ 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.¹²⁹

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 which 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 report) 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

¹²⁸ Authors' calculations using Family Resources Survey 2011–12.

¹²⁹ 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.

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 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 Department for Work and Pensions (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. Equivalence scales used in HBAI

	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.¹³⁰

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

The incomes analysed in this report are derived from the Family Resources Survey (FRS) and, prior to 1994–95, the Family Expenditure Survey (FES). These surveys are designed to provide a broadly representative sample of households in Great Britain until 2001–02, and in the whole

¹³⁰ See also section 5.3 of Brewer, Muriel, Phillips and Sibieta (2008).

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.¹³¹ For example, if there are proportionately fewer lone parents in the sample than there are in the population, then relatively more weight must be placed upon the data from those lone parents who actually do respond.

Second, a special 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. 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

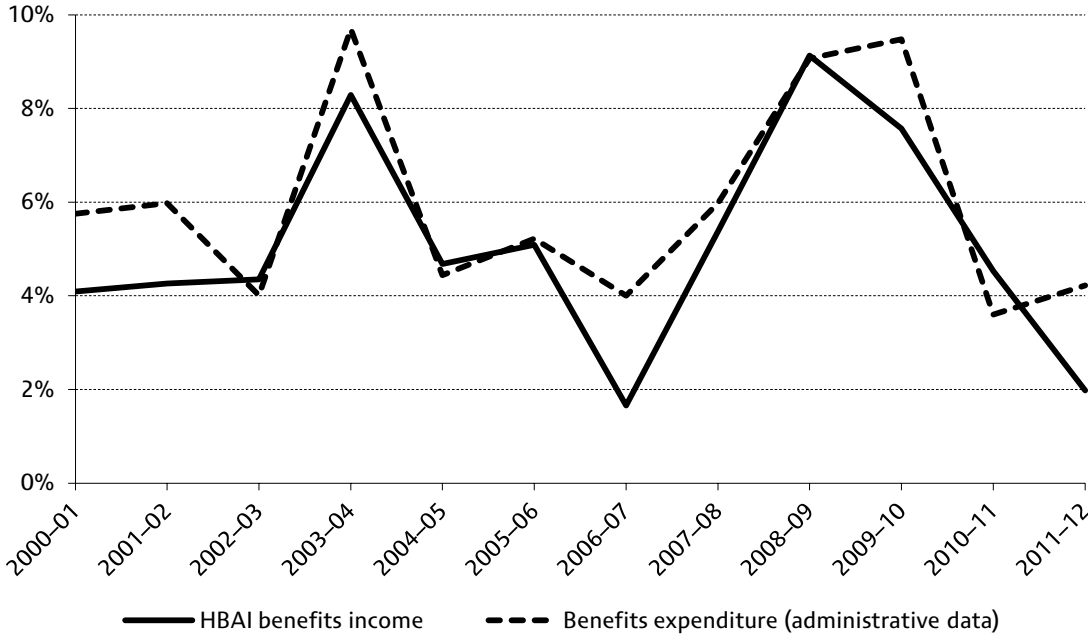
In the analysis in this report, we therefore follow the government's HBAI methodology, using *household equivalised income after deducting taxes and adding benefits and tax credits*, expressed as the equivalent income for a couple with no dependent children and in average 2011–12 prices, as our measure of living standards. For brevity, we often use this term interchangeably with 'income'.

¹³¹ See Department for Work and Pensions (2013).

Appendix B. Benefit and tax credit income: comparing HBAI and administrative data

Figure B.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.) The figure shows that the increase in benefit and tax credit receipts found in the HBAI data in 2011–12 was 2.0%, significantly lower than the 4.2% increase in the amount that the government records as being paid out in its administrative records.

Figure B.1. Nominal growth in total spending on benefits and tax credits: comparing HBAI and administrative data



Note: Tax credit and child benefit income is for the UK. Other benefit income is for Great Britain.
 Source: 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) 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 unprecedented, 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, a trend that continued in 2011–12. Taking the period since 1999–2000 as a whole, administrative data show a cash increase in benefit and tax credit spending of 100%, whilst HBAI records an increase of only 81%.

Table B.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 around 80% of benefit and tax credit spending in 2011–12. 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 around 90% of child benefit and basic state pension spending in 2011–12, it recorded just 52% of pension credit spending and 64% 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 B.1. Total annual expenditure on major benefits in 2011–12

	Administrative data (£ billion)	HBAI data (£ billion)	% of total expenditure recorded in HBAI data
Basic state pension	74.1	66.1	89
Pension credit	8.1	4.2	52
Tax credits	30.4	19.5	64
Child benefit	12.2	11.0	90
Housing benefit	22.8	17.5	77
Disability living allowance	12.6	9.7	77
<i>All benefits and tax credits</i>	<i>201.2</i>	<i>158.3</i>	<i>79</i>

Note: Figures for tax credits and child benefit are for the UK. Other figures are for Great Britain.

Source: HBAI benefit receipts data from authors' calculations using Family Resources Survey 2011–12.

Administrative benefit expenditure data from DWP benefit expenditure table 1

(http://research.dwp.gov.uk/asd/asd4/index.php?page=medium_term) and HMRC annual accounts (available at <http://www.hmrc.gov.uk/about/reports.htm>).

Appendix C. The decomposition of the Gini coefficient

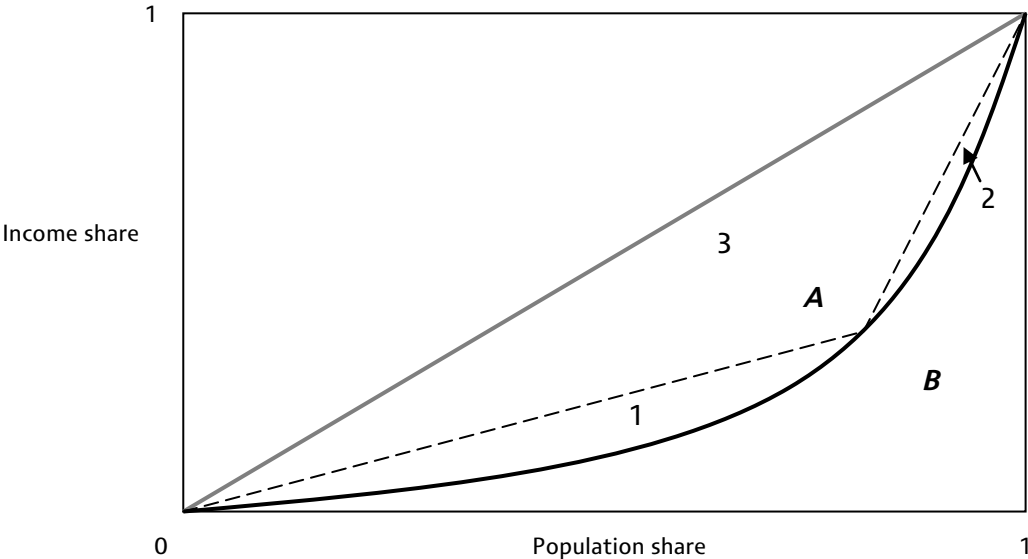
In Section 3.2, we decompose the overall Gini coefficient into three components:

- 1) income inequality within the bottom 99% of the income distribution;
- 2) income inequality within the top 1% of the income distribution;
- 3) income inequality between the bottom 99% and the top 1% of the income distribution.

Figure C.1 presents a stylised picture of how this decomposition works.¹³² The bold black line plots shares of the population against the share of income held by that share of the population, and is known as the Lorenz curve. The Gini coefficient is then calculated as $G = A/(A+B)$, where A is the area between the Lorenz curve and the 45-degree line, and B is the area under the Lorenz curve. The intuition for this is straightforward. If all the individuals in an economy had the same income, the Lorenz curve would be the 45-degree line, and the Gini coefficient would be 0. If a single individual had all the income in an economy, the area under the Lorenz curve (B) would be 0, and so the Gini coefficient would be 1.

The decomposition then simply divides A into three areas indicated by the dotted lines, corresponding to the three components given above. '1' is the inequality within the bottom part of the distribution, '2' the inequality within the top part of the distribution, and '3' the inequality between the top and the bottom.

Figure C.1. The decomposition of the Gini coefficient



More formally, the Gini coefficient is calculated as the average difference between the (household) incomes of all the pairs of individuals in an economy, scaled by mean household income:

$$G = \frac{1}{2N^2\mu} \sum_{i=1}^N \sum_{j=1}^N |y_i - y_j|$$

¹³² We would like to thank Ian Preston for assistance with this figure.

where N is the number of individuals in an economy, μ is the average household income, y_i is the household income of individual i and y_j is the household income of individual j . If we index the population from 1 to N in order of household income, the Gini coefficient can also be defined for any population N^* in which all individuals have a household income $y < y^*$:

$$G_{|y \leq y^*} = \frac{1}{2N^{*2}\mu_{|y \leq y^*}} \sum_{i=1}^{N^*} \sum_{j=1}^{N^*} |y_i - y_j|$$

where $G_{|y \leq y^*}$ is the Gini coefficient for the population N^* and $\mu_{|y \leq y^*}$ is mean income for that population. The Gini for the bottom 99% of the income distribution, for example, is therefore simply the average difference between the household incomes of all pairs of individuals in that part of the distribution, scaled by their mean household income. Following this definition (and a similar one for the Gini coefficient for the population with a household income $y > y^*$), the Gini coefficient can be decomposed as follows:

$$\begin{aligned} G &= \frac{1}{2N^2\mu} \sum_{i=1}^N \sum_{j=1}^N |y_i - y_j| \\ &= \frac{1}{2N^2\mu} \left(\sum_{i=1}^{N^*} \sum_{j=1}^{N^*} |y_i - y_j| + \sum_{i=N^*+1}^N \sum_{j=N^*+1}^N |y_i - y_j| + 2 \sum_{i=1}^{N^*} \sum_{j=N^*+1}^N |y_i - y_j| \right) \\ &= \frac{1}{2N^2\mu} \sum_{i=1}^{N^*} \sum_{j=1}^{N^*} |y_i - y_j| + \frac{1}{2N^2\mu} \sum_{i=N^*+1}^N \sum_{j=N^*+1}^N |y_i - y_j| + \frac{1}{N^2\mu} \sum_{i=1}^{N^*} \sum_{j=N^*+1}^N |y_i - y_j| \\ &= \frac{2N^{*2}\mu_{|y \leq y^*}}{2N^2\mu} G_{|y \leq y^*} + \frac{2(N - N^*)^2\mu_{|y > y^*}}{2N^2\mu} G_{|y > y^*} + \frac{1}{N^2\mu} \sum_{i=1}^{N^*} \sum_{j=N^*+1}^N |y_i - y_j| \end{aligned}$$

Now, $\frac{2(N - N^*)^2\mu_{|y > y^*}}{2N^2\mu} = (1 - p^*) \frac{(N - N^*)\mu_{|y > y^*}}{N\mu}$ where $p^* = \frac{N^*}{N}$.

By definition, $N^*\mu_{|y \leq y^*} + (N - N^*)\mu_{|y > y^*} = N\mu$.

So $\frac{(N - N^*)\mu_{|y > y^*}}{N\mu} = (1 - s^*)$ where $s^* = \frac{N^*\mu_{|y \leq y^*}}{N\mu}$.

Then we have

$$\begin{aligned} G &= \frac{1}{2N^2\mu} \sum_{i=1}^N \sum_{j=1}^N |y_i - y_j| = \\ &= p^* s^* G_{|y \leq y^*} + (1 - p^*)(1 - s^*) G_{|y > y^*} + \frac{1}{N^2\mu} \sum_{i=1}^{N^*} \sum_{j=N^*+1}^N |y_i - y_j|. \end{aligned}$$

The Gini coefficient can thus be expressed as the weighted sum of three components:

- 1) the Gini coefficient for the population with household income $y \leq y^*$, weighted by the product of their population share and their income share;
- 2) the Gini coefficient for the population with household income $y > y^*$, weighted by the product of their population share and their income share;
- 3) a 'cross-term' consisting of the average difference between the household income of each pair of individuals in which one has an income $y_i \leq y^*$ and the other has an income $y_j > y^*$, scaled by mean income.

Appendix D. Material deprivation

From 2004–05, the HBAI series has included measures of material deprivation, in addition to the income-based poverty measures discussed in Chapter 4. Since then, children have been classed as living in material deprivation if their parents say they cannot afford a certain number of 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, and is one of the measures used to assess progress towards ‘eradicating’ child poverty by 2020.

Table D.1. Child material deprivation (UK)

	<i>Materially deprived</i>		<i>Low income</i>		<i>Materially deprived and low income</i>	
	Million	%	Million	%	Million	%
2010–11	2.8	21.7	3.8	29.4	1.7	12.7
2011–12	2.8	21.2	3.8	29.4	1.6	11.9

Note: Low income is defined as below 70% of the median before housing costs.

Source: Authors’ calculations using Family Resources Survey, 2010–11 and 2011–12.

Table D.1 shows overall child material deprivation and the measure combining material deprivation and relative low income in 2010–11 and 2011–12. (Previous years’ figures are not directly comparable, due to definitional changes in 2010–11.¹³³) The combined low income and material deprivation indicator fell in 2011–12, from 12.7% to 11.9%. This change was entirely explained by a fall in the total number of children in material deprivation, since the number with a sufficiently low income to be included in the combined measure remained the same. Despite this fall, the total number of children who were materially deprived (2.8 million) remained higher than the number in relative (2.3 million) or absolute (2.6 million) poverty in 2011–12.

An indicator of pensioners’ material deprivation has also been part of the HBAI data series since 2009–10; Table D.2 shows pensioner material deprivation since then. Pensioner material deprivation fell in both 2010–11 and 2011–12. Unlike material deprivation among children, pensioner material deprivation is lower than pensioner poverty. In 2011–12, only 7.9% of those aged 65 or over were materially deprived, compared with 16.4% of pensioners in relative poverty and 17.9% in absolute poverty. This is despite the fact that in addition to counting those who cannot afford the relevant items, the material deprivation measure for pensioners also includes those unable to have an item because of social or health-related reasons.

Table D.2. Pensioner material deprivation (UK)

	<i>Materially deprived</i>	
	Million	%
2009–10	0.9	9.4
2010–11	0.8	8.6
2011–12	0.8	7.9

Note: Pensioner material deprivation is calculated for those aged 65 and over.

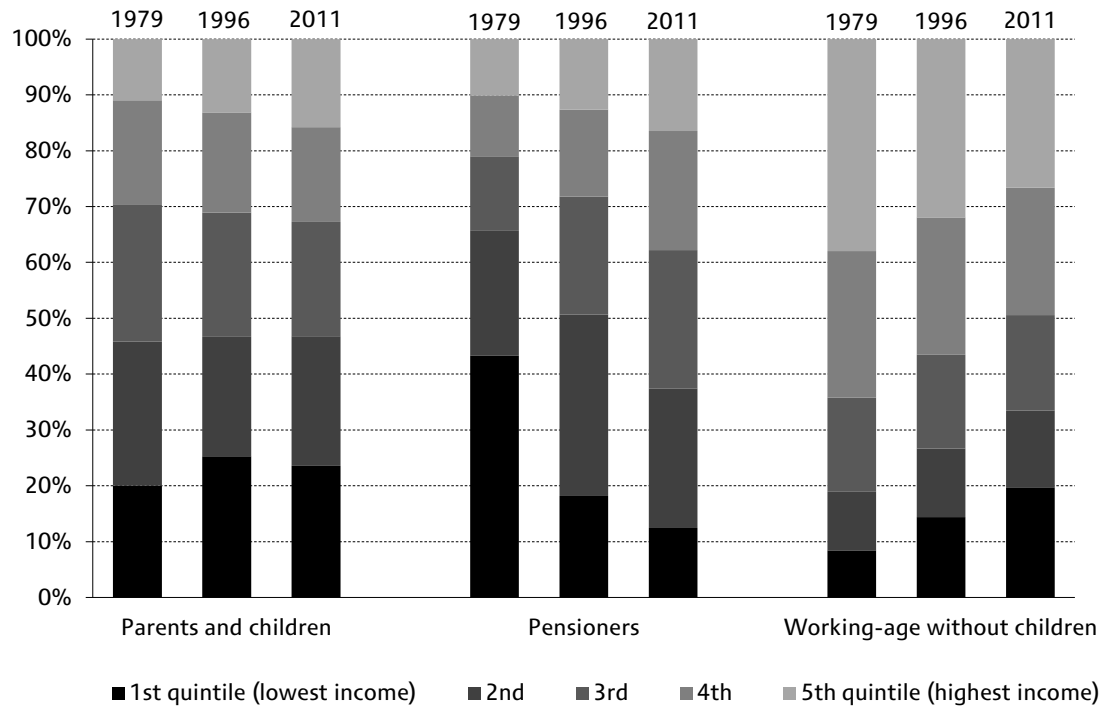
Source: Authors’ calculations using Family Resources Survey, 2009–10, 2010–11 and 2011–12.

¹³³ See chapter 6 of Cribb, Joyce and Phillips (2012).

Appendix E. After-housing-cost analysis, supplementary to Chapter 5

This Appendix presents some of the key analysis from Chapter 5 on an after-housing-cost (AHC) basis. Figures E.1 to E.6 are the AHC analogues of Figures 5.1, 5.2, 5.5, 5.8, 5.10 and 5.11 respectively. Notable differences between the BHC and AHC analyses are referred to in the main text of Chapter 5, as part of the discussion of the relevant figures.

Figure E.1. Position in overall income distribution, by family type (AHC, GB)

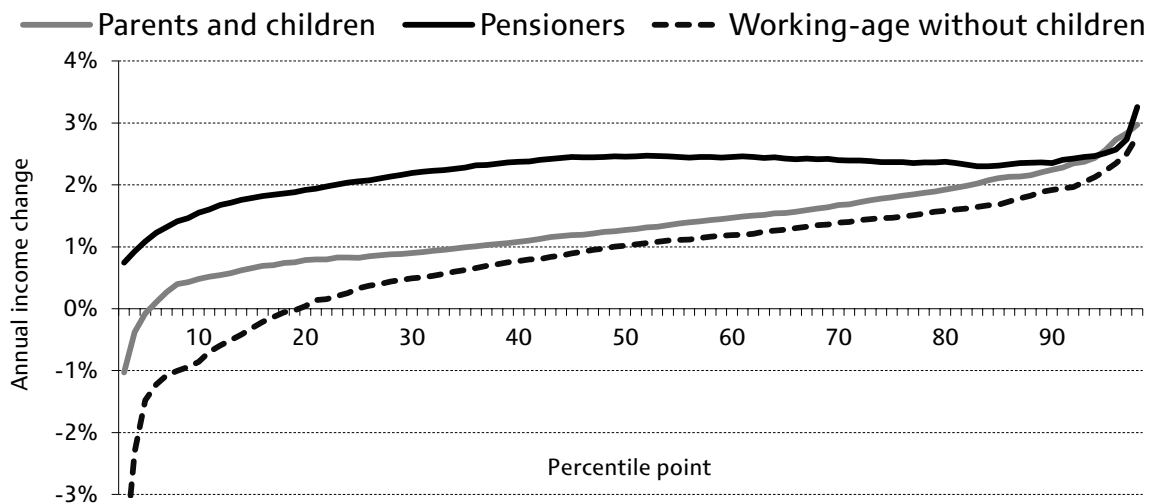


Note: Incomes have been measured after housing costs have been deducted. '1979' refers to the pooled three-year period between 1978 and 1980. '1996' and '2011' refer to financial years.

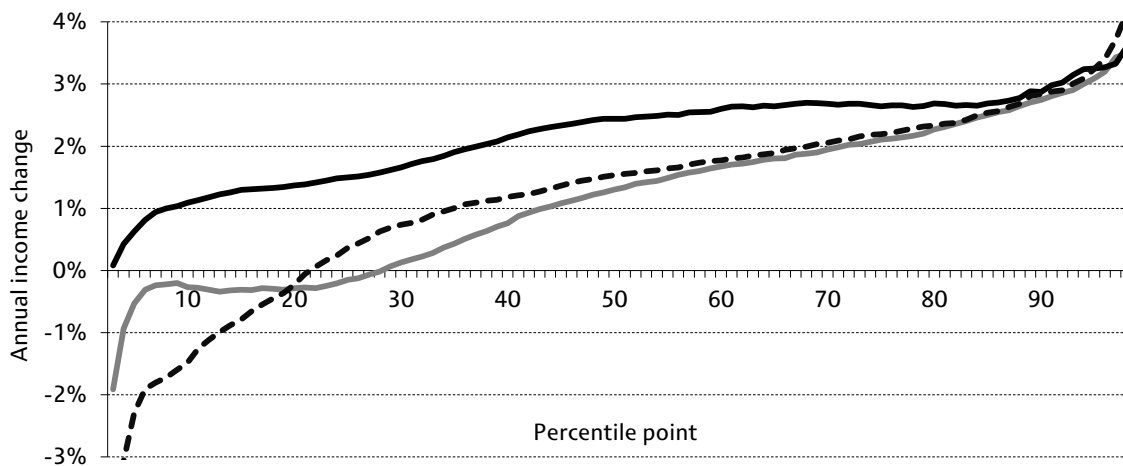
Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

Figure E.2. Real income growth by percentile point for different family types (AHC, GB)

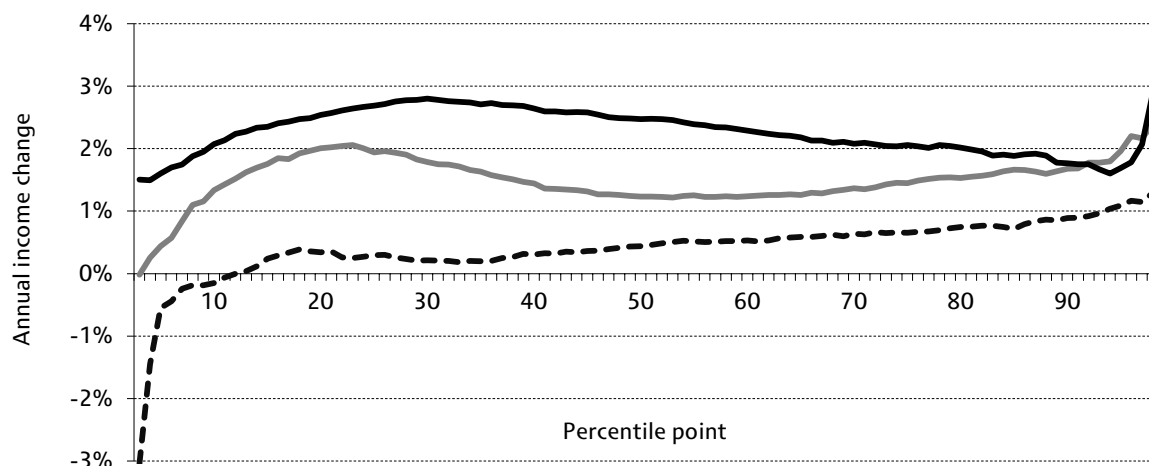
1978–1980 to 2011–12



1978–1980 to 1996–97



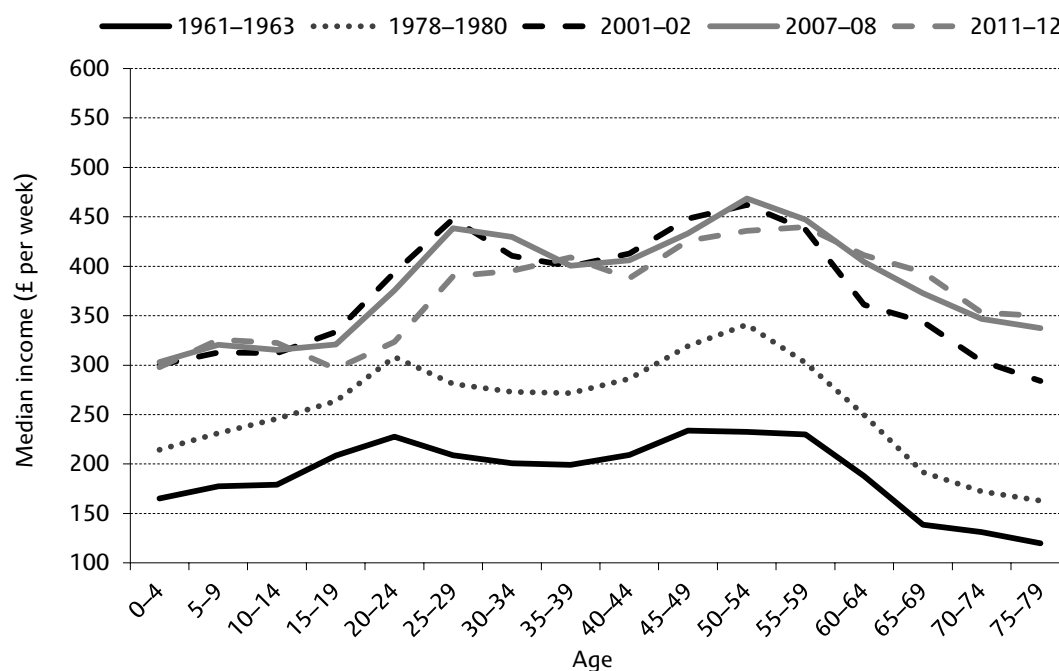
1996–97 to 2011–12



Note: The changes in income at the 1st, 2nd and 99th percentiles are not shown on this graph due to high levels of statistical uncertainty. Incomes have been measured after housing costs have been deducted. Since the distributions of household income in different family types are different, the same percentile points of each distribution do not correspond to the same absolute income levels.

Source: Authors' calculations using Family Expenditure Survey, 1978 to 1980, and Family Resources Survey, 1996–97 and 2011–12.

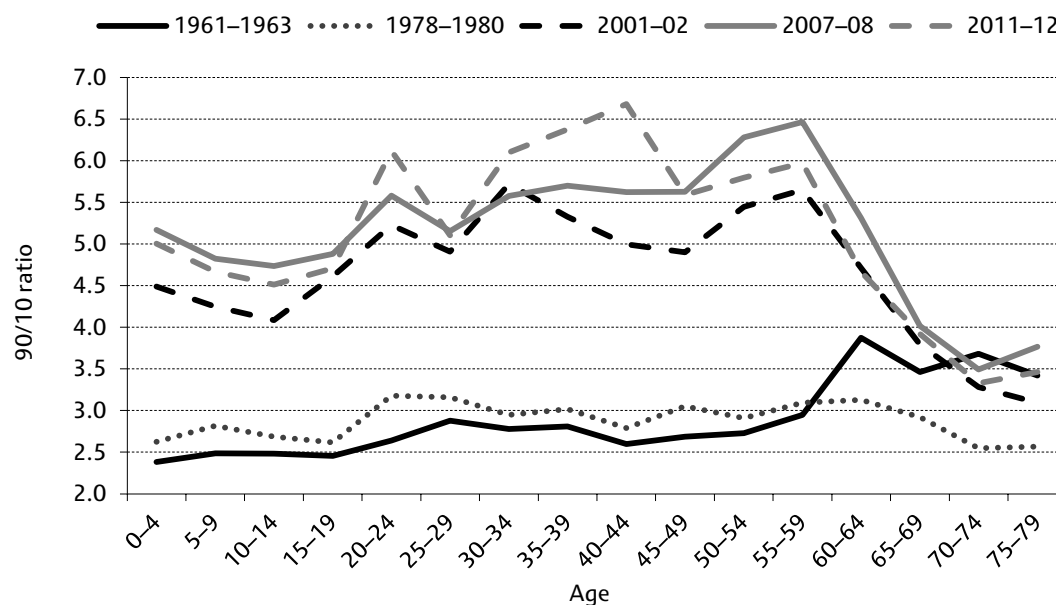
Figure E.3. Median income by age (AHC, GB)



Note: All monetary amounts have been equivalised using the DWP AHC variant of the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Incomes have been measured after housing costs have been deducted.

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

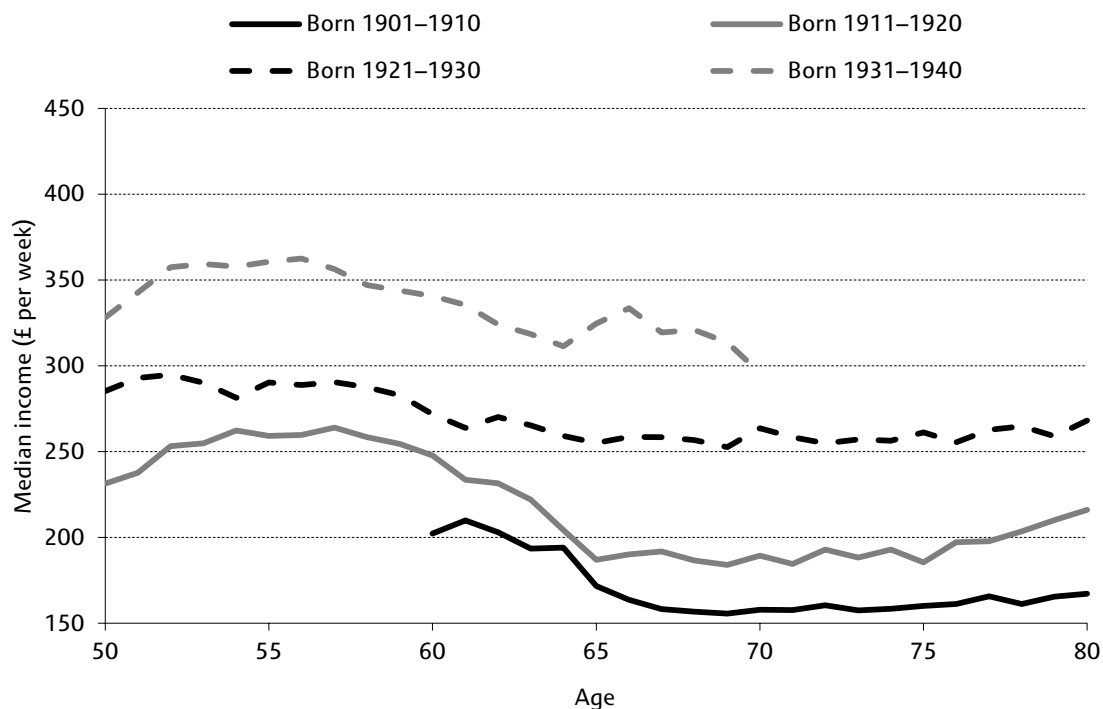
Figure E.4. 90/10 ratios by age (AHC, GB)



Note: Incomes have been measured after housing costs have been deducted. Data points show the ratio between incomes at the 90th and 10th percentiles.

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

Figure E.5. Median income from age 50, by birth cohort (AHC, GB)



Note: All monetary amounts have been equivalised using the DWP AHC variant of the modified OECD equivalence scale and are expressed in terms of equivalent amounts for a childless couple. Incomes have been measured after housing costs have been deducted.

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

Figure E.6. Income at 20th percentile from age 50, by birth cohort (AHC, GB)



Note and source: See Figure E.5.

Appendix F. Non-pensioner incomes in families with and without children: quantile regression analysis

Section 5.1 (and in particular Figure 5.2) showed that, between 1996–97 and 2011–12, income growth was higher for individuals in families with children than for working-age adults without children. Here we briefly investigate the role in this of basic demographic changes over the period. We consider changes in the number of children that families with children are having and changes in the ages of parents. We show that these changes do not account for the differences in income growth between non-pensioners in families with and without children. Rather, as shown in the main analysis in Section 5.1, the key explanations that remain are benefit and tax credit policy and patterns of earnings growth.

Table F.1 presents results from a series of quantile regressions. These estimate the association between a point in the distribution of income and explanatory variables. For example, if the only explanatory variable is an indicator for having dependent children, one can estimate the association between having children and income at the median, or at the 20th percentile, or at any other chosen percentile of the distribution. The dependent variable used is the natural logarithm of net household equivalised income (the same standard measure of income used throughout this report). Coefficient estimates presented in the table can be multiplied by 100 and interpreted approximately as *percentage changes* in income associated with having

Table F.1. Association between having dependent children in the family and (log) household equivalised BHC income for non-pensioners: quantile regression results (GB)

	1996–97			2011–12		
	20 th percentile	Median	80 th percentile	20 th percentile	Median	80 th percentile
Specification 1						
At least one child	-0.31	-0.35	-0.32	-0.13	-0.24	-0.22
Specification 2						
One child	-0.19	-0.24	-0.21	-0.05	-0.17	-0.16
Two children	-0.24	-0.28	-0.29	-0.10	-0.21	-0.17
Three children	-0.41	-0.50	-0.47	-0.23	-0.43	-0.43
Four or more children	-0.54	-0.85	-0.82	-0.31	-0.56	-0.70
Specification 3 (controls for age of family head)						
One child	-0.24	-0.33	-0.31	-0.09	-0.23	-0.29
Two children	-0.30	-0.42	-0.42	-0.15	-0.30	-0.35
Three children	-0.48	-0.64	-0.62	-0.29	-0.53	-0.58
Four or more children	-0.64	-0.96	-0.95	-0.38	-0.66	-0.79

Note: Sample is individuals in families where the head of the family is aged under 60. Numbers are coefficient estimates from quantile regressions. All coefficient estimates in this table are statistically significant at the 5% level. Controls for age of the head of the family are defined by eight indicator variables for being under 25 and being in each five-year age band up to and including 55–59. Regressions were run separately for each year. Individuals in households without a strictly positive net income are excluded. Incomes have been measured before housing costs have been deducted.

Source: Authors' calculations using Family Resources Survey, 1996–97 and 2011–12.

children. The sample on which the regressions are run is the sample of families in which the oldest member is aged under 60. Hence we are estimating differences among individuals in non-pensioner families. As with any regression, the estimates are statistical associations and are not (without assumptions) estimates of causal effects. All of the estimated coefficients in Table F.1 are statistically significant at the 5% level.

The first row of numbers in the table gives results from quantile regressions with just one explanatory variable: an indicator for the presence of any dependent children in the family. The results suggest that, in 1996–97, the presence of dependent children in the family was associated with approximately a 31% reduction in household income at the 20th percentile, a 35% reduction at the median and a 32% reduction at the 80th percentile. By 2011–12, these had fallen to 13%, 24% and 22% respectively. In other words, having dependent children in 2011–12 is clearly associated with a smaller drop in income across the distribution than was the case in 1996–97 – families with children have been ‘catching up’ with working-age families without children, with a particularly large catch-up at the bottom of the distribution.

The second set of numbers in the table explores whether this can be explained simply by changes in the number of children that families are having. As described in Section 5.1, families with children tend to have fewer children now than was the case in 1996–97, and having fewer children is associated with having higher income. But the results make clear that families with children have experienced faster income growth even *after* accounting for this demographic change. Having a given number of children is now associated with a smaller reduction in income – relative to having no children – than was the case in 1996–97. This result is consistent across the distribution (specifically, at the 20th, 50th and 80th percentiles) and across families with different numbers of children (i.e. one child, two children, three children or at least four children).

Finally, the third set of numbers in the table shows that this remains true once one also controls for adult age.¹³⁴ In other words, the fact that families with given numbers of children have experienced faster income growth than working-age adults without children since 1996–97 is not simply because of changes in the ages of parents.

¹³⁴ For couples, we use the age of the older member. Coefficient estimates for age are not included in the table, as they are not of primary interest here. They are available from the authors on request.

References

- Aldridge, H., Kenway, P., MacInnes, T. and Parekh, A. (2012), *Monitoring Poverty and Social Exclusion 2012*, York: Joseph Rowntree Foundation (<http://www.jrf.org.uk/publications/monitoring-poverty-2012>).
- Arulampalam, W. (2001), 'Is unemployment really scarring? Effects of unemployment experiences on wages', *Economic Journal*, vol. 111, pp. 585–606.
- Atkinson, A., Piketty, T. and Saez, E. (2011), 'Top incomes in the long run of history', *Journal of Economic Literature*, vol. 49, pp. 3–71.
- Attanasio, O., Battistin, E. and Ichimura, H. (2005), 'What really happened to consumption inequality in the US?', in E. Berndt and C. Hulten (eds), *Measurement Issues in Economics – The Paths Ahead: Essays in Honor of Zvi Griliches*, Chicago: University of Chicago Press.
- Banks, J., Blundell, R. and Tanner, S. (1998), 'Is there a retirement-savings puzzle?', *American Economic Review*, vol. 88, pp. 769–88.
- Bell, D. and Blanchflower, D. (2011), 'Young people and the Great Recession', Institute for the Study of Labor (IZA), Discussion Paper no. 5674 (<http://ftp.iza.org/dp5674.pdf>).
- Berthoud, R., Bryan, M. and Bardasi, E. (2004), *The Dynamics of Deprivation: The Relationship between Income and Material Deprivation over Time*, DWP Research Report no. 219, London: Department for Work and Pensions (<http://statistics.dwp.gov.uk/asd/asd5/rports2003-2004/rrep219.pdf>).
- Berthoud, R. and Zantomio, F. (eds) (2008), *Measuring Poverty: Seven Key Issues*, Colchester: Institute for Social and Economic Research.
- Blundell, R. and Etheridge, B. (2010), 'Consumption, income and earnings inequality in Britain', *Review of Economic Dynamics*, vol. 13, pp. 76–102.
- Bozio, A., Crawford, R. and Tetlow, G. (2010), 'The history of state pensions in the UK: 1948 to 2010', Institute for Fiscal Studies (IFS), Briefing Note no. 105 (<http://www.ifs.org.uk/bns/bn105.pdf>).
- Bradshaw, J., Middleton, S., Davis, A., Oldfield, N., Smith, N., Cusworth, L. and Williams, J. (2008), *A Minimum Income Standard for Britain: What People Think*, York: Joseph Rowntree Foundation (<http://www.jrf.org.uk/sites/files/jrf/2226-income-poverty-standards.pdf>).
- Brewer, M., Browne, J., Hood, A., Joyce, R. and Sibieta, L. (2013), 'The short- and medium-term impacts of the recession on the UK income distribution', *Fiscal Studies*, vol. 34, pp. 179–201.
- Brewer, M., Browne, J., Joyce, R. and Sibieta, L. (2010), 'Child poverty in the UK since 1998–99: lessons from the past decade', Institute for Fiscal Studies (IFS), Working Paper no. 10/23 (<http://www.ifs.org.uk/publications/5303>).
- Brewer, M., Goodman, A. and Leicester, A. (2006), *Household Spending in Britain: What Can It Teach Us about Poverty?*, Bristol: Policy Press.
- Brewer, M., May, R. and Phillips, D. (2009), *Taxes, Benefits and the National Minimum Wage*, London: Low Pay Commission (http://www.lowpay.gov.uk/lowpay/research/pdf/FromLPC_Document_Feb.pdf).

Brewer, M., Muriel, A., Phillips, D. and Sibieta, L. (2008), *Poverty and Inequality in the UK: 2008*, Commentary no. 105, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/comms/comm105.pdf>).

Brewer, M., Muriel, A. and Wren-Lewis, L. (2009), *Accounting for Changes in Inequality since 1968: Decomposition Analyses for Great Britain*, Research Report for the National Equalities Panel, Government Equalities Office (<http://webarchive.nationalarchives.gov.uk/20110608160754/http://www.equalities.gov.uk/pdf/Accounting%20for%20changes%20in%20inequality.pdf>).

Brewer, M. and O'Dea, C. (2012), 'Measuring living standards with income and consumption: evidence from the UK', Institute for Fiscal Studies (IFS), Working Paper no. 12/12 (<http://www.ifs.org.uk/publications/6276>).

Brewer, M., O'Dea, C., Paull, G. and Sibieta, L. (2009), *The Living Standards of Families with Children Reporting Low Incomes*, DWP Research Report no. 577, London: Department for Work and Pensions (<http://research.dwp.gov.uk/asd/asd5/rports2009-2010/rrep577.pdf>).

Brewer, M., Phillips, D. and Sibieta, L. (2010), 'What has happened to "severe poverty" under Labour?', Institute for Fiscal Studies (IFS), 2010 Election Briefing Note no. 3 (<http://www.ifs.org.uk/bns/bn90.pdf>).

Brewer, M., Sibieta, L. and Wren-Lewis, L. (2008), 'Racing away? Income inequality and the evolution of high incomes', Institute for Fiscal Studies (IFS), Briefing Note no. 76 (http://www.ifs.org.uk/publications.php?publication_id=4108).

Browne, J. (2011), 'The impact of tax and benefit changes to be implemented in April 2011', in M. Brewer, C. Emmerson and H. Miller (eds), *The IFS Green Budget: February 2011*, Commentary no. 117, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/publications/5460>).

Browne, J., Cribb, J., Hood, A., Johnson, P., Joyce, R., O'Dea, C., Phillips, D. and Sibieta, L. (2013), 'Response of IFS researchers to "Measuring Child Poverty: a consultation on better measures of child poverty"' (<http://www.ifs.org.uk/publications/6607>).

Browne, J., Hood, A. and Johnson, P. (2013), 'Options for cutting spending on social security', in C. Emmerson, P. Johnson and H. Miller (eds), *The IFS Green Budget: February 2013*, Report no. 74, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/publications/6562>).

Browne, J., Hood, A. and Joyce, R. (2013), *Child and Working-Age Poverty in Northern Ireland from 2010 to 2020*, Report no. 78, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/publications/6668>).

Browne, J. and Phillips, D. (2010), 'Tax and benefit reforms under Labour', Institute for Fiscal Studies (IFS), 2010 Election Briefing Note no. 1 (<http://www.ifs.org.uk/bns/bn88.pdf>).

Burgess, S., Propper, C., Rees, H. and Shearer, A. (2003), 'The class of 1981: the effects of early career unemployment on subsequent unemployment experiences', *Labour Economics*, vol. 10, pp. 291–309.

Cribb, J., Joyce, R. and Phillips, D. (2012), *Living Standards, Poverty and Inequality in the UK: 2012*, Commentary no. 124, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/publications/6196>).

Davis, A., Hirsch, D., Smith, N., Beckhelling, J. and Padley, M. (2012), *A Minimum Income Standard for the UK in 2012*, York: Joseph Rowntree Foundation (<http://www.jrf.org.uk/publications/MIS-2012>).

Davison, A. C. and Hinkley, D. V. (1997), *Bootstrap Methods and Their Application*, Cambridge: Cambridge University Press.

Department for Work and Pensions (2012), *Households below Average Income: An Analysis of the Income Distribution 1994/95 – 2010/11*, London: DWP.

Department for Work and Pensions (2013), *Households below Average Income: An Analysis of the Income Distribution 1994/95 – 2011/12*, London: DWP.

Dickens, R. (2011), 'Child poverty in Britain: past lessons and future prospects', *National Institute Economic Review*, no. 218, pp. R7–19.

Diewert, W. E. (2012), 'Consumer price statistics in the UK', Office for National Statistics (available on the ONS website: <http://www.ons.gov.uk>).

Gordon, D., Adelman, L., Ashworth, K., Bradshaw, J., Levitas, R., Middleton, S., Pantazis, C., Patsios, D., Payne, S., Townsend, P. and Williams, J. (2000), *Poverty and Social Exclusion in Britain*, York: Joseph Rowntree Foundation.

Gregory, M. and Jukes, R. (2001), 'Unemployment and subsequent earnings: estimating scarring among British men 1984–94', *Economic Journal*, vol. 111, pp. 607–25.

Heckman, J. and Borjas, G. (1980), 'Does unemployment cause future unemployment? Definitions, questions and answers from a continuous time model of heterogeneity and state dependence', *Economica*, vol. 47, pp. 247–83.

HM Government (2011a), *A New Approach to Child Poverty: Tackling the Causes of Disadvantage and Transforming Families' Lives*, Cm 8061, London: TSO (<https://www.education.gov.uk/publications/eOrderingDownload/CM-8061.pdf>).

HM Government (2011b), *Budget 2011*, London: TSO (http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/2011budget_documents.htm).

Jin, W., Joyce, R., Phillips D. and Sibieta, L. (2011), *Poverty and Inequality in the UK: 2011*, Commentary no. 118, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/publications/5584>).

Joyce, R. and Sibieta, L. (2013), 'An assessment of Labour's record on income inequality and poverty', *Oxford Review of Economic Policy*, vol. 29, pp. 178–202.

Kahn, L. (2010), 'The long-term labor market consequences of graduating from college in a bad economy', *Labour Economics*, vol. 17, pp. 303–16.

Kaplan, G. (2012), 'Moving back home: insurance against labour market risk', *Journal of Political Economy*, vol. 120, pp. 446–512.

Lambert, P. J. and Aronson, J. R. (1993), 'Inequality decomposition analysis and the Gini coefficient revisited', *Economic Journal*, vol. 103, pp. 1221–7.

Levell, P. (2012a), 'Possible changes to the retail prices index: what they are and why they matter', Institute for Fiscal Studies (IFS), Observation (<http://www.ifs.org.uk/publications/6457>).

Levell, P. (2012b), 'A winning formula? Elementary indices in the retail prices index', Institute for Fiscal Studies, Working Paper no. 12/22 (<http://www.ifs.org.uk/publications/6456>).

Levell, P. and Oldfield, Z. (2011), *The Spending Patterns and Inflation Experience of Low-Income Households over the Past Decade*, Commentary no. 119, London: Institute for Fiscal Studies (<http://www.ifs.org.uk/publications/5606>).

Lindley, J. and Machin, S. (2013), 'Wage inequality in the Labour years', *Oxford Review of Economic Policy*, vol. 29, pp. 165–77.

Machin, S. and Van Reenen, J. (2007), 'Changes in wage inequality', Centre for Economic Performance, Special Paper no. 18
(http://eprints.lse.ac.uk/4667/1/Changes_in_Wage_Inequality.pdf).

McKay, S. (2004), 'Poverty or preference: what do "consensual deprivation indicators" really measure?', *Fiscal Studies*, vol. 25, pp. 201–23.

Miller, R. (2011), 'The long-run difference between RPI and CPI inflation', Office for Budget Responsibility (OBR), Working Paper no. 2
(<http://budgetresponsibility.independent.gov.uk/category/publications/working-papers/>).

Office for Budget Responsibility (2012), *Economic and Fiscal Outlook – March 2012*
(<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-march-2012/>).

Office for Budget Responsibility (2013), *Economic and Fiscal Outlook – March 2013*
(<http://budgetresponsibility.independent.gov.uk/economic-and-fiscal-outlook-march-2013/>).

Office for National Statistics (2013), 'RPI Consultation freedom of information response'
(available on the ONS website: <http://www.ons.gov.uk>).

Oreopoulos, P., von Wachter, T. and Heisz, A. (2012), 'The short- and long-term career effects of graduating in a recession', *American Economic Journal: Applied Economics*, vol. 4, pp. 1–29.