

Changing Pattern of Poverty 1997-2004

ABSTRACT

It has been noted that failure to meet the target set by government for reducing the head count ratio of child poverty in Britain is partly due to the success of government policy in generating economic growth. Apart from missing the argument that absolute poverty is not a meaningful idea, this apology for the failure of government to meet poverty targets also misses wider problems embedded in recent trends in the household income distribution. For example, inequality measures sensitive to the distribution of income amongst the poor suggest that the experience of those remained poor may have worsened.

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I. Introduction

The discussion about poverty in Britain has been sidetracked by a desire to measure success of policy by the ability to reach previously specified target numbers. This is particularly evident in the field of child poverty (DWP 2002). In this paper, we dispense with policy evaluation based exclusively on targeting the head count ratio of child poverty and we identify other salient trends in poverty in Britain.

It has been argued that the "main reason why it has proved so hard for the Government to reduce the child poverty count" is the "focus on relative rather than absolute income" (Brewer et al 2003, p. 256). However, absolute poverty is a problematic concept, and we maintain that a defence of government policy based on an appeal to the concept of absolute poverty is not sustainable.

The bigger picture is in danger of being missed unless we break free of the debate about redefining the poverty line, by looking beyond targets for child poverty and examining more general indices than the headcount ratio of poverty, the percentage of people living below poverty level income, used to set these targets. We need to look beyond child poverty and examine what has happened to households containing no children because it is certainly reasonable to surmise that, in the context of the

rhetoric about child poverty, a purpose of poverty reduction policies in Britain is to reduce the incidence of social exclusion by identifiable groups. The evidence here suggests that the impact of poverty reduction policies is mixed. Some groups have done better than others and some have even lost out since 1997. To examine trends in poverty, we need to go beyond the percentage that live below poverty level income and examine changes in distribution amongst those who have remained poor.

The paper is organised as follows. Section II summarises conceptual issues underlying measures of poverty and providing insight on the impact of dispersion of income amongst the poor. The matter is then considered by reference to trends in $FGT(\alpha)$, a family of poverty indices of which the head count ratio is a special case. The rationale for the choice of this index is discussed in Section III, where the relevance for our purposes of an important property of this index, that it is additively decomposable, is described. A summary description of the data employed in this paper follows in Section IV, and the data is analysed in Section V to examine the salient features of the changing patterns of poverty for all households in the sample as a whole and for households pertaining to six identifiable subgroups. Finally, Section VI concludes.

II. Measurement of Poverty

Poverty is measured by reference to some poverty datum line. Those whose income falls below this line are defined as poor. This raises the question of how to delineate the poverty line. There are two ways that this issue is generally approached in the literature.

- i. The first is to define some minimum level by reference to physical requirements -- for example, nutritional requirements -- for survival.
- ii. The second is "to endeavour to define the style of living which is generally shared or approved in each society and find whether there is ... a point in the scale of the distribution of resources below which as resources diminish families find it particularly difficult to share in the customs activities and diets comprising their society's style of living" (Townsend 1979, p.60).

Both approaches raise difficult conceptual issues which have been the focus of an extended debate. The idea of absolute poverty derives from the first approach, but Atkinson (1983), inter alia, points out that there is no unique level of food intake defining the subsistence level of nutrition. Instead, physical efficiency declines in a number of ways due to malnutrition of different kind. The second approach, which entails defining "the style of living approved by society", is also problematic, and the difficulties are raised in a debate between Piachaud (1981) and Townsend (1981). Desai and Shah (1988) attempt to resolve this problem by re-defining "the style of living approved by society" as the 'modal behaviour' (p.518) in society. They claim that the modal behaviour can be objectively identified by looking at data on demand for goods, by employing the linear expenditure system of demand functions (Green 1976, pp142-146).¹ Fitting data on demand for goods into a linear expenditure system

¹ Suppose data on what is purchased in a community is available, and the demand for each good is a linear function of prices. For illustration, suppose that total income and expenditure is M, and that there are n goods and x_i amount of good i is demanded. The demand function for the i^{th} good is as follows:

$$p_i x_i = \alpha_{i1} p_1 + \dots + \alpha_{ii} p_i + \dots + \alpha_{in} p_n + \beta_i M$$

allows for breaking down expenditure on each commodity into two components, one of which can be interpreted as the “subsistence consumption” for that commodity (Theil and Clements 1987, p10). By estimating a linear expenditure system of demand functions for the community as a whole and adding up the subsistence consumption for all commodities, Desai and Shah (1988) estimate their “modal demand” (p.518). If we regard the cost of meeting the modal demand as a poverty datum line, “we make the sociological view of poverty empirically measurable” (Desai and Shah, loc cit).

The above discussion may suggest that there is a clear distinction between the ideas of absolute and relative poverty. However, on reflection, it appears that the distinction is not as sharp as it might seem at first sight. Changes in income distribution may lead to variations in relative prices through different degrees of changes in the demand for different goods. This, in turn, may lead to a change in what the poor can buy with a fixed sum of money.

The above expression can be transformed, as explained by Green (1976: 142-146) as below:

$$p_i \cdot x_i = p_i \cdot s_i + \beta_i \cdot \left[M - \sum_{i=1}^{i=n} (p_i \cdot s_i) \right],$$

The above demand function can be derived by maximising the following utility function with respect to the choice of x_i , subject to the budget constraint as described below:

$$\text{Maximise } U = \prod_{i=1}^{i=n} [x_i - s_i]^{\beta_i}$$

$$\text{s.to : } \sum_{i=1}^{i=n} (p_i \cdot x_i) = M$$

Thus $\sum_{i=1}^{i=n} p_i \cdot s_i$ could now be regarded as expenditure on the minimum survival bundle of goods that

are bought before additional amount of any good is purchased from the money that is left over.

Another argument for linking income distribution to poverty assessment is that there is a difference between commodities and capabilities (Sen, 1983). Goods in themselves do not provide utility; they empower an individual with the capabilities for securing utility. He demonstrates that the capability derived from a good depends on the distribution of income. Therefore, if poverty is measured not in terms of the lack of ability to buy certain goods but in terms of the lack of capability to do certain things, then relative deprivation in terms of goods could sometimes result in absolute deprivation in terms of capabilities.

Capabilities can be affected by changes in relative prices as follows. Suppose that in Period 1 a community is poor and the density of car ownership is low. Very few individuals are able to afford a car and most people rely on buses for their transport needs. They visit friends by bus and also go to work by bus. Buses are full and the fixed cost of running a bus service is shared amongst members of the community. Now the community becomes more prosperous in Period 2 and only a small fraction of the population is unable to afford a car. Buses are patronised by very few in Period 2, and the fixed cost of running buses has to be shared by a smaller number of passengers. Fares have to rise and the cost of visiting friends or going to work increases for the poor. Their effective income decreases because others have become better off. Relative poverty, therefore, leads to an increase in absolute disadvantage.

To summarise, it should be noted that both relative and absolute measures of poverty have sparked a long debate leaving unsolved issues.² On balance, considering its

² See the debate between Sen (1985) and Townsend (1985) in *Oxford Economic Papers*.

implicit reference to current standards of living, relative poverty is the concept used nowadays by most governments in OECD countries.

The British government's position, for instance, is that the absolute standard -- the backbone of the Beveridge approach characterising much of post-war social security legislation in Britain -- has been superseded by "a notion of a relative minimum with all groups in society having a share in the long run increase in national prosperity" (HMG 1985, p. 16). The United States remains an exception, where the US Census Bureau continues to calculate an absolute measure following a method outlined by Orshansky (1966), notwithstanding recommendations to the contrary by a panel of the American Academy of Sciences.

In November 1998, the Statistical Programme Committee of the European Union agreed on a poverty line based on the median income. Following this decision, any individual whose income falls below 60 per cent of the median income is defined to be poor in the EU countries. The poverty datum line changes over time and, therefore, governments' targets about reducing the percentage of those who are poor also change with time. In setting these targets, no explicit indication is given about how the median income is expected to evolve over time, nor is any explicit statement made about acceptable variations in income inequality. No explicit target, for example, is set to contain the divergence between the median and the mean, and a degree of ambiguity is indeed inherent in governments' pronouncements about the expected changes in income distribution in the context of which targets are set for the head count ratio of poverty.

Setting the poverty datum line as a fraction of the median income is a way of taking some account of the distribution of income in society notwithstanding the ambiguity inherent in the process. This ambiguity should not be resolved in policy evaluation exercises by reference to some absolute poverty line that was not contemplated when the goals for poverty reduction were announced. Instead, policy evaluation has to refer to other criteria for social exclusion.

In order to decide on the criteria above, we need to consider how different groups of the poor have fared, those with children versus those without children and those near the poverty line versus those further from the poverty line. For this reason, we need to take on board also changes in the distribution of income amongst the poor. To compare between time periods how poverty is experienced by the poor, the headcount ratio of poverty needs to be supplemented by indices that capture any normative value that might be placed by society on the distribution of income amongst the poor. The $FGT(\alpha)$ index, suggested by Foster, Greer and Thorbecke (1984), proves to be a good candidate as it takes into account the distribution of income amongst the poor.

III. $FGT(\alpha)$, A Decomposable Index of Poverty

The attraction of the FGT index becomes apparent by following the literature on the development of poverty indices. Once the poverty datum line is agreed, the next step is to decide on a measure for poverty. As a starting point, the Head Count Ratio (H), calculates the ratio of people whose incomes fall below the poverty line. A deeper understanding of the extent of poverty, however, is only possible if we also consider the income distribution of those who fall below that line. For this purpose an index might be constructed by adding up the intensity of deprivation, measured along a

scale that makes possible inter-personal comparison of those who are poor. The Poverty Income Gap, I , defined below is a suitable index. It captures the intensity of deprivation by adding up the amount of income needed to be transferred to the poor in order to bring all of them up to the datum line level of income, an issue considered in Beckerman and Clark (1982).

$$(1) \quad I = \sum_{i=1}^{i=m} (Z - y_i)$$

where m denotes the number of units (households) enjoying an income below the datum line, Z . The income for this set of units is represented by the set $\{y_1 \dots y_m\}$, where $y_i < Z$ for all values of $i = 1, \dots, m$. In order to make the measure independent of the number of the poor and the currency in which poverty income is recorded, this index is commonly normalized, producing the Poverty Income Gap Ratio, P .

$$(2) \quad P = I/mZ$$

This index, however, does not satisfy the Transfer Axiom, a desirable property of any poverty index. This axiom requires that a poverty index must increase if income is transferred from a poor household to a less poor household. Note that a drawback emerges because P does not increase if income is transferred from a poor household to a less poor household, if both these individuals are below the poverty line before transfer and remain so after the transfer. In order to address this inadequacy, Sen (1976), proposed a measure of poverty depth (S) which combines the head count ratio

with the Gini coefficient of distribution. For large number of households, this index can be approximated as below.

$$(3) S = H \cdot \{P + (1 - P) \cdot G\}, \text{ where } G \text{ is the Gini coefficient for the poor.}$$

This index now presents another clear problem. A transfer from a poor household to a less poor one could decrease S if, as a consequence of that transfer, the second household crossed the poverty datum line (Thon, 1983). The Transfer Axiom is violated. A partial remedy to these problems is offered by the FGT(α) index proposed by Foster, Greer and Thorbecke (1984).

$$(4) FGT(\alpha) = \left(\frac{1}{n}\right) \cdot \sum_{i=1}^{i=m} \left\{ \frac{(Z - y_i)}{Z} \right\}^\alpha$$

where n is the total population, but the summation is only over m, the number of households below the poverty line. The parameter α is a special feature of this index encapsulating an implicit weight placed on inequality aversion. The FGT(α) index for $\alpha = 0$ is the head count ratio, H. For $\alpha = 1$, $FGT(1) = (m/n)P$. But the FGT index becomes more attractive for $\alpha > 1$, because now the FGT index introduces distributional consideration *amongst* the poor (p. 762, Foster *et al* op. cit.). For example, when $\alpha = 2$: $FGT(2) = H \cdot \{P^2 + (1 - P)^2 \cdot C\}$, where C is the coefficient of variation in the income of the poor. This index captures the view that inequality amongst the poor increases the intensity of the experience of poverty even if the head count ratio has remained the same. More precisely, when $\alpha > 1$ the index above satisfies the Transfer Axiom described earlier. A stronger condition, the Transfer

Sensitivity Axiom is also satisfied for $\alpha > 2$.³ An implication of this stronger axiom is that an increase in the proportion of the poor who are further down the poverty datum line implies, *ceteris paribus*, an increase in a poverty index satisfying this axiom even when the mean income for the poor remains unaltered. With $\alpha > 2$, therefore, the $FGT(\alpha)$ index can be interpreted as a measure of the depth of poverty.

The index can also be decomposed to isolate and measure the depth of poverty experienced by different groups. Suppose that there are k distinct –i.e. mutually exclusive and exhaustive-- subgroups of the sample population, each containing n_j units. Therefore, its sum over all the categories comprise the total sample of n

households: $\sum_{j=1}^{j=k} n_j = n$. Out of a population of n_j in the j th group, m_j fall below the

poverty line, so the total number of units m whose incomes fall below the poverty line

in the whole sample is: $\sum_{j=1}^{j=k} m_j = m$.

Thus, the aggregate $FGT(\alpha)$ index can now be regarded as the weighted sum of the index computed for each of the considered sub-groups.

³ The Transfer Sensitivity Axiom may be explained by first assuming that individuals A, B, C, and D are all poor. Next, assume:

$$y_A - y_B = y_C - y_D = q, \quad q \geq 0; \quad \text{and also: } y_B \geq y_D, \quad \text{hence: } y_A \geq y_C.$$

The transfer sensitivity axiom is satisfied if, for any set of the poor {A, B, C, D} described as above, an increase in the poverty index due to a transfer from B to A is greater than the increase recorded due to a transfer of the same amount of income from D to C.

$$(5) FGT(\alpha) = \left(\frac{1}{n}\right) \cdot \left\{ \sum_{j=1}^k n_j \cdot FGT_j(\alpha) \right\}$$

where the summation runs over $j = 1 \dots k$ and the index for the subgroup j is:

$$(6) FGT_j(\alpha) = \left(\frac{1}{n_j}\right) \cdot \left\{ \sum_{i=1}^{i=m_j} \left[\frac{(Z - y_{ij})}{Z} \right]^\alpha \right\}$$

where m_j being the number of poor households in the j th subgroup. The poverty line income is Z and y_{ij} is the income of the i^{th} household in the j^{th} group whose income falls below Z . The percentage of the contribution to the total aggregate poverty index of the j^{th} group is, thus:

$$(7) PCNT_j(\alpha) = \frac{\left(\frac{n_j}{n}\right) \cdot FGT_j(\alpha)}{FGT(\alpha)} \cdot 100$$

In the subsequent sections we first describe the data relevant for our study followed by the application of the aforementioned indices in order to calculate poverty measures for the period 1995-2004.

IV. Data

We use the Family Resources Survey (FRS) and Households Below Average Income (HBAI) Survey for the years 1994/5 to 2003/4. The FRS consists of a set of cross-sections providing information about incomes, employment, demographic aspects and

other individual circumstances of about 25.000 households in Britain. The HBAI dataset reports variables computed by the Department of Works and Pensions (DWP), using the FRS data.

Poverty is measured on the basis of household disposable incomes adjusted for household size (or 'equivalised' income) in common with practice in the literature. The income recipient unit is the individual to whom the per capita net income of the household is assigned. The net household income, in turn, is computed by aggregating all household members' total incomes and subtracting direct tax and national insurance contributions. These results are then netted off the contributions to pensions, the maintenance expenses to support children not living in the household and the council tax contributions. Finally, the per capita net income is calculated by equivalising the household's income by applying the McClements Scale to the age of the members comprising the household. The procedure conforms to the methods in HBAI statistics reported by government.

The entire sample is grouped into the six mutually exclusive and exhaustive categories, namely: 'Pensioners Couple', 'Pensioners Single', 'Couple with Children', 'Couple without Children', 'Single Parents' and 'Single without Children'.⁴

⁴ The composition of each of these groups is described in table A.1 in the Appendix. See DWP(2003) for further information about Family Resources Survey.

Figure 4.1: Demographic Composition of the Sample (%)

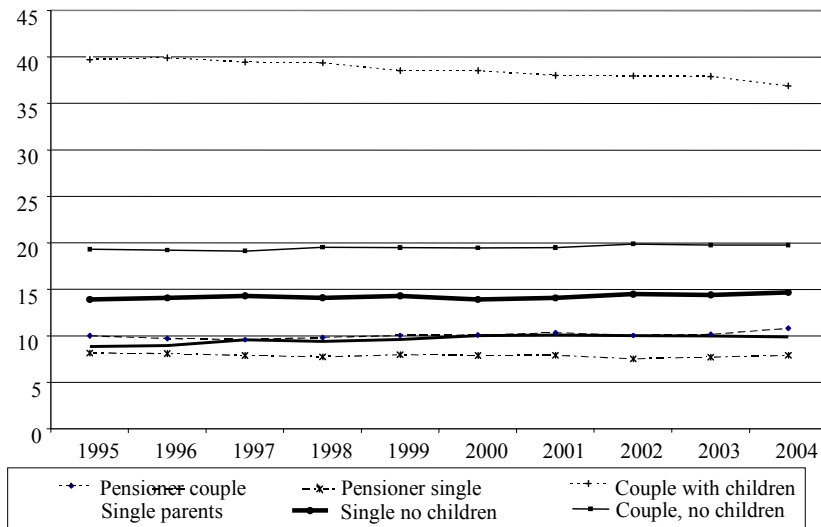
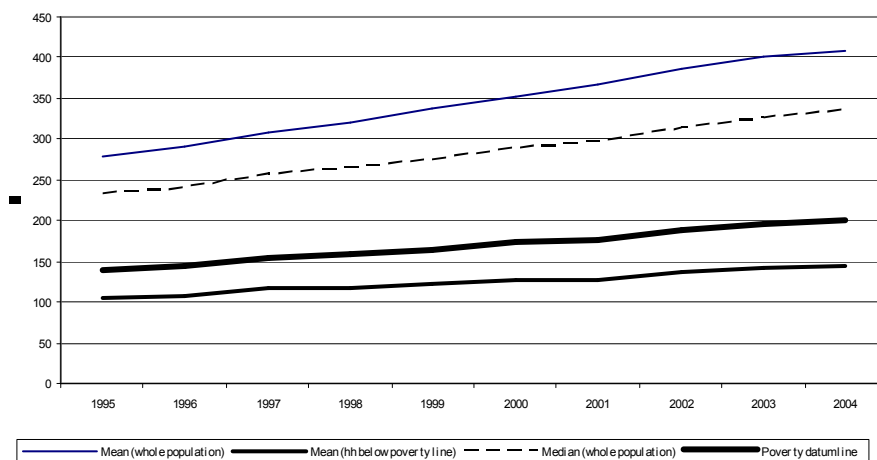


Figure 4.1 depicts the proportion of individuals living in each type of households relative to the total population. It shows a reasonably stable demographic composition of the population during the period 1995-2004. There is, however, a slight decrease in the share of the most abundant group, the ‘couple with children’ category. This loss is compensated by a modest, sustained increase in the proportions of most of the other groups, except for ‘single pensioners’, a remarkably stable series all along the period.

Figure 4.2: Average Per Capita Weekly Disposable Income (£)



Note: Income data are equivalised and deflated within each year prices.

Figure 4.2 depicts key statistics describing the evolution of income distribution over the decade. A comparison of mean and median income trends for the whole population suggests that the disparity between these two measures has slightly widened in favour of the mean. In the period 1997-2002, the median per capita income over the sample population rose around 21.8 per cent, but the mean went up by 25.2 per cent. The increase in divergence slowed down after that and the growth of the median and the mean over the entire 1997-2004 period is 30.7 and 32.0 per cent, respectively.

Table 4.3 below describes the annual increments in the mean per capita income for both the total sample and the sample restricted to poor households. The two samples reveal a contrasting picture. Households living in poverty enjoyed a lower increase in income, and that is true for all but one of the six groups of households in the sample. The group Pensioners Couple is the only group whose mean income increased at a similar pace between the two samples. It is interesting that the mean income of poor households containing children has increased much more slowly than in the total sample of households containing children. It is especially remarkable that there was a lesser impact on the average income of this group amongst the poor, the group that was targeted by government for special attention, than for many of the other groups of the poor. The category 'Single Parents', has done better amongst the poor but much worse if the poor are compared with the total sample population in this category. For the total sample, the mean income for the group 'Single parents' grows by 5.6 per cent per annum, whereas the rate of increase in the average income for the entire population increases is only 4.0 per cent.

Table 4.3. Average Annual Increase in Per Capita Income. 1997-2004, in %

Group	Poor	Total sample
All households	3.0	4.0
Pensioners couple	3.5	3.7
Pensioners single	3.8	4.4
Couple with children	3.0	4.3
Couple, w/o children	3.1	3.7
Single parents	3.5	5.6
Single w/o children	2.0	3.7

Note: Average per capita weekly disposable income are used

In the following section, we aim to evaluate poverty policies for the period 1997-2004 by using the $FGT(\alpha)$ indexes with $\alpha=0, 2$ and 3 , both for the whole population, and for the six groups of households described in the present section. We report the main findings.

V. Poverty Indices

We start by reporting results for the population as a whole (Table 5.1) and note that the head count ratio increased from 1995-97. Then it began decreasing when Labour came to power in 1997, falling from 18.4 to 16.8 per cent between 1997 and 2004. In contrast, the $FGT(\alpha)$ index for $\alpha > 0$ show quite a different trend, decreasing from 1995-97, and increasing afterwards. Overall, these results indicate that although the percentage of individuals living in poverty has decreased in recent years, the intensity of the experience of poverty have worsened for those who have become or remained poor.

Table 5.1: Poverty Indices for all households

Year	Head Count (%)	FGT(1)	FGT(2)	FGT(3)
1995	17.8	4.40	2.107	1.431
1996	17.0	4.27	2.107	1.472
1997	18.4	4.40	1.948	1.234
1998	18.3	4.66	2.222	1.489
1999	18.2	4.61	2.163	1.431
2000	17.9	4.65	2.282	1.560
2001	17.0	4.77	2.505	1.793
2002	16.9	4.53	2.300	1.615
2003	17.0	4.71	2.410	1.683
2004	16.8	4.76	2.510	1.792

The head count ratio is then broken down into household types (Table 5.2). The results for head count ratio and FGT(3) are summarised in Table 5.3.⁵

Table 5.2: Head Count Indices Decomposed by Population Groups

Year	<i>Pensioners couple</i>	<i>Pensioners single</i>	<i>Couples with Children</i>	<i>Couples w/o Children</i>	<i>Single Parents</i>	<i>Single w/o children</i>
1995	20.2	24.1	18.8	9.7	30.5	16.1
1996	22.1	22.6	17.7	9.1	27.9	14.9
1997	20.8	24.1	18.6	9.7	37.7	16.2
1998	21.8	23.9	18.2	9.5	38.4	15.6
1999	24.2	23.5	17.9	9.7	36.8	14.8
2000	21.9	23.7	17.1	9.8	36.1	15.9
2001	22.1	22.5	15.5	10.0	31.9	16.4
2002	22.9	22.9	15.6	9.8	31.3	15.7
2003	22.7	21.8	15.3	9.9	31.8	17.1
2004	20.5	21.9	15.4	10.7	30.8	16.2

The head count ratio of individuals living in ‘Couples with Children’ amongst the poor households has gone down substantially since 1997. A similar trend is observed for individuals living in the group ‘Single Parents’. It is, therefore, possible to

⁵ The FGT(2) index is not reported because the FGT(3) is better in that it satisfies the Strong Transfer Axiom

However, it should be noted that FGT(2) follows a similar trend as FGT(3).

conclude that the number of children living in poverty has declined. The 'Single Pensioners' households living in poverty have also benefited since Labour came to power in 1997, but the group Pensioners Couple has not done so well. The headcount ratio has remained unaltered for this group.

We next turn to look at the FGT(3) measure of poverty (Table 5.3), and note that all groups have done badly, in that those who have been left in poverty are more heterogeneous. Some of them have income further below the poverty line than their counterparts at the start of 1997.

Another important issue in evaluating poverty is to determine the contribution of each particular group of households to overall poverty. To this aim, we take advantage of the additive decomposability property of FGT indices as explained earlier. The total index is decomposed by weights according to the proportion of households living in poverty in our sample in each of the six categories. The results are reported in Table A.2 in Appendix 1. The group 'Couples with Children' has declined as a proportion of the population as a whole. It has also benefited more than other groups from poverty reduction policies. The head count ratio has fallen more and the higher order FGT measures have not increased as much compared to other groups. These factors together are reflected in the declining contribution of this group to overall poverty indices. The declining contribution to the overall poverty index of the group 'Single Parents' is, on the other hand, due to the slump in their head count ratio, as their share in the total population has increased.

Table 5.3: FGT(3) Indices Decomposed by Population Groups

Year	<i>Pensioners couple</i>	<i>Pensioners single</i>	<i>Couple with Children</i>	<i>Couple w/o Children</i>	<i>Single Parents</i>	<i>Single w/o children</i>
1995	0.424	0.726	1.663	1.541	0.684	2.012
1996	0.588	0.757	2.008	1.153	0.938	1.765
1997	0.338	0.654	1.270	1.478	1.177	1.648
1998	0.610	0.817	1.786	1.424	0.918	2.012
1999	0.575	0.883	1.707	1.263	1.172	1.915
2000	0.618	0.766	1.695	1.753	1.126	2.145
2001	0.568	0.748	1.739	2.095	1.614	2.779
2002	0.641	0.867	1.750	1.591	1.368	2.385
2003	0.716	0.747	1.515	1.949	1.548	2.720
2004	0.573	0.992	1.688	2.008	1.301	3.018

Brewer et al (2003) concentrate on the FGT(0) measure, and rightly point out that the decline in poverty would be even greater if the poverty datum line were set at a lower level. As it was discussed in Section II, this is not the complete picture. Those who are poor in 2004 are worse off than their counterparts in 1997 in the sense that is captured in the higher order FGT measures, for example by the FGT(3) index reported in Table 5.3 above. This is the case even for ‘Couples with Children’, the group targeted by the government for special attention. In the above index, poorer units are given greater weight and "a larger α gives greater emphasis to the poorest poor" (Foster et al *op cit*). If we consider, especially, the increase in the FGT(3) index, we find that a greater fraction of the Couple with Children households are further away from the contemporary poverty datum line in 2004 than was the case in 1997. It can definitely be concluded then that those children currently living in ‘Couples with Children’ households experience greater income heterogeneity than their counterparts in 1997. Since the FGT(3) index for single parent households has also increased between 1997 and 2004, we can make a stronger statement. Whilst the number of

children living in poverty may have fallen, there is greater heterogeneity in the income distribution amongst those who currently live in poverty.

We have noted that the distribution of income amongst those who have remained poor has become more dispersed. It may have been the case that the previous policies addressed only those households which were just below the poverty line. As Brewer et al (2003) explain, children in the third and fourth deciles amongst the poor experienced much higher income increases than any other subgroup amongst the poor. Further attempts to reduce poverty may entail attention to those at the very bottom of the distribution.

We further note that there has been an uneven reduction in poverty also between groups of the poor with different household patterns. Consider, for example, results of the decomposition of the poverty indices by household groups, as reported in Table A.2 in the Appendix. The contribution to the aggregate poverty index of Group 3 households, couples with children, has declined since 1997, but the contribution of Group 4 households, couples without children, has gone up. The contribution of single people below retirement age, Group 5, has also increased. For Group 5, the headcount ratio has not declined since 1997, and higher order FGT indices have increased sharply. For Group 4, the headcount ratio has worsened.

VI. Conclusions

Before a view can be taken about the efficacy of government's poverty reduction policy for households with children, it is necessary to establish if the reduction in the

headcount_ratio of child poverty has been obtained at the expense of other groups amongst the poor. For this purpose, it is important to look beyond the headcount ratio of poverty.

In this paper we focus on the FGT(α) index to give us an insight into poverty that might be missed if the discussion remains confined to where the poverty datum line should be set in computing the head count ratio of child poverty. It has been noted in the literature that there has been a substantial reduction between 1997 and 2001 in the number of children living in households with income below the poverty level (Brewer 2003). Our analysis of the Family Resources Survey 2004 confirms that there has been further reduction since 2001 in the number children living in poverty. However, the benefits of poverty reduction policies have been unevenly distributed between groups of households and also amongst the poor.

Whilst policy evaluation is not a numbers game, numbers can provide insight into how well different aspects of policy are joined up. The object is not to pronounce on the success or failure of policy, but to point to aspects of policy that needs to be examined to see if the purpose and outcome of policy are internally consistent. In this paper we examine one set of numbers to come to a less sanguine view of the efficacy of government policy than the one that might be arrived at by examining only the head count ratio of child poverty.

References:

- K. J. Arrow (1982), "Why People Go Hungry", *New York Review of Books*, Vol. 29, No. 12.
- A. B. Atkinson (1983), *The Economics of Inequality*. 2nd edition Oxford: OUP.
- M. Brewer, T. Clark and A. Goodman (2003) "What happened to Child Poverty in the UK under Labour's First Term?", *The Economic Journal*, Vol. 113, No.488, pp. F240-F257.
- W. Beckerman and S. Clark (1982), *Poverty and Social Security in Britain Since 1961*, Oxford: Clarendon Press.
- S. S. Bhalla (2003), "Crying Wolf on Poverty", *Economic and Political Weekly*, July 5th, pp. 2843-2856.
- B. Bradbury and M. J€ntti (1999), "Child Poverty Across Industrialised Nations", *UNICEF: Innocenti Occasional Papers Economic and Social Policy Series*, No 71.
- Department of Work and Pensions (2002), *Measuring Child Poverty: A Consultation Document*, www.dwp.gov.uk/consultations/consult/2002/childpov/childpoverty.pdf
- Department of Work and Pensions (2003), *Family Resources Survey Great Britain 2001-02*, www.dwp.gov.uk/asd/frs
- M. J. Desai and A. Shah (1988), "An Econometric Approach to the Measurement of Poverty", *Oxford Economic Papers*, vol. 40, pp. 505-522
-

- J. E. Foster J. Greer and E. Thorbecke (1984), "A Class of Decomposable Poverty Measures" *Econometrica* vol 52, pp 761-66
- J. E. Foster and A. Shorrocks (1988), "Poverty Orderings", *Econometrica*, vol 56, No 1, pp. 173-177.
- H. A. John Green (1976), *Consumer Theory*. Basingstoke: Macmillan.
- HMG (1985), *Green Paper on the Reform of Social Security*, June 1985, vol. 3.
- R. Ross Mackay and J. Williams (2003), "Beginning to Think About Need: Public Spending in the Regions", *Bangor: typescript*.
- M. Orshansky (1966), "Counting the Poor: Another Look at the Poverty Profile" in L. A. Ferman et al (eds) *Poverty in America*, Ann Arbor: University of Michigan Press 1966)
- D. Piachaud (1981), "Peter Townsend and the Holy Grail", *New society*, 10 September.
- X. Sala-i-Martin (2002), "The Disturbing 'Rise' in Global Inequality", *NBER*
- A. K. Sen (1985), "A Sociological Approach to the Measurement of Poverty – A Reply to Professor Peter Townsend", *Oxford Economic Papers*, New Series, Vol. 37, No. 4, pp. 669-676
- A. K. Sen (1983), "Poor Relatively Speaking" *Oxford Economic Papers*, Vol. 35, July, pp. 153-69; and reprinted in Amartya Sen, *Resources Values and Development* Oxford: Blackwell, 1984.
- A.K. Sen (1976), "Poverty: An Ordinal Approach to Measurement", *Econometrica* Vol. 44 , No. 2, pp. 219-231.

- T. N. Srinivasan (2003), "Globalization and the Poor", Paper presented at the Conference on the Wealth of Nations Erasmus University at Rotterdam April 9-11.
- H. Sutherland and D. Piachaud (2002), "Changing Poverty Post-1997", *London School of Economics CASE paper 63*.
- H. Theil and K. W. Clements (1987), *Applied Demand Analysis*, Cambridge, Mass: Ballinger.
- D. Thon (1983), "A Note on a Troublesome Axiom for Poverty Indices", *Economic Journal*, Vol. 93, pp. 199-200.
- P. Townsend (1979), *Poverty in the United Kingdom*, Harmondsworth: Penguin.
- P. Townsend (1981), "Reply to Piachaud", *New Statesman*, 17 September.
- P. Townsend (1985), "A Sociological Approach to the Measurement of Poverty – A Rejoinder to Professor Amartya Sen", *Oxford Economic Papers*, Vol. 37, New Series, No. 4, pp. 659-668.

Appendix 1. Group Composition

Table A.1. Demographic family type groups as accounted for in the FRS

Group 0: *All households*

Group 1: *Pensioner couple (Benefit units headed by a couple, where the Head of the Benefit Unit is over the state pension age)*

Group 2: *Pensioner single (Benefit units headed by a single adult, who is over the state pension age).*

Group 3: *Couple with children (Benefit units headed by a couple, below the age of eligibility of state pensions, with dependent children).*

Group 4: *Couple without children (Benefit units headed by a couple, below the age of eligibility of state pensions, with no dependent children).*

Group 5: *Single parents (Benefit units headed by a single adult, below the age of eligibility of state pensions, with dependent children).*

Group 6: *Single without children (Benefit units headed by a couple, below the age of eligibility of state pensions, with no dependent children).*

**Table A.2. Contribution to Poverty Indices Decomposed by Population Groups
(in percentages)**

Pensioner couples

Year	N	Head Count (%)	FGT(2)	FGT(3)
1995	6248	11.4	4.6	3.0
1996	6036	12.6	5.3	3.9
1997	5825	10.9	4.5	2.6
1998	5491	11.7	5.6	4.0
1999	5417	13.3	6.0	4.0
2000	5957	12.4	5.9	4.0
2001	5761	13.4	5.2	3.3
2002	5972	13.6	6.1	4.0
2003	6403	13.6	6.0	4.3
2004	6740	13.2	5.2	3.5

Pensioner single

Year	N	Head Count (%)	FGT(2)	FGT(3)
1995	5086	11.0	6.0	4.1
1996	5028	10.8	5.9	4.2
1997	4777	10.3	6.3	4.2
1998	4325	10.1	6.2	4.2
1999	4306	10.3	6.7	4.9
2000	4647	10.4	5.7	3.9
2001	4420	10.5	5.2	3.3
2002	4470	10.2	5.8	4.0
2003	4858	9.9	5.1	3.4
2004	4927	10.3	5.7	4.4

Couples with Children

Year	N	Head Count (%)	FGT(2)	FGT(3)
1995	24799	42.0	45.7	46.2
1996	24769	41.6	51.7	54.5
1997	23928	39.9	41.0	40.6
1998	21999	39.2	45.4	47.2
1999	20797	37.9	44.7	46.0
2000	22699	36.8	41.5	41.9
2001	21195	34.7	36.9	36.9
2002	22556	35.1	39.6	41.2
2003	23859	34.1	35.1	34.1
2004	22993	33.8	35.1	34.8

Couples without Children

Year	N	Head Count (%)	FGT(2)	FGT(3)
1995	12046	10.5	18.7	20.8
1996	11918	10.3	14.4	15.0
1997	11592	10.1	19.3	22.9
1998	10900	10.1	16.6	18.7
1999	10524	10.4	15.5	17.2
2000	11460	10.7	19.1	21.9
2001	10872	11.5	20.0	22.8
2002	11816	11.5	17.7	19.6
2003	12430	11.5	20.1	22.9
2004	12314	12.6	20.1	22.2

Single Parents

Year	N	Head Count (%)	FGT(2)	FGT(3)
1995	5528	15.2	5.8	4.2
1996	5558	14.7	6.9	5.7
1997	5820	19.7	11.1	9.2
1998	5270	19.8	8.6	5.8
1999	5192	19.5	9.8	7.9
2000	5924	20.3	9.5	7.3
2001	5631	19.0	10.9	9.1
2002	5960	18.6	10.6	8.5
2003	6295	18.7	10.8	9.2
2004	6170	18.2	9.3	7.2

Single w/o Children

Year	N	Head Count (%)	FGT(2)	FGT(3)
1995	8687	12.6	18.1	19.6
1996	8728	12.3	16.3	16.9
1997	8676	12.6	17.5	19.1
1998	7880	12.0	17.5	19.1
1999	7737	11.7	17.4	19.2
2000	8211	12.4	17.5	19.2
2001	7850	13.6	20.2	21.8
2002	8618	13.5	19.7	21.4
2003	9062	14.5	21.3	23.3
2004	9153	14.2	22.5	24.7