

# INEQUALITY AND LIVING STANDARDS IN GREAT BRITAIN: SOME FACTS

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# INEQUALITY AND LIVING STANDARDS IN GREAT BRITAIN: SOME FACTS

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## INTRODUCTION

This Briefing Note is designed to provide some basic facts concerning living standards and inequality in Great Britain. Wherever possible, up-to-date sources have been given for further reading. Accompanying this Briefing Note is a spreadsheet of useful statistics relating to the income distribution in Britain. This can be downloaded from the IFS web site at [www.ifs.org.uk/bns/bn19figs.zip](http://www.ifs.org.uk/bns/bn19figs.zip). Both were last updated on 9 December 2002.

Section I of this Briefing Note starts by setting out some of the issues and conceptual difficulties surrounding the measuring of living standards and inequality. A picture of the income distribution in Great Britain and many of the important trends in living standards is then presented in the sections that follow. In Sections II and III, we choose weekly before-housing-costs household equivalent income<sup>1</sup> as our measure of living standards, as well as presenting some results on an after-housing-costs basis. Section IV then considers using weekly equivalent household expenditure (including housing costs) as a comparative measure of living standards.

Section V cites research tracking the income of individuals across a number of years, while Section VI looks at work that attempts to assess how income status changes across generations. Sections VII, VIII and IX proceed by examining some of the factors responsible for the changes in inequality described, looking at the labour market, demographic changes and the impact of taxes and benefits. Section X concludes.

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<sup>1</sup> All these terms will be described and discussed in detail in Section I.

## I - MEASURING LIVING STANDARDS

Many discussions of income inequality and of poverty are motivated by a concern about living standards. What are the living standards enjoyed by different members of the population? How unequally are they distributed, how have they changed over time and how do they compare with those of people in other countries? Who are the poorest in our society? Why are they poor?

A number of important measurement issues arise before any of these questions can be answered. In particular:

1. What is the best measure of living standards – income or expenditure, or something else?
2. What time period should a measure of living standards cover?
3. What should be included as income (or other measure)?
4. Whose income (or other measure) should be included?

There is no simple answer to any of these questions. Many of the measurement choices that are made in practice by researchers in the field are driven by practical issues – what it is possible to measure – rather than issues of principle or what would be ideal. A discussion of some of the choices that have been made for the facts presented in this Briefing Note is set out here. See Goodman, Johnson and Webb (1997) for a fuller discussion of the issues and Department for Work and Pensions (2002b) for more details of the income definitions used.

### ***What is the best measure of living standards?***

Most people would consider that human well-being consists of more than a simple measure of material circumstances. However, even if we wanted to, it would be extremely hard to define an objective index of human well-being or happiness, let alone to measure it. The approach to living standards taken here is to focus solely on material circumstances, and to use income as a simple proxy. A closely related measure is consumption, or the more readily measurable alternative, expenditure. An advantage of using one-dimensional measures such as these is their simplicity and clarity, although they can never tell the whole story.

There are a number of other approaches adopted elsewhere that are less simple but are better able to take into account the multifaceted nature of living standards. One approach is to consider a range of different indicators. For example, the Department for Work and Pensions (formerly the Department of Social Security) publishes a number of different indicators, such as income, housing, health, employment and literacy, in its annual audit of poverty, *Opportunity for All* (most recently, Department for Work and Pensions (2002a)). Another approach is to combine a number of different measures into a single index which can then be compared across countries and across time. A good example of this approach is the United Nations Development Programme's human development index, published each year in the *Human Development Report* (most recently, United Nations Development Programme (2002)). This index combines statistics on life expectancy, literacy, incomes and unemployment to derive a single measure of 'human development', although constructing indices such as these is not without problems too.

### ***What time period should be covered?***

Having decided on income and expenditure as the measures that will be used to describe living standards, the choice of time period is important. Looking first at incomes: because people's incomes tend to change over the course of their lives, and may fluctuate from week to week and year to year, the period over which incomes are measured is crucial to the picture of living standards that is drawn. Many income distribution studies in Great Britain are drawn from cross-sectional data, which only measure incomes and spending at a fixed snapshot in time, picking up incomes that are *weekly* or *monthly*. Much of the evidence presented in this Briefing Note is derived from information provided by households in two nationally representative household surveys – the Family Resources Survey<sup>2</sup> and the Family Expenditure Survey<sup>3</sup> – which provide cross-sections of income over these relatively short periods. The facts about the distribution of income set out in Sections II and III are based on incomes measured over this relatively short time frame. (They are expressed in weekly terms.)

Because people will tend to smooth their consumption over time in the face of variable income, the time period for measuring expenditure may be less crucial in order to capture a longer-run picture of living standards. The facts about the distribution of spending set

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<sup>2</sup> [www.statistics.gov.uk/StatBase/Source.asp?vlnk=227&More=Y](http://www.statistics.gov.uk/StatBase/Source.asp?vlnk=227&More=Y).

<sup>3</sup> [www.statistics.gov.uk/StatBase/Source.asp?vlnk=1385&More=Y](http://www.statistics.gov.uk/StatBase/Source.asp?vlnk=1385&More=Y).

out in Section IV are based on household expenditures measured during a *two-week* period, although spending on larger items, such as furniture, is captured over a longer time. (They are expressed in weekly terms.)

A fuller picture of living standards can be drawn from information from longitudinal surveys, such as the British Household Panel Survey.<sup>4</sup> Such surveys track the incomes of the same individuals over time, allowing researchers to measure how long people remain on different income levels. Such *income dynamics* provide a much better idea of how permanent or transitory different income levels are, and the factors behind the changes in living standards that take place in different people's lives. One important use for such information is in assessing the persistence of low incomes, which is a vital part of the understanding of poverty. Information on income dynamics in Great Britain is set out in Section V.

Another interesting facet of living standards is how financial well-being is transmitted *across generations*. Some studies attempt to measure the degree of income mobility from generation to generation by using information on how people's position in the income distribution compares with that of their parents. Other studies have looked at how childhood circumstances, such as poverty and family disruption, affect outcomes in adult life. Such studies are discussed in Section VI.

### ***What should be included as income?***

Important decisions have to be taken as to what incomes (or spending) should be included in any measure. Most studies attempt to derive some measure of disposable income, which includes state social security benefits and is *net of direct taxes* such as income tax and National Insurance contributions. The results in Sections II–V are on this basis. The impact of taxes (both direct and indirect) and benefits on the distribution of household incomes is also of direct interest in itself. Some studies that have looked at this issue directly are set out in Section IX.

Another question is whether to include *benefits in kind* as well as cash incomes in any measure of living standards. For example, some people's living standards are boosted by perks from their employment, such as company cars and private health insurance. Ideally,

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<sup>4</sup> [iser.essex.ac.uk/bhps/index.php](http://iser.essex.ac.uk/bhps/index.php).

studies of the distribution of income should take such non-cash incomes into account, although in practice accurate measures of these are difficult to obtain.

People also benefit from government-provided services, such as health and education, which are paid for out of taxation. The value of such benefits in kind is generally not included in the measures of income provided in this Briefing Note, although there have been some studies that aim to assess the impact of state-provided services on the distribution of income (for example, see the annual article published by the Office for National Statistics in *Economic Trends* – most recently, Lakin (2002)). International comparisons of living standards can benefit by the inclusion of such items of public spending, since goods and services provided publicly in some countries have to be paid for out of private spending in others.

One further issue is the treatment of housing costs in the measurement of living standards. In this Briefing Note, income is primarily measured *before housing costs* (BHC) for the purposes of comparing living standards. Under such a measure, households that spend more on their housing (and so have less money to spend on other goods and services) are considered no worse off than those on the same incomes who spend less on housing. For most households, this seems a reasonable assumption, as housing can be considered a consumption choice like any other.

For households with little choice over their housing costs or conditions, however, a better measure of living standards may be one that measures disposable income *after housing costs* (AHC) have been deducted. Poorer households in local authority housing provide a good example of where an AHC measure may be better for this reason. Here, with accommodation unchanged, any increase in housing costs will represent a fall in living standards – this will not be captured on a BHC measure. The government's preferred headline rate of poverty relies on incomes measured after housing costs (and is measured as the number of people below 60 per cent of the median AHC income).

Using an AHC measure also improves the comparison of living standards between owner-occupiers who have already paid off their mortgages (and so have zero housing costs) and those who still have mortgages and rents to pay. A BHC measure would treat two people in these different circumstances, but identical in all other circumstances, as equally well off, whilst the AHC measure would treat an owner-occupier with no costs as better off than a tenant or mortgagor. An alternative solution to this problem would be

to impute an income from owner-occupation. These arguments and others are discussed in Johnson and Webb (1992). Sections II and III present results on both a BHC and an AHC basis.

### ***Whose income should be included?***

The relevant unit across which incomes or spending should be measured is yet another important consideration. Most people benefit not just from their own income but from the incomes of the people who they live with, because they pool resources and share income within the home. Because of this, considering individuals' incomes in isolation from the incomes of the people they live with is unlikely to provide an accurate picture of the living standards they enjoy. Our knowledge suggests that the extent of sharing varies a lot between different households (for example, see Snape and Molloy with Kumar (1999)), so that ideally the living standards of different household members would be measured taking these different sharing patterns into account. In practice, observing or estimating the actual degree of sharing that takes place behind closed doors is very difficult to do. Instead, most studies consider the income of either the family or the entire *household* with which they live as the best measure of each individual's living standard.

Where several families live together in one household, a decision has to be made as to whether to consider the resources of all the household members collectively or to treat each family unit (usually defined as a single adult or couple, together with any dependent children) as separate entities. The most common situations when several families live together in one household are when young adults who have left education still live with their parents and when an elderly parent lives with his or her adult children. Students living in shared households are another example.

It is important to recognise the extent to which these different measures can alter our view of the income distribution. Using 1983 income data, a report by Johnson and Webb (1989) showed that measuring incomes over the household rather than the family unit removed around 1.5 million people from relative poverty.<sup>5</sup> However, the difference between the two measures is less profound when considering more recent years' income

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<sup>5</sup> Where a person was counted as living in poverty if the income of the family or the household was less than 50 per cent of the national mean BHC income.

data.<sup>6</sup> This is largely because the number of multiple-family households has been declining over time. However, the choice is still very important when considering the incomes of particular groups – for example, pensioners.

The preferable measure ultimately depends upon the amount of income pooling that takes place between these separate units, and this is likely to vary considerably from household to household. The income measures cited in Sections II–V of this Briefing Note are all at the household level, assuming complete sharing across all units in the household.

An equally important decision that has to be made when comparing households of different sizes is how to take into account *different needs* when comparing living standards. A household consisting of a couple and two children on £300 per week would not generally be considered as well off as a single adult on this same income. In order to allow meaningful comparisons of living standards across households of different sizes and composition, economists have developed *equivalence scales*, which take into account the costs of children and additional adults in the household. In the results that follow, all incomes have been ‘equivalised’, or adjusted for different needs, using the McClements (1977) equivalence scale, and are expressed in terms of the *equivalent income for a childless couple*. In other words, the equivalent income amount provided for a particular family gives a measure of the amount of money that a childless couple would require in order to achieve the same living standard as this family. For more information on the equivalence scale used, and others, see Banks and Johnson (1993).

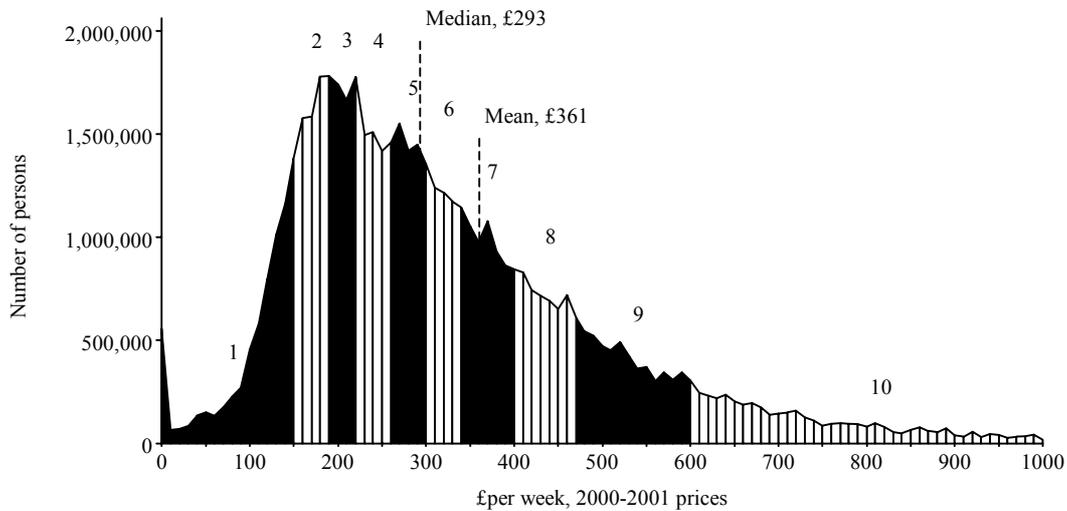
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<sup>6</sup> For example, using the 1999–2000 Family Expenditure Survey, choosing the household rather than the family as the unit of analysis reduces the number of people living in relative poverty by around 350,000 (when poverty is counted as the household or family having income below 60 per cent of the median BHC income) or by around 900,000 (when poverty is counted as the household or family having income below 50 per cent of the mean BHC income).

## II - A PICTURE OF THE INCOME DISTRIBUTION TODAY

A good place to start in understanding the distribution of income is to look at how many people are to be found at different income levels. Figure 1 presents such a picture, showing the income distribution in 2000–01, the latest year for which complete data are available. This graph shows the number of people living in households with different equivalised 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 population is spread unevenly across the income scale. The highest bar is the one at £190–£200 per week: 1.8 million people lived in households whose equivalent income was in this range. Note that the tail of the distribution is much longer than is shown here: the richest 1.3 million people (out of a private household population of approximately 56.9 million) have incomes above £1,000 per week and are not shown on this graph.

FIGURE 1: THE INCOME DISTRIBUTION TODAY



Notes: Income is measured before housing costs. The tail of the distribution is much longer than is shown here: see text.

Source: Family Resources Survey, 2000–01.

The groups of bars on Figure 1 shaded alternately light and dark each contain 10 per cent of the population (approximately 5.7 million people), with the poorest 10 per cent on the left of the graph and the richest on the right. Decile groups 2 and 3, where the population is very dense, are narrow on the graph. Many of the people here are those receiving means-tested benefits or are pensioners on a state pension with just a little extra

income. By contrast, at the richest end of the scale, the population is thinly spread across a wide income range.

Also marked on the graph is the mean income across the whole population, at £361; this is considerably above the median income level of £293. In fact, almost two-thirds of the population (64.6 per cent) live on incomes below the mean.

The distribution of AHC income has not been shown, but it is more unequal than the BHC income distribution. This is because the housing costs of poorer households take up, on average, a higher proportion of their income than the housing costs of richer households.

### ***Where do you fit in?***

Many people are unaware of their own position in the income distribution. Box 1 gives the monthly income levels of different family types falling into each income decile group. Remember, incomes are measured after subtracting direct taxes (including council tax), and count the income from all sources of all the members of your household, including state benefits.

**BOX 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 £400	£0 to £600	£0 to £900
Decile 2	£400 to £500	£600 to £800	£900 to £1,200
Decile 3	£500 to £600	£800 to £900	£1,200 to £1,400
Decile 4	£600 to £700	£900 to £1,100	£1,400 to £1,600
Decile 5	£700 to £800	£1,100 to £1,300	£1,600 to £1,800
Decile 6	£800 to £900	£1,300 to £1,500	£1,800 to £2,100
Decile 7	£900 to £1,000	£1,500 to £1,700	£2,100 to £2,500
Decile 8	£1,000 to £1,200	£1,700 to £2,000	£2,500 to £2,900
Decile 9	£1,200 to £1,600	£2,000 to £2,600	£2,900 to £3,800
Top decile	£1,600+	£2,600+	£3,800+

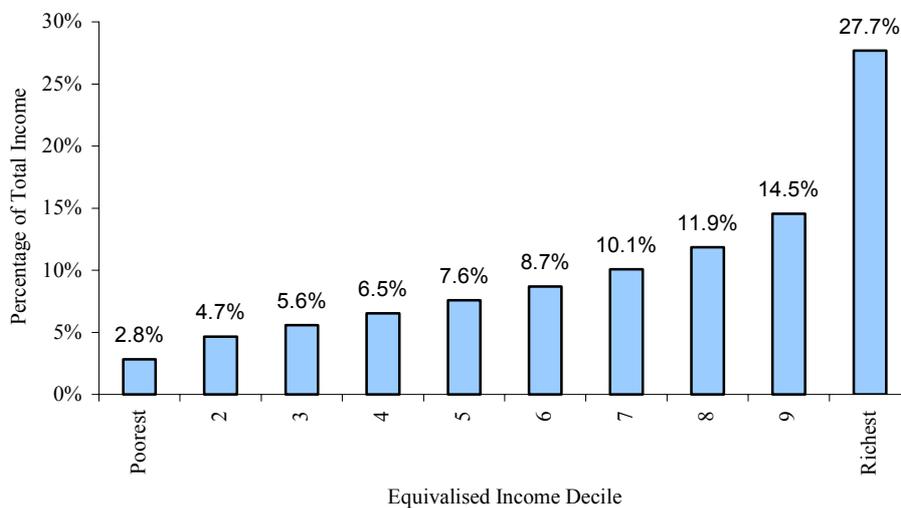
Note: Incomes are BHC in 2000–01 prices.

Source: Family Resources Survey, 2000–01.

### *Measures of inequality*

Figure 1 showed that the distribution of income is unequal across the population. The degree of inequality can be summarised by a number of different measures. The poorest tenth receive just 3 per cent of the total, compared with more than a quarter of total income received by the top 10 per cent (Figure 2). In fact, decile groups 8, 9 and 10 account for approximately 54 per cent of all income, compared with just 13 per cent enjoyed by decile groups 1, 2 and 3. Incomes are even more unequal after housing costs, with the bottom tenth accounting for less than 2 per cent of the total and the top tenth accounting for more than 29 per cent.

FIGURE 2: INCOME SHARES BY DECILE GROUP



Source: Family Resources Survey, 2000–01.

Some other inequality measures for both BHC and AHC income are shown in Table 1. (An explanation of all of these measures can be found in Goodman, Johnson and Webb (1997).) An indication of the size of the gap between rich and poor households is provided by the 90/10 ratio. This shows the ratio of the income of the 90<sup>th</sup> percentile to the income of the 10<sup>th</sup> percentile of the distribution: in 2000–01, the individual at the 90<sup>th</sup> percentile of the income distribution had income four times higher than the individual at the 10<sup>th</sup> percentile when income is measured before housing costs, and nearly five times higher when income is measured after housing costs. Looking next at the gap between middle incomes and those who are poorest, the 50/10 ratio shows that the median income on both measures is approximately double that of the 10<sup>th</sup> percentile, whilst the gap between the richest tenth and the middle, shown by the 90/50 ratio, is of a similar

magnitude. All of the summary measures in Table 1 show that the distribution of income after housing costs is more unequal than the before-housing-costs distribution. How these measures have changed over time is discussed in Section III.

TABLE 1: SOME RATIOS AND INEQUALITY MEASURES

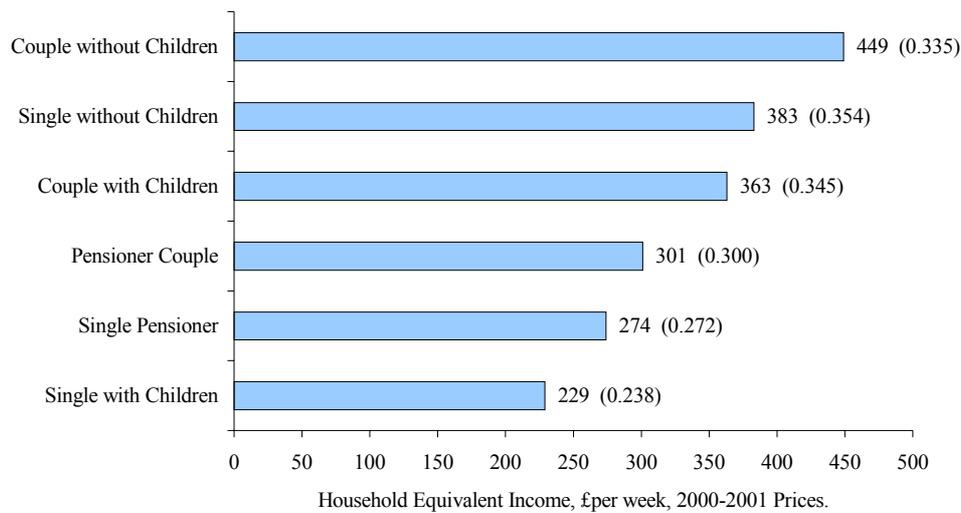
	BHC income	AHC income
90/10 ratio	4.039	4.877
50/10 ratio	1.976	2.289
90/50 ratio	2.045	2.131
Gini coefficient	0.347	0.384
Mean log deviation	0.194	0.222
Coefficient of variation	0.515	0.663

Source: Family Resources Survey, 2000–01.

### *Who are the richest and the poorest?*

Where are different types of family to be found in the distribution of income? Couples without children have the highest incomes on average, with equivalent income at £449 per week. This is shown in Figure 3, which gives the mean income of six different family-type groups, whilst the degree of income inequality within each group, as measured by the Gini coefficient, is shown in parentheses. Remember that the differing incomes of different families arise from a combination of three effects: (1) the original, or market, incomes of different households, from earnings and all other sources; (2) the impact of the tax and benefit system on household incomes; and (3) the effect of equivalising to take account of family size. Bearing in mind these effects, incomes are higher, on average, amongst couples without children partly because of equivalisation: childless couples tend to have fewer mouths to feed for any given level of income. This group also contains a large number of slightly older couples whose children have left home, who enjoy higher incomes than younger adults who are still bringing up their families. Incomes within the group are relatively unequally distributed, with both high- and low-income families to be found grouped together under this category.

FIGURE 3: AVERAGE INCOMES AND INEQUALITY BY FAMILY TYPE (BHC INCOME)



Note: Numbers in parentheses are within-group Gini coefficients.

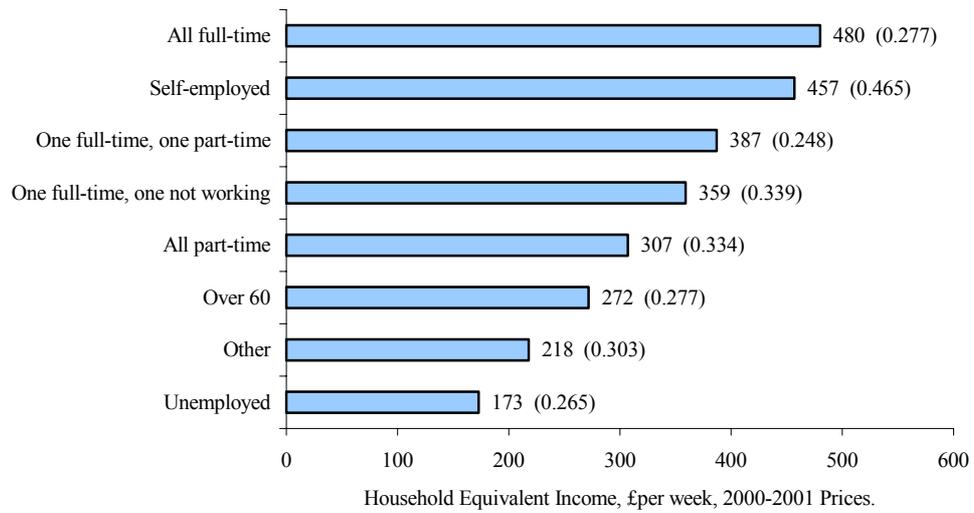
Source: Family Resources Survey, 2000–01.

The families with the lowest equivalent incomes, on average, are lone parents. This is because the costs of children mean that equivalent incomes are lower than for those without children. Additionally, many lone parents do not work. The degree of inequality within this group is lower than that amongst other groups of the population, as many have very similar incomes, at or around benefit levels.

After lone parents, single pensioners have the next lowest average income. Single pensioners are predominantly older pensioners, many of them women, who are unlikely to be receiving the occupational pensions that many of the younger, wealthier pensioners now enjoy. Many within this group, dependent on benefits, are uniformly poor, meaning that inequality within this group is also relatively low.

Breaking down the population by the economic status of the members is also interesting (Figure 4). Not surprisingly, households with more people in work have higher incomes, on average, than those households where there is less work. The most unequal group is the self-employed, although reported incomes amongst the self-employed can often be an unreliable guide to their living standards.

FIGURE 4: AVERAGE INCOMES AND INEQUALITY BY ECONOMIC STATUS (BHC INCOME)

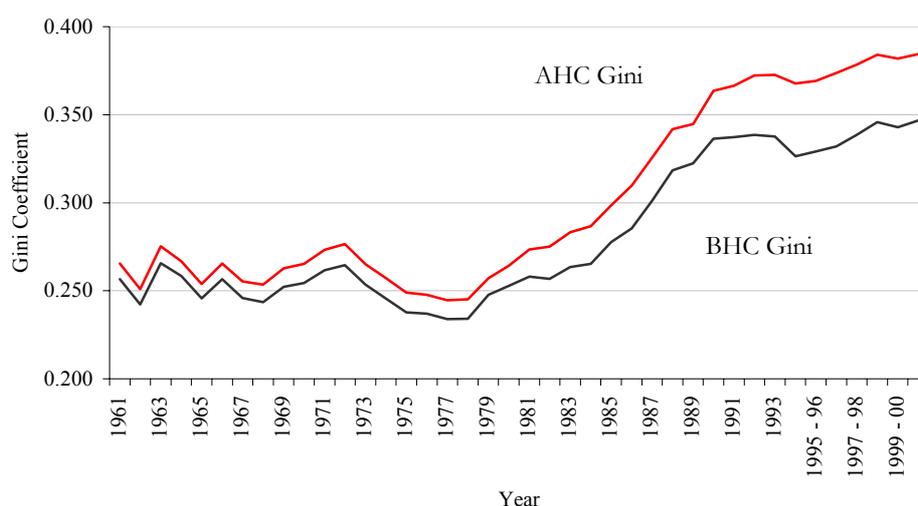


Note: Numbers in parentheses are within-group Gini coefficients.  
Source: Family Resources Survey, 2000–01.

### III - CHANGES IN THE INCOME DISTRIBUTION, 1961–2001

There was a rapid rise in income inequality over the 1980s on both the BHC and the AHC measures, contrasting markedly with the gentle inequality fluctuation of the 1960s and the falling inequality of the 1970s (Figure 5). Over the 1990s, inequality has fluctuated again, albeit at a much higher level, whilst the peak in inequality at the end of the 1990s, as measured by the Gini coefficient, was in fact higher than the previous peak, at the end of the 1980s (see Clark and Goodman (2001) for more details). There was also an increased divergence between the AHC and BHC measures over the 1990s, reflecting the increasing share of housing costs in total income borne by poorer households relative to the housing costs of higher-income households.

FIGURE 5: WHAT HAS HAPPENED TO INEQUALITY? THE GINI COEFFICIENT



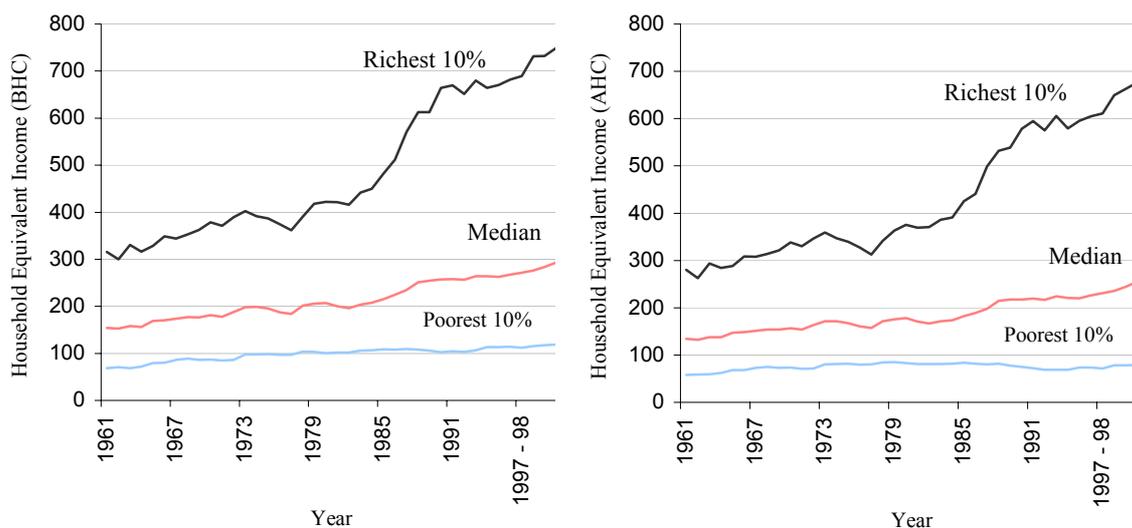
Sources: Family Expenditure Survey and Family Resources Survey.

#### *Changes in living standards across the population*

Underlying these changes in income inequality are the changes in living standards enjoyed by different families across the distribution. Notably, median equivalent incomes (before housing costs) have approximately doubled in real terms over the last four decades (up by 90 per cent since 1961), while over the same period the incomes (before housing costs) of the richest tenth have risen almost twice as fast (up 137 per cent) as those of the poorest tenth (up 74 per cent). Furthermore, when we take housing costs into account, the picture portrayed at the lower end of the income distribution changes

dramatically. The real income of the poorest tenth ranked by AHC income fell over the 1980s and early 1990s. Indeed, with average incomes at approximately £79 per week for a childless couple in the poorest tenth in 2000–01, there has been little improvement to the real levels experienced by the poorest tenth compared with 25 years ago. The evolution of incomes for different groups is illustrated in Figure 6.

FIGURE 6: INCOME GROWTH OF THE RICHEST, POOREST AND MEDIUM GROUPS



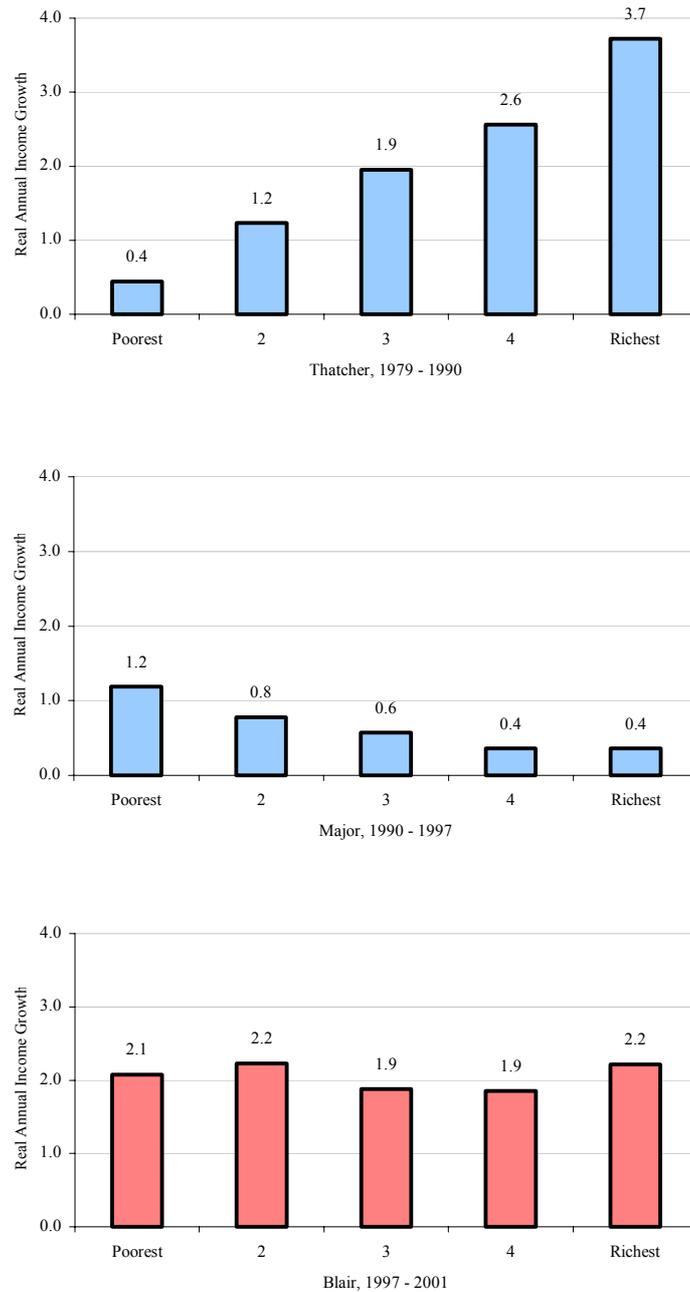
Sources: Family Expenditure Survey and Family Resources Survey.

Figure 7 summarises differential income growth over some periods of political interest. The figure shows the average real annual (BHC) income growth by income quintile, under the Thatcher, Major and Blair governments.

Great differences in income growth during the three periods can be seen. Under Thatcher (1979–90), income growth was monotonically increasing in income. Indeed, the income growth of the richest group was over eight times that of the poorest.

A very different picture is shown under the leadership of Major (1990–97). A consequence of the general economic downturn experienced under Major is that there was very little real income growth. Of the gains that existed, the benefits were highest for the poorest. The income of the lowest quintile increased by approximately 1.2 per cent on average per year, compared with the sluggish growth of 0.4 per cent per year for the richest group.

FIGURE 7: REAL INCOME GROWTH BY PRIME MINISTER

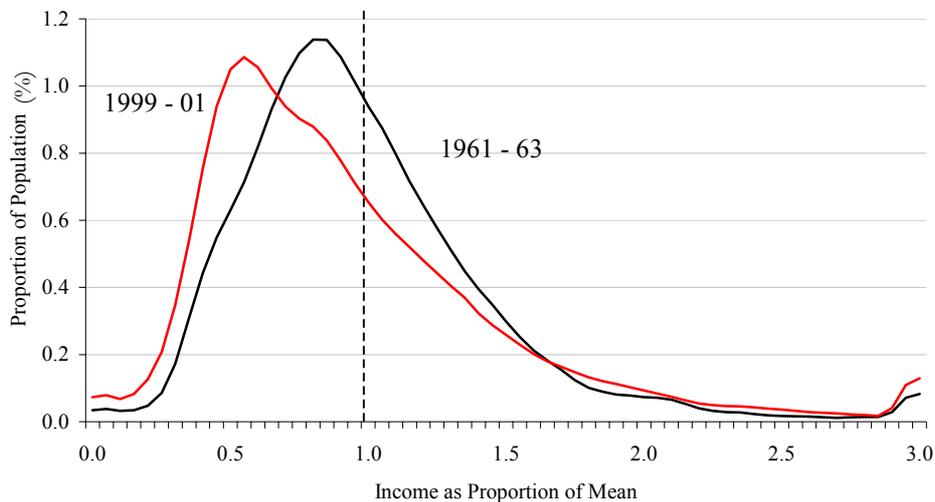


Finally, under Blair (1997–2001), we can see that income growth was more or less evenly distributed over the quintile groups, ranging from between about 1.9 and 2.2 per cent each year, with the gains to the poorer households largely reflecting increases in means-tested benefits to families with children. In Section IX, we cite research that attempts to identify the contribution that changes in the tax and benefit system have made to income inequality.

### *The changing shape of the income distribution*

Along with the changes in overall inequality, there have been important changes in the shape of the income distribution over recent decades. We present a stylised representation of some of these main trends in Figure 8. Note that in order to focus attention upon changes in inequality, rather than changes in income levels, the horizontal axis of the graph shows incomes relative to the mean income in the group of years in question. The vertical axis, meanwhile, shows the percentage of the population with incomes at each of these proportions of the mean. In order to preserve a reasonable scale, all those with incomes over three times the contemporary mean have been grouped together at the right-hand tail of the distribution.

FIGURE 8: THE CHANGING SHAPE OF THE INCOME DISTRIBUTION



Notes: The graphs have been smoothed using kernel density techniques. All those with incomes over three times the contemporary mean have been grouped together at the right-hand tail of the distribution.  
Sources: Family Expenditure Survey and Family Resources Survey.

Figure 8 tells us much about what has happened to income inequality. First, we note that over the years, there has been a substantial leftward shift of the peak of the distribution. This reveals that there are now more people with incomes below the contemporary mean,<sup>7</sup> with people more heavily concentrated at the lower relative income levels. Second, the fact that the peak is slightly lower means that there are now fewer people concentrated within a narrow income band; instead, they are more widely dispersed

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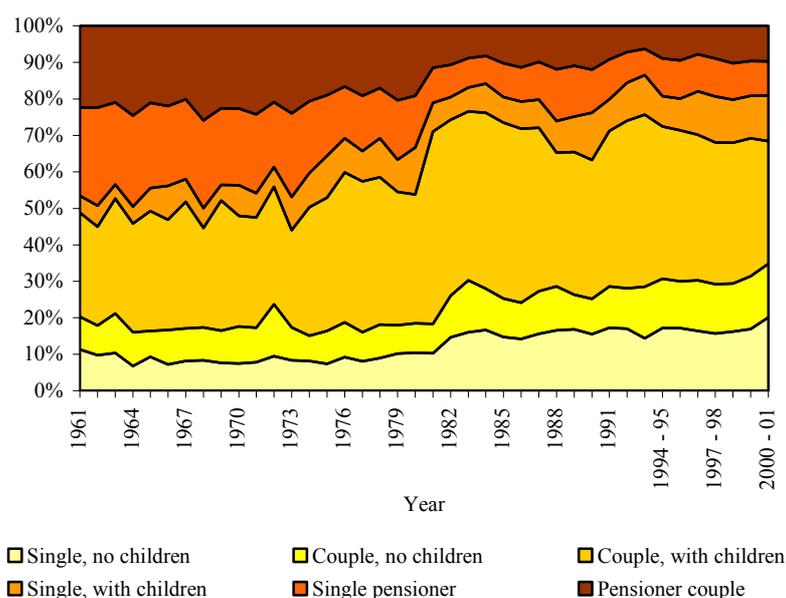
<sup>7</sup> In 2000–01, 65 per cent of the population had income below the contemporary mean compared with 60 per cent in 1961.

across different income levels. Finally, the higher density of people at income levels of 1.5 times the mean and above, and the somewhat higher spike at 3+ (recall that we group all higher incomes at this level), show that there are more people on high incomes relative to the mean.

### *Composition of the poorest groups*

One of the most dramatic changes over recent decades has been the improvement in the relative position of pensioners. Although there are many pensioners who are poor – particularly older single pensioners – the last 20 years have seen the replacement of older people in the poorest income decile group by younger families, many of them on more transitory low incomes. In the 1960s, more than 40 per cent of the poorest tenth ranked by BHC income consisted of pensioners, compared with less than 20 per cent today (see Figure 9).

FIGURE 9: THE COMPOSITION OF THE BOTTOM INCOME DECILE GROUP BY FAMILY TYPE



Sources: Family Expenditure Survey and Family Resources Survey.

There are a variety of reasons and potential explanations for these observed trends and they are to be discussed in Sections VII–IX, in which we broadly categorise them as being due to changes in the labour market, the importance of additional income sources, demographics and the tax and benefit system.

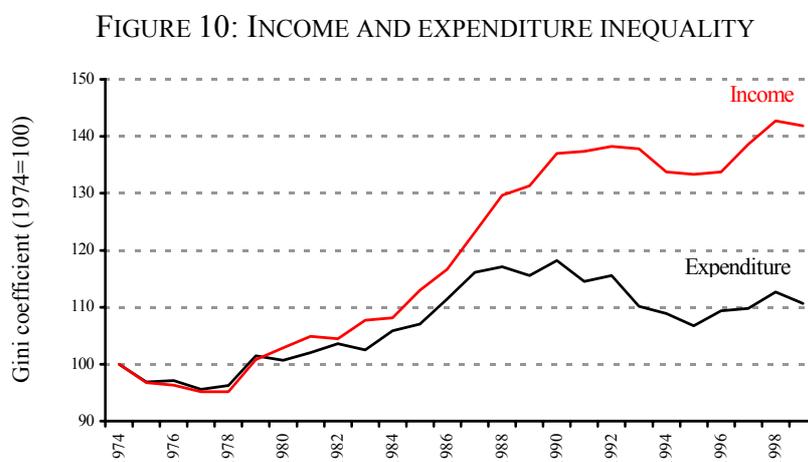
For more detailed information about the changes that have taken place since 1979, see Clark and Goodman (2001), Goodman (2001) and Clark and Taylor (1999), and for the changes over a longer period, see Goodman, Johnson and Webb (1997).

## IV - SPENDING

As discussed in Section I, household spending may provide a longer-run view of living standards where income is subject to fluctuation. In economics, this view is supported by the life-cycle hypothesis, which predicts that families will smooth their spending around their expected lifetime income level, by saving at times when their incomes are relatively high, and borrowing or running down their savings when their incomes are low. In practice, this means that examining the distribution of household expenditure may provide a better view of the longer-term, or more permanent, differences that exist between households' living standards.

In terms of the British experience, inequality of household expenditure grew over the late 1970s and 1980s, but not as fast as income inequality (see Figure 10). This suggests that some of the increase in income inequality over this time was due to increasing dispersion in the transitory component of incomes rather than in the distribution of permanent incomes.

Over the early part of the 1990s, income inequality (as measured by the Gini coefficient) was relatively stable, whilst inequality in expenditure fell markedly. From the middle part of the 1990s, income inequality has risen faster than spending inequality once again. Another interesting difference between the income and the expenditure distributions is the composition of the poorest groups – although we find that pensioners no longer predominate in the bottom of the income distribution, they still remain the largest group amongst the lowest spenders. For more on this, see Goodman, Johnson and Webb (1997) and Blundell and Preston (1998).



Source: Family Expenditure Survey.

## V - INCOME DYNAMICS

Although the shape of the income distribution has remained fairly stable over the 1990s, data sources that track the changes in fortunes of individuals over time show that there is a considerable degree of movement in households' incomes from year to year. The most comprehensive panel data on household incomes in the Great Britain come from the British Household Panel Survey, which has tracked the same households and individuals since 1991.

There has been some extensive work in recent years on income dynamics. Jenkins (1999) finds that many more people in Britain are affected by low income over an interval of several years than have a low income at a point in time, whilst inequality of longer-term income is lower than income inequality measured at any given point in time. Further to this, Jenkins finds that the labour market is important in explaining the mobility that exists within the income distribution. Taking into account both changes in the money income coming into each household ('income events') and changes in needs ('demographic events'), it is money events, such as a household member moving from working to not working, that are found to be the most important determinants in explaining transitions into and out of low incomes. For some households, changes in household composition are also very important.

In an earlier paper, Jarvis and Jenkins (1998) find that although there is much mobility from year to year, it is only over a short range. For example, although around half of the poorest tenth in any one year are not in the poorest tenth in the next year, roughly half of these move up only to the second decile group. Research by the Department for Work and Pensions (2002b) shows people who have persistently low incomes over a period of years are more likely to be lone parents, single pensioners and those in workless households. Over the 1990s, there is some evidence to suggest that the incidence of persistent low income fell for single parents and workless households, whilst it rose for pensioners.

## VI - INCOMES ACROSS THE GENERATIONS

Looking at the concept of income mobility over a longer time horizon is also very revealing, for it allows us to examine how families' incomes change from generation to generation, rather than just over a period of years within one person's life. Furthermore, it also allows us to understand how people's outcomes later in life relate to their childhood circumstances, such as experiences of poverty.

### *Income mobility*

How much income mobility is there across generations? Evidence from Britain suggests that there is considerable persistence in economic fortunes across generations (Dearden, Machin and Reed, 1997). On an index of mobility that ranges between 0 (complete mobility) and 1 (complete immobility), estimates for Great Britain have placed the degree of mobility between sons' and fathers' earnings, for a cohort of children born in 1958, at between 0.4 and 0.6 (slightly higher for daughters and fathers). This is generally interpreted as implying a considerable degree of immobility, for it would suggest that a son whose father had earnings that were double that of another father's earnings would himself have earnings averaging 40 to 60 per cent higher than the latter father's son. This estimate and some previous estimates made in other contexts are shown in Table 2.

TABLE 2: ESTIMATES OF THE DEGREE OF INTERGENERATIONAL INCOME MOBILITY

Study	Data	Estimate of mobility index
Atkinson, 1981	UK data on 307 father-son pairs with sons subsequently traced in the late 1970s from 1950 Rowntree survey in York	0.358-0.425
Solon, 1992	US panel data from the Panel Survey of Income Dynamics on about 300 father-son pairs	0.386-0.526
Zimmerman, 1992	US panel data from the National Longitudinal Survey on 876 father-son pairs	0.248-0.417
Dearden, Machin and Reed, 1997	GB data from the National Child Development Study; 1,565 father-son pairs; father's income measured 1974, son's income measured 1991	0.441-0.581

Source: Dearden, Machin and Reed, 1997.

Blanden et al. (2001) examine the extent to which intergenerational mobility has changed over time in Britain. Using data on two British cohorts – one born in 1958 and the other in 1970 – they find that there was a significant decline in cross-generational income mobility. This means that the economic fortunes of those in the 1970 cohort were more strongly related to those of their parents than they were in the earlier cohort. The authors also present some evidence to suggest that changing educational participation accounts for part of this change, with the increased participation in higher education between these two cohorts coming disproportionately from those with richer parents.

### ***The impact of low incomes and other experiences in childhood on later life***

There have been some detailed studies examining how a wide range of factors from childhood affect adult experiences. Before we proceed to detail some of these studies, it is important to recognise that, in practice, it can be difficult to disentangle the actual causal effect of such factors from others highly correlated with them. This criticism can be levied against a significant number of empirical studies, including some cited below. We therefore encourage caution in the interpretation of results.

Ermisch, Francesconi and Pevalin (2001) use data from the British Household Panel Survey to show that experiences of poverty as a child are associated with (amongst other things) lower self-esteem and more truancy amongst adolescents, and poor educational achievements and unemployment later in life. These authors exploit information about the different experiences of siblings growing up in the same household to try to separate out the effects of low family income from other confounding factors.

A study by Gregg, Harkness and Machin (1999) looks at the experiences of a cohort of children born in 1958 (from the National Child Development Study). This study finds that educational attainment is considerably lower amongst those whose families experienced financial disadvantage when they were a child. Relative low income as a child is also associated with lower school attendance and more contact with the police by age 16. In addition, it is found that, on average, those from financially disadvantaged backgrounds are more likely to be unemployed and to experience lower wages and worse social outcomes (such as spells in prison) as young adults than those from less disadvantaged families. These negative outcomes are partly due to lower educational achievement, but even after taking account of this, the outcomes amongst this group are worse.

Just as financial distress as a child affects later life experiences, so do other childhood events. Hobcraft (1998) finds that there is a strong association between being born out of wedlock and having children outside marriage in adult life, while work by Kiernan (1997) suggests that parental divorce during childhood amongst a cohort born in 1958 is associated with lower educational attainment, a higher incidence of unemployment amongst men and more partnership break-up in adult life.

## VII - EXPLAINING THE CHANGES IN THE BRITISH INCOME DISTRIBUTION

### 1: WAGE INEQUALITY AND THE LABOUR MARKET

The labour market is at the heart of many of the changes in the income distribution that have been observed over the 1980s and 1990s. This is simply because the majority of household income is derived from employment. Although other sources of income have grown in importance in recent years (most notably income from self-employment and investment), earnings remain the largest source of income by a considerable margin. Changes in the labour market are also responsible for changes in incomes other than earnings – for example, income from private pensions.

People's working lives have undergone some fundamental changes in recent decades. The sorts of people in work, the work that they do and the wages that they command relative to one another have all changed in important ways. Some of the major changes and how they have affected the distribution of income are summarised below.

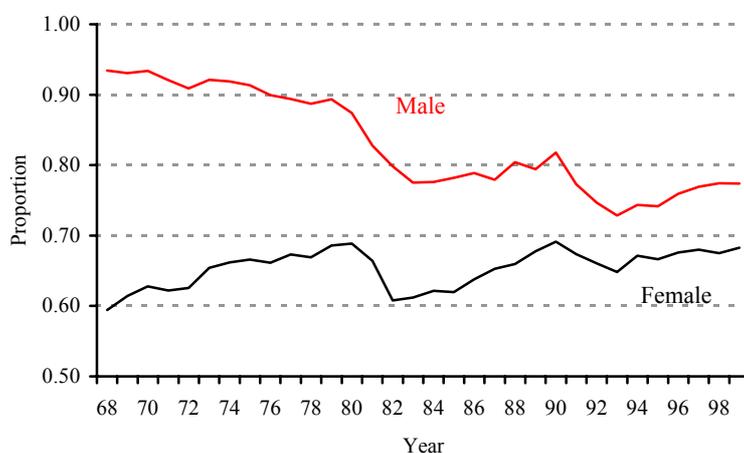
#### *Changes in participation*

One of the major areas of change in the labour market has been the participation of different groups of the population. Two important trends have emerged. First, women's labour market participation has increased: women make up around 45 per cent of the workforce now compared with less than 40 per cent at the start of the 1970s. Second, there has been a sharp decline in labour market participation amongst men, particularly over the early part of the 1980s but also during the recession of the early 1990s. After both recessions, the male participation rate failed to return to its pre-recession level. (See Figure 11, which shows the proportion of men and women below retirement age who are in employment or self-employment.)

Some commentators have suggested that these two trends have had an important impact on the distribution of income, since they have led to an increasing polarisation between households that are 'work-rich' and those that are 'work-poor' (Gregg and Wadsworth, 2000). There are two important changes that are responsible for this observed polarisation. First, the increased female participation seen over the 1970s and 1980s was mostly from married women whose husbands also work (although from all segments of society now as participation has continued to increase). Second, the falling male participation over the early 1980s and the early 1990s occurred mainly in households in

which there were no other workers. Participation fell most amongst older men, particularly those aged 55+.

FIGURE 11: MALE AND FEMALE LABOUR MARKET PARTICIPATION



Note: The graph shows the proportion of men and women below retirement age who are in employment or self-employment.

Source: Family Expenditure Survey.

### ***Wage inequality***

There have also been very important changes in both the distribution and the level of the hourly wages that different workers command. Just as the participation rates of men and women have exhibited very different changes over the past four decades, so too have the distributions of real wages (of course, wages and employment will be jointly determined and so, ideally, these factors should be considered together – see Blundell, Reed and Stoker (2000)).

Empirical work undertaken by Gosling, Machin and Meghir (2000) finds that the male hourly wage distribution was remarkably stable over the late 1960s and mid-1970s, before a period of rapid change in the decades that followed. The gap between the highest- and lowest-paid subsequently fell gently over much of the 1970s, but then grew rapidly at the end of the 1970s and over the 1980s and 1990s. During this time, the wages of the lowest-paid workers grew barely at all in real terms, in contrast to the substantial earnings growth seen at the middle and top of the earnings scale.

A very different picture is revealed when we consider the dynamic evolution of the female hourly wage distribution, which has shown substantial change since the 1960s.

Research by Goodman, Johnson and Webb (1997) shows that although inequality (as measured by the within-group Gini coefficient) in women's wages also grew over the 1980s and 1990s, unlike the male wage distribution the wages of the lowest-paid women continued to grow in real terms over this time.

If we are to compare the difference between male and female wages, then it is important to do so across similar jobs and to control for other factors, such as labour market tenure. This is because the jobs that male workers take (and their characteristics) are, on average, different from those that female workers take. Even accounting for these factors, the data show that although the gap between male and female wages has narrowed, it remains significant. The impact of this narrowing on the overall distribution of income is unclear, since the women with the highest wages tend to be those who live in households with partners who also command higher wages. For a fuller discussion of the gap between men's and women's pay, see Harkness (1996).

### ***The skills premium***

There is a wide literature that seeks to explain both the differences between and the dynamic evolution of the wages received by skilled and unskilled workers. Many of the explanations relate to reasons why skilled, or more highly educated, workers have seen their pay rise much faster than unskilled, less-educated workers (a growth in the so-called skills premium). This has occurred at the same time as the supply of skilled workers has risen relative to the supply of unskilled workers,<sup>8</sup> which, other things equal, would have exerted an equalising effect upon relative wages.

There are two main arguments put forward to explain this phenomenon. One is that there has been technological change biased towards higher-skilled workers. A simple example would be the computerisation of many workplaces, which may have increased the demand for skilled workers relative to unskilled workers. That is, computerisation offers potential productivity gains but it is only the skilled workers who have the necessary skills to utilise the technology. Research suggests that there is a strong positive association between skills-biased technological change (typically proxied by measures such as computer usage or R&D intensity) and the growth of wage inequality over the 1980s. However, the relationship does break down somewhat in the 1990s, when slower-

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<sup>8</sup> In 1980, only 5 per cent of the UK labour force had a degree. By 2000, this had increased to 17 per cent.

rising wage inequality was experienced. For a discussion and critique of the evidence, consult Machin (2002).

The Stolper–Samuelson theorem (Stolper and Samuelson, 1941), familiar to international trade theorists, provides the theoretical foundations for the argument that increased international trade – especially with the developing countries – has been the cause of the growth of the skills premium. To understand this, consider a country such as the UK, which has a relative abundance of skilled workers, opening to trade with developing countries, which in contrast are relatively abundant in unskilled labour. Then through the export of skilled-intensive goods and the import of unskilled-intensive goods, the relative demand (and so the price) of goods that are produced using relatively skilled labour-intensive techniques increases. This movement in price then translates into an increase in the skilled versus unskilled wage.

The international trade argument has been fiercely criticised – and with good reason too. First, the unique mechanism that leads to a change in the wages is a movement in the relative price of goods. In fact, over the period in which the growth of the skills premium has emerged, the relative price of skilled versus unskilled labour-intensive goods has remained approximately constant. Second, if the argument is valid, then we should have seen a decline in the skills premium in the developing countries; however, if anything, it has actually increased. Additionally, many would question whether the volume of trade with the developing world is actually large enough to explain the magnitude of the observed changes.

Whereas the above critique may lead one to dismiss the trade explanation, Acemoglu (2001) presents a theoretical model that is suggestive that the above two competing arguments are intimately linked, since it is the process of increased international trade that has fostered the skills-biased technological change. The argument put forward is complex, and so no attempt at an exposition will be made here. It is worth noting that Acemoglu’s model is not inconsistent with the stylised facts concerning the skills premium.

### ***Institutional factors***

The factors discussed above, although important, can only provide part of the explanation for the increased wage inequality. In addition, a number of institutional

factors have played a pivotal role, and these are the focus of this subsection, in which we document some of the main changes chronologically.

National income policies in place over the 1960s and 1970s – particularly those with some flat-rate element to them – are likely to have had a compressing effect on the distribution of wages. At the same time, the introduction of the Equal Pay Act – which was passed in 1970 to be implemented in 1975, by which time employers had to comply – is also likely to have had some impact on the distribution of male and female wages. Over the duration of the five-year adjustment period, the difference between male and female hourly wages fell considerably. It is not clear that we may automatically attribute all of this fall to a decline in sex discrimination, since other things also changed over this period, such as relative educational participation rates, which we would also expect to affect earnings.

Perhaps the most important of all these institutional factors is the sharp reduction in union coverage and the general decline in union power over the 1980s and into the 1990s. Empirically, it has been found that higher union coverage has been associated with lower wage dispersion, suggesting that the decline in union presence was an important factor in the growing wage inequality of the last two decades. This increased dispersion is also attributed to the eventual abolition of the Wage Councils in 1993. Prior to their abolition, the Wage Councils regulated the pay of about 10 per cent of the workforce, setting minimum pay rates in industries such as catering and retail. The erosion of their power over the 1980s and early 1990s is thought to have contributed to the increase over this time.

Most recently, the national minimum wage (NMW), introduced in 1998, is expected to have had an offsetting effect upon inequality growth. The Low Pay Commission (2001) has found that approximately 1.3 million jobs were entitled to higher pay as a result of the introduction of the NMW. However, work by Dickens and Manning (2002) suggests that although the NMW has had a detectable effect upon the wage distribution, this has been minimal, given that the level was set such that only 6–7 per cent of workers were directly affected. The authors also found that following its initial impact, the effect on inequality declined over time (between April 1999 and May 2001), as the NMW was not updated in line with average earnings.

## VIII - EXPLAINING THE CHANGES IN THE BRITISH INCOME DISTRIBUTION

### 2: DEMOGRAPHICS

There have been rapid changes in UK society over the last three decades. Banks, Pistaferri and Smith (2001) cite three main trends in family formation and dissolution that are roughly common to all western societies. On average, they find that the age at which men and women first enter marriage has increased; that women give birth later and have fewer children; and that families are more subject to dissolution through divorce. An additional demographic trend shared by many western societies arises from increased longevity, which has led to the formation of a larger elderly population.

One upshot of each of these trends is that there are many more one-person households in today's society. Single households now account for 31 per cent of all households (in 1999) compared with just 18 per cent in 1968. If population structure had been the same in the late 1990s as in the late 1960s, approximately 11 per cent, or 3 million, fewer households would have been required to accommodate everyone (Banks, Pistaferri and Smith, 2001).

It may be expected that such changes in the population structure would have an important impact on the distribution of income. For example, the presence of scale economies means that divorce is commonly associated with financial hardship, as two households have to be financed from the same means as one. However, Jenkins (1995) casts doubt upon the relative importance of these demographic factors. Using data from 1971–86, he argues that the observed income and inequality changes were primarily due to changes in the labour market, rather than being due to demographic shifts. Such findings are also confirmed in Goodman, Johnson and Webb (1994).

## IX - EXPLAINING THE CHANGES IN THE BRITISH INCOME DISTRIBUTION

### 3: TAXES AND BENEFITS

The tax and benefit system exerts an equalising effect on the distribution of income. In the annual publication by the Office for National Statistics on the impact of taxes and benefits on household incomes, Lakin (2002) has shown that before taxes and benefits are taken into account, the richest fifth of all households had an average income 18 times higher than the bottom fifth (it is important to note, however, that in the absence of any tax and benefit system, we would expect labour market behaviour, and so incomes, to be considerably different). Once incomes are adjusted to include the effects of direct and indirect taxes, cash benefits and government benefits in kind, this ratio falls to 4:1. Further to this, it is shown that cash benefits contribute the most to reducing inequality, reducing the ratio of the average income of the top fifth to the bottom fifth from 18:1 to 7:1. Direct taxes also reduce inequality, whilst indirect taxes such as VAT have the opposite effect, taking up a higher proportion of the incomes of poorer households (a so-called regressive tax).

Although it is simple enough to describe what happened to income inequality following various tax and benefit reforms, this is not informative as to their contribution to inequality, since a multitude of other factors will have changed simultaneously. Clark and Leicester (2002) use simulation techniques in an attempt to identify the contribution that changes in the tax and benefit system have made to UK income inequality since 1979. Their results turn out to be sensitive to the precise counterfactual against which reforms are assessed. Specifically, if we were comparing the present regime with the 1979 system with benefits indexed to prices, then the contribution of the reforms to increased inequality would be small.<sup>9</sup>

The authors also consider how the impact of the reformed tax and benefit system has varied over time. Their main findings accord with the predictions of economic theory: the income tax cuts of the 1970s and late 1980s worked to increase income inequality, whilst the direct tax rises in the early 1980s and 1990s – together with the increases in means-tested benefits in the late 1990s – produced the opposite effect.

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<sup>9</sup> If, however, the counterfactual regime were one where benefits were to rise in line with national income, as was the norm pre-1979, then a greater proportion of the total rise in income inequality would be explained by the reforms.

## X - CONCLUSION

This Briefing Note began by describing many of the difficulties that arise in the measurement of living standards and inequality. In looking at the various proposed measures, while recognising that they are all far from perfect, we acknowledged that such abstractions are essential if we are to be able to make statements and have discussions that are meaningful.

Under the various measures, we have presented a picture of the current situation in Britain, as well as tracking changes over time. Over the last 40 years, we have seen a dramatic rise in inequality, and we have attempted to isolate some factors that are central to the explanation of this. Indeed, given the present government's commitment to reduce relative poverty amongst pensioners and families with children, it will be interesting to see how the distribution of income further evolves in years to come.

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