

Poverty and Inequality in Britain: 2005

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Preface

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Executive summary

This Commentary provides an update on trends in poverty and inequality in Great Britain, based on the latest official government statistics. It uses the same approach to measuring incomes and poverty in Great Britain as the government employs in its Households Below Average Income (HBAI) publication.

Living standards and inequality

- In 2003/04, almost two-thirds of the population had incomes below the national average income of £408 per week. The distribution is skewed by a relatively small number of people on relatively high incomes. Median income in 2003/04 was £336 per week – in other words, half the population had household income below this amount.
- Income growth was particularly sluggish in 2003/04. Median income increased in real terms by just under £2 per week (an increase of 0.5 per cent) while mean income fell for the first time since the early 1990s (a small change of –0.2 per cent). Income tax and National Insurance rises in April 2003 reduced mean and median income growth by around 0.8 percentage points, and rises in council tax reduced growth by a further 0.3 percentage points.
- Poorer households experienced greater income growth on average in 2003/04 than richer households, and this means that income inequality has fallen for the third successive year. Although inequality remains slightly higher than in 1996/97, the change is not statistically significant. This means that despite a large package of redistributive measures, the net effect of seven years of Labour government is to leave inequality effectively unchanged.

Poverty

- Rounding to the nearest 100,000, between 2002/03 and 2003/04 child poverty fell by 100,000 measured after housing costs (AHC) and was unchanged measured before housing costs (BHC). These changes were smaller than might have been expected given the amount of new spending directed towards families with children through the new tax credits. Child poverty now stands at 3.5 million AHC and 2.6 million BHC.
- Two main reasons explain why child poverty fell by less than expected. First, administrative problems with the new tax credits in the first quarter of 2003/04 meant that many families had lower-than-expected incomes at that time. Second, the number of children living in families where no adult works rose, according to HBAI, although this is at odds with evidence from other sources. Each of these reasons increased child poverty by around 90,000 AHC and 80,000 BHC.

- The government has a target for child poverty in 2004/05 to be 3.0 million AHC and 2.3 million BHC. Hitting this target requires child poverty recorded by HBAI to fall by 500,000 AHC and 300,000 BHC in one year, although these declines in the rounded levels overstate the actual decline needed in the unrounded levels.
- Spending on tax credits in 2004/05 was higher than in 2003/04, and the administrative problems with tax credits in 2003 were not repeated in 2004, so child poverty should fall in 2004/05. Sampling error means that little can be inferred with certainty from a single year's data, but the likelihood that the government will hit its targets seems a little lower now than it was a year ago. Measured BHC, child poverty should probably fall to levels close to the government's target; measured AHC, though, the issues cited above do not alone seem sufficient for child poverty to meet its target.
- Pensioner poverty continues to fall dramatically when measured AHC: it fell by 10 per cent in the single year 2002/03–2003/04, and has fallen by over a quarter since 1998/99. A pensioner chosen at random is less likely to be poor than a non-pensioner when incomes are measured AHC. Measured BHC, pensioner poverty is falling more slowly but is now lower than at any point since the Labour government came to power.
- Poverty for the population as a whole changed little between 2002/03 and 2003/04. This is because the declines in child and pensioner poverty were broadly offset by a rise in poverty among working-age childless people, which is now statistically significantly higher than it was in 1998/99.

1. Introduction

This Commentary presents an analysis of the latest low-income figures, released by the Department for Work and Pensions (DWP) on 30 March 2005 (Department for Work and Pensions, 2005b). These figures tell us about the extent of income inequality and relative income poverty in Great Britain up to and including the financial year 2003/04.

We begin by outlining how the income statistics produced by the government are measured, and then, in Chapter 2, our analysis commences by looking at the current distribution of income. We look at how average incomes have changed and the effect that recent tax rises have had on income growth. This chapter also examines what has been happening to the gap between the rich and the poor in Britain and compares the record of Labour with those of previous governments.

Following our analysis of inequality, we then examine the recent trends in relative and absolute poverty in Chapter 3, looking at the experiences of the key groups of children and pensioners in detail, as well as poverty amongst those who have been less favoured by government tax and benefit policies. We also discuss prospects for the government's child poverty targets in 2004/05 and 2010. Chapter 4 concludes.

1.1 How are incomes measured in this Commentary?

All the figures in this Commentary rely on household income data derived from the latest official Households Below Average Income (HBAI) statistics (Department for Work and Pensions, 2005b). These use weekly household income from all sources (earnings, state benefits, investments, pensions, etc.) net of direct taxes (income tax, National Insurance and council tax) as a measure of living standards. The incomes are calculated using information collected from the annual Family Resources Survey (FRS), a representative survey of around 45,000 people in 25,000 households in Great Britain.¹ In this section, we describe briefly the main features of the HBAI income measure on which our analysis is based, and discuss some of the advantages and disadvantages of measuring living standards in this way.

1.1.1 Income as a measure of living standards

Most people would consider that human well-being consists of more than material circumstances. However, even if we wanted to, it would be extremely hard to define an objective index of human well-being or happiness, let alone to measure it. The approach to living standards taken in HBAI is to focus solely on material circumstances, and to use income as a simple proxy.

Even as a measure of material well-being, the HBAI income measure has some important limitations. For example, the income measure here is a 'snapshot' measure – reflecting actual,

¹ The results we present for years prior to 1994/95 are derived from the Family Expenditure Survey (FES), a sample of around 7,000–8,000 households.

or in some cases 'usual', income around the time of the FRS interview. Income measured in this way will reflect both the temporary and the long-run circumstances of individuals, although the latter would generally be regarded as a better measure of welfare. Income-based statistics will also 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 well-being, though reliable data can be harder to collect.

1.1.2 The treatment of housing costs

The official 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). Until recently, the government has generally treated these as complementary indicators of living standards, presenting both in its HBAI publications and in its annual audit of poverty, *Opportunity for All*.² Both measures were used in setting its short-term child poverty target for 2004/05. However, the government's new child poverty measure focuses solely on BHC income (see Section 3.3.2).³

The case for using these different income measures arises from variation in housing costs. When deciding whether or not 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. However, for individuals who do exercise a considerable degree of choice over cost and quality, housing can be seen more like a consumption good like any other, and a BHC income measure may therefore be preferable. Even if people do have choices over their housing, differences in housing costs between households may not reflect differences in housing quality, and this may also lead us towards measuring incomes AHC.

Lack of choice over housing cost and quality is particularly important in the social rented sector, where individuals tend to have little choice over their housing and where rents have often been set with little reference to housing quality or the prevailing market rents. For this reason, commentators 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.

Pensioners are another group for whom an AHC measure has often been considered appropriate. This is because around two-thirds of pensioners own their homes outright (most of the remainder are social renters). 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. On a BHC measure, an individual who owns their own house

² See Department for Work and Pensions (2004a), for example.

³ DWP statisticians have stated that HBAI will continue to give equal prominence to results for incomes before housing costs and to results for incomes after housing costs.

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.⁴

As we will see in Chapters 2 and 3, our assessment of what has happened to inequality and poverty is often sensitive to the precise treatment of housing costs in the definition of income.

1.1.3 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 those of other household members. By measuring income at the household level, the HBAI statistics implicitly assume that all individuals within the household are equally well off and therefore occupy the same position in the income distribution. For some households, this assumption may provide a reasonable approximation – for example, some couples may benefit equally from all income coming into the household. For others, such as students sharing a house, it is unlikely to be appropriate. However, given the data available, it is perhaps not too unreasonable an assumption.⁵

1.1.4 Comparing incomes across households

If household income is to reflect the standard of living that household members enjoy, 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 may face.

The official HBAI income statistics currently use the McClements scale⁶ 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 McClements scale asserts that a single person would require 61 per cent of the income that a childless couple would require to attain the same standard of living.⁷ This process is referred to as ‘income equivalisation’.⁸

Since this Commentary is based on the latest HBAI statistics, we also follow the HBAI convention, using incomes equivalised using the McClements scale. However, the government’s new child poverty measure described in Chapter 3 uses a different equivalence scale (the Modified OECD scale).

Neither the McClements equivalence scale nor the Modified OECD scale takes into account other characteristics of the household besides the age and number of individuals in the household – despite the fact that 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

⁴ A 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 living in better-quality housing than others.

⁵ This is by no means the only ‘reasonable’ assumption that we can make: for example, we could assume that there is complete income sharing *within* the different benefit units of a household but not *between* them.

⁶ See McClements (1977).

⁷ The McClements scale assigns a different value when incomes are measured after housing costs.

⁸ See Department for Work and Pensions (2004b, appendix 2) for more details.

members. Someone with additional income due to the receipt of disability benefits will be located higher up the income distribution than someone who does not receive these benefits but has the same other income. But if the higher level of income only compensates the first individual for the greater needs that they have, then the standard of living of this person is not any higher.

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

The incomes used in this Commentary are derived from the Family Resources Survey and, prior to 1994/95, the Family Expenditure Survey. These surveys are designed to provide a broadly representative sample of households in Great Britain.⁹ 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: weights are applied to the data, and incomes at the very top of the distribution are adjusted. We discuss these procedures in turn.

Using weights makes the FRS sample look like the British population across a number of pre-specified dimensions, including family structure, housing tenure and council tax band. If, for example, there are proportionately fewer lone parents in the sample than there are in the

Box 1.1. Grossing factor changes

Following a methodological review, a new set of grossing factors is being used this year. They differ from those used previously in three main ways:

- new population estimates from the 2001 census have been incorporated;
- they now ensure that regional population totals are correct;
- they no longer try to account for whether individuals have a partner.

These changes are intended to make the FRS reflect the British population more accurately. To avoid a discontinuity between 2002/03 and 2003/04, new grossing factors have been calculated back to 1994/95. These have the effect of revising previously published figures slightly. The most substantial changes are:

- pensioner numbers increase from the mid-1990s rather than remaining flat;
- there are fewer working-age adults in all years.

The impact on inequality and poverty is small and ambiguous, but one important consequence is that the 2004/05 AHC child poverty target is slightly revised (see Chapter 3). This is not the first time that grossing factors have been updated; we draw attention to changes this year because they reflect not only the arrival of new data but also a new set of population control totals. For more information about the grossing factor changes, see Department for Work and Pensions (2005a).

⁹ Both have samples from Northern Ireland, but these are not analysed here.

population, then a larger weight is given to data from lone parents who do respond. Following a methodological review, the weights (often called ‘grossing factors’) used this year are different from those used previously (see Box 1.1). This has had the effect of changing a number of headline statistics and the 2004/05 AHC child poverty target.

The second way in which non-response bias is addressed is through a procedure applied to the incomes at the very top of the distribution to correct for the volatility in reported incomes. This adjustment procedure uses data from the Inland Revenue’s Survey of Personal Incomes (SPI) – a more reliable source of data for the richest individuals which is based on income tax returns rather than being a voluntary survey. The very richest individuals, for whom the SPI adjustment is applied, are assigned an income level derived from the SPI survey. For the most recent year’s data, this correction was made to the incomes of the top half a per cent of the population (corresponding to around 300,000 individuals). A slight modification is made to the grossing factors to allow for this SPI adjustment. However, there is no corresponding correction for non-response, or for misreporting of incomes at the lower end of the income scale.

1.1.6 The income measure summarised

In the analysis that follows, we will therefore be following the government’s HBAI methodology, using *household equivalised income after deducting taxes and adding benefits*, expressed as the equivalent income for a couple with no dependent children and in average 2003/04 prices, as our measure of living standards. For brevity, we shall be using this term interchangeably with ‘income’. Sometimes we shall be referring to incomes measured before housing costs and sometimes to incomes measured after housing costs; this will be made clear in the text.

1.2 How is poverty measured in this Commentary?

In the discussion of poverty in Chapter 3, we will classify individuals as being in poverty if they live in households whose income falls below some poverty line expressed as a fraction of median income. This is the same approach to measuring poverty as used by the government in its HBAI publication. Some of the measures analysed in Chapter 3 are also indicators in the government’s annual report on its anti-poverty policies, *Opportunity for All*.¹⁰ However, it is important to recognise that there are a number of limitations to measuring poverty in this way.

First, the poverty measure is entirely based on income. As well as the possible drawbacks of using HBAI income as a measure of living standards discussed earlier, there are particular issues arising when using this for the further aim of measuring poverty. Policy-makers, policy

¹⁰ The indicators are the proportion of (separately) working-age adults, pensioners and children in absolute, relative and persistent poverty. Absolute poverty is measured with reference to median income in 1998/99, relative poverty is measured with reference to contemporaneous median income and persistent poverty is defined as the individual being subject to relatively low income in three out of the last four years. For absolute and relative poverty, incomes are measured both AHC and BHC, and three poverty lines are defined, corresponding to 50 per cent, 60 per cent and 70 per cent of the relevant median income. For persistent poverty, income is measured BHC only, and the poverty lines correspond to 60 and 70 per cent of the relevant median only.

analysts and people in poverty are generally agreed that poverty is multi-dimensional; these statistics, though, attempt to capture just one dimension – insufficient resources.

Furthermore, none of the measures of poverty presented is explicitly based upon an assessment of needs, or what level of income would be adequate to achieve some standard of living. Nor do they take into account public perceptions of what poverty is. This criticism might lead one to view these estimates of poverty as merely another way of summarising the shape of the income distribution that focuses on the individuals with the lowest incomes. However, some recent studies have suggested that the popular conception of poverty is a relative notion rather than an absolute one.¹¹ For single pensioners, at least, a recent estimate of the cost of an adequate budget produced an answer that was close to 60 per cent of median income AHC.¹²

Even accepting the above limitations, such poverty measures are only informative about the number of poor people. They provide no information on the ‘distance’ that separates those with incomes below poverty lines from the poverty thresholds, and so contain no information on *how poor* the poor households are. Nor do they take into account *how long* people are poor for. Yet the ‘seriousness’ of poverty may be a very important issue and one requiring different policies from those aiming simply to bring people from just below the poverty line across it.

There are, of course, advantages to this way of measuring poverty. For example, the process of producing the eventual statistic is relatively transparent and does not require many subjective decisions on the part of the researcher or government statistician. Furthermore, the measures have been used for many years, they are well understood and it is easy to make comparisons with them over time and across countries.

¹¹ See Hills (2001 and 2002).

¹² See Goodman, Myck and Shephard (2003, table B1).

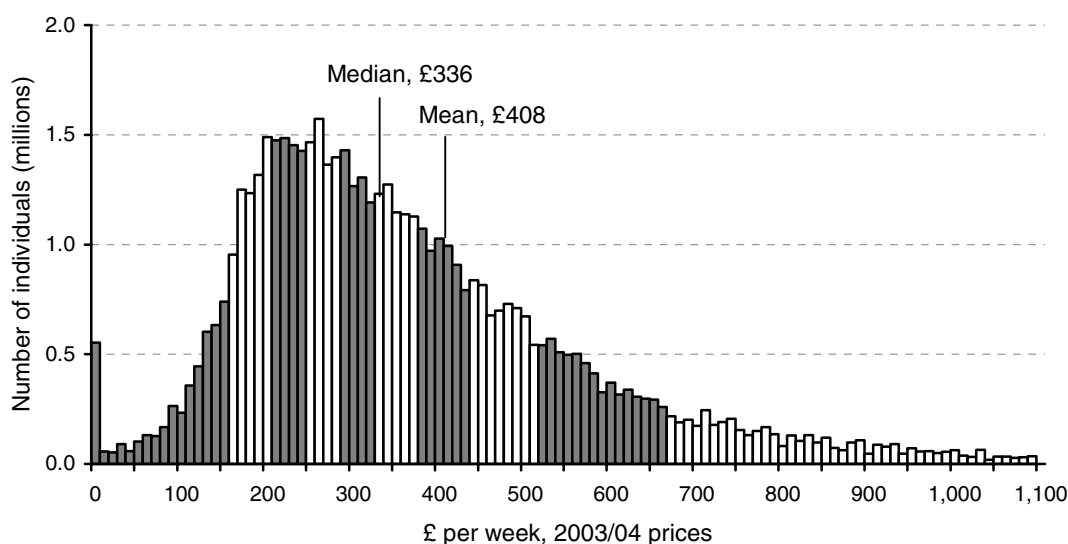
2. Living standards and inequality

In this chapter, we analyse what the most recent Households Below Average Income data, from the financial year 2003/04, tell us about living standards and inequality in Great Britain. Section 2.1 examines the features of the entire distribution of income and Section 2.2 explores how average incomes have changed since 1996/97. Section 2.3 then asks why growth in average incomes appears to be particularly low in 2003/04. Section 2.4 shows how income inequality has changed since 1996/97 and Section 2.5 concludes.

2.1 The income distribution in 2003/04

Figure 2.1 shows the income distribution in 2003/04, the latest year for which data are available.¹³ This graph shows the number of people living in households with different income levels, grouped into £10 income bands. The height of the bars represents the number of people in each income band. As can be seen, the current distribution is highly skewed, with 64 per cent of individuals having household incomes below the national average. Furthermore, 1.4 million individuals (out of a private household population of approximately 57 million individuals) have incomes above £1,100 a week and are not shown on this graph. The figure also shows that there are approximately half a million individuals whose income is

Figure 2.1. The income distribution in 2003/04



Notes: Incomes have been measured before housing costs have been deducted. The graph has been truncated at £1,100.

Source: Authors' calculations using Family Resources Survey, 2003/04.

¹³ Here, and throughout this chapter, we focus upon income before housing costs have been deducted. We will, however, comment where there is any important difference when incomes are instead measured after housing costs.

between zero and £10 a week. Such a discontinuity in the distribution arises because negative incomes have been set to zero. In the data, we observe close to 500,000 individuals who have negative income, whether this be due to large self-employment losses or because of various payments that are deducted.

When performing income distribution analysis, we often divide the population into 10 equally sized groups, called decile groups. The first decile group contains the poorest 10 per cent of the population, the second decile group contains the next poorest 10 per cent, and so on. In Figure 2.1, the alternately shaded sections represent these different decile groups, and, as can be seen, the distribution is particularly concentrated within a fairly narrow range of income in decile groups 2 to 5. However, as we move further up the income distribution, a widening of the decile group bands can be seen. Note that the tenth decile group band is much wider than is shown in Figure 2.1 because of the graph being truncated at £1,100.

Many individuals are unaware of their own position in the income distribution. In Table A.1 in Appendix A, we present the monthly income levels for a selection of different family types falling into each income decile group. Researchers at IFS have also developed an interactive income distribution model, which allows individuals to place themselves more precisely in the income distribution on the basis of their household income after adjusting for their household size and composition. The ‘Where do you fit in?’ model is available online at www.ifs.org.uk/wheredoyoufitin.

2.2 Changes in living standards

This section shows how incomes have changed since 1996/97, both on average and for specific family types.

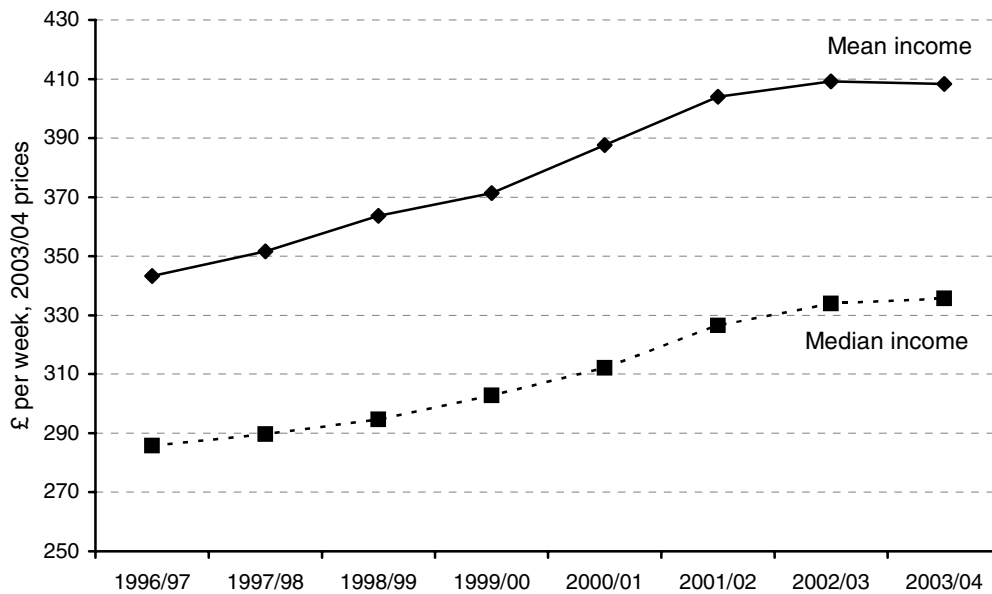
2.2.1 Changes in mean and median income

Recent trends in average income are shown in Figure 2.2. The graph shows that mean income (before housing costs were deducted) was £343 in 1996/97 and increased to £408 by 2003/04 (these and all other monetary values in this section are expressed in average 2003/04 prices, and so all differences represent real differences). This corresponds to a real rise of around 19 per cent, or 2.5 per cent on an annualised basis. Similarly, median income increased by 17 per cent (2.3 per cent when annualised), from £286 to £336.¹⁴

The growth of income is slightly stronger when measured after housing costs than when measured BHC: mean and median incomes increased by 26 per cent and 24 per cent respectively.

¹⁴ Mean income is obtained by adding up all incomes and dividing by the total number of people in the population. It gives equal weight to all observations and can therefore be quite sensitive to very low and very high incomes. In contrast, the median is a measure of average that divides the population into two equally sized groups. Half the population have incomes below the median and half have incomes above it. The median is not affected by the presence of very high and very low incomes in the distribution. It is because of the potential differences in these measures of average that it is useful to consider both.

Figure 2.2. Changes in average real incomes



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

To put this income growth into context, it is necessary to look at what has happened over a longer period. Looking at periods of time defined by political events is one interesting way to do this, although it is important to realise that these periods cover different periods in the economic cycle, and income growth rates are very sensitive to this.

Bearing this in mind, between 1990 and 1996/97, when John Major was Prime Minister, both mean and median income increased by 0.8 per cent on an annualised basis. This contrasts with the experience between 1979 and 1990 when, under the premiership of Margaret Thatcher, mean and median annualised income grew by 2.9 per cent and 2.1 per cent respectively. Average income growth under Blair, therefore, has been much stronger than it was under Major, and of roughly comparable magnitude to what was experienced under Thatcher (see Table 2.1).

Table 2.1. Annualised real average income growth

	Mean	Median
Blair (1996/97 – 2003/04)	2.5%	2.3%
Major (1990 – 1996/97)	0.8%	0.8%
Thatcher (1979 – 1990)	2.9%	2.1%

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

2.2.2 Changes in average incomes of different family types

Different family types have experienced different growth in their household income since 1996/97. In Table 2.2, we present the average annualised income growth for a range of different family types. The table shows that out of all of the family types, couples without children had the highest household equivalised income on average in 2003/04 (a mean income of £512 per week), followed by singles without children (an income of £418 per week). Lone parents and single pensioners had the lowest mean weekly incomes (£277 and £310 respectively).

Table 2.2. Annualised income growth by family type, 1996/97 – 2003/04

	Mean BHC income		Median BHC income	
	Growth	2003/04 level	Growth	2003/04 level
Single pensioners	2.8%	£310	3.0%	£271
Pensioner couples	2.1%	£348	2.2%	£279
Lone parents	3.9%	£277	3.4%	£237
Singles without children	2.2%	£418	2.2%	£362
Couples with children	2.8%	£407	2.1%	£333
Couples without children	2.2%	£512	1.9%	£441
All	2.5%	£408	2.3%	£336

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

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

Although single pensioners and lone parents are the poorest families on average, they have been catching up in recent years, with their income growth exceeding the national average, reflecting the significant financial resources directed to these groups by the government (see Adam and Wakefield (2005)).¹⁵

2.3 Why have incomes risen so little since 2002/03?

Since 1996/97, average disposable income growth has been relatively strong by historical standards, but Figure 2.2 shows that this growth has slowed down considerably in the past two years, with especially sluggish growth in 2003/04. Indeed, in 2003/04, median income BHC increased by just under £2 a week (an increase of 0.5 per cent) and mean income fell slightly (a change of -0.2 per cent). This is the first time that incomes have fallen since the recession in the early 1990s.

As Table 2.3 illustrates, these annual growth rates are by far the lowest that have been seen under the present government; the same is true on an AHC basis.

The very slow growth in average incomes demands further attention. We are now going to compare these findings with data from the National Accounts and examine how the different components of income – which make up our aggregate income measure – have changed. We

¹⁵ Table A.2 in Appendix A presents annualised income growth rates by these family types on an AHC basis.

Table 2.3. Real year-on-year income growth

	BHC income		AHC income	
	Mean income	Median income	Mean income	Median income
1996/97	3.4%	4.3%	4.3%	5.5%
1997/98	2.4%	1.4%	2.9%	1.4%
1998/99	3.4%	1.7%	3.9%	1.9%
1999/00	2.1%	2.8%	3.0%	4.4%
2000/01	4.4%	3.1%	5.4%	4.2%
2001/02	4.2%	4.6%	4.6%	5.4%
2002/03	1.3%	2.3%	2.8%	3.4%
2003/04	-0.2%	0.5%	0.5%	1.3%

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

will also quantify the impact that recent discretionary tax rises have had upon this level of growth and explore the possible role that sampling variability may play.

2.3.1 A comparison with the National Accounts

The fact that there are no significant changes in average household incomes between 2002/03 and 2003/04 may appear quite surprising given that this was a period of relatively strong economic growth. Indeed, real gross domestic product (GDP) per head grew by 2.2 per cent over this period. However, a measure of households' real disposable income contained in the *Blue Book* that has been modified to be more comparable to the official HBAI income definition also shows particularly low income growth.¹⁶ Given that this alternative measure – which is based on a different data source from the official HBAI measure – mirrors the movement in the HBAI income series quite closely, it seems unlikely that the low growth is unique to the data on which HBAI is based. In Table A.3 in Appendix A, we present the growth rates for these measures since 1996/97.

2.3.2 Sources of income

Our first step towards understanding why average incomes have changed so little is to examine how the different components of income have changed. For the majority of households, the most important component (or source) of income is earnings derived from employment. What is quite striking is that since 2001/02, reported household net equivalised earnings have barely risen in real terms (an increase in the mean of just 0.9 per cent over two years), while at the same time self-employment income has fallen considerably (a decrease of 30.4 per cent over the same period). On the other hand, income from state benefits and private pensions has been growing, but overall, income growth has been particularly slow in the past two years (see Table 2.3 again).

¹⁶ This variant is constructed by deducting property income received from the households' real disposable income measure contained in the *Blue Book*. The series is expressed in per-capita terms and deflated using the official HBAI deflators. This measure is based upon estimates calculated by the DWP.

Between 2001/02 and 2003/04 when this low real earnings growth was observed, the average earnings index (AEI) increased by 2.6 per cent in real terms.¹⁷ This growth is somewhat higher than the 0.9 per cent growth in *net* household equivalised earnings from the HBAI data-set, although there are important conceptual differences between the two measures. A measure that more closely corresponds to that used in the construction of the AEI takes the net earnings measure from the HBAI data-set and adds back in various tax deductions, so that we arrive at a *gross* household equivalised earnings measure. The differences between the growth rates of this and our net earnings measure will then largely reflect tax changes. Using this, we find that gross household equivalised earnings increased by 2.2 per cent, which corresponds much more closely (conceptually and in value) to the growth in the AEI than our net earnings measure did. The impact of tax changes is explored in more detail in Section 2.3.3.

Self-employment income is considerably more variable over time than income from earnings, and there are also concerns about how well it is measured in the HBAI data-set.¹⁸ If we exclude from our analysis all households that are receiving some self-employment income, then mean income is £20 lower in 2003/04 (as those households that are receiving self-employment income tend to be richer on average). Since around 10 million individuals live in households that receive some form of self-employment income, its volatility has important consequences for the growth of average incomes. Indeed, when we exclude such individuals, the growth rate in mean (median) income between 2002/03 and 2003/04 is 1.8 per cent (1.3 per cent). Furthermore, this difference (between including and excluding the self-employed) in mean income growth rates is the largest experienced under the present government. Table 2.4 shows how incomes have changed between 1996/97 and 2003/04 and how this depends upon whether households with self-employment income are included in or excluded from our analysis.

Table 2.4. Real income including and excluding the self-employed

	Including the self-employed		Excluding the self-employed	
	Mean	Median	Mean	Median
1996/97	£343 (3.4%)	£286 (4.3%)	£312 (2.0%)	£267 (2.4%)
1997/98	£352 (2.4%)	£290 (1.4%)	£324 (3.8%)	£276 (3.5%)
1998/99	£364 (3.4%)	£295 (1.7%)	£338 (4.4%)	£285 (3.2%)
1999/00	£371 (2.1%)	£303 (2.8%)	£344 (1.7%)	£295 (3.5%)
2000/01	£388 (4.4%)	£312 (3.1%)	£362 (5.4%)	£304 (3.1%)
2001/02	£404 (4.2%)	£327 (4.6%)	£377 (3.9%)	£319 (4.8%)
2002/03	£409 (1.3%)	£334 (2.3%)	£380 (1.0%)	£324 (1.7%)
2003/04	£408 (-0.2%)	£336 (0.5%)	£387 (1.8%)	£328 (1.3%)

Notes: Incomes have been measured before housing costs have been deducted. Figures for year-on-year growth are given in parentheses.

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

¹⁷ Calculations are based on the whole economy average earnings index, including bonuses and not applying any seasonal adjustment. See Office for National Statistics (2005b, table E.4).

¹⁸ See, for example, Department for Work and Pensions (2004b, appendix 2).

Given that the self-employed represent a non-trivial section of the labour force, the variability of their income affects our conclusions about income growth, as Table 2.4 demonstrates. Indeed, the combination of the negative growth in self-employment income in 2003/04 and the recent tax rises (discussed in more detail in Section 2.3.3) appears very important in explaining the low income growth in 2003/04. While it is often argued that the *current* incomes of the self-employed do not reflect their current living standards particularly well, the characteristics of households that contain self-employed workers tend to be different on average from the characteristics of households that do not, so omitting the self-employed would potentially reduce the representativeness of the survey.

2.3.3 The impact of tax and benefit changes

In the previous subsection, we showed that real household net earnings had increased by just 0.9 per cent over two years, while there was a real increase of 2.2 per cent in gross earnings over the same period. A likely explanation for this discrepancy is the tax rises introduced in April 2003 – a 1-percentage-point increase in employee, employer and self-employed National Insurance (NI) rates, accompanied by a nominal freeze in the associated primary and secondary thresholds and lower profits limits and in the income tax personal allowances for those under 65.^{19,20} We now assess the impact of these changes – together with the effect of council tax rises – on our main net income measure.

To assess the impact of these discretionary changes upon average incomes, we use the IFS tax and benefit model, TAXBEN, to calculate what incomes would have been had these tax rises not been introduced. Our analysis suggests that in the absence of the tax rises, mean income would have been £412, while median income would have stood at £338, corresponding to year-on-year growth rates of 0.7 per cent and 1.3 per cent respectively (see Table 2.5); this implies that 0.8 per cent of mean and median income was lost to National Insurance and income tax rises in 2003/04.

We must remember, however, that when we construct our household income variable, we deduct various payments. For the majority of households, the single most important of these payments is council tax. The large rises in council tax that took place in 2003/04 are well

Table 2.5. The effect of tax rises on average incomes

	Mean	Median
Actual	£408 (−0.2%)	£336 (0.5%)
Before income tax and NI rises	£412 (0.7%)	£338 (1.3%)
Before income tax, NI and council tax rises	£413 (0.9%)	£339 (1.6%)

Notes: Incomes have been measured before housing costs have been deducted. Figures for year-on-year growth are given in parentheses.

Source: Authors' calculations using TAXBEN and Family Resources Survey, 2003/04.

¹⁹ This compares with a counterfactual where there are no changes in rates and all thresholds and allowances increase in line with inflation.

²⁰ There were also increases in the value of state benefits in the April 2003 Budget. In particular, the introduction of the new tax credits extended and increased the generosity of the working families' tax credit system that they replaced.

documented, with an average real increase of 9.7 per cent being far greater than any other single-year increase since Labour came to power (see Table A.4 in Appendix A). If, rather than increasing as it did, council tax had simply risen in line with prices, mean income would have been £413 in 2003/04, while median income would have been £339. These correspond to growth rates of 0.9 per cent and 1.6 per cent (see Table 2.5), implying that the combined effect of income tax, National Insurance and council tax rises in 2003/04 was to reduce average incomes by 1.1 per cent.²¹

2.3.4 Sampling error

Even allowing for the impact of recent discretionary tax rises and council tax increases (as we did in Section 2.3.3), income growth is still much below what has been experienced in recent years. We now explore the potential role of sampling error.

Like every statistic calculated from the HBAI data, the figures given above for mean and median income are estimates based on a sample of households in Britain. Because of this, there will be a confidence interval around the point estimate. We estimate that the 95 per cent confidence interval for the year-on-year growth in mean income between 2002/03 and 2003/04 is –2.2 per cent to 1.9 per cent: this means that there is a 95 per cent chance that actual income growth lies within this range.

Therefore, although it is possible that the true income growth rate was higher than the estimated change of –0.2 per cent, it is also possible that the growth rate was actually more negative. Moreover, the growth rate at the upper end of the confidence interval (1.9 per cent) is still below the growth rate at the lower end of the confidence intervals in several earlier years (see Table 2.6). So even when we allow for sampling variability, income growth since 2002/03 is low compared with several years since 1996/97.

Table 2.6. Real income growth and 95 per cent confidence interval

	Mean BHC income			Median BHC income		
	Lower	Point	Upper	Lower	Point	Upper
1996/97	1.8%	3.4%	5.1%	2.7%	4.3%	5.6%
1997/98	0.8%	2.4%	4.1%	–0.1%	1.4%	2.8%
1998/99	1.3%	3.4%	5.5%	0.3%	1.7%	3.1%
1999/00	0.1%	2.1%	4.3%	1.3%	2.8%	4.2%
2000/01	2.2%	4.4%	6.6%	1.9%	3.1%	4.7%
2001/02	2.2%	4.2%	6.6%	3.2%	4.6%	5.9%
2002/03	–0.9%	1.3%	3.5%	0.9%	2.3%	3.6%
2003/04	–2.2%	–0.2%	1.9%	–0.6%	0.5%	1.9%

Notes: Incomes have been measured before housing costs have been deducted. ‘Lower’ and ‘Upper’ refer to the lower and upper bound of the 95 per cent confidence interval. ‘Point’ refers to the actual estimate derived from the data.

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

²¹ ‘No real change in council tax’ is a questionable counterfactual as Table A.4 shows that council tax payments have risen in real terms in every year since 1996/97. If, as an alternative counterfactual, we use the average annual real rise between 1996/97 and 2002/03 of 4.6 per cent, then mean income would have been £413 in 2003/04 and median income would have been £339, with year-on-year growth rates of 0.9 per cent and 1.5 per cent respectively.

2.4 What has happened to income inequality?

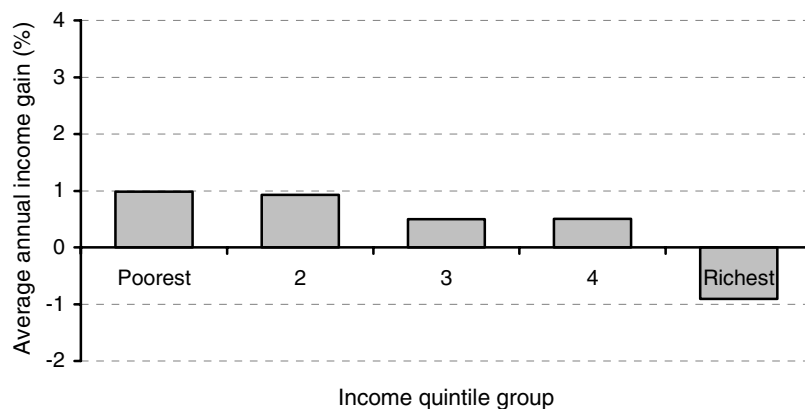
Income inequality concerns differences in incomes between individuals. Any measure of income inequality therefore seeks to measure the extent to which there is a departure from the equality of household equivalised incomes. Throughout this Commentary, we will be adopting a relative notion of inequality in our discussion of income inequality. This means that should all incomes increase or decrease by the same proportional amount, we would conclude that income inequality had remained unchanged. In other words, it is relative, rather than absolute, income differences that matter.

2.4.1 Income changes by quintile group

One common way to show how inequality has changed across the population is to consider average real income growth by quintile group (each quintile group contains 20 per cent of the population, or around 11 million individuals). We begin this in Figure 2.3 by comparing how incomes have changed in these different quintile groups between 2002/03 and 2003/04.

The graph demonstrates that the first and second quintile groups experienced growth of around 1 per cent, while the second and third quintile groups saw growth of around 0.5 per cent. In contrast, the richest quintile group saw the largest losses, averaging -0.9 per cent.²² While the losses for the richest quintile group are perhaps not surprising given the tax increases that took place in April 2003 (see Section 2.3.3), the lower half of the distribution may have been expected to have experienced greater income growth given the introduction of the new tax credits – this is an issue that is discussed in detail in Chapter 3 when we evaluate the government’s success in reducing child poverty.

Figure 2.3. Real income growth by quintile group, 2002/03 – 2003/04

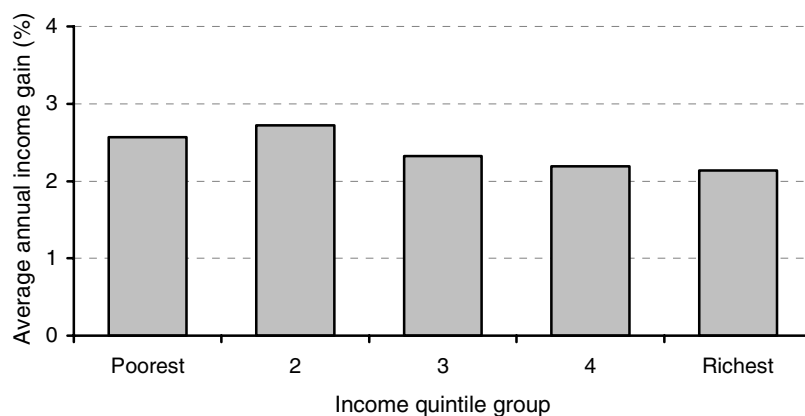


Notes: The averages in each quintile group correspond to the midpoints, i.e. the 10th, 30th, 50th, 70th and 90th percentile points of the income distribution. Incomes have been measured before housing costs have been deducted. Source: Authors’ calculations using Family Resources Survey, various years.

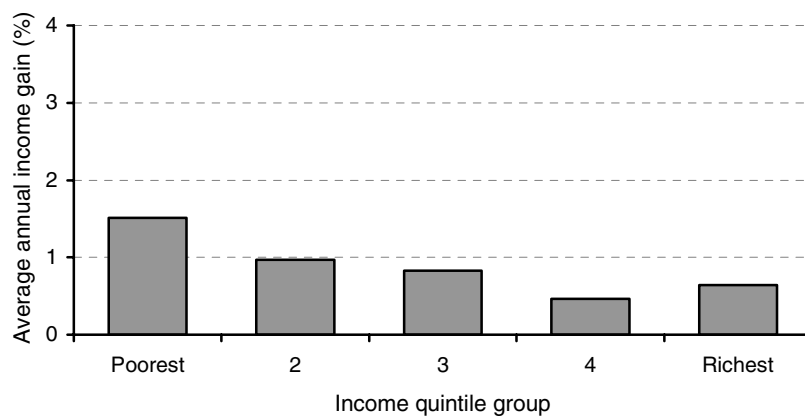
²² The pattern is very different when incomes are measured AHC. From poorest to richest quintile groups, we find growth rates of -0.9 per cent, 2.6 per cent, 1.3 per cent, 1.3 per cent and 1.2 per cent respectively. None of these changes is statistically significant.

Figure 2.4. Real income growth by quintile group

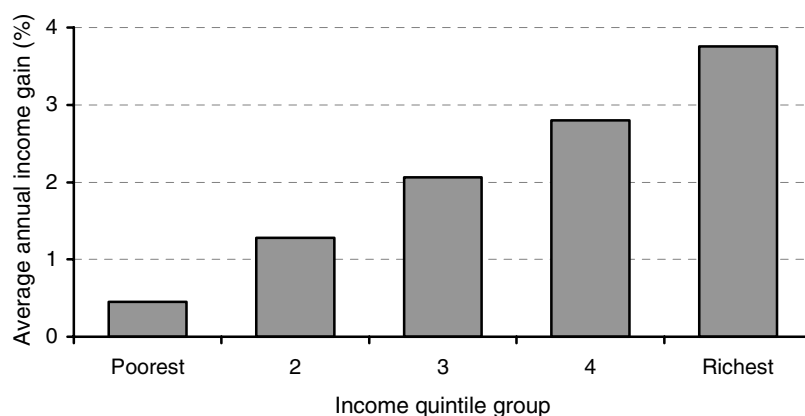
Blair: 1996/97 – 2003/04



Major: 1990 – 1996/97



Thatcher: 1979 – 1990



Notes: The averages in each quintile group correspond to the midpoints, i.e. the 10th, 30th, 50th, 70th and 90th percentile points of the income distribution. Incomes have been measured before housing costs have been deducted. Source: Authors' calculations using Family Resources Survey and Family Expenditure Survey, various years.

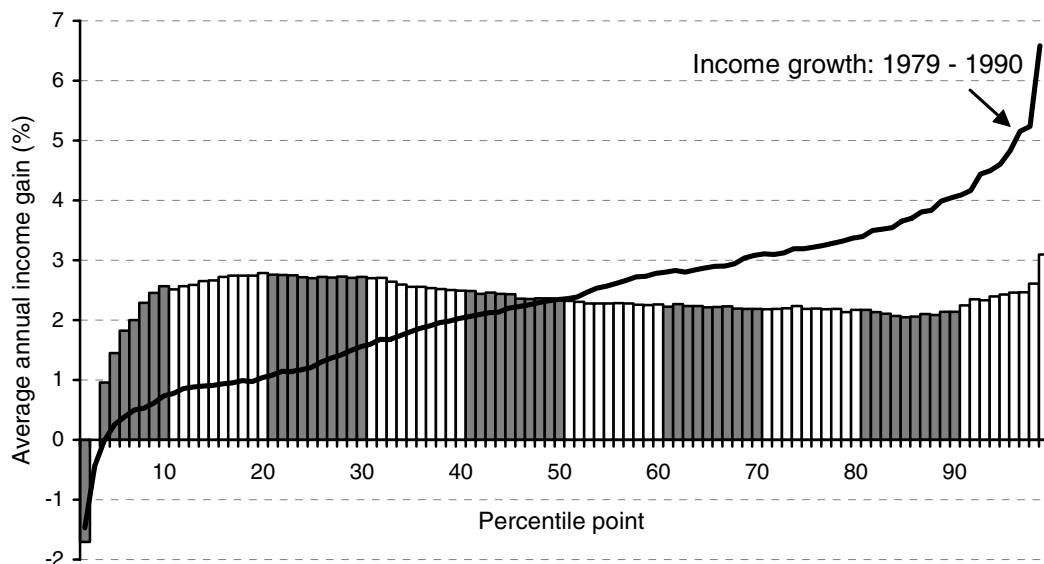
Even though none of these income changes by quintile group is statistically significant at the 5 per cent level, a direct consequence of these changes is that it now appears unlikely that inequality rose under the present government when taking the period since 1996/97 as a whole. Figure 2.4 shows how incomes have grown by quintile group since 1996/97, and, for comparison, also shows the experiences under the previous governments.

2.4.2 A more detailed look at the changing income distribution

While Figures 2.3 and 2.4 give us a reasonable impression of how incomes have been changing across much of the distribution, they do mask the behaviour at the extremes. In particular, incomes close to the very top of the distribution, at the 99th percentile point, have seen a real fall of almost 4 per cent between 2002/03 and 2003/04. This decline is greater than can be explained by the tax rises alone (see the discussion in Section 2.3.3), and is sufficiently large that the cumulative income growth for these individuals between 1996/97 and 2003/04 is much closer to the average than it was between 1996/97 and 2002/03. However, the degree of sampling variability is sufficiently large that this decline at the very top of the income distribution is not even statistically significant at the 10 per cent level.

We show how incomes have changed right across the distribution between 1996/97 and 2003/04 – including those individuals at the 99th percentile point – in Figure 2.5. This graph is similar to Figure 2.4, except that rather than presenting how incomes have changed in different quintile groups, we instead consider income growth at 99 percentile points in the income distribution.²³ The differently shaded sections again correspond to the different

Figure 2.5. Real income growth by percentile point, 1996/97 – 2003/04



Notes: The change in income at the 1st percentile is not shown on this graph (see footnote 23). Incomes have been measured before housing costs have been deducted.

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

²³ In Figure 2.5, growth at the 1st percentile point has not been shown in order to maintain a reasonable scale for the graph. However, at -16 per cent, it is certainly very different from anything observed elsewhere in the distribution.

income decile groups. To place the changes in a historical context, we also show how this income growth compares with what was observed between 1979 and 1990 under the premiership of Margaret Thatcher, as illustrated by the superimposed line.

Between about the 15th percentile point and the 85th percentile point, it is generally the lower parts of the distribution that have gained most over the period, and this would be consistent with falling inequality. Beyond the 85th percentile point, income growth is generally increasing in income, with a slight spike at the 99th percentile point where annual income growth stands at 3.1 per cent. Although income growth here is higher than elsewhere in the income distribution, this spike is much less pronounced than the previous year's data revealed (the annualised growth rate between 1996/97 and 2002/03 is 4.3 per cent). Indeed, the income growth observed at the 99th percentile point is no longer statistically significantly different from median income growth. If we believe that income changes at the very top of the distribution are important in determining what has happened to inequality, then the recent changes to incomes here can affect our conclusions about what has been happening to income inequality under the current government.

The superimposed line in Figure 2.5 shows that almost without exception over the period 1979 to 1990, the higher was income, the greater was income growth. This implies that the lower decile groups have fared considerably better in recent years than they did in the 1980s. Clearly, the change in the income distribution over the 1980s is very different from that observed since 1996/97.

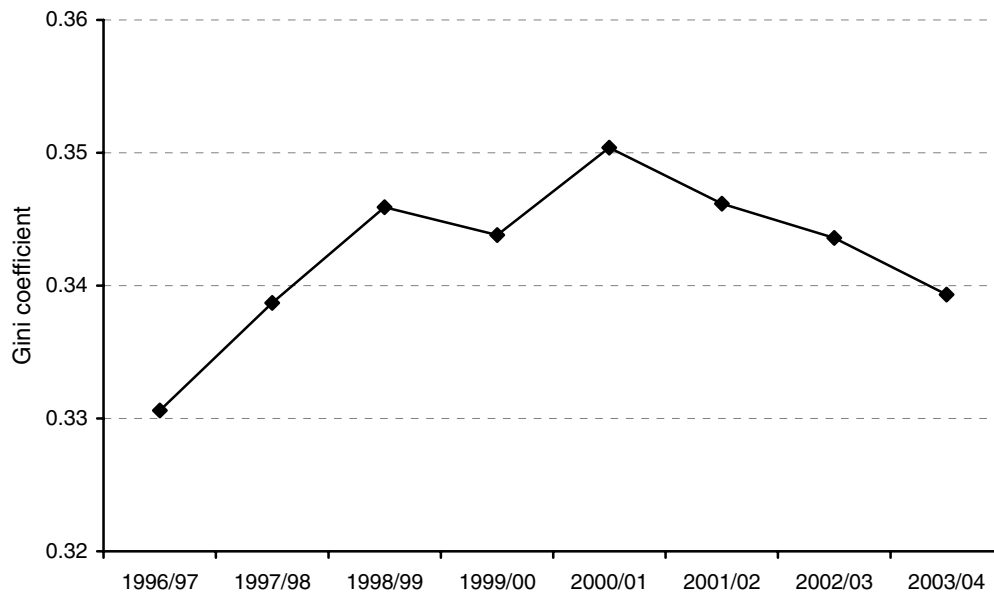
While Figure 2.5 gives us a very detailed impression of how incomes have been evolving, it can prove very useful to construct a summary measure. This is particularly helpful if we want to track how inequality has evolved through the tenure of the current and preceding governments. One way of doing this is to use the Gini coefficient.

2.4.3 The Gini coefficient

The Gini coefficient is a popular measure of income inequality that condenses the entire income distribution into a single number between zero and one: the higher the number, the greater the degree of income inequality. A value of zero 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 one corresponds to inequality in its most extreme form, with a single individual having command over the entire income in the economy. The Gini coefficient is discussed in detail in Appendix B.

Figure 2.6 shows the evolution of the Gini coefficient from 1996/97 to 2003/04. Between 1996/97 and 2000/01, the Gini coefficient increased by 2 percentage points. Since then, however, the Gini has been falling, so that inequality in 2003/04 is at a similar level to what it was in 1997/98. The recent reduction in incomes at the very top of the distribution has helped to lower the Gini coefficient further and achieve three continuous years of falling inequality (while this decline is statistically significant at the 10 per cent level, it is not so at the 5 per cent level). Although the Gini coefficient is still higher than it was in 1996/97 (0.34 compared with 0.33), the actual increase over this period is not statistically significant at the 5 per cent level. So, although we have seen some quite marked changes in income inequality under this

Figure 2.6. The Gini coefficient



Note: The Gini coefficient has been calculated using incomes before housing costs have been deducted.
 Source: Authors' calculations using Family Resources Survey, various years.

government, the net effect of seven years of Labour government is to leave inequality effectively unchanged.²⁴

2.4.4 The past, present and future of income inequality

Seven years of Labour government have resulted in a small, but statistically insignificant, rise in the Gini coefficient. No strong evidence of rising income inequality is, however, very different from falling income inequality. As a result of this, inequality still remains at historically high levels. Indeed, in 2000/01, inequality as measured by the Gini coefficient was at its highest level since at least 1961. Figure 2.7 shows the evolution of the Gini from 1979 to 2003/04.²⁵

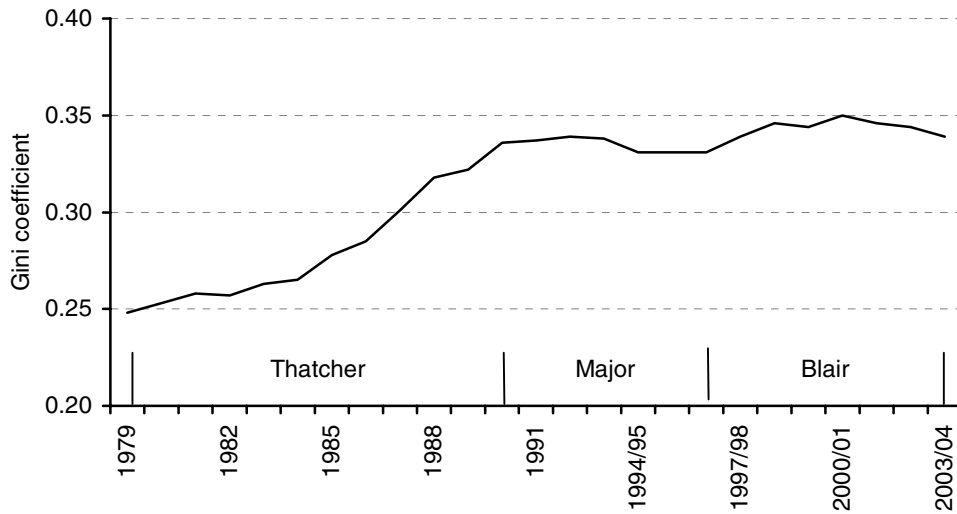
Reflecting on the more recent experience, it appears that the relatively large redistributive programme introduced by Labour since 1997 has only been sufficient to just about halt the growth in inequality, and certainly not to reduce it. When it was put to the Prime Minister prior to the 2001 general election that the gap between the rich and the poor was widening, he responded that 'a lot of those figures are based on [data] a couple of years ago before many of the measures we took came into effect'.²⁶ When questioned by the Commons Liaison

²⁴ When incomes are measured after housing costs, the overall increase is smaller and, again, is not statistically significant.

²⁵ A picture of the evolution of the Gini coefficient since 1961 can be found in Goodman and Shephard (2002, figure 5).

²⁶ Interview on *Newsnight*, BBC, 13 July 2000.

Figure 2.7. The Gini coefficient



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

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

Committee in February 2005, he added that 'sometimes figures can be misleading about the gap between the wealthy and the poor'.²⁷ Regardless of whether the figures are or are not misleading, the government has not made any explicit statement that would indicate a particular concern with inequality. Instead, the government has highlighted its desire to raise the incomes of the poorest. In the absence of an obvious political momentum, it seems unlikely that inequality will return to the levels experienced prior to the huge rise seen in the 1980s.

2.5 Conclusions

There was very little income growth between 2002/03 and 2003/04, and mean income actually fell for the first time since the early 1990s. Such small change in average incomes is surprising, given that this was a period of relatively strong economic growth, with real GDP per head increasing by over 2 per cent. While the tax, National Insurance and council tax rises in April 2003 help explain some of this low income growth, in their absence, income growth would still remain below what we have experienced in recent years.

Not all households have experienced the same proportional changes in their income, however. We find that compared with the previous year's data, poorer households have fared relatively better, while some of the richer households have seen a reduction in their income. Even though these year-on-year income changes are statistically insignificant across much of the distribution, income inequality, having increased over much of the current government's early years, now appears to be at more or less the same level as when it came to power in 1997. The fact that considerable redistribution has been required just for income inequality to stand still

²⁷ Cited in *Guardian*, 10 February 2005 ('I'm not in favour of raising top rates of tax, Blair insists' by George Jones).

suggests that the reversal of the increase in inequality seen over the 1980s seems unlikely in the immediate future.

3. Poverty in Britain

In this chapter, we summarise the trends in the government's main income-based poverty indicators, which are all derived from HBAI data. These count the number of individuals below various fractions (50 per cent, 60 per cent and 70 per cent) of the income of the median individual – the individual in the middle of the income distribution. These indicators are known as 'relative' poverty indicators because whether someone is classed as being poor depends not just on their income but also on the income of the median individual. *Opportunity for All*, the government's annual audit of poverty,²⁸ also includes measures where the poverty line is fixed in real terms at its 1998/99 level (called 'absolute' poverty indicators), measures that count individuals with persistent low incomes, and a wide range of other indicators that are not income-based. We do not consider any of these here.

Since the size of the population can change over time, it is often better to measure trends in poverty by the fraction of individuals that it affects, rather than by the number of individuals. Consequently, our tables and graphs present poverty *rates*, but we report how many people are poor in the text. We also report estimates of whether changes in poverty are statistically significant.²⁹

Section 3.1 analyses recent changes in relative poverty for the population as a whole and for various subgroups. Section 3.2 asks why child poverty fell in 2003/04 by less than might have been expected and Section 3.3 looks at prospects for child poverty in 2004/05 and beyond.

3.1 Relative poverty

In this section, we begin by analysing recent changes in relative poverty for the population as a whole. We then focus on subgroups, examining poverty amongst the government's favoured target groups of children and pensioners and amongst a group that is not treated separately in the government's *Opportunity for All* report analysis – working-age adults without children.

Table 3.1 shows the level of the poverty line in pounds in 2003/04 for a number of different family types when the poverty line is set at 50, 60 and 70 per cent of median income. These poverty lines are used throughout this chapter (except Section 3.3.2, which relates to the new child poverty measure).

²⁸ Most recently, Department for Work and Pensions (2004a).

²⁹ These were calculated by bootstrapping the changes. 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). See also Box 3.2 below.

Table 3.1. Example poverty lines in 2003/04

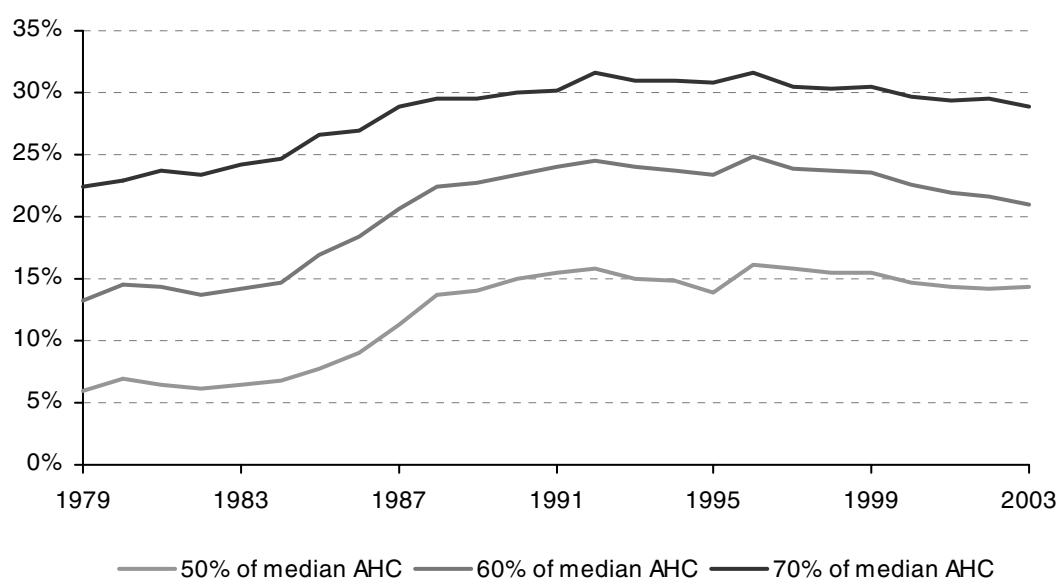
Family type	After housing costs			Before housing costs		
	50% median	60% median	70% median	50% median	60% median	70% median
Childless couple	£149	£178	£208	£168	£201	£235
Single individual	£82	£98	£114	£102	£123	£143
Couple with one child aged 8	£183	£219	£256	£206	£248	£289
Couple with two children aged 1 and 3	£186	£223	£260	£213	£256	£298
Lone parent with one child aged 8	£116	£139	£162	£141	£169	£197
Lone parent with two children aged 1 and 3	£119	£143	£167	£148	£177	£207

Source: Authors' calculations based on Family Resources Survey, 2003/04.

3.1.1 The whole population

Figures 3.1 and 3.2 show the trends in relative poverty in Britain since 1979. They illustrate the well-known trend that poverty rates increased dramatically during the 1980s, more slowly in the early 1990s, and then stabilised or fell from the mid-1990s. The two graphs also show the historical tendency for poverty rates measured after housing costs (AHC) to be higher than those measured before housing costs (BHC); this is because the distribution of incomes is more heavily skewed towards the lower end when measured AHC.

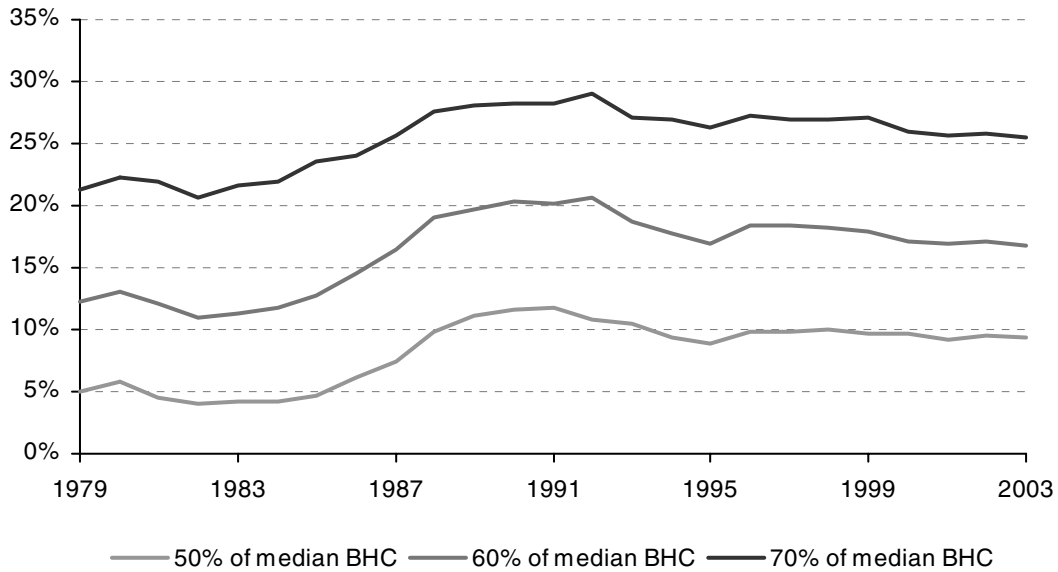
Figure 3.1. Relative poverty in Britain: percentage of individuals in households with incomes below fractions of median AHC income



Note: Data from 1993 onwards are for financial years, i.e. 1993/94 etc.

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

Figure 3.2. Relative poverty in Britain: percentage of individuals in households with incomes below fractions of median BHC income



Note: Data from 1993 onwards are for financial years, i.e. 1993/94 etc.

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

Table 3.2. Relative poverty in Britain: percentage of individuals in households with incomes below various fractions of median income

	Percentage of the population						Population (million)
	After housing costs			Before housing costs			
	50% median	60% median	70% median	50% median	60% median	70% median	
1996/97	16.1	24.8	31.6	9.9	18.4	27.3	55.6
1997/98	15.8	23.8	30.5	9.9	18.3	26.9	55.7
1998/99	15.6	23.7	30.4	10.0	18.2	27.0	55.9
1999/00	15.4	23.5	30.5	9.7	17.9	27.0	56.1
2000/01	14.7	22.6	29.6	9.7	17.0	26.0	56.2
2001/02	14.3	21.9	29.3	9.3	16.9	25.7	56.4
2002/03	14.2	21.6	29.5	9.6	17.0	25.8	56.6
2003/04	14.3	21.0	28.8	9.4	16.8	25.5	56.8
<i>Change:</i>							
Since 1996/97	-1.8	-3.8	-2.8	(-0.5)	-1.6	-1.7	
Since 1998/99	-1.2	-2.6	-1.6	(-0.6)	-1.4	-1.4	

Notes: Reported changes may not equal the differences between the corresponding percentages due to rounding.

Changes in parentheses are not significantly different from zero at the 5 per cent level.

Sources: Authors' calculations based on Family Resources Survey, various years. Population totals are from the HBAI data-set.

Table 3.2 contains more detailed information on poverty rates since 1996/97. Poverty has been on a downward trend over both parliamentary terms of the current government. Compared with 1996/97, it is now between 1½ and 4 percentage points lower measured AHC, and up to 2 percentage points lower measured BHC. For all but the 50 per cent BHC measure, poverty in 2003/04 is statistically significantly lower than it was in 1996/97 (and than in 1998/99, the baseline against which the current government has chosen to measure progress).

Comparing 2003/04 with 2002/03, poverty is lower for five of the six measures in Table 3.2, but for only one of these was the fall statistically significant (70 per cent of median AHC).³⁰ With the poverty line at 60 per cent of median income, there are now 12.0 million individuals in poverty measured AHC and 9.6 million measured BHC, down from 13.8 million and 10.2 million respectively in 1996/97.

Note that many of the figures in Table 3.2 are slightly different from those presented in previous years (up to 0.3 percentage points different). This is due to revisions to grossing factors (see Box 1.1). The change in grossing factors has reduced poverty for all years when the poverty line is set at 70 per cent of median AHC income, but increased it for all years under the 50 per cent median BHC definition; for other poverty lines, the direction of change varies across years.

3.1.2 Child poverty and the 2004/05 target

Table 3.3 shows the proportion of children in poverty. Child poverty has been on a downward trend since 1998/99, following a large rise in child poverty during the 1980s and early 1990s.³¹ Child poverty is lower in 2003/04 than in 2002/03 on five of the six measures, but none of the changes is statistically significant. However, the changes in child poverty since 1996/97 and 1998/99 are all statistically significant. With the poverty line at 60 per cent of median income, child poverty is now at its lowest level since 1989 (AHC) or 1988 (BHC).

The government has a quantified Public Service Agreement (PSA) target for child poverty in 2004/05 to be a quarter lower than its level in 1998/99, using a poverty line of 60 per cent of median income.³² As discussed in Chapter 1, the government has not explicitly stated whether it has a preference for measuring income before housing costs (BHC) or after housing costs (AHC), and so it has become common to measure progress against both.

Measured AHC, there were 4.1 million children in poverty in 1998/99 on this definition, so there will need to be 3.0 million or fewer children in poverty in 2004/05 for the government to meet its target; grossing factor revisions have changed the estimate of child poverty in 1998/99 from 4.2 to 4.1 million, meaning that the target is now 3.0 million, rather than 3.1 million. When poverty is measured BHC, there were 3.1 million children in poverty in 1998/99, so the target is for 2.3 million children or fewer to be in poverty in 2004/05. (See Box 3.1 for more discussion.)

³⁰ Historically, it is rare for year-on-year changes to be statistically significant.

³¹ Not shown here. See Brewer, Clark and Goodman (2002 or 2003).

³² See HM Treasury (2002).

Table 3.3. Relative child poverty: percentage of children living in households with incomes below various fractions of median income

	Percentage of the population						Population (million)
	After housing costs			Before housing costs			
	50% median	60% median	70% median	50% median	60% median	70% median	
1996/97	22.9	33.3	41.2	12.5	24.9	35.2	12.7
1997/98	22.9	32.4	40.1	12.6	24.7	35.2	12.7
1998/99	22.7	32.5	40.4	12.6	24.5	35.1	12.7
1999/00	21.8	31.9	40.2	11.7	23.4	35.1	12.7
2000/01	19.7	30.3	38.6	11.1	21.0	32.8	12.7
2001/02	19.3	29.6	38.3	10.4	20.7	33.1	12.6
2002/03	19.0	28.3	37.6	10.6	20.8	32.4	12.6
2003/04	19.0	27.8	36.4	10.5	20.5	31.8	12.5
<i>Change:</i>							
Since 1996/97	-4.0	-5.5	-4.8	-1.9	-4.4	-3.4	
Since 1998/99	-3.7	-4.7	-4.1	-2.1	-3.9	-3.3	

Notes: Reported changes may not equal the differences between the corresponding percentages due to rounding. Changes in parentheses are not significantly different from zero at the 5 per cent level. Sources: Authors' calculations based on Family Resources Survey, various years. Population totals are from the HBAI data-set.

Box 3.1. The child poverty targets in 2004/05

Grossing factor revisions have changed the estimate of child poverty in 1998/99 from 4.2 million to 4.1 million measured AHC. The government has not yet said what this means for its child poverty target in 2004/05. Our interpretation is that, for child poverty to have fallen by a quarter or more, the estimate in next year's HBAI needs to be no higher than 3.0 million, assuming that HBAI continues to report estimates of child poverty rounded to the nearest 100,000. Grossing factor revisions did not change the estimate of child poverty measured BHC in 1998/99, so the estimate in 2004/05 needs to be no higher than 2.3 million.

To meet the target, therefore, the reported level of child poverty has to fall by 500,000 AHC and 300,000 BHC. However, meeting the target may not be as hard as these numbers suggest: the smallest fall in the unrounded level of child poverty consistent with this is only 432,000 AHC and 224,000 BHC.

The respective levels of child poverty in 2003/04 on the target AHC and BHC measures are 3.5 million and 2.6 million, a fall relative to 2002/03 of 100,000 and zero to the nearest 100,000. The rounded level of child poverty reported in HBAI therefore needs to fall by 500,000 children AHC and 300,000 children BHC in one year for the government to meet its target for 2004/05. But as described in Box 3.1, the smallest fall consistent with achieving the targets is 432,000 AHC and 224,000 BHC.

Table 3.4. Discretionary changes in spending on tax and benefit policies affecting families with children

New policies with full effect in financial year:	
2002/03	£1,105m
2003/04	£2,585m
2004/05	£750m

Source: HM Treasury, *Financial Statement and Budget Report*, various years.

In early 2004, it was widely believed that the government was on track to meet its child poverty targets in 2004/05. Our own assessment was that child poverty would fall by 500,000 between 2002/03 and 2004/05.³³ Child poverty was projected to fall primarily because of a substantial increase in spending on tax credits in 2003/04 and 2004/05. But, as Table 3.4 shows, the majority of that extra spending (77 per cent) took effect in 2003/04, meaning that there is relatively little ‘new’ money yet to be reflected in HBAI data. This suggests that most of the fall in child poverty should have happened between 2002/03 and 2003/04; indeed, although we did not publish this at the time, our previous forecast of child poverty suggested that child poverty would fall by only 50,000 between 2003/04 and 2004/05.³⁴

Nothing more can be done to try to meet the child poverty target: the financial year 2004/05 finishes the week after this Commentary is published. At first sight, therefore, the government seems in danger of missing its target. But before we can draw this conclusion, we must understand why our projections have not been reflected in the latest HBAI data, since clearly this will affect what we think will happen to child poverty in 2004/05. This is what we do in Section 3.2.

3.1.3 Pensioner poverty

Table 3.5 sets out poverty rates amongst pensioners since 1996/97 – and shows that pensioner poverty continues to decline rapidly.³⁵

Pensioner poverty is substantially lower in 2003/04 than in 2002/03 under all six measures, and two of the changes are statistically significant (60 per cent AHC and 70 per cent AHC). Using the 60 per cent of AHC income poverty line, the fall between 2002/03 and 2003/04 was almost 2.5 percentage points, meaning that the number of pensioners in poverty fell by 10 per cent in a single year. On all three BHC measures, poverty fell by a whole percentage point between 2002/03 and 2003/04, and it is now lower than at any point since the Labour

³³ See Brewer (2004). The government’s assessment is presented in HM Treasury (2003). Earlier, researchers suggested the government’s policies up to 2003/04 would reduce child poverty by a quarter of its 1998/99 level by 2004/05 (see Sutherland, Piachaud and Sefton (2003)).

³⁴ Brewer (2004, table 2) showed that the increases in the per-child element of the child tax credit in April 2004 were forecast to reduce child poverty by 240,000 AHC in 2004/05. However, he forecasted that growth in real earnings and real cuts in other elements of tax credits would both act to increase child poverty, meaning the net effect was only a fall of around 50,000.

³⁵ This shows the poverty rate amongst individuals above the current pension age – 65 for men and 60 for women – regardless of who else lives in their household.

Table 3.5. Relative pensioner poverty: percentage of pensioners in households with incomes below various fractions of median income

	Percentage of the population						Population (million)
	After housing costs			Before housing costs			
	50% median	60% median	70% median	50% median	60% median	70% median	
1996/97	12.1	27.9	39.2	11.3	22.1	36.1	9.9
1997/98	12.5	27.4	38.4	11.9	22.7	36.6	10.0
1998/99	12.6	27.3	38.1	12.5	23.7	37.5	10.0
1999/00	12.1	26.1	37.2	11.7	22.6	36.0	10.0
2000/01	11.3	24.4	35.8	11.2	21.9	35.1	10.1
2001/02	11.1	23.2	36.6	11.4	22.8	34.7	10.1
2002/03	10.5	22.1	36.7	11.0	22.2	34.6	10.2
2003/04	9.8	19.7	34.2	9.9	21.0	33.6	10.3
<i>Change:</i>							
Since 1996/97	-2.3	-8.2	-5.0	-1.4	(-1.1)	-2.5	
Since 1998/99	-2.8	-7.6	-3.9	-2.5	-2.7	-4.0	

Notes: Reported changes may not equal the differences between the corresponding percentages due to rounding. Changes in parentheses are not significantly different from zero at the 5 per cent level. Sources: Authors' calculations based on Family Resources Survey, various years. Population totals are from the HBAI data-set.

government took office. The drop in pensioner poverty since 1998/99 is statistically significant on all six measures; the 7.6 percentage point fall since 1998/99 at 60 per cent of median AHC income constitutes a cut in poverty of more than a quarter.

Using the 60 per cent of median income poverty definition, the rates in 2003/04 imply that there are now 2.0 million pensioners in AHC poverty, down from 2.8 million in 1996/97. BHC pensioner poverty remains unchanged at 2.2 million (but note that, as Table 3.5 shows, the size of the pensioner population has been increasing).

Pensioner poverty and the pension credit

The fall in pensioner poverty between 2002/03 and 2003/04 may not be so surprising given that there was a large increase in spending on benefits for pensioners in 2003/04. Much of this was due to the introduction, in October 2003, of the pension credit, a more generous version of the minimum income guarantee (MIG).

Since the pension credit was introduced in October 2003, the latest HBAI data cover only the first six months of pension credit. But it is still rather early to say anything definitive about the pension credit: although many more pensioners should be entitled to the pension credit than were entitled to the MIG, the government exceptionally allowed pensioners to backdate new claims for the pension credit by up to a year, meaning that pensioners had until October 2004 to make their initial claim.

Table 3.6. Relative pensioner poverty: percentage of pensioners in households with incomes below 60 per cent of median income, by six-month period

	Percentage of the pensioner population			
	After housing costs		Before housing costs	
	Apr–Sep	Oct–Mar	Apr–Sep	Oct–Mar
1996/97	27.1	28.7	21.8	22.6
1997/98	26.8	28.1	21.9	23.4
1998/99	26.4	28.1	22.9	24.4
1999/00	25.2	27.4	21.9	23.2
2000/01	24.1	24.8	21.9	22.1
2001/02	22.3	24.6	22.5	22.8
2002/03	21.4	22.9	21.3	23.1
2003/04	21.3	18.1	21.8	20.2

Note: The poverty line was calculated separately for each six-month period to avoid income growth during the year automatically leading to a lower poverty rate in the second half of the year. This means that a slightly different set of pensioners will be counted as poor from when poverty is calculated for the year as a whole.

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

As shown in Table 3.6, pensioner poverty was lower in the second half of 2003/04 than in the first half; by contrast, in each of the seven preceding years, pensioner poverty was higher in the second half of the year than the first.³⁶ We cannot tell, though, to what extent this is due to the pension credit: median real income, and therefore the poverty line, was lower in the second half of 2003/04 than the first half (AHC and BHC), and this alone might act to lower pensioner poverty if pensioners' incomes are relatively stable. The true test of whether the pension credit is reducing pensioner poverty needs to wait until next year's HBAI data (2004/05), when the effect of pension credit will be observed throughout the financial year.

Last year, we pointed out that, using the 60 per cent AHC measure, a pensioner chosen at random in 2002/03 was less likely to be in poverty than an individual selected at random from the rest of the population – the first time this had occurred since the recession in the early 1980s (as a one-off blip).³⁷ Grossing factor revisions mean that this is no longer true for 2002/03, but it is true for 2003/04: a smaller fraction of pensioners are poor than non-pensioners, measured using the 60 per cent AHC poverty line. This is shown in Figure 3.3, which gives poverty rates for pensioners and non-pensioners.

Aside from benefit increases, one possible explanation for the rapid decline in pensioner poverty since 1996/97 is that individuals reaching retirement age in recent years are better off than older pensioners. Figure 3.4 is consistent with this view, but suggests that a more important reason is the increasing affluence amongst pensioners who are reaching the age of 75. It shows that, while poverty has fallen for pensioners under 75 and for pensioners 75 or

³⁶ The FRS is designed to be nationally representative every quarter, so it is valid to estimate poverty using six months of data. However, it is important to remember that we are halving the sample size by calculating poverty over six-month periods, so poverty will be measured with less precision.

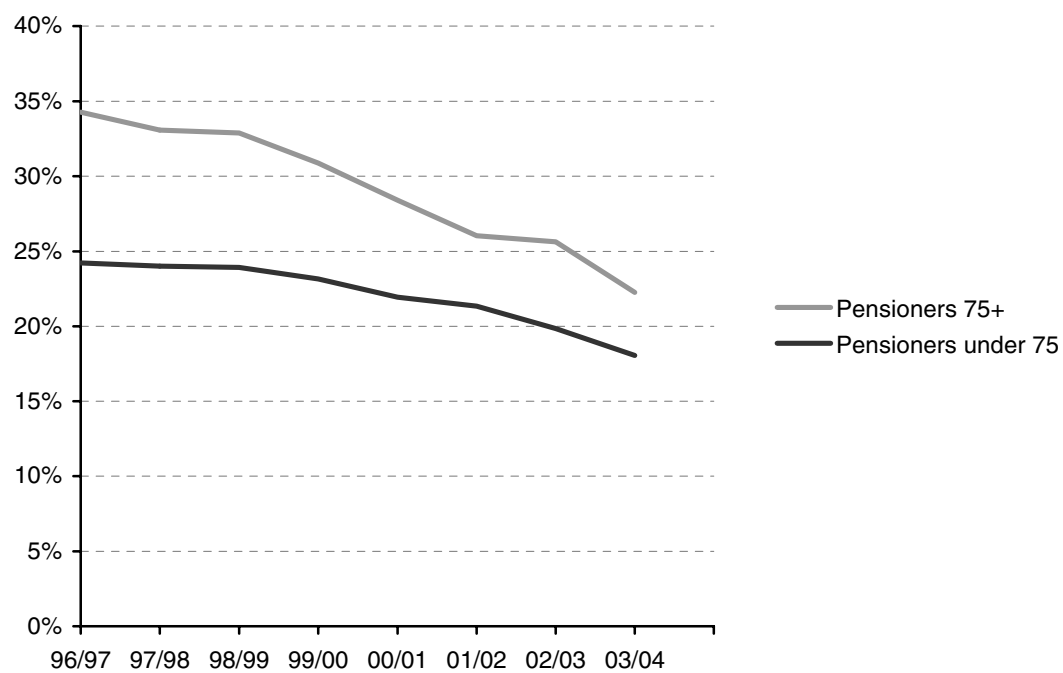
³⁷ See Brewer et al. (2004).

Figure 3.3. Pensioner and non-pensioner poverty



Note: Poverty is measured using the 60 per cent of median AHC income definition.
 Source: Authors' calculations based on Family Resources Survey and Family Expenditure Survey, various years.

Figure 3.4. Poverty among young and old pensioners



Note: Poverty is measured using the 60 per cent of median AHC income definition.
 Source: Authors' calculations based on Family Resources Survey, various years.

over, the fall in poverty for the older age group is much larger (12 per cent compared with 6 per cent, using the 60 per cent of median AHC income poverty definition). Although poverty remains higher for pensioners aged 75 or over, the gap is now only 4 percentage points.

3.1.4 Poverty among other groups

Poverty among the remainder of the population – working-age adults – has changed little since last year (or, indeed, since 1996/97). However, given the methodology of HBAI, it is more informative to consider childless working-age adults separately from working-age parents. This is because income is measured at the household level, so poverty among working-age parents is likely to follow a similar path to that among children. This is different from what is done in *Opportunity for All*, which only presents poverty rates for working-age individuals as a whole.

Table 3.7 shows that poverty among childless working-age adults, a group that makes up 39 per cent of the population (21.9 million individuals), is lower than that among pensioners or children, but unlike for pensioners and children, it has not fallen in recent years. In fact, aside from the drop between 2000/01 and 2001/02, there has been a slight upward trend since 1998/99. This is perhaps not surprising given the focus of government policy on pensioners and children.

Table 3.7. Relative working-age non-parent poverty: percentage of working-age non-parents in households with incomes below various fractions of median income

	Percentage of the population						Population (million)
	After housing costs			Before housing costs			
	50% median	60% median	70% median	50% median	60% median	70% median	
1996/97	12.9	17.4	21.2	7.6	12.3	17.9	20.6
1997/98	11.9	16.1	20.0	7.3	12.0	17.0	20.8
1998/99	11.5	15.6	19.6	7.3	11.8	16.7	20.9
1999/00	12.1	16.4	20.5	7.6	12.2	17.6	21.1
2000/01	12.7	16.3	20.6	8.5	12.7	17.7	21.3
2001/02	12.0	15.7	19.7	7.8	12.1	16.9	21.6
2002/03	12.5	16.7	20.8	8.6	12.8	17.8	21.8
2003/04	13.0	16.9	21.2	8.7	12.9	18.1	21.9
<i>Change:</i>							
Since 1996/97	(0.2)	(-0.5)	(0.0)	1.1	(0.6)	(0.2)	
Since 1998/99	1.5	1.3	1.7	1.3	1.1	1.4	

Notes: Reported changes may not equal the differences between the corresponding percentages due to rounding.

Changes in parentheses are not significantly different from zero at the 5 per cent level.

Sources: Authors' calculations based on Family Resources Survey, various years. Population totals are from the HBAI data-set.

3.2 Why hasn't child poverty fallen further?

As discussed in Section 3.1.2, Brewer (2004) suggested that the introduction of the child and working tax credits would lead to a big fall in child poverty in 2003/04, but this did not happen. Why not? In this section, we explore a number of explanations. First, we look at the role of tax credits. Then we show that the increase in the proportion of children in workless families dampened the fall in child poverty. Finally, we discuss the importance of sampling error.

3.2.1 Child poverty and tax credits

In this section, we discuss three issues:

- Administrative difficulties in the first quarter of 2003/04 meant that some families with children were not receiving their entitlement to tax credits at this time.
- Not all families entitled to tax credits actually claimed them.
- The FRS under-records tax credit receipt.

Administrative mistakes and delays in receiving tax credits

The first few months of the new tax credits were troubled by considerable administrative difficulties. The Comptroller General's report on the Inland Revenue's accounts for 2003/04 says:

My Standard Report for 2002–03 highlighted serious problems during the introduction of the new Tax Credits systems affecting stability, speed, and availability, which delayed the processing of claims. Claimants encountered problems, including delays in receiving award notices and payments. The telephone helpline was overloaded during the first few months of the new Tax Credits, however its performance improved over the remainder of the year. It took longer to process claims and changes of circumstances and the Department transferred staff from other work to help clear the backlog and to deal with the increased number of queries.³⁸

Inland Revenue, 2004a, p. 123

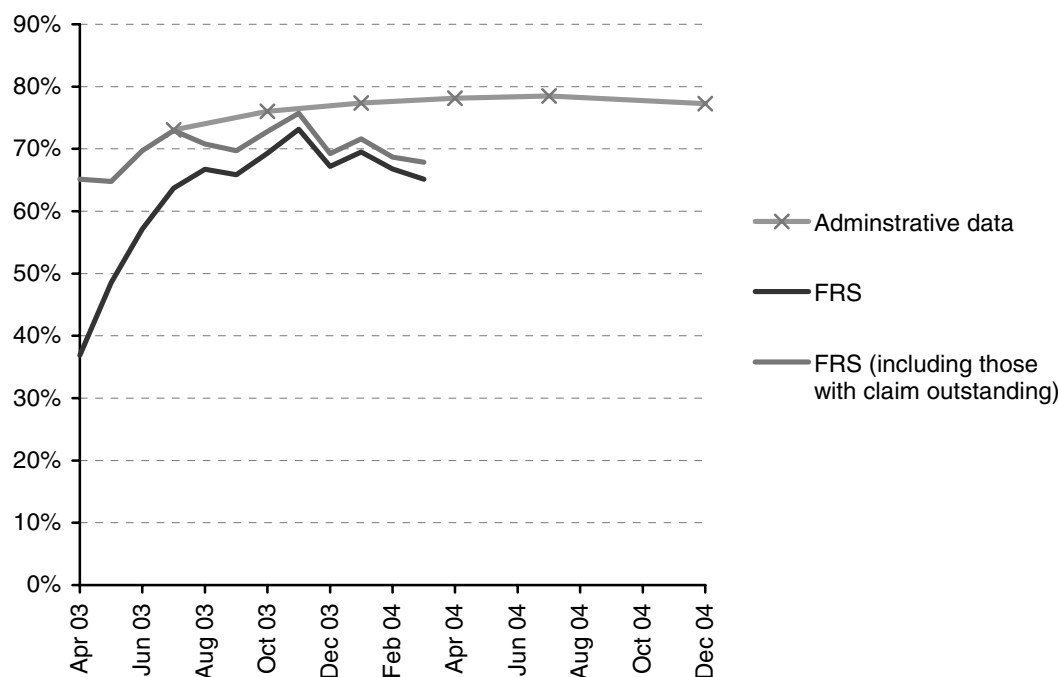
Problems with non-receipt and delayed payments are reflected both in administrative data and in FRS data (see Figure 3.5). The earliest administrative data are for July 2003 – three months after the introduction of the new tax credits. These show that 73 per cent of families with children were receiving child tax credit (CTC), working tax credit (WTC) or the equivalent through means-tested benefits in July, rising to 78 per cent by early 2004 (we include means-tested benefits because parents could choose whether to claim CTC or receive child additions through these other benefits).

The FRS data allow us to calculate the proportion of families receiving tax credits in each month of 2003/04: fewer than 40 per cent of parents in the FRS were recorded as receiving

³⁸ Working in the opposite direction, however, errors in the computer system administering tax credits resulted in almost half a million families being paid the wrong amount (most of this occurred in April and May 2003). More than 95 per cent of cases were overpayments – and in many cases, these overpayments were not recovered: see Inland Revenue (2004a, p. 104).

tax credits or income support in April and fewer than 50 per cent in May, compared with 65–73 per cent between August and March (see Figure 3.5).³⁹ The FRS also included a question asking whether a tax credit claim was outstanding, a question to which large numbers of families answered positively in the first quarter of 2003/04. Adding this to the number of families receiving a tax credit shows that around 70 per cent of families with children either received or had claimed tax credits (or the equivalent support through means-tested benefits) through the year; this is also plotted on Figure 3.5.⁴⁰

Figure 3.5. Proportion of families with dependent children receiving tax credits



Notes: The series entitled 'Administrative data' is the number of families with children receiving tax credits (or their equivalent through means-tested benefits) divided by the number of families with children receiving child benefit in the UK. The series entitled 'FRS' is the proportion of families with children receiving tax credits or their equivalent through means-tested benefits in each month of the FRS survey (Great Britain only). 'FRS (including those with claim outstanding)' adds to this the proportion of families with children not receiving tax credits but that are waiting to have their claim processed.

Sources: Authors' calculations using TAXBEN and the Family Resources Survey, 2003/04; Inland Revenue (2004b, 2004c and 2005a).

The way that these delays affect the income of families with children recorded by the FRS is complicated. For those families with an outstanding tax credit claim at the time of interview, income is likely to be lower than would have been the case had there been no delays in processing tax credits. On the other hand, it is very likely that those families interviewed later

³⁹ For this analysis, 'tax credits' includes working tax credit, child tax credit, working families' tax credit and disabled person's tax credit. The FRS is representative of the population on a quarter-by-quarter rather than a month-by-month basis, so fluctuations in take-up within quarters may be partly due to the data not being nationally representative.

⁴⁰ Some families waiting for their tax credit claim to be assessed might have ended up being turned down. If so, the line on Figure 3.5 that includes those with an outstanding claim may overstate entitlement. Administrative data, though, show that very few families claimed tax credits but had zero entitlements.

in 2003/04 that experienced delays in receiving tax credits earlier in the year have a recorded income that is exactly the same as it would have been without the delay. This is because delayed tax credit awards were often paid as a one-off payment which we think was unlikely to have been recorded by the FRS.

The combination of these two factors means that child poverty measured by the FRS would probably have been lower had the new tax credits run smoothly. It is possible to estimate how much lower: if we attribute to families with an outstanding tax credit claim a hypothetical award based on an estimate of their entitlement (calculated using TAXBEN), then child poverty would have fallen by a further 90,000 AHC and 80,000 BHC, leaving 3.4 million children in AHC poverty and 2.5 million in BHC poverty (after rounding). We are not suggesting that administrative delays caused child poverty to be overestimated: late tax credit payments caused genuine hardship and should be reflected in estimates of child poverty. On the other hand, it is interesting to consider how child poverty would have been affected had there been no delays in paying tax credits because it is relevant to what will happen to child poverty in 2004/05.

Take-up of the new tax credits

A second reason why child poverty fell less than anticipated could be that take-up of the new tax credits was lower than predicted. Figure 3.5 showed that, according to administrative data, the proportion of families with children receiving tax credits (or the equivalent through means-tested benefits) had risen to approximately 78 per cent of families with children by the end of 2003/04 (5.6 million out of 7.2 million families with dependent children). This is only fractionally lower than the level anticipated by the government in 2002, when it predicted that 5.75 million families with children would receive the new tax credits.⁴¹ This suggests that, by the end of 2003/04 and certainly by 2004/05, take-up of the new tax credits was meeting the government's forecasts.⁴²

Projections of the level of child poverty in 2004/05 in Brewer (2004) were consistent with the take-up of new tax credits amongst low-income families with children in 2004/05 being slightly higher than the take-up of working families' tax credit (the main tax credit before CTC and WTC were introduced) amongst the same sort of families.^{43,44} Take-up of the new tax credits for the population as a whole is probably higher, but we do not yet know what it was amongst low-income families with children. It is possible that Brewer's assumption was too optimistic, in which case he may have slightly overestimated the ability of the new tax

⁴¹ See Inland Revenue (2002a, paragraph 2.1).

⁴² Another explanation is that the government under-predicted how many families with children would be entitled to the new tax credits; if that was so, then it is possible that the actual take-up rate is below the government's prediction. Official estimates of the take-up rate of the new tax credits (i.e. the proportion of families entitled that actually receive tax credits or their equivalent through means-tested benefits) are not yet available.

⁴³ More precisely, he assumed full take-up of both WFTC and the new tax credits, but then he calibrated his estimates of child poverty so that the level in 2002/03 matched that given in HBAI. Since the real value of tax credit entitlements rose between 2002/03 and 2004/05, this effectively means he was assuming that the actual level of take-up rose. The government predicted that around 9 out of 10 families with children would be eligible for the new tax credits and that 5.75 million would actually receive them, and this implies a predicted take-up rate of around 90 per cent. This is consistent with around 730,000 families with children not receiving the tax credits despite being entitled, more families than did not claim the WFTC in 2000/01 despite being entitled.

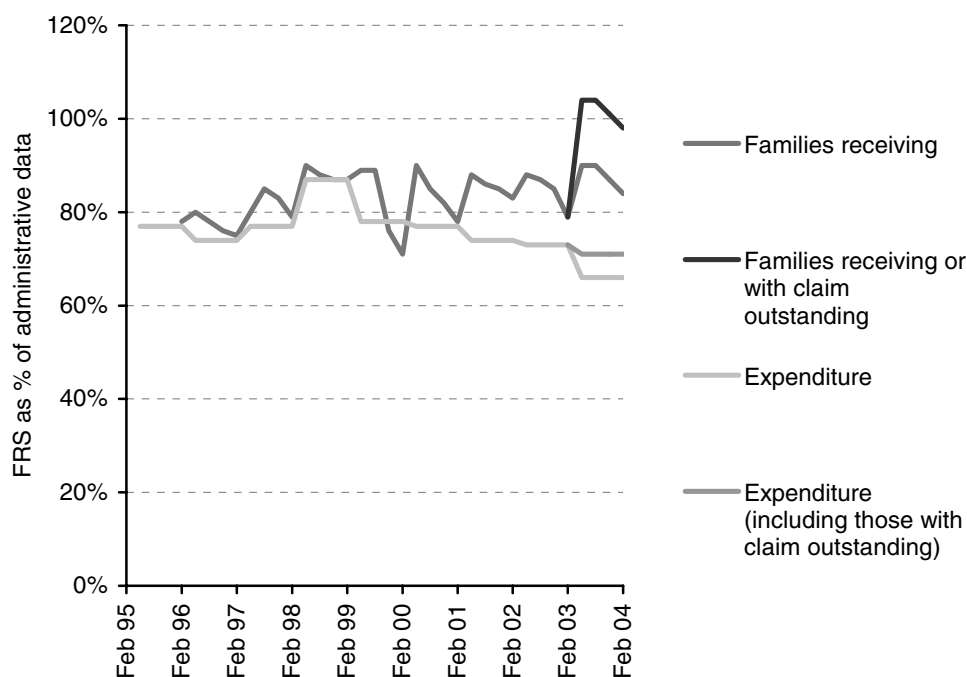
⁴⁴ Take-up rates for WFTC in 2002/03 were around 74 per cent – see Inland Revenue (2005b). The number of families receiving tax credits in 2003/04 being 5.6 million is consistent with a take-up rate of 86 per cent, if the government's original estimate that 9 out of 10 families would be entitled was correct.

credits to reduce child poverty. However, simulations from other researchers, and the government's own assessment, gave the same basic prediction as in Brewer (2004), that child poverty in 2004/05 would meet the government's target.⁴⁵

Tax credits in the FRS

A third issue is how well tax credit information is recorded in the FRS. Figure 3.5 showed that the FRS records too little tax credit receipt: only around 70 per cent of families with children in the FRS are recorded as receiving a tax credit or income support or waiting to hear about a claim for tax credits, compared with 78 per cent of families with children receiving a tax credit or income support in administrative data. This means that the FRS underestimates the incomes of at least 8 per cent of families with children, and may therefore overestimate the level of child poverty in 2003/04. However, the failure of the FRS to record enough tax credit receipt does not provide a valid reason for failing to meet the child poverty targets: as Figure 3.6 shows, the FRS has always under-reported receipt of tax credits, and therefore probably has always overestimated the level of child poverty (it probably overestimated child poverty in 1998/99, for example, the baseline for the government's target). That said, the

Figure 3.6. How well does FRS record tax credits? FRS tax credit (or in-work benefit) receipt and expenditure as a proportion of receipt and expenditure in administrative data



Note: Graph shows estimated number of tax credit or in-work benefit recipients and expenditure on tax credits in FRS as a percentage of those from administrative data.

Sources: Authors' calculations based on the Family Resources Survey, various years; Inland Revenue (2002b, 2003, 2004b, 2004c and 2005b); Department of Social Security (various years).

⁴⁵ See HM Treasury (2003) and Sutherland, Piachaud and Sefton (2003).

amount of money spent on tax credits for families with children has been increasing and the proportion captured by the FRS data has been falling in recent years, so the extent to which the FRS overestimates child poverty may be growing.

3.2.2 Trends in employment patterns of parents

A second, complementary reason why child poverty fell by less than expected in 2003/04 is that our earlier projections of child poverty assumed that the characteristics of the population remained unchanged. However, according to HBAI, there was a rise in the number of children in workless households between 2002/03 and 2003/04.

Table 3.8 shows that between 2002/03 and 2003/04, the proportion of children living in families without a working parent increased by around 1 percentage point both for children in lone-parent families and for children in couple families – the latter change corresponding to almost 100,000 children. This is in sharp contrast to previous years, when worklessness fell, and will act to increase child poverty because a very high proportion of workless households are poor. These changes do not seem to be due to the new grossing factors: using ungrossed data, there is an even greater increase in children belonging to workless families and a greater fall in children in two-earner families.

We can investigate the impact of changes in worklessness by estimating what child poverty would have been had working patterns remained constant since 2002/03. Our calculations suggest that there would have been 90,000 fewer children in AHC poverty and 80,000 fewer in BHC poverty had worklessness not risen. Therefore, changes in work are an important reason why measured child poverty fell by only a small amount.

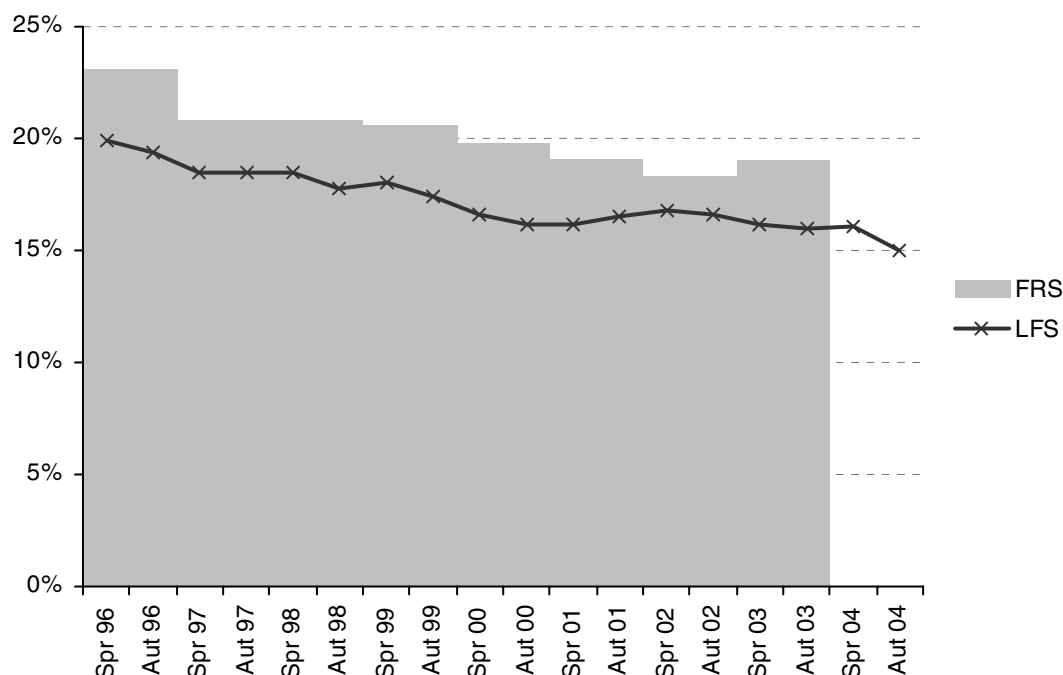
Table 3.8. Composition of families to which children belong

	Children in lone-parent families			Children in couple families				Population (million)
	Number (million)	Workless (%)	One earner (%)	Number (million)	Workless (%)	One earner (%)	Two earners (%)	
1996/97	2.7	66.5	33.5	10.0	12.0	31.8	56.2	12.7
1997/98	2.8	62.5	37.5	9.9	9.8	32.1	58.1	12.7
1998/99	2.9	61.1	38.9	9.8	9.6	31.2	59.1	12.7
1999/00	3.1	59.5	40.5	9.6	9.0	31.2	59.8	12.7
2000/01	3.1	57.6	42.4	9.6	8.4	32.3	59.3	12.7
2001/02	3.1	56.1	43.9	9.5	8.1	31.7	60.2	12.6
2002/03	3.1	52.0	48.0	9.5	8.1	32.6	59.3	12.6
2003/04	3.1	53.2	46.8	9.5	9.0	33.8	57.2	12.5

Note: Population totals are from the HBAI data-set.

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

Figure 3.7. Proportion of children aged under 16 living in workless working-age households in the FRS and LFS



Notes: A household is a collection of individuals living at the same address (potentially more than one family). A working-age household is a household that includes at least one person of working age (16–59 for women, 16–64 for men). A workless household is a household that contains no one aged 16 or over who is in employment. These definitions are slightly different from those used elsewhere in this Commentary.

Sources: Table 3(ii) of ONS (2004) and ONS (2005a) based on Labour Force Survey data; authors' calculations based on Family Resources Survey, various years.

It turns out, however, that the increase in worklessness is not statistically significant, so it could be due to sampling error. Figure 3.7 attempts to assess whether the trend in the FRS is genuine by comparing it with the Labour Force Survey (LFS).⁴⁶ Although the fall in worklessness in the LFS may have halted in 2003/04, there is little evidence of a rise, casting doubt on the pattern in the FRS.⁴⁷ But it is important to realise that the LFS is also based on a sample, and so also suffers from sampling error in the same way as the FRS.

3.2.3 Sampling errors and confidence intervals: are the changes meaningful?

As described in Chapter 1, all numbers in this Commentary and the official HBAI publication are based on data from the Family Resources Survey, a survey of around 25,000 households in Great Britain. This means that the numbers are all subject to sampling error, because they

⁴⁶ For consistency with the LFS, households and children have been defined slightly differently from elsewhere in this Commentary (see Notes to Figure 3.7).

⁴⁷ The 3-percentage-point difference between the LFS and FRS in the proportion of children in workless households is partly explained by differences in the number of lone parents recorded in the surveys. See Department for Work and Pensions (2002).

have been calculated based on a sample of families, not using information about all families in Great Britain.

With last year's HBAI data, the DWP estimated that the standard error on the number of children in poverty is around 56,000;⁴⁸ if this figure applies to the 2003/04 data as well, this means that there is a 95 per cent chance that the true level of child poverty in 2003/04 was between 3,372,000 and 3,592,000, based on the unrounded estimate that there were 3,482,377 children in poverty (the poverty line is taken as 60 per cent of median income AHC).

The standard error on estimates of the change in child poverty is larger, at around 80,000 children (according to the DWP):⁴⁹ this means that there is a 95 per cent chance that the change in child poverty between 2002/03 and 2003/04 was between -230,000 and +84,000,⁵⁰ based on the unrounded estimate that child poverty fell by 73,196.⁵¹ So child poverty could be just 276,000 short of that required to meet the target, or as much as 590,000 from it. Box 3.2 gives our own, alternative estimates of standard errors.

Box 3.2. Estimating standard errors for the level of child poverty using bootstrap techniques

Department for Work and Pensions (2004b) estimates the confidence intervals using an approximation to the true analytical expression, which reflects that not only are the incomes of low-income families with children not known for certain, but neither is median income nor the poverty line.

As an alternative, we have calculated standard errors and confidence intervals using bootstrap techniques. This involves approximating the actual distribution of a statistic by repeatedly drawing (with replacement) a random sample from the original data and using it to recalculate the statistic. Based on this technique, our estimates of the standard error of the level of child poverty in 2002/03 are slightly higher than those in Department for Work and Pensions (2004b): with 1,000 replications, we estimate the standard error to be 77,000 in 2002/03 and 78,000 in 2003/04 and also estimate the standard error on the change in child poverty between 2002/03 and 2003/04 to be 104,500.

It is not clear whether the analytical approximation or the bootstrap should be preferred in this case, though.

⁴⁸ Department for Work and Pensions (2004b, appendix 2) says that the 95 per cent confidence interval is +/-110,000, implying a standard error of 56,000, assuming the statistic is distributed normally.

⁴⁹ The standard error on the change in child poverty is equal to the square root of the sum of the variances of the level of child poverty in each year (the variance is the square of the standard error). If the standard error on the level of child poverty in both 2002/03 and 2003/04 is 56,000, then the standard error on the change in child poverty would be $\sqrt{(2 \times 56,000^2)}$.

⁵⁰ Again assuming normality.

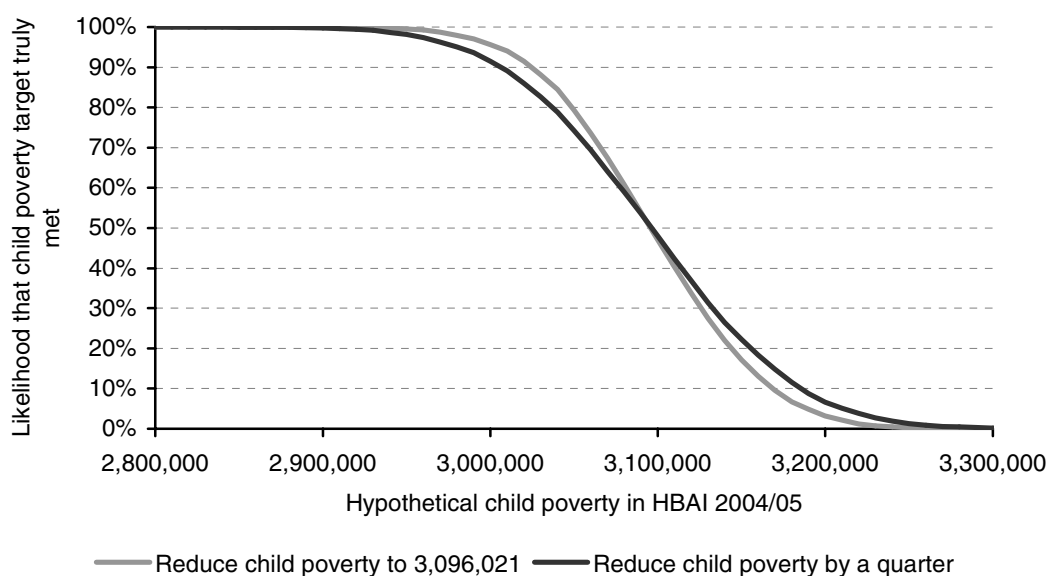
⁵¹ We made use of the fact that the confidence interval includes both positive and negative numbers in Section 3.1.2 when we said that none of the changes in child poverty since 2002/03 is significantly different from zero.

Sampling error also means it is perfectly possible that, even if HBAI estimates child poverty to be 3.1 million or higher in 2004/05, the true (but unknown) level of child poverty may genuinely have fallen by a quarter since 1998/99. To illustrate, we show in Figure 3.8 the probability that the government has truly hit (or failed to hit) its target for child poverty in 2004/05 (incomes measured AHC), given various hypothetical (unrounded) estimates of child poverty in the 2004/05 HBAI. In calculating these probabilities, we interpreted the target for 2004/05 in two ways:

- (i) that child poverty should be lower than 3,096,021 in 2004/05, this number being three-quarters of the unrounded level of child poverty in 1998/99;
- (ii) that child poverty in 2004/05 should be at least a quarter lower than child poverty in 1998/99. This recognises not only that the level of child poverty in 2004/05 will not be known for certain, but also that this is true for 1998/99, the year on which the target is based. Consequently, there is greater uncertainty over whether the target has truly been hit for a given level of child poverty in 2004/05.

Figure 3.8 confirms the intuition that, if child poverty in the 2004/05 HBAI were 3,095,000 (which is almost exactly three-quarters of its unrounded level in 1998/99), then sampling error means that there would be only a 50 per cent chance that child poverty had truly fallen by three-quarters or more, and therefore a 50 per cent chance that it had fallen by less. To be at least 75 per cent confident that child poverty had truly fallen by a quarter, child poverty in HBAI 2004/05 will need to be at least as low as 3,055,000 (formulation (i)) or 3,050,000 (formulation (ii)); to be at least 95 per cent certain that child poverty had truly fallen by a quarter, child poverty in HBAI 2004/05 will need to be below 3,000,000 or 2,980,000 respectively.

Figure 3.8. The probability of truly hitting the child poverty target in 2004/05



Note: The probabilities were calculated using 10,000 repetitions, and assume that child poverty in 1998/99 and 2004/05 are independently normally distributed with standard deviation of 56,000. If we had used our own (higher) estimates of the standard deviation, then the uncertainty for any given level of child poverty in HBAI 2004/05 would have been greater.

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

The implication of this is that if the government had wanted to be more than 50 per cent sure of meeting its target when it set child tax credit rates for 2004/05, it should have chosen those rates so that it was on track to exceed its target by some margin. Furthermore, the fact that both the government and ourselves are likely to make errors when forecasting child poverty (over and above sampling errors) makes it even more important that the government should have aimed to more-than-meet its child poverty target in 2004/05, rather than to hit it precisely.

3.3 What are the prospects for child poverty in 2004/05 and beyond?

3.3.1 Will the government hit its target for 2004/05?

As we said earlier, the small decrease in child poverty between 2002/03 and 2003/04 means that the unrounded level of child poverty needs to fall by 432,000 AHC and 224,000 BHC in one year for the government to meet its target for 2004/05. We also argued that the relatively small increases in tax credit entitlements that took place in April 2004 will, by themselves, probably only reduce child poverty by around 50,000. On this evidence, the prospects for meeting the child poverty target do not look good.

But the discussion in Section 3.2 highlighted the following possible explanations for why child poverty recorded in HBAI fell by a relatively small amount in 2003/04:

- There were delays in paying tax credits at the start of 2003/04, and back-payments may not have been recorded by the FRS.
- Not all families eligible for tax credits actually claim them.
- The FRS records too few people receiving tax credits.
- The proportion of children living in workless families has increased.

We also emphasised that the size of the standard error on the level of child poverty means that we should not place too much importance on the size of any single year-on-year change.

Three of these four reasons may well have less impact in 2004/05 than in 2003/04:

- Delays in processing tax credit claims were a one-off phenomenon limited to early 2003/04. We estimated that child poverty in HBAI would have been around 90,000 lower AHC and 80,000 lower BHC if these delays had not occurred; this means that, if nothing else changes between 2003/04 and 2004/05, we would expect to see child poverty fall by up to 90,000 AHC and 80,000 BHC.⁵²
- The number of families receiving tax credits is slightly higher in early 2004/05 than in 2003/04 (see Figure 3.5), making it more likely that child poverty will fall by the amounts

⁵² There will always be a small proportion of families that have just applied for tax credits but that have not yet had their claim processed when they are interviewed by the FRS, and so our estimates of 90,000 AHC and 80,000 BHC will tend to overstate the fall in child poverty that we can expect to see.

predicted through earlier micro-simulation exercises (although this impact will probably be small).

- The rise in the proportion of children in workless families is not statistically significant and is not found in other data-sets covering 2003/04. More recent data from the Labour Force Survey suggest the trend continues to be downwards (see Figure 3.7). We estimated that the rise in worklessness seen in the FRS probably reduced the fall in child poverty by 90,000 AHC and 80,000 BHC.

On the other hand, there is no reason to suspect that the fourth reason will go away: as we saw in Figure 3.6, the FRS has consistently underestimated the number of people receiving tax credits (or in-work benefits) and the amount of these received by families with children.

On balance, though, child poverty should fall in 2004/05. Sampling error means that little can be inferred with certainty from a single year's data, but the likelihood that the government will hit its targets seems a little lower now than it was a year ago. Measured BHC, child poverty should probably fall to levels close to the government's target; measured AHC, though, the issues identified above do not alone seem sufficient for child poverty to meet its target.

3.3.2 What are the prospects for child poverty beyond 2004/05?

The government has two further child poverty targets: it aims to halve child poverty relative to its 1998/99 level by 2010 and eradicate it by 2020 (where 'eradicating child poverty' might be interpreted as 'having a material deprivation child poverty rate that approached zero and being among the best in Europe on relative low incomes'; see Department for Work and Pensions (2003)).

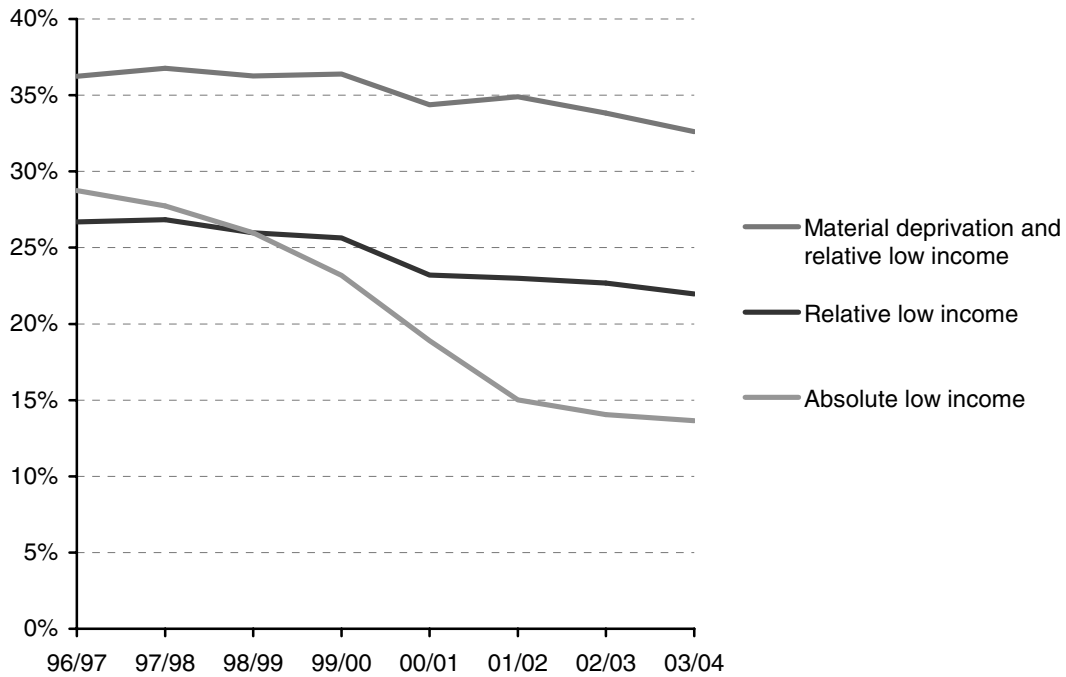
Progress towards these targets will be assessed using a different measure of child poverty from that used for the 2004/05 target. This new measure consists of three separate indicators:⁵³

- *'Absolute low income' indicator:* the number of children living in families whose household income is below 60 per cent of median 1998/99 income, uprated for inflation.
- *'Relative low income' indicator:* the number of children living in families whose household income is below 60 per cent of contemporary median household income.
- *'Material deprivation and low income combined' indicator:* the number of children living in households that are both 'materially deprived' and have an income below 70 per cent of contemporary median household income.

These indicators are calculated on a BHC basis only, and income is equivalised using the Modified OECD equivalence scale, rather than the McClements scale used in the rest of this Commentary and in HBAI; the Modified OECD equivalence scale gives greater weight to single individuals and young children. See Chapter 1 for more about equivalence scales. The new child poverty measure is discussed more fully in Brewer et al. (2004).

⁵³ The measures were announced in Department for Work and Pensions (2003) and are analysed in detail in Brewer et al. (2004, chapter 4).

Figure 3.9. Child poverty under the new child poverty measures



Note: The line labelled 'Material deprivation and relative low income' relates only to the low income component of this indicator; information required for the material deprivation component will not be available until next year.

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

More details were given in the 2004 Spending Review about the 2010 target to halve child poverty: the government said its objective is to cut the relative low income indicator to half its 1998/99 level and that it would set a target for the combined material deprivation and low income indicator once the necessary data become available next year.⁵⁴ However, no target was set for the absolute low income indicator.

For the period 1996/97–2003/04, Figure 3.9 plots the absolute and relative low income indicators, and the low income component of the combined material deprivation and low income indicator (information required to construct the material deprivation component will not be available until next year). The level of child poverty is higher under the new relative low income indicator than the 2004/05 target BHC measure, but changes over time are similar. All three new indicators have declined slightly since 2002/03. The fall in the absolute low income indicator over the last two years has been much slower than that during the previous five years, largely because income has grown more slowly since 2001/02 (see Section 2.2.1). However, had the government set a 2010 target for the absolute low income indicator to be half its 1998/99 level, it could claim to have almost met it already.

As has been stressed many times, predicting levels of child poverty is very difficult because it requires forecasting what will happen both to median income and to the incomes of poor families with children, and these are affected by numerous factors, including growth in

⁵⁴ HM Treasury, 2004a.

earnings and unearned income, as well as changes in the population, household composition, patterns of employment, tax and benefit policies, and take-up of means-tested benefits and tax credits. Reporting work carried out before the 2004 Pre-Budget Report, Brewer (2005) argued that child poverty under the relative low income indicator may start to rise from 2005/06.⁵⁵ He gave two main reasons:

- Increasing inequality in private incomes (and even above-inflation growth in earnings, which increases inequality because the poorest parents do not have any earnings) will tend to increase child poverty in the absence of other, beneficial, socio-economic changes, just as it has done in past years.
- More importantly, though, and in contrast with previous years, the government's assumptions as of Pre-Budget Report 2004 for future rates of tax credits implied real cuts in the entitlements of low-income families with children from April 2006.⁵⁶ If confirmed in subsequent Pre-Budget Reports, these changes themselves would increase child poverty further.

Brewer (2005) estimated that it could cost around £2 billion a year to put child poverty back on track in 2007/08 through increases in the per-child element of the child tax credit, but at the cost of worsening financial work incentives for parents.⁵⁷ Since that work was carried out, though, the government has announced a rise in the per-child element of the child tax credits in 2007/08 costing around £480 million, and it has increased the threshold of the working tax credit, at a cost of £140 million; the amount needed to put child poverty on track in 2007/08 is probably now around £1.4 billion.⁵⁸ However, all of this work assumed that the government will meet its child poverty target in 2004/05. If that target is missed, then meeting future targets becomes even more expensive.

⁵⁵ Most attention to date has been on this measure of child poverty, because reducing absolute child poverty is not particularly challenging, and data do not yet exist to measure child poverty using the third definition: data will be available in the 2004/05 FRS in Spring 2006, and the current government has promised to set a target for the material deprivation definition of child poverty during the 2006 Spending Review, should it still be in office.

⁵⁶ Estimates of future spending on tax credits made in the 2004 Pre-Budget Report (HM Treasury, 2004b) assume that the per-child element of the child tax credit and most elements of the working tax credit rise in line with inflation, but that the family element of the child tax credit and the income thresholds are frozen, implying small real cuts in entitlements overall for all families with children. The overall impact would be to reduce spending on tax credit awards by around £250 million a year, for each year that this policy is in effect, compared with a policy of indexing all thresholds and credits in line with inflation; see Brewer (2004).

⁵⁷ Brewer and Shephard (2004) analyse how financial work incentives for parents have changed since 1997.

⁵⁸ See row (10) in table A1 and row (d) in table A2 in HM Treasury (2005).

4. Conclusions

This Commentary has analysed what the latest set of Households Below Average Income (HBAI) statistics tell us about changes in living standards and relative income poverty in Britain up to the year 2003/04. We have considered what the extra year of statistics tell us about living standards and poverty relative to one year before, and have also considered the record over the whole period of the Labour government since 1996/97.

Over the period of the Labour government as a whole, we have shown that living standards have risen: mean incomes rose by 2.5 per cent in real terms each year on average between 1996/97 and 2003/04, with the average annual median income growth at 2.3 per cent. This sustained growth in average living standards is similar to the average annual growth in living standards that took place over the Thatcher period, though under Margaret Thatcher the growth in mean income was slightly stronger than in recent years (at 2.9 per cent per year on average) and the growth in the median slightly weaker (averaging 2.1 per cent real-terms increase per year). This suggests a more balanced pattern of income growth under Labour, a point to which we return below.

This relatively strong annualised income growth over the Labour period masks the fact that in 2003/04 mean income actually fell by 0.2 per cent in real terms, while median income grew by 0.5 per cent. Some of this apparently relatively weak income growth may simply be due to sampling error. However, we have also shown that the tax rises introduced in April 2003 – mostly affecting National Insurance payments – have also dented average incomes. We estimate that mean and median income growth would both have been 0.8 percentage points higher in 2003/04 had National Insurance and income tax reforms not been introduced. Taking account of above-inflation council tax rises on top of these other tax reforms suggests that both mean and median income growth would have been 1.1 percentage points higher if these discretionary tax rises had not taken place.

The new HBAI statistics also allow us to chart the evolution of income inequality over the Labour government. We have shown that the latest year's data suggest another small reduction in the Gini coefficient. The Gini has now fallen in each of the last three years; indeed, the cumulative fall over the three years taken together is now statistically significant at the 10 per cent level. This means that whilst income inequality rose in three out of the first four years of Labour's period in office, it has fallen thereafter. The net effect is to leave overall levels of inequality effectively unchanged since 1996/97. Whether inequality is now on a firm downward path, or will instead continue to fluctuate around what is still a historically high level, remains to be seen.

What happens to overall levels of inequality in years to come depends to a large extent on what further progress is made in reducing child and pensioner poverty. Pensioner poverty continues to fall rapidly – amongst the over-75s as well as amongst younger pensioners. When measured against the 60 per cent of median after-housing-costs (AHC) income threshold, pensioner poverty fell by 10 per cent in the single year 2002/03–2003/04, and it has fallen by over a quarter since 1998/99. A pensioner chosen at random is now less likely to be poor than a non-pensioner when incomes are measured AHC. Measured before housing costs

(BHC), pensioner poverty is falling more slowly but is now lower than at any point since the Labour government came to power.

By contrast, child poverty fell less in 2003/04 than many commentators had been predicting. Rounding to the nearest 100,000, between 2002/03 and 2003/04 child poverty fell by 100,000 AHC and was unchanged BHC. These changes were smaller than might have been expected given the amount of new spending directed towards families with children through the new tax credits.

We have highlighted two main reasons why child poverty fell by less than expected. First, administrative problems with the new tax credits in the first quarter of 2003/04 meant that many families had lower-than-expected incomes at that time. Second, the number of children living in families where no adult works rose, according to HBAI, although this is at odds with evidence from other sources. Each of these reasons increased child poverty by around 90,000 AHC and 80,000 BHC.

On balance, we expect that child poverty should fall in 2004/05. Sampling error means that little can be inferred with certainty from a single year's data, but the likelihood that the government will hit its targets seems a little lower now than it was a year ago. Measured BHC, child poverty should probably fall to levels close to the government's target; measured AHC, though, the additional spending on tax credits and ironing-out of administrative problems in their delivery do not alone seem sufficient for child poverty to meet its target.

However, it remains the case that relative child poverty has fallen significantly in recent years, and will continue to do so in the future if the government continues to invest the resources required to move towards its target of halving child poverty by 2010.

Our analysis has also shown a slight rise in relative poverty levels amongst working childless people, a group that has not been favoured in recent tax and benefit reforms.

Appendix A. Supplementary tables

In Table A.1, we show the monthly income levels of different family types falling into each income decile group. The variation in income thresholds across family types reflects the income equivalisation process (see the discussion in Section 1.1.4). Incomes in this table are measured before housing costs have been deducted, after subtracting direct taxes (including council tax) and counting the income from all sources of all the members of the household, including state benefits.

Table A.1. Where do you fit in? Monthly net incomes of three family types

	Single person, no children	Couple, no children	Couple with two children aged 4 and 13
Bottom decile	£0 to £500	£0 to £700	£0 to £1,100
Decile 2	£500 to £600	£700 to £900	£1,100 to £1,300
Decile 3	£600 to £700	£900 to £1,100	£1,300 to £1,600
Decile 4	£700 to £800	£1,100 to £1,300	£1,600 to £1,800
Decile 5	£800 to £900	£1,300 to £1,500	£1,800 to £2,100
Decile 6	£900 to £1,000	£1,500 to £1,700	£2,100 to £2,400
Decile 7	£1,000 to £1,200	£1,700 to £1,900	£2,400 to £2,800
Decile 8	£1,200 to £1,400	£1,900 to £2,300	£2,800 to £3,300
Decile 9	£1,400 to £1,800	£2,300 to £2,900	£3,300 to £4,200
Top decile	£1,800+	£2,900+	£4,200+

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

Source: Authors' calculations using Family Resources Survey, 2003/04.

Table A.2 shows how annualised average income growth rates vary by family type between 1996/97 and 2003/04, when incomes are measured AHC. The pattern is essentially the same as when we use a BHC measure, with lone parents and pensioners experiencing the greatest proportional income gains on average over this period.

Table A.2. Annualised income growth by family type, 1996/97 – 2003/04

	Mean AHC income		Median AHC income	
	Growth	2003/04 level	Growth	2003/04 level
Single pensioners	3.9%	£295	4.5%	£241
Pensioner couples	2.9%	£328	3.1%	£259
Lone parents	5.6%	£228	5.6%	£185
Singles without children	2.9%	£369	3.0%	£321
Couples with children	3.5%	£354	2.9%	£288
Couples without children	2.9%	£458	2.5%	£394
All	3.3%	£362	3.1%	£297

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

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

In 2003/04, there was a particularly large discrepancy between the income growth reported in the HBAI publication and the growth in GDP per head. Table A.3 shows the growth rates for these measures since 1996/97, and illustrates that there are departures between these two measures on a large number of occasions. The table also shows the growth in a measure of households' real disposable income contained in the *Blue Book* that has been modified to be more comparable to the official HBAI income series; these rates mirror the low income growth seen in the last two years of HBAI data.

Table A.3. Real year-on-year growth

	Mean BHC income	GDP per head	Variant of households' disposable income per head
1996/97	3.4%	2.6%	1.8%
1997/98	2.4%	3.1%	2.9%
1998/99	3.4%	2.7%	-0.8%
1999/00	2.1%	2.9%	3.5%
2000/01	4.4%	3.1%	4.0%
2001/02	4.2%	1.4%	5.0%
2002/03	1.3%	1.7%	0.0%
2003/04	-0.2%	2.2%	0.9%

The real annual rises in average band D council tax payments between 1996/97 and 2003/04 are shown in Table A.4. There was a particularly large single-year increase in 2003/04 when the average band D payment rose in value by almost 10 per cent. This large real rise in council tax will have the effect of lowering incomes across much of the income distribution.

Table A.4. Real average band D council tax payments

	Average band D amount	Year-on-year growth
1996/97	£755.66	3.9%
1997/98	£779.04	3.1%
1998/99	£820.45	5.3%
1999/00	£863.48	5.2%
2000/01	£891.25	3.2%
2001/02	£934.58	4.9%
2002/03	£990.45	6.0%
2003/04	£1,086.81	9.7%

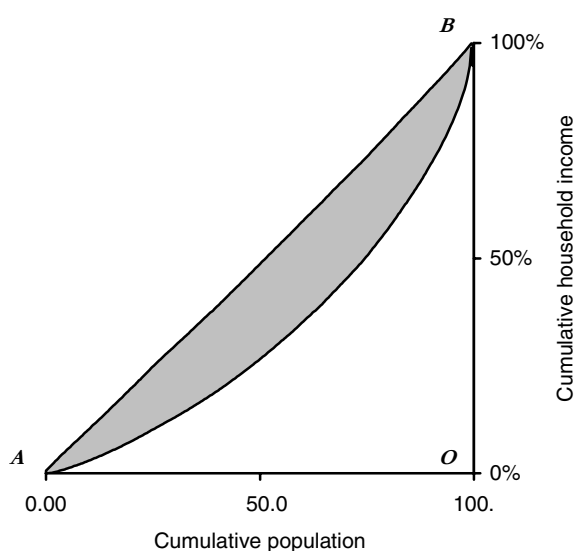
Source: CIPFA, *Finance and General Statistics*, various years.

Appendix B. The Gini coefficient

A widely used measure of income inequality is the Gini coefficient. The Gini coefficient benefits from an intuitive geometric interpretation in the form of the Lorenz curve. In Figure B.1, the horizontal axis corresponds to the cumulative percentage of individuals in the population, while the vertical axis gives the cumulative percentage of income. The Lorenz curve then shows the relationship between the percentage of income recipients and the percentage of income actually received. Assume that individuals are placed in ascending order on the basis of their household income, so that the Lorenz curve is below the 45-degree line. Figure B.1 shows the Lorenz curve drawn using actual data from 2003/04. If income were equally distributed across households, then 10 per cent of the population would have exactly 10 per cent of total income, 20 per cent of the population would have 20 per cent of total income, and so on. The line of perfect equality is therefore given by the 45-degree line, AB. Note that the further is the Lorenz curve from the line of perfect equality, the greater is the degree of inequality.

The Gini coefficient is obtained by taking the ratio of the shaded area to the area of the triangle ABO. When there is perfect equality, the shaded area will have zero measure so that the Gini coefficient will be zero. Conversely, when there is complete inequality (a single household having command over the entire income of the economy), the shaded area will coincide with ABO so that the Gini coefficient will equal 1.

Figure B.1. The Lorenz curve and Gini coefficient, 2003/04



Note: Incomes have been measured before housing costs have been deducted.
Source: Authors' calculations using Family Resources Survey, 2003/04.

References

- Adam, S. and Wakefield, M. (2005), 'The distributional effects of tax and benefit reforms since 1997', in R. Chote, C. Emmerson, D. Miles and Z. Oldfield (eds), *The IFS Green Budget: January 2005*, London: Institute for Fiscal Studies (www.ifs.org.uk/budgets/gb2005/index.php).
- Brewer, M. (2004), *Will the Government Hit Its Child Poverty Target in 2004–05?*, Briefing Note no. 47, London: Institute for Fiscal Studies (www.ifs.org.uk/publications.php?publication_id=1795).
- Brewer, M. (2005), 'Maintaining momentum in tackling child poverty', in S. Delorenzi, J. Reed and P. Robinson (eds), *Maintaining Momentum: Promoting Social Mobility and Life Chances from Early Years to Adulthood*, London: Institute for Public Policy Research.
- Brewer, M., Clark, T. and Goodman, A. (2002), *The Government's Child Poverty Target: How Much Progress Has Been Made?*, Commentary no. 88, London: Institute for Fiscal Studies (www.ifs.org.uk/publications.php?publication_id=1946).
- Brewer, M., Clark, T. and Goodman, A. (2003), 'What really happened to child poverty in the UK under Labour's first term?', *Economic Journal*, vol. 113, pp. F240–57.
- Brewer, M., Goodman, A., Myck, M., Shaw, J. and Shephard, A. (2004), *Poverty and Inequality in Britain: 2004*, Commentary no. 96, London: Institute for Fiscal Studies (www.ifs.org.uk/publications.php?publication_id=1799).
- Brewer, M. and Shephard, A. (2004), *Has Labour Made Work Pay?*, York: Joseph Rowntree Foundation (www.ifs.org.uk/publications.php?publication_id=3155).
- Davison, A. C. C. and Hinkley, D. V. (1997), *Bootstrap Methods and Their Application*, Cambridge: Cambridge University Press.
- Department for Work and Pensions (2002), *Children in Workless Households: LFS/FRS Differences: Report of a Working Group: Summary*, London: DWP (www.dwp.gov.uk/asd/frs/reports/children_in_workless_households.pdf).
- Department for Work and Pensions (2003), *Measuring Child Poverty*, London: DWP.
- Department for Work and Pensions (2004a), *Opportunity for All: Sixth Annual Report*, Cm. 6239, London: TSO.
- Department for Work and Pensions (2004b), *Households Below Average Income 1994/95–2002/03*, Leeds: Corporate Document Services.
- Department for Work and Pensions (2005a), *The New Family Resources Survey Grossing Regime*, London: DWP (www.dwp.gov.uk/asd/frs/reports/new_grossing_regime.pdf).
- Department for Work and Pensions (2005b), *Households Below Average Income 1994/95–2003/04*, Leeds: Corporate Document Services.
- Department of Social Security (various years), *Family Credit Quarterly Statistical Enquiry*, London: DSS.

- Goodman, A., Myck, M. and Shephard, A. (2003), *Sharing in the Nation's Prosperity? Pensioner Poverty in Britain*, Commentary no. 93, London: Institute for Fiscal Studies (www.ifs.org.uk/publications.php?publication_id=1802).
- Goodman, A. and Shephard, A. (2002), *Inequality and Living Standards in Great Britain: Some Facts*, Briefing Note no. 19, London: Institute for Fiscal Studies (to be updated 2005) (www.ifs.org.uk/publications.php?publication_id=1768).
- Hills, J. (2001), 'Poverty and social security: What rights? Whose responsibilities?', in A. Park, J. Curtice, K. Thomson, L. Jarvis and C. Bromley (eds), *British Social Attitudes: The 18th Report – Public Policy, Social Ties*, London: Sage.
- Hills, J. (2002), 'Following or leading public opinion? Social security policy and public attitudes since 1997', *Fiscal Studies*, vol. 23, pp. 539–58.
- HM Treasury (2002), *Technical Note for HM Treasury's Public Service Agreement (PSA) 2003–2006* (www.hm-treasury.gov.uk/mediastore/otherfiles/tech_notes.pdf).
- HM Treasury (2003), *Pre-Budget Report 2003: The Strength to Take the Long-Term Decisions for Britain: Seizing the Opportunities of the Global Economic Recovery*, Cm. 6042, London: TSO.
- HM Treasury (2004a), *Stability, Security and Opportunity for All: Investing for Britain's Long-Term Future*, Spending Review 2004, London (www.hm-treasury.gov.uk/spending_review/spend_sr04/spend_sr04_index.cfm).
- HM Treasury (2004b), *Opportunity for All: The Strength to Take the Long-Term Decisions for Britain*, Pre-Budget Report 2004, London (www.hm-treasury.gov.uk/pre_budget_report/prebud_pbr04/prebud_pbr04_index.cfm).
- HM Treasury (2005), *Investing for Our Future: Fairness and Opportunity for Britain's Hard-Working Families*, Budget 2005, London (www.hm-treasury.gov.uk/budget/budget_05/bud_bud05_index.cfm).
- Inland Revenue (2002a), *The New Tax Credits: A Regulatory Impact Assessment*, London: Inland Revenue.
- Inland Revenue (2002b), *Working Families' Tax Credit: Estimates of Take-Up Rates in 2000–01*, London: Inland Revenue (www.inlandrevenue.gov.uk/stats/wftc/wftc_takeup.pdf).
- Inland Revenue (2003), *Working Families' Tax Credit: Estimates of Take-Up Rates in 2001–02*, London: Inland Revenue (www.inlandrevenue.gov.uk/stats/wftc/wftc-take-up-2001-02.pdf).
- Inland Revenue (2004a), *Annual Report and Accounts*, HC 1062, London: TSO.
- Inland Revenue (2004b), *Child and Working Tax Credits Summary Statistics: July 2004*, London: Inland Revenue (www.inlandrevenue.gov.uk/stats/personal-tax-credits/child-workingtc-july04.pdf).
- Inland Revenue (2004c), *Child and Working Tax Credits Statistics: December 2004*, London: Inland Revenue (www.inlandrevenue.gov.uk/stats/child_benefit/childworking-taxcredits-december04-a.pdf).

Inland Revenue (2005a), *Child Benefit Quarterly Statistics: November 2004*, London: Inland Revenue (www.inlandrevenue.gov.uk/stats/child_benefit/childbenefit-feb05.pdf).

Inland Revenue (2005b), *Working Families' Tax Credit: Estimates of Take-Up Rates in 2002–03*, London: Inland Revenue (www.inlandrevenue.gov.uk/stats/wftc/wftc-takeup-2002-03.pdf).

McClements, L. (1977), 'Equivalence scales for children', *Journal of Public Economics*, vol. 8, pp. 191–210.

Office for National Statistics (2004), *Work and Worklessness among Households: July 2004*, London: ONS (www.statistics.gov.uk/pdfdir/work0704.pdf).

Office for National Statistics (2005a), *Work and Worklessness among Households: January 2005*, London: ONS (www.statistics.gov.uk/pdfdir/work0105.pdf).

Office for National Statistics (2005b), *Labour Market Trends: March 2005*, London: ONS.

Sutherland, H., Piachaud, D. and Sefton, T. (2003), *Poverty in Britain*, York: Joseph Rowntree Foundation.

