

Trends in the UK Income Distribution

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Abstract. This paper reviews trends over the last three decades in the personal distribution of income in the UK. The first section of the paper documents the trends from a number of different perspectives (inequality, poverty and real income growth). Later sections explore the causes of the large increase in income inequality in the UK between the late 1970s and the beginning of the 1990s and the halt in the increase over the subsequent five years.

1 Introduction

The overall impression ... is of a reduction in inequality but, if the decline in the share of the top 1 percent is ignored, the shape of the distribution is not greatly different in 1976-77 from what it was in 1949. ... The income distribution shows a remarkable stability from year to year and the changes ... are the cumulative result over a long run of years of occasional small movements. (RCDIW Report No. 7 Fourth Report on the Standing Reference, July 1979, Cmnd. 7595, p. 17.)

Income inequality in the UK grew rapidly between 1977 and 1990, reaching a higher level than recorded since the war. ... [T]he pace at which inequality increased in the UK was faster than in any other [country], with the exception of New Zealand. ... Over the period 1979 to 1992 the poorest 20-30 per cent of the population failed to benefit from economic growth, in contrast to the rest of the post-war period. (JRF Inquiry Into Income and Wealth, chair Sir Peter Barclay, 1995, Volume 1, p. 6.)

Britain has had two major public inquiries into income and wealth in the last twenty-five years, the Royal Commission on the Distribution of Income and Wealth established by the then-Labour government in August 1974, and the Inquiry into Income and Wealth set up by the Joseph Rowntree Foundation in November 1993. Each produced a series of major in-depth reports and yet, as the

opening quotations illustrate, they drew attention to dramatically different income distribution trends. There was a significant turning-point in the late-1970s and, moreover, as I shall show later, the situation changed once again during the 1990s. This paper reviews the evidence about the changing trends in the personal distribution of income in the UK over the last three decades, and summarises the evidence about the factors which underlay these trends.

The episodic nature of distributional changes, rather than a steady evolution over time, is one of the main themes of the paper. Section 2 provides a summary overview of British income distribution trends from 1961 to the mid-1990s, focusing on the period since the mid-1970s. I document the trends in income inequality, income growth in different parts of the income distribution, and relative and absolute poverty.

A second theme of the paper is that different ways of looking at the income distribution can lead to differences of opinion about whether the trends represent a Good Thing or a Bad Thing, in particular whether one emphasises income inequality rather than real income growth, or relative poverty rather than absolute poverty.

The differences in views about which are the important 'facts' are illustrated by the views of British politicians. The Conservative Party has typically emphasised real income growth and the Labour Party inequality and relative poverty. In the late 1980s, for example, Mr Kinnock (the then-leader of the opposition Labour party) complained that 'While the very rich have lost some of their riches to the less rich, over time, the poor have hardly profited proportionately' (The Future of Socialism, Fabian Tract No. 506, January 1986). By contrast Mrs Thatcher's view was that 'This country has the highest standard of living that it has ever known ... Real incomes have increased throughout all income groups' (Weekly Hansard, 27 April 1989, cols 1087-8). And her then Social Security Secretary claimed that there was no genuine poverty in Britain only inequality (Mr Moore, speech to Conservative Political Centre, 12 May 1989), and by implication this was not so important either. In fact the Royal Commission on the Distribution of Income and Wealth was abolished in 1979 by the incoming Conservative government, reflecting a lower priority for distributional matters altogether. But at the end of the 1990s the wheel turned in the opposite direction again. Mr Blair's Labour government has motivated policies in terms of their impacts on poverty and inequality of opportunity. The word 'poverty' is again in use in government reports. Indeed the government has pledged to end child poverty within twenty years (United Kingdom, 1999).

A third theme of the paper, closely related to the first, is that there has been no single cause of the distributional changes in the UK. There have been several and their mix has changed over time. It is perhaps natural for many economists to explain income distribution trends by reference to what has been happening to earnings (given their importance in most household's income packages). Although changes in the distribution of wages are undoubtedly an important part of the story about income changes in the UK, they are not the full story. Sections 3 and 4 set out an analytical framework for accounting for inequality trends and use it to summarise evidence about the contributions of a changing variety of different

labour market dimensions. Section 5 provides a summary and concluding comments.

I should stress that the paper draws heavily on the work of others besides my own.¹ For example, see Atkinson (1994, 1996, 1997), Barclay (1995), Goodman and Webb (1994), Goodman, Johnson and Webb (1997), Hills (1995, 1998), together with the official low income statistics published annually (e.g. Department of Social Security, 1998). For a picture of changes in the UK over the whole twentieth century, see Atkinson (1998). For evidence about the UK from cross-national perspective, see Atkinson et al. (1995), Gottschalk and Smeeding (1997), and Eurostat (1997, 1998). One glaring omission from the current paper is any discussion of income mobility and poverty dynamics—a justification is that this is a paper about distributional trends, and the available longitudinal data in Britain do not yet allow examination of *changes* in mobility over time.²

Throughout the paper the focus is on the distribution of income amongst persons. Following conventional practice, each person is attributed with the equivalised real net household income of the household to which they belong. I shall simply refer to ‘income’ for short.

Household income is defined as the sum of cash income from all sources: labour market earnings from employment and self-employment, investment and savings income, occupational and private pensions, plus all cash benefits from the government (including retirement pensions), minus direct income taxes and social security contributions. Income refers to current income rather than annual income (the reference period for most of the income sources is the week prior to the survey interview). To take account of differences in household size and composition, all incomes have been adjusted using the ‘McClements Before Housing Costs’ equivalence scale (the semi-official UK one—see Department of Social Security, 1998). And in order to compare real incomes over time, incomes have also been adjusted to a common date using a suitable monthly price index.

The statistics presented are mostly based on data derived from the Family Expenditure Survey (FES), a nationally representative household survey, in particular the derived variable sub-files known as the Households Below Average Income (HBAI) data sets reflecting the fact that the income definitions correspond to those used in the official low income statistics. See the annual reports produced by the Department of Social Security (see e.g. Department of Social Security, 1998). I shall also make use of HBAI-like data covering each year from 1961 to 1991, created by Goodman and Webb (1994) from the FES, and covering 1991 to 1996, created by Jarvis and Jenkins (1998b) from the British Household Panel Survey (BHPS). I refer below to these three sources as ‘DSS/HBAI’, ‘IFS/HBAI’ and ‘BHPS/HBAI’ data. In the discussion of causes some statistics are also taken directly from published tables in FES reports.

¹ See e.g. Coulter et al. (1994), Cowell et al. (1996), Jenkins (1991, 1992, 1994, 1995a, 1995b, 1996, 1997), and Jenkins and Cowell (1994).

² The British Household Panel Survey which began in the Autumn of 1991 is the most commonly used data source for studying dynamics: see e.g. Jarvis and Jenkins (1997, 1998a) and Jenkins (1998). Information about mobility has been a new dimension introduced into debates about whether Britain’s recent income distribution trends represent improvements or not.

2 Income Distribution Trends In The UK, 1961-1995/96

2.1 Changes in Income Inequality

Let us begin by looking at trends in inequality over the last three decades, where inequality is summarised using the Gini coefficient. This is a measure which ranges in value between 0 (no equality) and 1 (maximum inequality); higher values correspond to greater inequality. To investigate trends over the whole period, I have combined IFS/HBAI data for 1961-1991 and BHPS/HBAI data covering 1991-1996. These have been supplemented by an alternative series for 1977-1995/6 published by the Office for National Statistics (1998 and earlier years). The income definition ('disposable income') is similar to the HBAI one but the income-receiving unit is the household rather than the individual as in the other sources.

Figure 1 shows that there were five inequality 'episodes' over the period 1961-1995/6, with change points occurring in about 1972, 1978, 1984, and 1990. The five periods are:

- 1961-1972, when inequality was fairly constant (but moved up and down);
- 1972-1978, when inequality was falling;
- 1978-1984, when inequality was rising;
- 1984-1990, when inequality rising even faster; and
- 1990-1995/6, when inequality remained constant.

This lack of steady evolution in UK inequality in one direction over time has been emphasised by Atkinson (1997, 1998). Of course the extent to which trends are seen as episodic depends partly on the period considered and how long it is. The long-run decline in inequality cited by the Royal Commission in the opening quotation referred to a period from 1949 until the late-1970s.

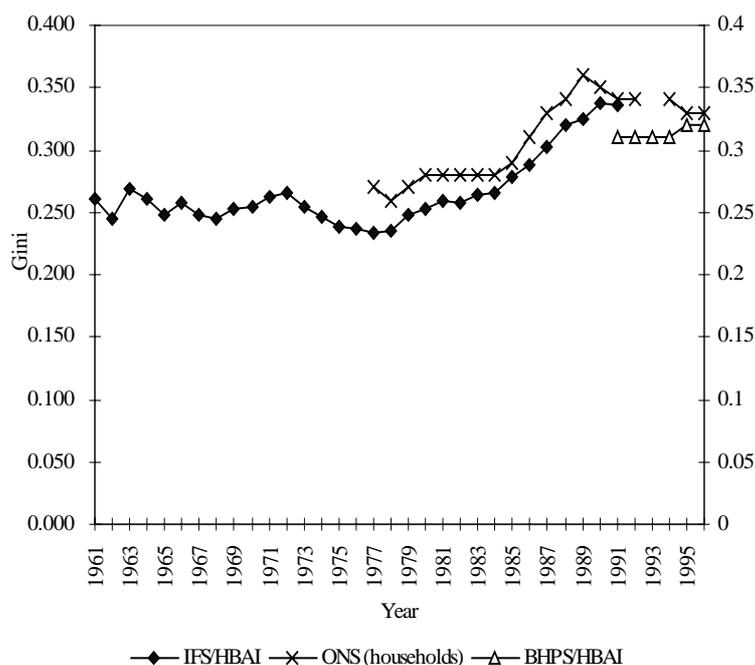
If one considers the whole of the period covered by Figure 1, then it is clear that inequality is substantially higher in the 1990s than it was thirty (or more) years ago. The Gini coefficient increased by some 40 percent, from 0.25 to 0.35. If one concentrates on the period from the late-1970s until the beginning of the 1990s, the increase was even larger than this.

To put these results into perspective, the growth in UK income inequality during the 1980s was faster than for virtually all other western industrialised nations, and inequality actually fell for some nations over the period (see the review by Hills, 1998). At the beginning of the 1990s, the degree of income inequality in Britain was nearly the same as in the USA. By contrast inequality in the Nordic countries was more like Britain's at the start of the 1960s.

The picture of UK trends shown in Figure 1 is little altered if one uses inequality indices other than the Gini coefficient (Goodman and Webb, 1994; Jenkins, 1994). The same episodic picture is revealed but the size of the changes differs. For example, the increase in inequality during the 1980s is estimated to be rather larger according to the coefficient of variation (cf. Figure 12 below). Since this measure

is sensitive to income differences at the top of the income distribution (cf. the Gini coefficient which is middle-income sensitive), this suggests that most of the large income changes were amongst the richest incomes.³

Figure 1. Trends in UK inequality (Gini coefficient)



Sources: Goodman and Webb (1994), Office of National Statistics (various years), and author's calculations from the BHPS (see text).

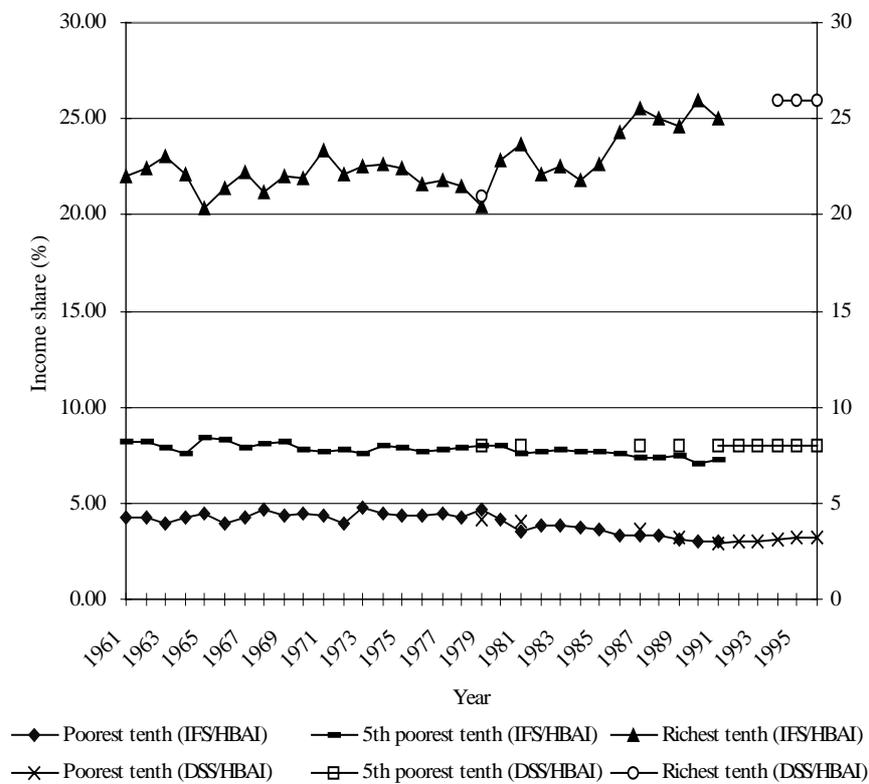
What changes in relative incomes lay behind these aggregate inequality trends? Which income groups gained and which income groups lost? Consider first Figure 2 which shows trends between 1961 and 1996 in the shares of total income held by selected income groups, viz the poorest tenth, the fifth poorest tenth, and the richest tenth of the income distribution in each year. The Figure shows a sharp contrast in the fortunes of the different groups, with the richest one gaining substantially, little change for the middle one, and the poorest one losing ground. Focusing on the period 1979 to 1990/91, the income share of poorest tenth declined from 4.3 percent to 2.9 percent, whereas the share of richest tenth increased from 20.6 percent to 26.1 percent (Jenkins, 1996).

The changes in relative incomes can be summarised in other ways. For example, in the 1979 distribution, the income of the middle person in the richest tenth of the

³ The inequality trends are also much the same if one considers trends in the inequality of consumption expenditure rather than income. See Goodman and Webb (1995) and Blundell and Preston (1998).

population was 4.1 times the income of the middle person in the poorest tenth; by 1990/91, the ratio was 6.6 (Jenkins, 1996). One may also consider how much of the overall income growth over the same period was shared by the different income groups. Of the 35.2 percent growth in overall average income, 29 percent was accounted for by the income growth of the richest twentieth, 40.5 percent by the income growth for the richest tenth, and 60 percent by the richest fifth—but none at all by the poorest fifth (Jenkins, 1994). All this is evidence of an inegalitarian trend of the type which Mr Kinnock, cited earlier, complained about.

Figure 2. Trends in the shares of total income for selected income groups



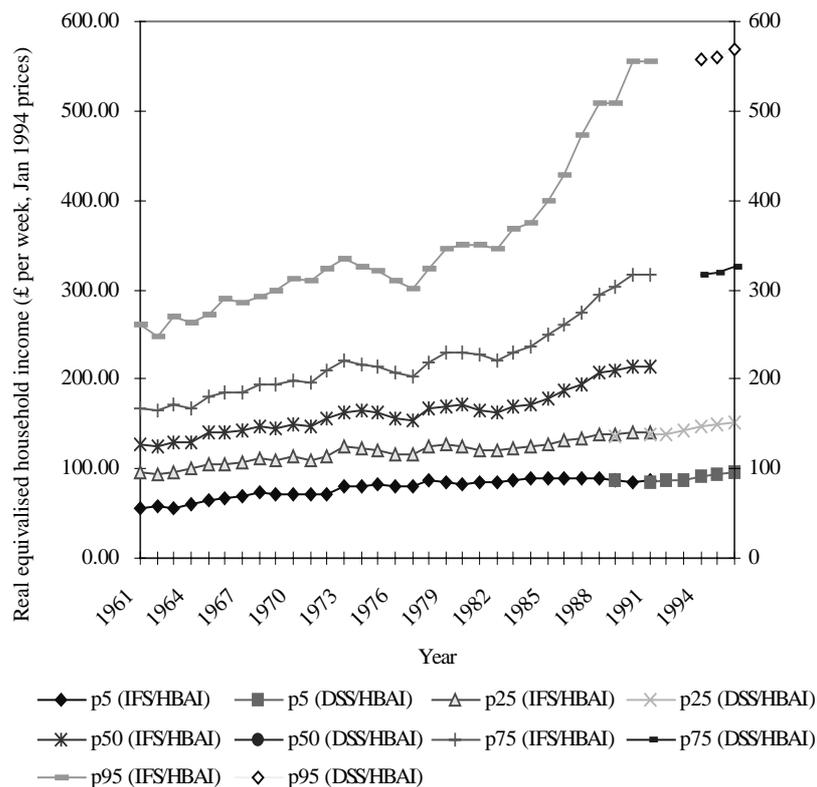
Sources: Goodman and Webb (1994), and author's calculations from Department of Social Security (1998 and earlier years).

2.2 Real Income Growth

A different interpretation might be emphasised, however, if one were instead to emphasise trends in real income levels rather than in relative incomes (cf. Mrs Thatcher cited earlier). Look at Figure 3 which shows the changes in the values of selected percentiles of the income distribution. It appears that over the thirty year

period, there were income gains at all points along the income range. This was so even at the bottom: the income of the person one twentieth of the way up the distribution (the fifth percentile, $p5$) rose from about £55 per week in 1961 to just under £100 per week in 1995/6. (Incomes are expressed in January 1994 prices.)

Figure 3. Trends in real income levels (selected percentiles)



Sources: Goodman and Webb (1994), and author's calculations from Department of Social Security (1998 and earlier years).

This growth was not steady however. There were for example times when $p5$ (and other percentiles) declined during this period, another demonstration of the episodic nature of income trends. The declines correspond with recessions, during the early 1970s (after the first oil crisis), and at the beginning of the 1980s and the 1990s.

Figure 3 also reveals that the increases in income levels were largest at the top of the distribution, especially during the 1980s. Between 1979 and 1995/6, the median income ($p50$) increased by some 26 percent, whereas the increase in the upper quartile ($p75$) was 38 percent and a massive 60 percent for the middle person in the richest tenth ($p95$). Despite the secular income growth in the middle income ranges, the 1990s income level of people bordering the richest quarter of

the distribution was the same as the 1960s income level of the people bordering the richest five percent of the distribution.

2.3 Trends in Poverty

Trends in poverty may be interpreted in a favourable or unfavourable light depending on how poverty is defined. I illustrate this by contrasting results derived using a poverty line which is fixed in real income terms (equal to half 1991 average real income for each year) with those derived using a poverty line set equal to half the average income of the year concerned. The former is an example of what some label an 'absolute' poverty line, and the latter is an example of a 'relative' poverty line, and increased in value over time as average income grew. There is no official poverty line in the UK, but these half-average lines are commonly used instead. Eurostat has also used them for cross-national comparisons of low income (Eurostat, 1997, 1998).

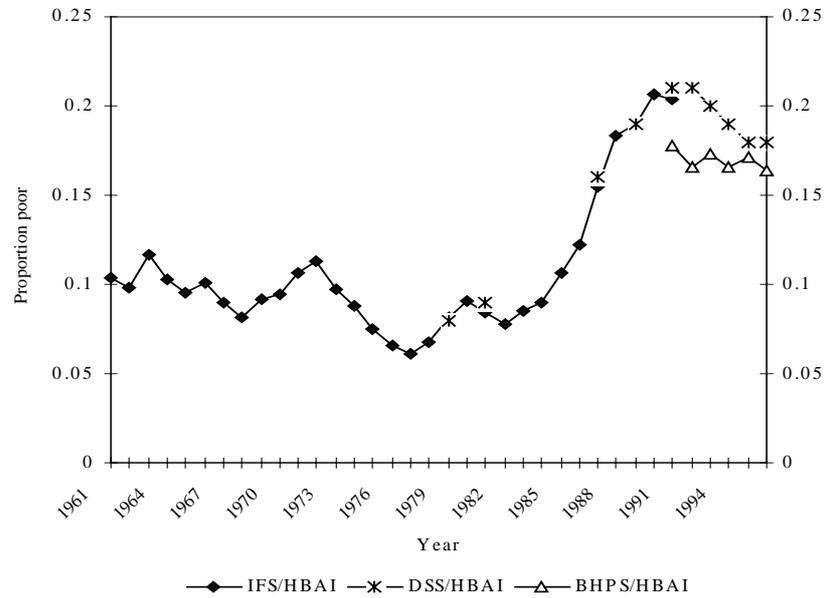
Figure 4 shows the trends in the proportion poor between 1961 and 1996 when the relative poverty line is used. The picture revealed is one of episodes whose timing is, not surprisingly, very similar to the inequality episodes. That is, poverty did not change much during the 1960s, then declined until the late 1970s. It rose thereafter, sharply so during the mid-1980s, but then levelled off at the beginning of the 1990s. Thus if one defines poverty in terms of having low income relative to a contemporaneous standard, then poverty got markedly worse over the last three decades. The relative poverty rate in the mid-1990s, about 20 percent, was double the poverty rate at the beginning of the 1960s.

The trends in absolute poverty rates provide a different picture, one more in line with the remarks of Mr Moore cited earlier. Figure 5 shows that the proportion of the UK population with an income less than half 1991 average income was about one half in 1961, but some four-fifths smaller in 1996, about 10 percent. The decline was not continuous however with increases during the mid-1970s and in the early-1980s (recession periods).

3 The Causes of the UK Income Distribution Trends

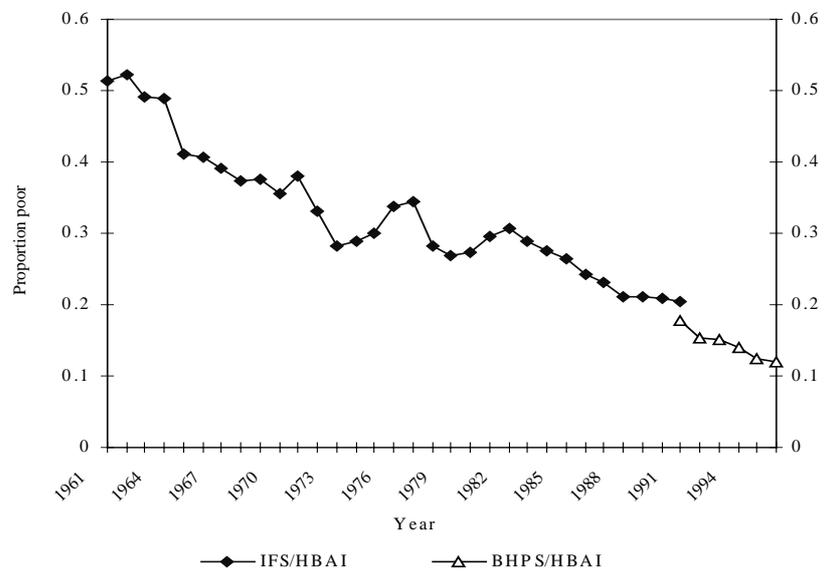
Regardless of whether one views the UK's income distribution trends as favourable or unfavourable, it is clear that there are many changes to explain. I begin by setting out an analytical framework for considering a range of potential causes of the trends in inequality. Potential influences include changes in earnings inequality, changes in the composition of household income packages, unemployment and worklessness, the relative incomes of working and non-working households, the growth in numbers of lone parent families, and so on. Later subsections look at the trends in the most important of these factors. The final subsection puts the elements of the story together, focusing on the period 1979-1990/1 (when the largest changes in the distribution occurred).

Figure 4. Trends in the proportion poor (poverty line = half contemporary average income)



Sources: Goodman and Webb (1994), and author's calculations from Department of Social Security (1998 and earlier years).

Figure 5. Trends in the proportion poor (poverty line = half 1991 average real income)



Sources: Goodman and Webb (1994), and author's calculations from Department of Social Security (1998 and earlier years).

I should emphasise that my discussion of explanations considers proximate causes only, rather than fundamental causes. For example I show below that inequality of employment earnings has increased, but I do not consider what the fundamental economic factors behind this were.⁴ Also I do not consider the impact of politics or politicians. Nonetheless it should be noted that the large increase in income inequality at the end of the 1970s occurred before Mrs Thatcher came to power (1979). And the inequality growth pause at the beginning of the 1990s began before the Labour election win in 1997.

3.1 Accounting for Inequality Trends: An Analytical Framework

Decompositions by population subgroup and by income source provide a useful framework for answering questions such as: what were the factors driving the income inequality trends and what were their relative contributions?

The basic idea is that some factors affect the income distribution by changing the numbers of people in different groups, others affect the incomes of specific subgroups or income sources, and some do all of these. It is useful to pool the evidence from both subgroup and income source decompositions, because some influences can only be examined using one method rather than another and, where both methods provides evidence about the role of a factor, each can provide a check on the other (Jenkins, 1995a).

Consider first decompositions by population subgroup. To make things more concrete, suppose that each person has been classified into a group according to the work status of the household to which they belong. (Breakdowns related to work status have proved to be the most effective in explaining UK inequality trends.) For example the groups used in the analysis below are: households with one or more full-time self-employed worker, households with one or more full-time worker in employment, and households with no full-time earner.

Total inequality depends on inequality within each of the subgroups, the number of persons in subgroup relative to the total population (the group's 'population share'), and the average income of each subgroup. In fact, for additively decomposable inequality measures, total inequality is equal to the weighted sum of the inequalities within each subgroup (within-group inequality), plus between-group inequality, which is equal to the total inequality there would be were each person to receive the mean income of the subgroup to which they belong.⁵

For example, the I_2 inequality measure, i.e. half the squared coefficient of variation, can be written as:

⁴ The literature has drawn attention to higher rewards to skills and qualifications, combined with a fall in the importance of labour market institutions such as unions and wage councils. See e.g. Gosling et al. (1994, 1996) and Machin (1996).

⁵ The set of additively decomposable inequality indices includes all the members of the Generalised Entropy family of indices, I_α . I_2 is half the coefficient of variation squared; I_1 is the Theil coefficient; I_0 is the mean logarithmic deviation. The more negative (positive) α is the more sensitive is I_α to income differences towards the bottom (top) of the income distribution. See Shorrocks (1984).

$$I_2 = \sum_{k=1}^K (v_k)(\lambda_k)^2 I_{2k} + \sum_{k=1}^K (v_k)[(\lambda_k)^2 - 1] = I_{2W} + I_{2B} \quad (1)$$

for subgroups $k=1, \dots, k$, and where I_{2k} is inequality within group k , v_k is k 's population share, $\lambda_k = \mu_k/\mu$ is the k 's mean income divided by the overall mean. I_{2W} is within-group inequality and I_{2B} is between-group inequality.

Within this framework, inequality changes may come about via three routes. First there are changes in subgroup inequality. A rise in inequality amongst working households increases overall inequality. Second, inequality may be affected by changes in the relative sizes of the different groups. There is a direct effect which operates by changing the weight put on subgroup inequality in the overall total. (The impact of e.g. a increase in the number of workless households on total inequality depends on whether this group has relatively high or low inequality.⁶) There is also another, indirect, effect: changes in group size change the average income of the subgroup relative to the overall average income. The third source of inequality changes is changes in subgroup average incomes per se. For example a widening gap between the incomes of working and non-working households group raises inequality.

Consider now a decomposition of total inequality by income source, where income sources are the components of household income packages such as employment earnings, self-employment earnings, income from social security benefits, income from investments, private and occupational pensions, and so on. Since we are considering *net* income, income taxes and social security contributions also count, but as negative income.

Within this framework, total inequality depends on the inequality of each income source, the share of each source in total income (i.e. mean income from each source), and the correlations between sources (whether e.g. the individuals with high earnings are also those with high investment income).

To give a concrete illustration, the Shorrocks (1982a, 1982b) decomposition rule writes total inequality, I , as the sum of the inequality contributions S_f from each income source $f=1, \dots, F$:

$$I = \sum_f S_f \quad (2)$$

Dividing through by I ,

$$1 = \sum_f S_f / I = \sum_f s_f \quad (3)$$

we have s_f , the 'proportionate contribution of each income source to total income inequality', where

⁶ For the later analysis, it is important to note that in the UK income inequality among persons in non-working households is at least as high, if not higher, than inequality among persons in working households (Atkinson, 1994; Jenkins 1995a). Hence a rise in the number of non-working households increases inequality.

$$s_f = \rho_f(\mu_f/\mu) \sqrt{I_{2f} / I_2} . \quad (4)$$

The ρ_f is the correlation between income source f and total income, μ_f is mean income of source f , and I_{2f} is the inequality of source f measured using half the squared coefficient of variation. I examine trends in $S_f = s_f I_2$ in Section 4.

From this perspective, inequality changes arise via three routes. First there are changes in the relative importance of different components in the household income package: e.g. a rise in the importance of self-employment income, other things equal, may increase inequality—though the impact also depends on how unequally this source is distributed in the first place, and its correlation with income sources. Second, increases in the inequality of any income source increases overall inequality. Changes in the inequality of employment earnings inequality are a leading example of this influence considered below. Third, changes in the correlations between income sources can change inequality. The most cited example of this in the UK relates to the growth of women’s labour force participation, which was greater for women with husbands in work. (The rise in the earnings of many wives from zero to something increased the correlation between partners’ earnings.) In fact this disequalising concentration of income turns out to have had relatively minor role in explaining UK inequality trends (Jenkins, 1995a; Harkness et al., 1996).

3.2 Trends in the Inequality of Employment Earnings

I begin with an examination of trends in the inequality of employment earnings. Many economists instinctively analyse income inequality in terms via earnings inequality, partly because employment earnings form a large share of total income in the income packages of most households.

Figure 6 shows trends in the inequality of men’s weekly earnings from 1968 to 1998. Earnings dispersion is summarised in terms of the proportionate gaps between high earnings and middle earnings (the ratio of $p90$ to median earnings, $p50$)—shown on the right hand scale—and between low earnings and the median (the ratio of $p10$ to the median), shown on the left-hand scale. Trends in earnings dispersion for women followed similar trends and so are not shown.⁷ I should emphasise that the statistics refer to income from employment: the role of self-employment and self-employment income is considered below.

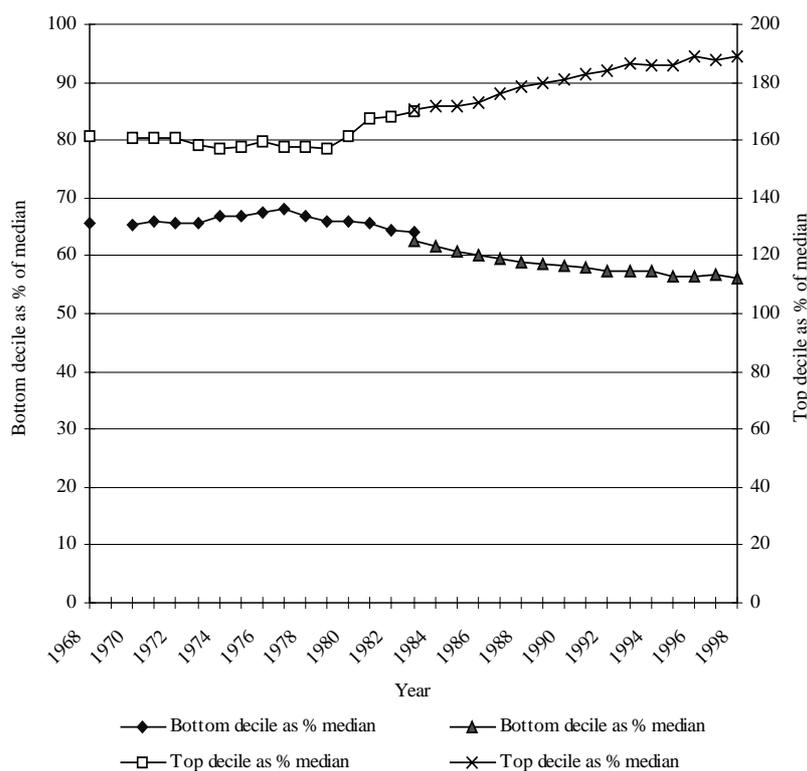
For employment earnings inequality trends to be consistent with the income inequality trends shown earlier, we would expect to earnings inequality falling during the 1970s, growing from the late 1970s until the mid-1980s, growing even faster over the subsequent five years or so, and then levelling off during the 1990s.

There is evidence of consistency in trends, but it is not total. During the 1970s, men’s earnings inequality declined as high earnings declined relative to middle earnings and low earnings increased relative to the middle. After 1977, there was

⁷ For more detailed evidence about employment earnings trends, see e.g. Gosling et al. (1994, 1996).

a marked rise in the gap between high and middle earnings and also a marked increase in the gap between low and middle earnings (which continued until the 1990s). Observe, however, that the very sharp rise in the $p90/p50$ ratio around 1980 was not fully reflected in overall income inequality, which suggests that something else was involved.

Figure 6. Trends in the inequality of men's weekly earnings



Sources: 1968-83, Atkinson and Micklewright (1992, Table BE3); 1983-1996, New Earnings Survey 1998, Table A28. Data refer to men aged 21+ years up to 1983, men on adult rates thereafter. The survey month is April of the relevant year.

Between the mid-1980s and the start of the 1990s there was a continuing increase in the gap between high and low earnings, with some increase in rate of growth around 1985. But overall income inequality rose rather more sharply than the apparent rise in earnings dispersion, again suggesting that something else was involved. Finally, during the 1990s, the growth in the gap between high and low earnings slowed down, consistent with the halt in income inequality growth.

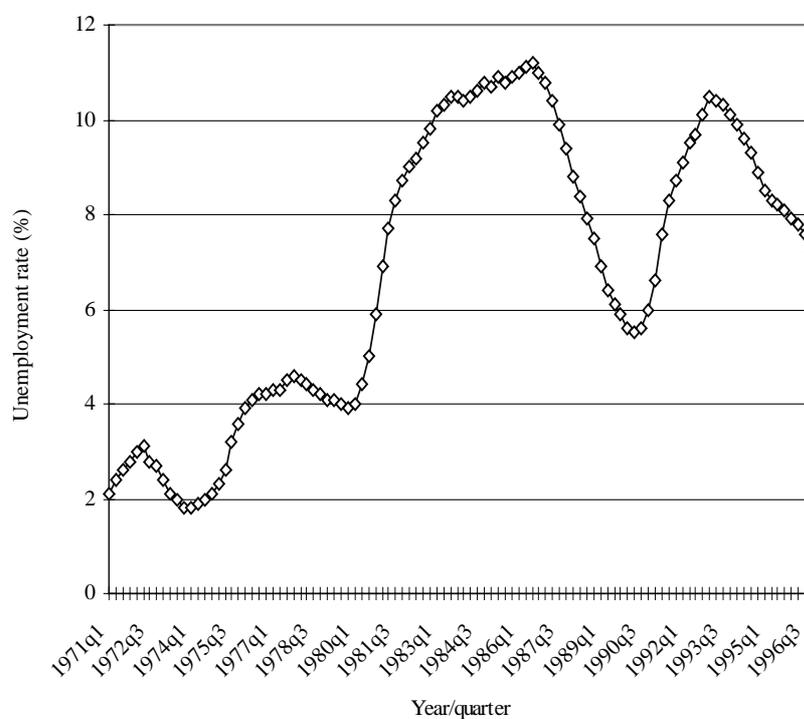
In sum, it appears that changes in the inequality of employment earnings may explain many of the income inequality episodes. But it is also clear that the

earnings changes are not the complete story. Let us therefore consider some of the other potential explanations.

3.3 The Shift Away From Employment

To what extent were increases in unemployment responsible for the increases in inequality? Figure 7 shows the evolution of the unemployment rate between the first quarter of 1971 ('1971q1') and the final quarter of 1996 ('1996q4').⁸ The overall trend in unemployment has clearly been upwards, but with very large fluctuations.

Figure 7. Trends in the claimant unemployment rate (%)



Source: Economic Trends Annual Supplement 1997 Edition, series BJCE. Series refers to claimants (men and women) aged 18 years or over, and is seasonally adjusted.

Interestingly there is only partial evidence of consistency between unemployment and inequality trends. For instance, there was rising unemployment

⁸ The rate refers to men and women who are unemployed and receiving social insurance or social assistance benefits.

during the 1970s, but income inequality fell during this period. By contrast the sharp rise in unemployment in the early 1980s does coincide with the then rise in inequality. But inequality grew even faster during the mid- to late-1980s, and unemployment rates fell sharply then. And then in the first half of the 1990s unemployment both rose and fell, whereas the level of income inequality was fairly constant. Overall, the evidence suggests that if unemployment played a role in inequality growth, then it was only during the inequality increase at the start of the 1980s.

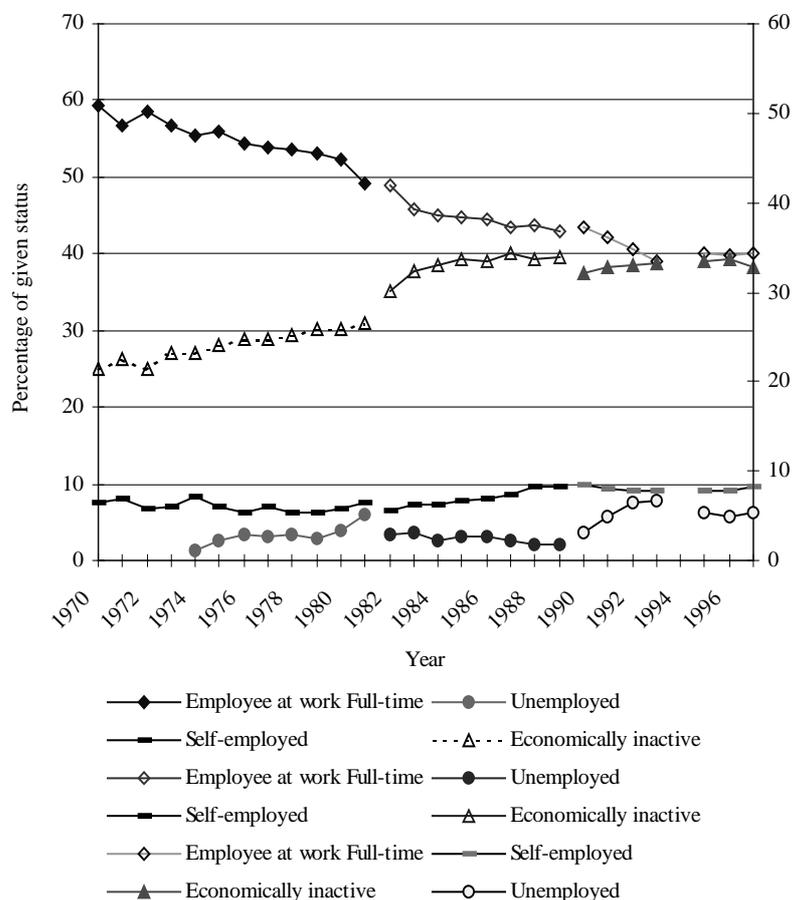
What if we widen the picture to consider employment, economic inactivity and self-employment, as well as unemployment, and look at households rather than individuals? To do this I first focus on the changes over time in the economic status of heads of households.

Figure 8 summarises the trends. Because of changes in definitions in the FES in 1984 and 1991, series have to be spliced together. But the overall picture is clear. First, there has been a dramatic decline in the proportion of household heads in full-time employment, from 60 percent in 1970 to only 40 percent in 1997. Second, unemployment and (especially) economic inactivity has risen over the same period. For example about one quarter of household heads were economically inactive in 1970, but nearly four-tenths were in 1997. Third, the incidence of self-employment amongst household heads grew a little over the period.

Interestingly it is the deviations from these broad secular trends which appear to coincide with the income inequality changes remarked on earlier. More specifically, first, the sharpest fall in the proportion of unemployed household heads in full-time employment was around about 1980, suggesting it was associated with the income inequality rise at that time (as discussed earlier). But, on the other hand, the fall in the full-time employment rate in fact levelled off during the late-1980s, which is when growth in income inequality accelerated. Similarly the 1990s turning point was not until about 1993 or 1994, several years after the levelling off in the level of income inequality. Observe, second, that most of the growth in self-employment among household heads was during the 1980s, precisely when income inequality was growing.

One aspect of the shift away from employment which is not captured by either Figure 7 or Figure 8 is the way in which work is combined within households. This is particularly relevant since we are interested in personal living standards measured in terms of household income rather than individual earnings.

It is now well established that the UK has experienced a polarisation in the distribution of work. The number of dual- (or multi-)earner families and the number of households with no adult in work ('workless' households) has increased, while the number of single-earner households has declined (Gregg and Wadsworth, 1996). When the economy has recovered from recession, the new jobs have tended to go to people in households in which there was already someone working.

Figure 8. The changing economic status of household heads

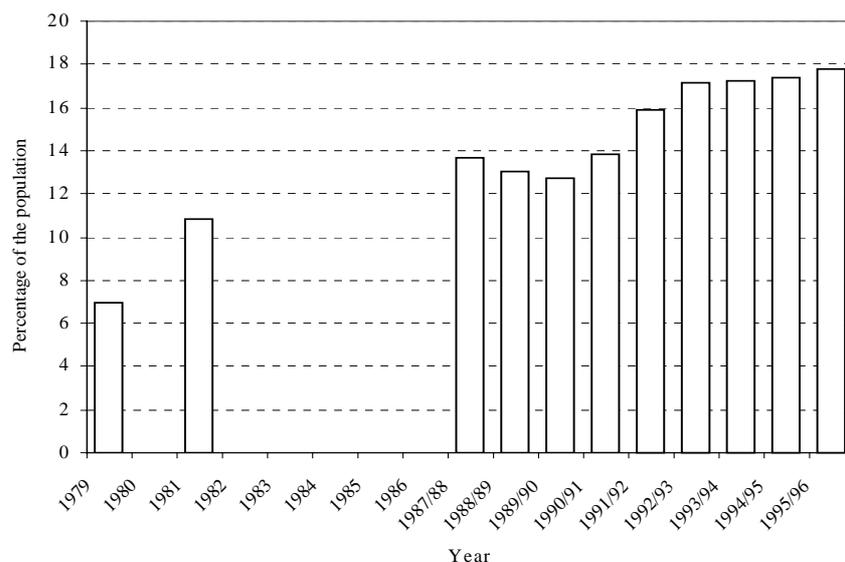
Sources: reports on the Family Expenditure Survey (various years). The definition of 'working' changed in 1981 and 1990. Data refer to fiscal years from 1994 (e.g. '1995' refers to 1994/95). Not shown are the proportions of household heads temporarily away from work, working part-time, or on government training schemes.

Figure 9 summarises trends since 1979 in the proportion of workless households. The rise in the proportion in the early to mid-1980s coincides with the growth in inequality. (We may interpolate using the slightly differently-defined series of Gregg and Wadsworth, 1996.) Moreover the levelling-off in the proportion during the 1990s also coincides with the inequality growth pause at that time. However trends in the workless household rate are not consistent with the inequality trend in the late-1980s, when they moved in opposite directions.

In sum, this discussion suggests that unemployment, in particular its concentration between households, did play some role in causing inequality changes, but in only two of the income inequality episodes—the increase round about the start of the 1980s, and the levelling-off during the 1990s. The discussion

also suggested a potential role for changes in self-employment during the 1980s. Of course the shift away from employment could also have an indirect effect on income inequality, by reducing the importance of employment earnings. Evidence about households' income packages is informative about this.

Figure 9. Percentage of the population living in working-age workless households



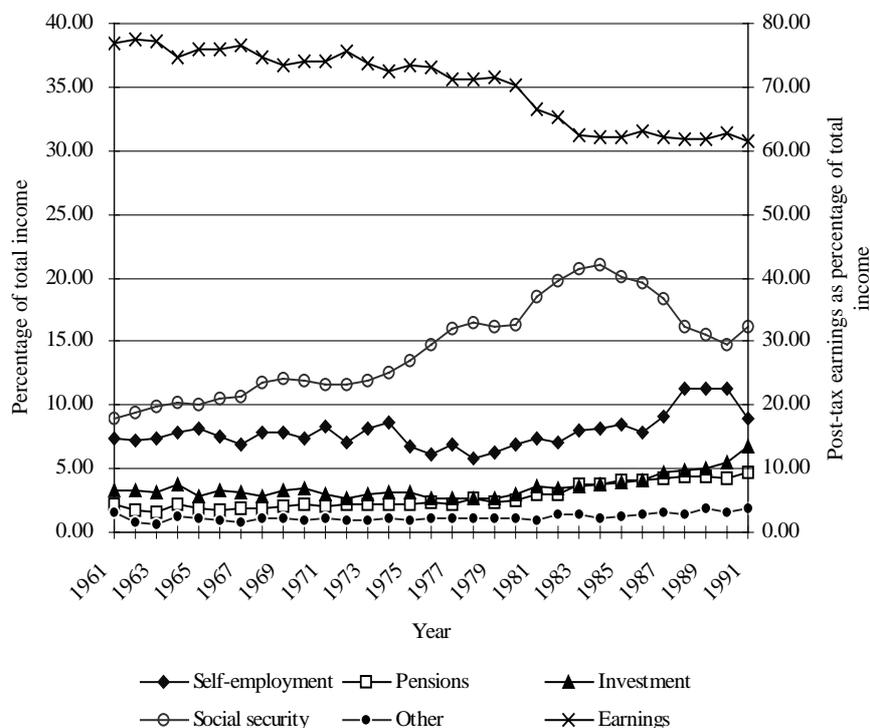
Source: Department of Social Security (1998, Figure 3.3). FES annual averages; two year moving average from 1987 onwards.

3.4 Changes in Household Income Packaging

Figure 10 displays the trend between 1961 and 1991 in the share of each of six income sources in total household income. The right-hand scale shows the share of post-tax earnings, i.e. earnings after the deduction of income tax and National Insurance contributions, and so is affected by, for example, the cuts in the higher rates of income tax which occurred during the late 1980s.

There was a decline in the post-tax earnings share over the three decades, from nearly 80 percent to almost 60 percent, with the most precipitate decrease occurring between 1980 and 1983. Particularly interesting is the fact that the earnings share was relatively constant during the late 1980s, which may be contrasted with the continuing decline in the percentage of household head's employed full-time (Figure 8). This is consistent with the story that the tax cuts had a disequalising effect during the late 1980s. For example, Atkinson (1998) has pointed out that over this period the redistributive contribution of taxes and benefits fell noticeably. (While market income inequality rose, post-tax income inequality rose faster still.)

Figure 10. Changes in the composition of the average household income package



Source: Goodman and Webb (1994). The right-hand scale shows the percentage share in total household income of employment earnings after the deduction of income tax and National Insurance contributions. The left-hand scale shows the percentage shares of the other five income sources in total household income.

The left-hand scale of Figure 10 shows the shares of the other five income sources comprising household income packages: self-employment, private and occupational pensions, investments and savings, cash social security benefits (social assistance and social insurance benefits, including the state retirement pension), and other income. What are the main features of the trends?

The share of self-employment income fluctuated during the 1970s but rose steadily during the 1980s with a marked rise in late-1980s. Figure 9 also draws attention to the growing importance throughout the 1980s of income from investments and from non-state pensions. Since these income sources are well-known as being more unequally distributed, this is likely to have had a significant disqualifying effect.

Not shown in Figure 10 is what happened to income source shares after 1991. For the first half of the 1990s, a different data source (FES reports) suggests that there was virtually no change in each of the income shares during this period. Thus, whereas overall inequality may have increased during the 1980s because of

the increasing importance of unequally distributed income sources, the halt in the same trends may well have been the reason for the halt in overall inequality growth.

3.5 Other Inequalities

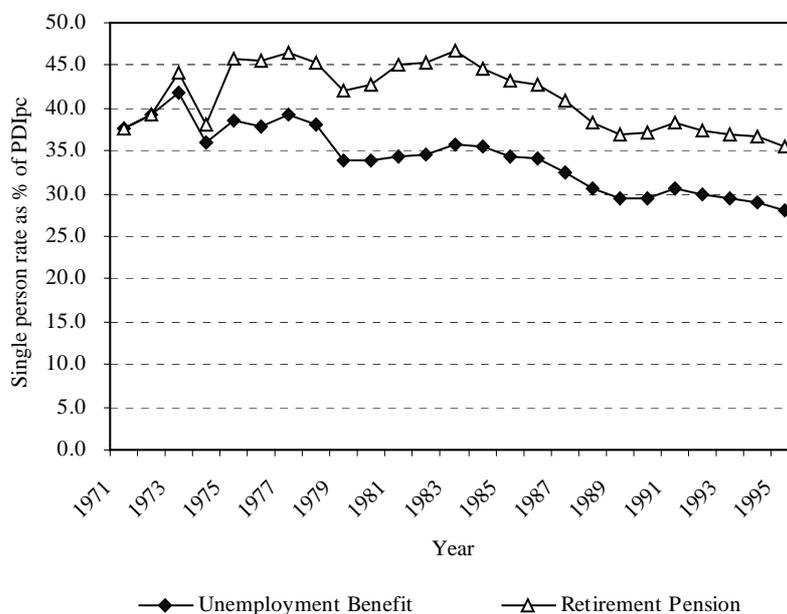
There are three other important changes relevant to a story explaining inequality episodes. First, the inequality of self-employment income clearly rose during the 1980s (Jenkins, 1995a, 1996; Parker, 1997). Reflecting the increased variety of individuals who became self-employed over this period, there was increasing concentration of people at both low and high self-employment incomes. The combination of the rising share and rising inequality of self-employment income over precisely the period when overall inequality growth rose suggests an important role for changes in self-employment income.

Second, there were marked increases in income inequality among non-working households. This is of course a diverse group, including both families with a head of working age, and the elderly retired. Most of the income of the former is likely to come from state benefits, the dispersion of which is unlikely to have increased significantly. (Some evidence about this is provided by Cowell et al., 1996.) On the other hand elderly people may get their income from state, occupational or private pensions, or from other investments and savings.

Johnson and Stears (1995) have shown that there a marked rise in income inequality amongst pensioners dating from the beginning of the 1980s. They attribute much of the rise to a growing contribution from investment income (in part due to high real interest rates), and from private pensions.

The third factor to note is the widening in the income gap between people in work and those not in work over the 1980s—an example of an increase in ‘between-group’ inequality, and thence overall inequality. This was true for those of working age and the retired. This can be illustrated by the decline in the value of social security benefits relative to average income for the population as a whole. Up until 1986 pensions were uprated in line with average earnings, but since then they have been increased in with inflation (i.e. at a lower rate), as other benefits are. Although benefits have maintained their value in real terms, recipients’ incomes fallen behind those of the population in work. See Figure 11 which shows trends in the value of Unemployment Benefit (single person rate) and the Retirement Pension (single person rate), each expressed as a percentage of personal disposable income per capita. The former has declined almost continuously over the period, whereas the decline for the latter began (not surprisingly) after 1986.

Figure 11. Trends in the value of Unemployment Benefit and the Retirement Pension (single person rate) expressed as a percentage of personal disposable income per capita.



Source: Hills (1997, Figures 33 and 35).

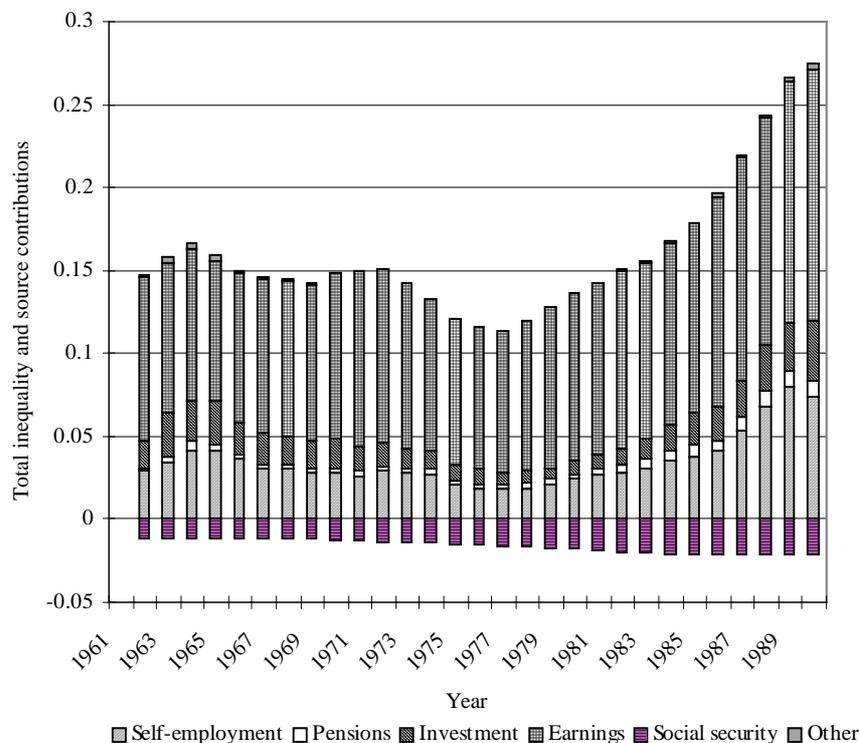
4 Putting the Story Together

In this section, I bring together the various elements discussed in the previous subsections and assess their relative importance. This is done first using decompositions by income source and second using decompositions by family economic status.

4.1 Decompositions by Income Source

In Section 3 I showed how total inequality could be written as the sum of the proportionate contributions of each income source (where the proportionate contribution of each given factor to total inequality was related to the factor's share in total income, factor inequality, and the factor correlation with total income). Figure 12 summarises the contribution of six income sources to total inequality for each year between 1961 and 1991. The total height of each bar in the chart represents total inequality as measured by half the squared coefficient of variation (I_2). Each shaded portion of the bar represents the contribution of one of the factors: in terms of equations (1)-(4), each portion shows $S_f = s_f I_2$ for each factor f .

Figure 12. Total inequality (I_2) and income source contributions to total inequality ($S_f = s_f I_2$), three-year moving averages



Source: Goodman and Webb (1994). I_2 is half the squared coefficient of variation. See text for definition of S_f . 'Earnings' refers to earnings after the deduction of income tax and National Insurance contributions. 'Social security' refers to all cash benefits including the state retirement pension. 'Pensions' refers to income from private, occupational and trade union pension schemes.

Observe first the equalising role of social security benefits: they make a negative contribution to total inequality (shown by the bars below the line at zero). Relative to other factors, however, their influence was not large—though it increased slightly at the beginning of the 1980s and then levelled off.⁹

One of the most striking features of Figure 12 is the contribution of post-tax earnings to total inequality throughout the period. In terms of the earlier discussion, this represents the combination of influences of employment earnings inequality, together with the tax cuts in the mid- to late-1980s. However, contributions at each point in time are different from contributions to *trends* over time, and post-tax earnings changes do not tell the whole story for 1980s. The

⁹ In explanation of the increase in the equalising effect, Goodman and Webb (1984) point to the increased importance of means-tested unemployment benefits targeted at low income families.

earlier discussion has already alerted us to the potential role of other influences over this period in particular.

For the late-1980s two other contributions are especially important. The first is the growth in the inequality contribution of self-employment income. Although this was always quite large—though greater in the 1960s than the 1970s—it became much more so during the 1980s. Much the same can be said, second, about the inequality contribution of income from investments and savings, though the size of it was somewhat smaller.

In sum, the decompositions by income source point to a prime role played by employment earnings (largely through changes in its dispersion) but with other influences also important and the mix changing over time.

4.2 Decompositions by Economic Status Subgroups

I now focus in more detail on the inequality increases between 1979 and 1990/91 and relate them to changes within and between three groups of persons: those with at least one full-time self-employed family member, those with at least one family member in full-time employment, and those with no family member in work. One problem with looking at just 1979 to 1990/1 is that the interval covers two inequality trend episodes, each with potentially different causes. However the two end-points do coincide with turning points. And one can also draw on other analyses for more detailed examination of subperiods. (See for example Atkinson, 1994, and Jenkins, 1995a.)

I look at what accounted for the rise in inequality using a form of ‘what if?’ exercise based on the decomposition formulae of the type shown in equation (1). Table 1 shows, for each of three inequality indices, what would have happened to total inequality if subgroup inequalities had increased from their 1979 levels to their 1990/91 levels, but subgroup shares and relative mean incomes had remained the same. It then repeats the exercise showing predicted impact of changes in subgroup population shares, other factors held constant, and then finally the impact of *ceteris paribus* changes in subgroup mean incomes. Table 2 shows the constituent components of the breakdowns in more detail.

The most striking feature of the results is that, regardless of which index is used, most of the inequality changes between 1979 and 1990/91 are accounted for by changes in inequality within the work status subgroups, rather than by changes in relative subgroup sizes or average incomes. It appears that between 70 percent and 80 percent of the inequality growth arose from inequality increases within the work status subgroups (depending on the index used). The shift away from employment and changes in relative incomes between working and non-working families only accounted for up to 30 percent of the increase.

Table 1. Shift-share analysis of the increase in inequality 1979-1990/91, using decompositions by family work status

Index	Actual values of $1000I_{\alpha}$		Predicted 1990/91 values of $1000I_{\alpha}$ given <i>cet. par.</i> changes in sub-group					
	1979	1990/91	inequalities ($I_{\alpha k}$)		income shares (v_k)		mean incomes (μ_k)	
			Prediction	% of actual change	Prediction	% of actual change	Prediction	% of actual change
I_0	108	227	192	(70)	120	(10)	117	(7)
I_1	106	206	181	(75)	117	(11)	113	(8)
I_2	121	282	246	(78)	136	(9)	124	(2)

Inequality predictions derived by substituting 1990/91 subgroup values for the corresponding 1979 values in the 1979 decomposition equation. ‘% of actual change’: $100[\text{predicted } I(1990/91) - \text{actual } I(1979)] / [\text{actual } I(1990/91) - \text{actual } I(1979)]$ The inequality indices are members of the Generalised Entropy family, I_{α} . I_2 is half the coefficient of variation squared; I_1 is the Theil coefficient; I_0 is the mean logarithmic deviation. Source: Jenkins (1996, Table 2); calculations from HBAI data.

Table 2. Inequality decompositions by family work status, 1979 and 1990/91

Work status of person's family	$1000I_{0k}$		$1000I_{1k}$		$1000I_{2k}$		v_k (%)		μ_k (4/93 prices)		$\lambda_k = \mu_k/\mu$	
	1979	1990/91	1979	1990/91	1979	1990/91	1979	1990/91	1979	1990/91	1979	1990/91
All persons	108	227	106	206	121	282	100	100	188	254	1.00	1.00
1+ self-employed full-time	214	527	188	331	219	453	6.2	10.5	212	295	1.13	1.16
1+ employed full-time	70	127	73	136	84	183	65.1	53.0	209	301	1.11	1.19
Other (no full-time earner)	107	201	107	201	134	318	28.6	36.6	135	176	0.72	0.69
Within-group inequality	90	196	88	176	105	255						
Between-group inequality	19	31	17	29	16	28						

Notes. See Table 1 and equation (1).

Table 2 shows that inequality growth occurred in every work status subgroup. This is an important point: by devoting most of their attention to earnings inequality growth (reflected here primarily in the income inequality growth for the '1+ full-time employee' subgroup), economists have been neglecting significant increases in inequality amongst non-working families and amongst the self-employed (and these are the groups which have been growing in size). Observe that inequality amongst non-working families is larger than inequality amongst families with one or more in employment according to all three indices, and according to two of them inequality growth is larger too.¹⁰ Inequality is persistently greatest amongst the self-employed group.

The shifts in relative incomes are in the directions suggested by the earlier analysis. However the clear fall in average income for families with no full-time earner relative to the other two groups (Table 2) had a small disequalising impact relative to other influences. The same is true in relative terms for the shift from employment.

In part this is because the analysis misses some changes within the 1979-1990/91 period. Other decomposition analysis suggests that the shift away from employment and the rising income gap between working and non-working families were indeed important at the start of the 1980s, but other factors then had a greater impact later in the decade. Atkinson (1994), for example, found that the shift from work accounted for about half the inequality increase between 1975 and 1985, but had a much smaller impact between 1985 and 1988. Jenkins (1995a) found that the impact of changing employment patterns was greatest around the turn of the 1980s, and minor for 1981-1986. For this latter period, self-employment and investment income were especially important (and more so than the growth in earnings inequality).

4 Summary And Conclusions

This paper has three themes. First, the changes in inequality and other features of Britain's income distribution have been of an episodic nature. I have identified five episodes during the last three decades. The second theme is that the changes may be seen as either Good News or Bad News, depending on one's normative views—whether one gives greater weight to the increases in real income and decreases in absolute poverty or instead greater weight to the disproportionately large income increases amongst the richest income groups and the secular rise in inequality. The third theme of the paper is that the inequality episodes have had multiple causes and that the mix changed over time.

If we focus on the 1980s, when overall income inequality rose dramatically, then several factors were at work. First, earnings inequality grew. Second unemployment rose or, more importantly, the polarisation of work between workless and dual earner households increased, an effect which was most more important at start of 1980s. Third, social security benefits were linked to prices rather than wages, so that the income gap between working and non-working

¹⁰ The reverse is the case for inequality measure I_2 . It is more sensitive to inequality increases at high incomes, and these are more likely amongst employed working families than non-working ones.

households grew—though this had only a small effect relative to the other contributions. Third pensioner inequality rose, as the income gap increased between those reliant on state benefits and those with private and occupational pensions. Fourth, and particularly important in the second half of the 1980s, self-employment and investment income inequality increased, especially at the top.

In the first half of the 1990s, the inequality growth spurt stopped. This can be traced back to a falling-off of many of the earlier disequalising trends. Earnings differentials did not change much, and the importance of investment and self-employment incomes to household income packages did not grow. In addition the polarisation of work decreased somewhat.

What happened to the UK income distribution during the last five years of the twentieth century, and what will happen in the future, is hard to predict if only because the episodic nature of past changes suggests that trends can be reversed. However any changes will have to be large for inequality to fall to the level prevailing thirty years ago.

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