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Cross-National Poverty Comparisons Using Relative Poverty Lines: An Application and Some Lessons

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1. Introduction

Comparisons of income inequality across countries have long formed an important element in research on income distribution, despite all the difficulties involved. The need to make such comparisons on the basis of data for different countries which are as closely co-ordinated as possible provided the major impetus to the development of the Luxembourg Income Study (LIS). Cross-country comparisons of the extent of *poverty* face even greater obstacles: not only must the data be as close to truly comparable as possible, but critical conceptual issues must be addressed. While there is considerable scope for discussion about what constitutes inequality and how we should measure it, at least there is a good deal of common ground about where income distribution comparisons may start - with the decile distribution of gross or disposable income, for example, and a range of inequality measures. In the case of "poverty" comparisons, though, the key initial question to be resolved is what is meant by the term - only then can measurement begin.

Recent research on poverty within particular countries has tended to emphasise the *relative* nature of the phenomenon - that is, that poverty must be measured in the context of the society being examined, rather than against some absolute set of needs or requirements. This may represent more a clarification than a reformulation, in that such a conception probably underlies most earlier empirical studies. It none the less serves a useful purpose in forcing researchers to be more explicit about what it is they are attempting to measure. It has also prompted the development of new approaches to measuring poverty, for example, through indicators of style of living and deprivation or through 'consensual' poverty lines based on views in the society in question. Finally, seeing poverty more explicitly in relative terms has highlighted its relationship to inequality as a key issue.

One approach to making cross-country poverty comparisons, arising from this emphasis on its relative nature but also partly driven by the nature of the available data, involves defining poverty lines in terms of a particular percentage of mean or median income in each country. This has been adopted, for example, by the OECD and by the European Commission in recent studies. The advantage of this approach is that comparisons across countries can be readily made on a consistent and reasonably transparent basis. This contrasts with the difficulties in interpreting comparisons based on 'official' poverty standards for each country as embodied in social security systems, which also reflect differences in the coverage and generosity of the safety nets.

This paper explores the use of such purely relative poverty lines in international comparisons, through an application to data for the UK and Ireland. The UK government has recently discontinued the official series on the number and characteristics of low income households based on what amounts to an 'official' poverty line, and replaced it with a series based on purely relative income cut-offs. These statistics are drawn from the Family Expenditure Survey. For Ireland, the authors have a micro-data set from a large-scale household survey carried out in 1987 by the Economic and Social Research Institute.

The data sources for the two countries are comparable to an exceptionally high degree - in terms of survey methodology and coverage and the critical concepts employed, such as income, recipient unit and period of account, for example. The comparisons can also avoid many of the difficulties which arise when relying purely on published statistics for each country. An important example is that the same equivalence scales can be applied to each. The UK data are drawn from the same source as that in the LIS data base for that country, the Family Expenditure Survey (FES), but with one difference which is particularly important in studying poverty. The figures discussed in the present paper are based on current income whereas LIS and studies based on it use annual income: each provides a distinct and useful perspective in focusing on poverty.

Through an in-depth comparison of these two countries, not only do we learn about the particular countries in question, but we also learn a good deal about the relative poverty-line approach. Some of the implications of the precise method of implementation of such lines are drawn out and some particular hazards identified. At a more general level, the comparison is used to explore the nature of relative poverty lines, their relationship to overall inequality, and their appropriateness for international comparisons, both at a point in time and over time. Their advantages compared with reliance on official poverty lines - provided the objective is to measure the incidence of poverty rather than the effectiveness of the safety nets per se - are emphasised. However, the strong assumptions they incorporate about the nature of poverty and the implications these have for international comparisons are also highlighted.

The paper is organised as follows. Section 2 describes the data used. Section 3 presents results on the incidence of poverty based on official social security income standards. Section 4 discusses the implementation of the relative poverty line approach and presents a comparison based on a range of relative income cut-offs. Section 5 looks at trends over time during the 1980s in the two countries. Section 6 discusses the relationship between trends in relative poverty and the income distribution. Section 7 considers the implications of the results for the application and interpretation of relative poverty lines. Section 8 summarises the conclusions.

2. *The Data*

2.1 *The UK*

From the early 1970s up to recently the UK Department of Health and Social Security (DHSS) published a regular series entitled "Low Income Families", the most recent covering 1985 (DHSS, 1988b). This showed the number of families and persons in receipt of the safety-net social security transfers Supplementary Benefit (SB) and Housing Benefit (HB), drawn from administrative statistics. It also presented the numbers not in receipt but below the income standards set with reference to the SB scheme's level of support. The latter, drawn from the annual Family Expenditure Survey and using the benchmark of the state's own minimum support level, showed not just the numbers under that level itself but also under a range of multiples - 110 per cent, 120 per cent, and 140 per cent. The use of the official rates of support as the benchmark for measuring poverty in the UK was initiated by Abel-Smith and Townsend in their path-breaking study *The Poor and the Poorest* (1965). They argued that these rates had "the advantage of being in a sense the official operational definition of the minimum level of income at any particular time."[1] Income levels up to 40 per cent above the scale rates have been used as a cut-off on the grounds that many recipients have other sources of income disregarded by the benefit means test and that additions to the basic rates are paid in certain circumstances.

The "low income" statistics published by the DHSS, although based on the SB rates as the yardstick and often used by outside commentators etc. as measures of "poverty", were not recognised officially as such by government. Following a recent review of the series (*Low Income Statistics: Report of a Technical Review,* DHSS 1988a) the entire basis on which it was constructed was altered. In addition to a variety of technical factors, emphasis was placed in the review Report on the fact that using SB both as the measure of low income and a principal policy tool for helping those on low incomes creates the paradox that the higher the benefit the more people will be shown as on low incomes. Concern was also expressed that, despite frequent disavowals, the approach "may appear to provide official endorsement of one specific approach to the definition and measurement of 'poverty'".[2]

This series based on the SB yardstick has, therefore, been replaced by one using purely relative income cut-offs (see *Households Below Average Income: A Statistical Analysis* 1981-85, DHSS, 1988c). A number of other significant changes in methodology have also been implemented. The unit of analysis is no longer the family or benefit unit, and the equivalence scales used have also been changed. In the SB-based series, each family's income was compared with its SB entitlement, and the family classified by the ratio of its actual income to this entitlement.[3] The number of families, and of persons in these families, below each cut-off, was then shown. The equivalence scales implicit in the SB scales were thus in effect applied. In the new series, though, total *household* income is first taken. This is adjusted for size and composition using a set of equivalence scales estimated by the DHSS from household expenditure patterns (McClements, 1977). Each *individual* in a particular household is then taken to have that equivalent income.

The relative income cut-offs used in the new series are thus based directly on the mean of this equivalent income among all persons. The cut-offs used are 50 per cent, 60 per cent, 70 per cent, 80 per cent, 90 per cent and 100 per cent of this average, and the percentage of persons (and some data on their characteristics) below each is given. In addition, the characteristics of those below various percentiles in the bottom half of the income distribution - again based on equivalent income of persons - are shown.

The income concept employed is *disposable* income, which comprises:

- usual earnings from employment (including pensions),[4]
- gross profit from self-employment (counting losses as zero),
- all social security benefits,
- investment income
- other regular receipts such as maintenance payments,
- *less* income tax, National Insurance and superannuation contributions.

The new series is based entirely on the Family Expenditure Survey (FES), an annual survey of private households primarily intended to gather in-depth information on expenditure patterns but also including a detailed breakdown of income from different sources. (A full description of the FES is given in Kemsley, Redpath and Holmes 1980). This survey also provides the data for the UK in the Luxembourg Income Study databank (currently for 1979 but soon to include mid-1980s figures). There is, however, one important difference between the FES-based figures in LIS and those used in the compilation of the Low Income statistics, and indeed in most analyses of the FES. The survey itself focuses for the most part on *current* income, that is last week's (or months's) receipt of employment income, transfers or pensions. In the case of the particularly variable income types, self-employment and investment income, a twelve-month figure is obtained and a weekly average then forms part of current weekly income. LIS, though, is based firmly on *annual* incomes. For many of the participant countries this is available from tax records or gathered directly in surveys. For the UK, though, annual incomes are *estimated* using FES data, for the LIS file. (For a separate discussion of what is involved in this estimation procedure see Nolan 1987).

This distinction between current and annual accounting periods is clearly of particular significance in the context of poverty analysis. In this context neither is clearly preferable - they rather allow different questions to be answered. As has been illustrated recently using US data, far more people experience short periods of temporary poverty than are consistently poor over longer periods of time, so estimates of poverty are extremely sensitive to the accounting period used (see Sawhill 1988 for a review of the US evidence). Thus poverty analyses based on annual (or annualised) data such as that incorporated in LIS (for example the comparative study by Rainwater *et al.*, 1987) are complementary to the examination of the situation of individuals on the basis of current weekly incomes, the focus of the official DHS figures and of the present paper.

One further complication with respect to the accounting period is that the 'old' DHSS series on those not receiving benefit but below particular thresholds, though drawn from the FES, was not entirely on the basis of current weekly income. For those who had been unemployed or sick for not more than 3 months when interviewed, 'normal' work income rather than actual benefit receipt was used - as it is in the published FES Reports. This tends to reduce the number of cases estimated to have low incomes, and because of this bias and other problems the practice was discontinued with the switch to the new series. However this difference needs to be kept in mind when comparing figures using the SB yardstick from the old series - which we will present in Section 3 - with those on a relative income yardstick in Section 4.

Finally, although the FES covers the UK as a whole, the Low Income statistics in fact refer only to Great Britain - that is, Northern Ireland is excluded. Since it contributes only about 2 per cent of households in the FES, though, the inclusion of Northern Ireland would make little difference to the overall results even given its greater incidence of low income.

2.2 Ireland

The data for Ireland used in this paper come from two different sources. For 1987, a large-scale national survey with about 3,300 responding households was carried out by a team at the Economic and Social Research Institute, including the authors. The sampling procedure, response and characteristics of the sample are described in detail in Callan *et al.*, (1988). The effective response rate, at 64 per cent, was comparable with those achieved in the Family Expenditure Surveys. The survey is in many ways similar to the FES - in terms, for example, of coverage (population in private households), sampling frame (register of electors[5]) unit (households are selected but detailed individual-level data gathered) and income information gathered. Its objective was not to collect detailed expenditure data, which meant that a wide range of other information on for example lifestyles and living conditions, assets and debts, utilisation of health, education and other services, and subjective evaluations could be sought. This will be brought to bear on an in-depth analysis of poverty, inequality and redistribution in Ireland, the initial results of which are contained in Callan *et al.*, (1988). The survey also forms the Irish element of a cross-country comparative study covering a number of countries and regions in the European Community, sponsored by the EC Commission.

For the purpose of the present paper, a disposable income definition similar to that adopted in the UK Low Income series has been used. Thus, for example, superannuation contributions as well as the customary income tax and social security contributions are subtracted from gross income, and negative self-employment incomes are counted as zero.[6]

In order to assess trends over time in Ireland, use is also made of the Household Budget Survey (HBS) carried out by the Irish Central Statistics Office for 1980. The HBS, like the FES, is primarily an expenditure survey designed inter alia to provide weights for the Consumer Price Index, and is in other respects very similar to the FES so no detailed description is required here. (See CSO 1984 for a description of the survey and the 1980 results). The CSO permits access by researchers to the micro-data (subject to the preservation of confidentiality), so the results presented in Section 5 below are based on analysis of individual-level rather than published aggregate information. However only a limited number of variables rather than the full detailed responses may be accessed, which does impose certain constraints on the analysis discussed below.

3. *'Official' Poverty Lines*

Before concentrating on relative poverty lines, it is useful to first present a comparison based on what are usually termed 'official' poverty lines - using the income support rates in the social security system as the benchmark for assessing poverty. Cross-country comparisons using such lines have been made in, for example, Beckerman (1979). In the UK, as outlined above, the safety net SB scheme formed the basis for the official "low income" statistics until recently. (The scheme itself has in fact now been amended and renamed Income Support). The last year covered by this series was 1985, and we begin by comparing figures for that year with the Irish results from the 1987 ESRI survey.

The figures for the UK (or more correctly Great Britain) show that 5.6 per cent of families, containing 4.5 per cent of all persons in private households, were below the basic SB entitlement which a family of their type would receive (if eligible).[7] The figures refer to families which were *not* in receipt of SB (or Housing Benefit). In addition, a small proportion of those in receipt may in fact be below the relevant basic scale rate, because for example their payment is reduced due to what is adjudged voluntary unemployment. This is true only of a very small proportion of recipient families, though, and their inclusion would only increase the proportion of families/persons below 100 per cent of SB rates to about 6.0/5.0 per cent respectively.[8]

For Ireland, the corresponding safety-net social security scheme is the Supplementary Welfare Allowance. Using the rates of support provided by this scheme as benchmark, we have estimated that over 12 per cent of families (benefit units), containing 10 per cent of persons, were below those income levels in the 1987 sample. This includes both those not in receipt and those actually in receipt of transfers, including Supplementary Welfare Allowance, and so is to be comparable with the 6 per cent/5 per cent figures for Great Britain quoted above. (A detailed description of the scheme and of these estimates is given in Callan et al. 1988, Ch. 6).

As already mentioned, multiples of the safety-net support rates, rather than the basic rates themselves, are frequently also used as benchmarks - both in the official UK statistics and by outside commentators. Thus the 'old' Low Income statistics show that in 1985 17.2 per cent of British families, containing 15.6 per cent of persons, were below 140 per cent of SB rates - a widely-used cut-off - and were not in receipt of SB or HB. When we add in most of the families who were in receipt of these means-tested transfers, the total below 140 per cent of SB was about 30 per cent of families and 27 per cent of persons.[9] The corresponding figures for Ireland in 1987, that is below 140 per cent of Supplementary Welfare Allowance rates, are estimated at per cent of families, 32 per cent of persons.[10]

The clearest conclusion emerging from this comparison is that a significantly higher proportion in Ireland than in Britain fall below the minimum income level provided by the social security system. A number of possible explanations may be mentioned. First, the self-employed are in general not covered by the safety-net scheme in either country, and the much higher proportion of farm households in Ireland may thus be a contributory factor. While those with very small farms are eligible for some income support, this may not be sufficient to bring them up to the safety-net level. In addition, some of those with larger farms and thus not eligible for transfers probably experienced a particularly bad year and thus also appear below the cut-off[11]. Another factor may be that third-level students receive State financial support to a much greater extent in the UK, forming a significant group among those below the safety-net cut-off in Ireland.[12] There is also evidence that the take-up of the means-tested schemes by those who are eligible is even lower in Ireland than in the UK, which would also help to explain the higher proportion falling below the support level.[13]

The comparison thus tells us a good deal about the relative effectiveness of the social security systems in the two countries in providing a safety-net. What does it tell us about the relative incidence of poverty though? One system may provide a much more generous support level than the other *relative* to average incomes in each country. We can explore this by comparing the support which the safety-net schemes provide to, for example, married couple with two children to the average disposable household income in the sample. For the UK this figure for 1985 is about 37 per cent,[14] while for the 1987 Irish sample it is almost exactly the same figure.[15] This could be somewhat misleading, though, since mean household income will be influenced by household size and composition - with Irish household size being significantly larger on average.[16] When support rates for specific household types are instead compared with average disposable incomes for households of the type in question, Irish rates are seen to be more generous in a relative sense. There is considerable variation across household types, though, making any more concrete conclusion difficult.[17] (This reflects both differences in the equivalence scales implicit in the two support schemes, and in the relationship between incomes of different household type categories, in the two countries).

Even if we could summarise the relative generosity of the two systems and express them as, for example, x per cent of average income, though, this might not get us very far. Knowing, for example, that 10 per cent of persons are under a line representing 45 per cent of average income in one country while 7 per cent are under a line representing 35 per cent of the average in another country gives us no clear picture of the incidence of relative poverty across the two. If we are unwilling - as many are - to accept that social security support rates have independent validity as poverty lines, and wish to assess poverty by a standard which takes into account the living standards of the country in question and yet yields easily comparable results across countries, one obvious approach is to use explicitly relative poverty lines. This conclusion may also apply to the assessment of trends over time within a particular country, where similar difficulties in interpreting *changes* in the numbers falling below official poverty lines arise. While no such data over time are available for Ireland, this may be illustrated by the British SB based series. We concentrate on the period for which we also have the alternative relative income series (to be discussed in Section 5 below), that is the years 1981, 1983 and 1985.

Table 1 shows the estimated percentages falling below 100 per cent and 140 per cent of SB in each year. (These are estimated on the basis of numbers not in receipt known to be

Table 1: Percentage of Families and Persons Falling Below SB and SB + 40% Income Levels, Great Britain 1981-85

	% of Families		% of persons	
	Below SB	Below SB + 40%	Below SB	Below SB + 40%
1981	6.3	29.4	5.2	26.7
1983	7.1	32.6	5.5	29.6
1985	6.0	30.4	4.9	27.4

Source: Estimated from DHSS 1988b Tables 1, 2, 5 and 6.

below these levels, plus a proportion of those actually in receipt - see footnotes 8 and 9). The pattern revealed is a substantial increase in the numbers below both the 'official poverty line' level itself and the 140 per cent of SB between 1981 and 1983, but followed by a sharp reduction between 1983 and 1985. This left the percentage below SB in 1985 slightly below the 1981 level , and the percentage below 140 per cent of SB only slightly higher in the later year.

As we will see when the results using purely relative poverty lines are presented, this fall in the numbers below the social security safety-net level between 1983 and 1985 did *not* reflect an improvement in the relative position of low income groups, which in fact deteriorated significantly between the two years. It rather resulted primarily from the fact that the increases in SB rates themselves lagged behind the rise in average incomes over the period. Thus a standard which is less generous *relative to other incomes* is being applied in the later year. Conversely, the numbers below SB rose between 1981 and 1983 partly because SB levels rose more rapidly than average incomes.

Clearly not only how the income standards and position of low income groups have changed in relative terms, but also how they have evolved in *real* terms - i.e. adjusted purely for changes in prices - is relevant in this context. We will return to that issue in Section 7, having first looked in some detail at the picture shown by the comparison between the two countries and over time using relative poverty lines.

4. *Relative Poverty Lines*

4.1 *Methodological Issues*

A number of important and perhaps neglected issues arise in the actual derivation of relative poverty lines. While apparently very straightforward - being based simply on an income cut-off representing x per cent of average or median income - some significant differences can in fact emerge depending on how the approach is implemented.

The first issue is the unit of analysis. Perhaps the most commonly-used approach is to calculate the average income across households - usually taking differences in size and composition into account by using equivalence scales - and derive a household-based poverty line. The number of households below the line, and the persons in them, are then calculated, and the latter is the basis for the percentage of the population "in poverty". The narrower family unit may alternatively be used. This procedure gives equal weight to each household or family in the calculation of mean income, although the final result can be in terms of persons below the line.

It has however been effectively argued (for example by Danziger and Taussig 1979 and Cowell 1984) that it is individuals rather than families which should be given equal weight in assessing welfare. This implies that, for the relative poverty line, the mean will be calculated across *individuals* - or, equivalently, across families/households weighted by size. The number of persons below this line can then be evaluated directly. This is the approach adopted by the UK CSO in their new series. This does *not* mean that the individual is being treated as the income recipient unit. The conventional assumption that income is fully shared within the household or family is still made, so that each member is attributed the same income level.

The choice between household or family as income-sharing unit therefore remains. The UK CSO, in the new Low Incomes series, have used the household, and therefore for comparative purposes we do the same for Ireland in this paper. This represents a significant change from the old Supplementary Benefit-based series, which used the family or benefit unit as the recipient unit. The change was made on the grounds that the narrower unit may be misleading, because there are many instances of low income benefit units living in relatively well-off households and in practice being substantially supported by them.[18]

Household versus family-based results can be quite different when assessing poverty, and in the absence of detailed information on intra-household transactions it is impossible to know which comes closer to reflecting the true picture. It is important to emphasize, though, that assuming full income-sharing between household members does represent one extreme. When measuring the numbers of persons below a given income, the household unit of analysis generally (though not necessarily) leads to a lower figure than the family unit analysis. When using relative poverty lines, this tendency may not apply, because the mean income (per adult equivalent) on which the family unit and household unit lines are based may differ e.g. when each household/family is given equal weight in calculating the mean income (per adult equivalent)[19]. The tendency does apply if at each level of analysis, mean incomes are calculated with weights reflecting the number of persons in each family/household (as is effectively done here).

The next issue is the equivalence scales to be used. With 'official' poverty lines, and in many other comparisons, the equivalence scales used differ across countries. Given differences in spending patterns and relative prices, there is of course no *a priori* reason why the scales used should not be designed specifically for a particular country. However, very often the implicit official scales differ for largely historical reasons and we would have little confidence that they in fact reflect such underlying factors at all accurately. Similarly scales derived from analysis of expenditure data may differ because of variations in measurement approach or the particular model chosen. It therefore seems most useful as a starting-point to apply the *same* equivalence scales to each country, to eliminate one factor complicating the comparison. The impact of introducing variations in the scales - where these can be empirically justified - can then be measured from this baseline.

So here we use the equivalence scales applied in the UK 'new' series, which are based on analysis of FES expenditure data by L. McClements in the DHSS (see McClements 1977) and are commonly known as the 'DHSS scales'. These differ in some respects from the scales implicit in the Supplementary Benefit rates, which underlay the results on the basis of the SB benchmark discussed in Section 3. As shown in Table 2, the DHSS scales have a finer disaggregation of children by age and they allow a smaller addition for the needs of additional adults and children, especially younger children.[20] These DHSS scales are used for both the UK and Irish relative poverty lines in what follows.

Table 2: *UK Equivalence Scales*

	DHSS scales[a]	Supplementary Benefit scales[b]
Married couple	1	1
Single adult (householder)	0.61	
Second adult (non-householder)[c]	0.46	
Third adult (non-householder)	0.42	0.49
Fourth adult (non-householder)	0.36	
Child aged 16-17	0.36	0.38
" " 13-15	0.27	
" " 11-12	0.25	0.32
" " 8-10	0.23	
" " 5-7	0.21	0.21
" " 0-1	0.09	

a Including housing costs.
Source: Social Trends No. 8, 1977, p.
b Excluding housing costs, from 1985 rates.
Source: Economic Trends, July 1987, p. 112.
c That is, a second adult who is not the spouse of the householder.

The calculation of the relative income cut-offs used here involves a number of steps:

(i) The number of adult equivalent units in each household is calculated using the DHSS scales;

(ii) Equivalent household income for each household is total household disposable income divided by the adult equivalent value;

(iii) *Each* individual in the household is then attributed this equivalent income;

(iv) Average equivalent income is then calculated across all *persons;*

(v) The low income cut-offs are then defined as percentages - from 50 per cent to 100 per cent - of this average.

(vi) The number of persons with equivalent incomes below each cut-off is then evaluated.

In looking at the distribution of income, we similarly can calculate the decile shares for this equivalent income among persons. As we will see, this may be somewhat different to the distribution of equivalent income among households.

While focusing on individuals, an analysis of their characteristics will still make use of information about their families or households. Thus, for example, the DHSS series looks at the individuals below particular income cut-offs on the basis of the type of family - *not* household - they are in, and the economic status of the family head.

As already discussed in Section 2, the income concept employed is current disposable income, with superannuation contributions as well as income tax and social security contributions subtracted from gross income.

4.2 *Relative Poverty in Britain and Ireland*

We now compare the numbers below a range of relative income cut-offs in Great Britain in 1985, from the new DHSS series, with those below the same cut-offs in the Irish 1987 sample. Table 3 shows the percentage of individuals with disposable equivalent incomes below 50 per cent ....100 per cent of the mean, calculated in the manner described in Section 4.1, for both countries.

Table 3: Percentage of Persons Below Relative Income Cut-Offs, Great Britain and Ireland

cut-off: % of mean equivalent income	Great Britain 1985 % of persons	Ireland 1987 % of persons
50%	9.2	17.4
60%	20.1	28.5
70%	32.0	39.6
80%	43.1	48.9
90%	52.1	57.1
100%	60.7	63.8

Source: Great Britain: DHSS 1988c Table cl
Ireland: ESRI Survey

The comparison produces the unambiguous result that at all cut-offs, the Irish figure is substantially above the British one. Viewing poverty in purely relative terms, there is considerably more in Ireland than Britain no matter which line across this very wide range - encompassing from 9 per cent to 61 per cent of the population in the case of Britain - is chosen.

In addition to this strong aggregate result, the lines can be used to explore the composition of these at low incomes in two countries. First, Table 4 shows the breakdown of these below the cut-offs in each country distinguishing between adults and dependent children.

Table 4: Adults and Children Below Relative Income Cut-offs, Great Britain and Ireland

cut-off % of mean equivalent income	Great Britain 1985 % of children below	% of adults below	% of all below who are children	Ireland 1987 % of children below	% of adults below	% of all below who are children
50%	14.7	7.6	36.7	22.4	14.4	48.6
60%	26.1	18.3	29.8	34.8	24.7	46.0
70%	38.7	30.0	27.8	45.4	36.1	43.2
80%	51.3	40.6	27.3	55.4	44.9	42.8
90%	62.1	49.1	27.4	63.8	53.0	42.2
100%	71.7	57.4	27.1	70.7	59.5	41.8

Source: Great Britain, DHSS 1988c Tables C1 and C3; Ireland, ESRI Survey

Dependent children comprise 23 per cent of the British sample and 38 per cent of the Irish one. In each case, they are over-represented among those at low incomes, with a considerably higher risk of being below each cut-off than adults. The extent of over-representation of children is greatest at the lowest cut-offs, and in general is about as pronounced in one country as another, taking into account their differing shares in the total population.

Pursuing the demographic composition, we can analyse the family type in which the individuals below each cut-off are to be found, using a six category breakdown employed by the DHSS. (Note that this refers to the family or benefit unit of which the individual is a member *not* the household - so, for example, an unmarried 25-year old living with his/her parents will be counted as in a "single adult" family).

Table 5 shows the percentage of persons in each of these types falling below the various cut-offs, together with the importance of each in the overall population, for both countries.

The most striking difference in the composition of the population is the much higher proportion in Ireland in families consisting of a couple with children, balanced by a lower proportion in those of a couple or a single adult without children. Focusing on the risk of being below the various cut-offs, for both countries at the lowest (50%) cut-off this is relatively high for couples and single adults with children, and low for couples without children, single adults, and pensioners. As the income cut-off is raised, though, the risk for pensioners rises relatively rapidly while the risk for single adults and married couples without children remains relatively low throughout the range, in both countries. `Single with children' remains the highest risk group throughout. While the pattern is thus very similar in the two countries, one difference is the risk for pensioners rises more rapidly in Britain than Ireland, particularly for married couples. Thus while the risk of being below the 50 per cent line is 13 per cent for pensioners in Ireland compared with only 8 per cent in Britain, at the 60 per cent line the British figure has jumped to 35 per cent while the Irish one has risen only to 20 per cent.

Turning to the relationship between labour force participation and low income, we can also look at how the risk of being below the income cut-offs varies with labour force status of head. Here again we must use the classification employed by the DHSS in their published

Table 5: Percentage Below Relative Income Cut-Offs by Family Type, Great Britain and Ireland

	Family Type					
% of all persons in this type who are below	married pensioners	single pensioners	married with children	married without children	single with children	single without children
	%	%	%	%	%	%
(a) Great Britain (1985)						
50%	8	7	13	5	15	7
60%	35	23	22	10	40	14
70%	52	50	32	16	63	22
80%	65	67	45	22	74	30
90%	72	75	57	28	82	39
100%	79	81	67	35	88	48
(b) Ireland (1987)						
50%	13	7	20	9	24	15
60%	20	20	31	16	48	28
70%	37	48	41	21	56	34
80%	51	58	52	24	61	39
90%	59	69	60	30	72	46
100%	67	74	67	36	83	51
(c) Composition of overall pop.						
Great Britain	9	8	42	18	4	19
Ireland	8	7	60	8	3	14

Source: Great Britain, DHSS 1988 c Table cl; Ireland: ESRI Survey

series. This involves the following six "economic status" categories -

1 pensioners

2 full-time workers

3 sick or disabled

4 single parents

5 unemployed

6 others

Clearly an individual could be in more than one of these categories - a single parent could be in full-time work, for example. In such cases the category highest in the order as given above is used - in the example, full-time worker. An unemployed single parent, by contrast, is categorised as 'single parent'. "Others" includes students, widows, and persons not working and not seeking work.

In the British series, individuals are classified by the economic status of the head of their family, benefit unit rather than household. This is justified in the Technical Review report on the grounds that "it is important not to lose sight of social/economic groups who are important for social analysis and policy purposes (e.g. pensioners, single parents) who may be living in a household headed by someone in another social category (e.g. a person in full-time work)."[21] However, since such individuals are being attributed the average income of their *households* in the series, they may be effectively "lost sight of" in the low income classification itself. The rationale for using household income but status of family head seems rather weak, and may partly represent a desire to maintain some continuity with the old family-based SB series. In the Irish figures we present, we have therefore opted for the classification of individuals by status of *household* head - while not directly comparable with the British figures, they may be more relevant to the income ranking of the individuals. Since most households consist of only one family in any case, the comparison is also still of use.

Table 6 shows the 'risk' of falling below the various cut-offs by economic status, together with the composition of the overall populations. There is relatively little difference between the two countries in terms of overall composition, though there is a higher proportion of persons in units with unemployed or sick/disabled heads in Ireland. In terms of probability of falling below the cuts for each category, the unemployed category has clearly the highest risk at the 50 per cent cut-off in both countries, with about half of all those in the group falling below this lowest line. At higher lines it remains one of the two highest-risk groups, the other being single parents. Those in units headed by full-time workers have the lowest risk at all lines in both countries, as we would expect.

It is of interest that while the risk is higher in Ireland than Britain at most of the lines for most of the categories - as we could expect given the higher percentage overall below each cut-off in Ireland - this is only true for pensioners at the lowest line. A substantially *lower* proportion of that group are below each of the other lines in

Table 6: Percentage Below Relative Income Cut-Offs by Economic Status, Great Britain and Ireland.

% of all persons in category who are below	pensioners	full-time workers	sick or disabled	single parents	unempl- oyed	others
		economic status of head[a]				
(a) Great Britain (1985)						
50%	7	3	19	19	47	14
60%	29	7	38	54	68	30
70%	51	15	58	79	79	46
80%	66	26	70	90	84	57
90%	73	37	77	93	87	66
100%	79	47	86	95	90	74
(b) Ireland (1987)						
below 50%	10	10	29	39	53	19
60%	20	17	55	75	73	40
70%	41	26	68	83	83	47
80%	54	36	77	90	86	54
90%	63	45	84	90	91	63
100%	70	54	87	92	93	70
(c) composition of overall pop.						
Great Britain	17	62	3	3	10	5
Ireland	13	63	6	2	12	4

[a] Great Britain: head of family. Ireland: head of household.
Source: Great Britain, DHSS 1988c Table c2; Ireland: ESRI Survey.

Ireland, again highlighting their relatively favourable position compared with the UK. This is not to say that they fare badly in Britain - they have a much lower risk at most lines than the unemployed or sick/disabled groups, for example - but rather that they are particularly well situated in Ireland, with about as low a risk of being below the 50 per cent or 60 per cent line as the full-time workers.

5. *Relative Poverty: Trends in the 1980s*

We now extend the comparison between the two countries to cover trends over time in relative poverty, dealing (because of data availability) only with the most recent period, the 1980s. The official DHSS series for Great Britain provides figures for 1981 and 1983 which can be directly compared with those for 1985 presented in the previous Section. For Ireland, the Household Budget Survey for 1980 allows comparison between that year and 1987, though there are some limitations due to the nature of the data available for analysis.

First, for Great Britain, Table 7 shows the percentage of persons falling below each of the relative income cut-offs for the three years in question. Recalling the pattern of the 'old' official series using the SB benchmark (see Table 1), the relative cut-offs show quite a different picture. The numbers falling below the "official" lines increased between 1981 and 1983, then fell back between 1983 and 1985.

Table 7: Percentage of Persons Below Relative Income Cut-Offs, Great Britain 1981-1985.

% of mean equivalent income	% of persons below cut-off 1981	1983	1985
50%	8.3	8.0	9.2
60%	18.7	17.9	20.1
70%	30.7	29.9	32.0
80%	41.7	41.4	43.1
90%	52.0	51.4	52.1
100%	61.0	60.7	60.7

Source: DHSS 1988 c, Table cl.

The relative cut-offs show the exact opposite: the incidence of relative poverty declined between 1981 and 1983, then rose quite sharply between 1983 and 1985 - to a level well above that of 1981 at the lower cut-offs.

For Ireland, due to the nature of the data available for analysis, the relative poverty line comparison between 1987 and 1980 has been performed on a slightly different basis to that employed so far. Equivalent income averaged over households rather than persons has been used as the benchmark, and the percentage of persons in households below cut-offs related to that benchmark calculated - rather than computing the average itself over persons. As pointed out in Section 4.1 this will lead to different levels for the benchmarks, but in assessing trends over time this should not affect the results provided the same approach is applied consistently to each year. Thus for 1987 the household-based mean is also used for this particular comparison. The results show that with a 50 per cent relative poverty line, the percentage of persons falling below the cut-off rose by over 3 per cent. With a 60 per cent cut-off, the increase was closer to 5 per cent.

So clearly a substantial deterioration in the relative position of low-income groups took place in Ireland over the period. Compared with what was occurring in the UK between 1981 and 1985, the increase in relative poverty in Ireland is considerably more marked. A major contributory factor is likely to have been the trend in unemployment in the two countries. In Ireland, unemployment had not risen sharply immediately after the second oil shock of the late 1970s, as its effects were temporarily offset by fiscal expansion. From 1980 to 1987, though, unemployment more than doubled, rising from 8 per cent to 18½. In the UK, by contrast, unemployment rose very rapidly in the late 1970s, but between 1981 and 1985 - the years on which we are focusing - the increase was much less than in Ireland, from about 10 per cent to 12 per cent (This is on the basis currently officially used for calculating UK unemployment, which produces substantially lower rates than the methods employed in the 1970s and early 1980s.)

The changes in relative poverty over time in the UK, contrasted with the pattern shown by the official poverty line approach, illustrate clearly the difficulties in interpreting the results of the latter. However, the relative poverty line results themselves, while apparently easy to interpret, do not by themselves reveal the whole story. In particular, two areas of considerable relevance to assessing the relative poverty line results - over time or across countries - are their relationship to the income distribution itself, and to the actual real income levels and standard of living of those falling below the lines. We consider these in turn, Section 6 first dealing with relative lines and the income distribution.

6 *Relative Poverty and the Income Distribution*

6.1 *Income Distributions Compared*

Having looked at the comparison between the two countries at a point in time and over time using relative income cut-offs or poverty lines, we now put the results in the context of the income distribution itself. Focusing first on the point-in-time comparisons for the most recent dates available, the shares of total disposable equivalent income going to the individuals in each of the bottom five deciles of the distribution in Britain (1985) and Ireland (1987) are shown in Table 8. Note that this is on the basis of the distribution among persons rather than the more usual household - based distribution, with each individual attributed the average equivalent income of his/her household as before, and is thus directly relevant to the poverty-line comparisons in the previous sections.

In Section 4, we found a considerably higher number of persons below each relative income cut-off in Ireland than Britain in 1987/1985 respectively. Table 8 shows that in the same samples, each of the bottom five deciles in the distribution among persons also received a lower share of total equivalent disposable income in Ireland. The difference between the two countries is quite large, with the bottom decile getting 1.3 per cent more and the bottom half 4.2 per cent more of total income in Britain. Given this distributional pattern, it is not surprising that the incidence of relative poverty is higher in Ireland.

It is also interesting to carry through the comparison to the more usual distribution of equivalent income among households, and indeed back to the distribution of income without adjustment for differences in household size and composition. We can do this on the basis of published analyses by the UK CSO using the 1985 FES[22]. (These cover the UK as a whole rather than Great Britain, but given

Table 8: Decile Shares and Cumulative Shares in Equivalent Disposable Income for the Bottom 50 per cent of persons, Great Britain and Ireland.

	decile shares			cumulative shares	
share of	Great Britain	Ireland	share of	Great Britain	Ireland
	%	%		%	%
bottom 10%	4.2	2.9	bottom 10%	4.2	2.9
second 10%	5.5	4.8	20%	9.7	7.7
third 10%	6.4	5.7	30%	16.1	13.4
fourth 10%	7.3	6.6	40%	23.4	20.0
fifth 10%	8.3	7.5	50%	31.7	27.5

Source: Great Britain: DHSS 1988 c Table A1.
Ireland: ESRI Survey.

the size of Northern Ireland this will make the little difference, as already noted.) Table 9 compares quintile shares for the distribution of disposable income among households in the two countries, for both unadjusted and equivalent income, the latter based on the DHSS equivalence scales as before.

The Irish distribution of unadjusted income among households is considerably less equal than the UK, with the bottom quintile getting 2 per cent less and the top quintile 5 per cent more of total disposable income. When adjustment is made for differences in household size and composition by focusing on equivalent income, the distribution in each county becomes considerably more equal - as is usually the case - but the gap between the two countries does *not* narrow, in fact it widens slightly. The UK clearly Lorenz - dominates the Irish distribution in both cases, and the difference is substantial. The household - based figures for the equivalent income distribution are similar to the person-based figures for the bottom half of the distribution giving in Table 8, and show very much the same comparative picture.

The fact that bottom income groups have a substantially lower share of total disposable income in Ireland than in the UK means that the finding that a considerably higher proportion of the Irish population are below the various relative income cut-offs is no surprise. Does this correspondence between the relative poverty line and distributional comparisons extend to changes over time in the

Table 9: Distribution of Disposable Income and Equivalent Disposable Income Among Households, UK (1985) and Ireland (1987)

quintile	disposable income		equivalent disposable income	
	UK	Ireland	UK	Ireland
	%	%	%	%
bottom	6.5	4.5	9.4	6.9
second	11.3	10.4	13.1	12.1
third	17.3	15.9	17.1	15.9
fourth	24.3	23.6	22.9	22.3
top	40.6	45.6	37.6	42.7
all	100	100	100	100

Source: UK: Economic Trends July 1987 Table U p.113
Ireland: ESRI Survey

Table 10: Decile Shares and Cumulative Shares in Equivalent Disposable Income for the Bottom 50 per cent of Persons, Great Britain 1981-85.

share of	1981	1983	1985		1985	1983	1985
bottom 10%	4.1	4.1	4.2	bottom 10%	4.1	4.1	4.2
2nd decile	5.6	5.7	5.5	20%	9.7	9.8	9.7
3rd	6.5	6.6	6.4	30%	16.2	16.4	16.1
4th	7.4	7.4	7.3	40%	23.6	23.8	23.4
fifth	8.3	8.4	8.3	50%	31.9	32.2	31.7

Source: DHSS 1988c, Table A1

two countries? This is the issue to which we now turn.

6.2 Income Distribution Over Time

As before, we concentrate on a relative short time-period, the 1980s, because it is only for this recent time-span that the relative poverty line results are available. The more complete distributional data is available for Britain. First, the shares of equivalent disposable income going to the deciles of *persons* in the bottom half of the personal distribution, shown for 1985 in Table 8, are also available for 1981 and 1983. The three years are shown in Table 10, and an interesting pattern is revealed. With the share of the bottom decile unchanged between 1981 and 1983, the cumulative share of the bottom 20 per cent ... 50 per cent rose between these two years, at the same time as a fall in the percentage of persons falling below each of the relative income cut-offs from 50 per cent to 100 per cent took place (see Table 7). Between 1983 and

1985, there was a fall in the share of total income going to the bottom 20 per cent .... 50 per cent, and an increase in the percentage falling below the cut-offs from 50 per cent to 90 per cent (with the figure below 100 per cent unchanged). What is surprising, though, is that between 1983 and 1985, when the percentage of persons falling below 50 per cent of mean income was rising substantially, (from 8 per cent to 9.2 per cent), the share of the bottom decile - which obviously consists for the most part of the same persons - rose marginally.

In addition to the distribution of equivalent income among persons for the bottom half only, we also know the way in which the overall distribution of (unadjusted) disposable income among households developed in the UK during these years.[23] Table 11 shows that the pattern in the shares of the bottom deciles in the household distribution differs in a number of respects from that in the distribution of equivalent income among persons. The decline in the shares of deciles 2 to 5 and the bottom 50 percent as a whole between 1983 and 1985 is still evident, but here the bottom decile registers a marginal fall rather than increase.

Where the changes at the bottom of the distribution are relatively small, it may therefore be hazardous to infer from changes in the unadjusted distribution implications for the equivalent income distribution, from the household distribution about the distribution among persons, or from the distribution to the incidence of relative poverty. For

Ireland, the changes between 1980 and 1987 were however so substantial that a consistent pattern is shown by both distributional and relative poverty comparisons. We have seen that relative poverty (using average equivalent income among households as the base - rose sharply between the two years. The shares of bottom income groups in both unadjusted and equivalent income also fell substantially and consistently. For unadjusted disposable income, for example, the share of the bottom 20 per cent of households fell from 5.2 per cent in 1980 to 4.5 per cent in 1987, while the bottom 50 per cent saw its share decline from 25 per cent to 22 per cent. Equivalent income among households showed very much the same pattern.

Table 11: Decile Shares in Disposable Income Among Households, UK 1981-85.

decile	1981	1983	1985
bottom	2.7	2.8	2.7
2	4.0	4.1	3.8
3	5.3	5.3	5.0
4	6.7	6.6	6.3
5	8.2	8.1	7.9
6	9.6	9.5	9.4
7	11.1	11.0	11.1
8	13.0	13.0	13.2
9	15.6	15.8	16.0
top	23.7	23.8	24.6

Source: calculated from Economic Trends Dec. 1982, Dec. 1985 and Nov. 1986, Appendix Table 3.

These results suggest that, when making comparisonss between countries with substantially different distributional structures, or over time periods when major changes in the distribution have taken place, conclusions may be drawn about the incidence of relative poverty on the basis of the distributions themselves with reasonable confidence. While the results from this particular application cannot be more than suggestive, and counter-examples could undoubtedly be constructed to show that this need not always be the case, nonetheless the conclusions has some plausibility. The UK data also illustrate, though, that an entirely consistent relationship between distributional changes and the extent of relative poverty cannot be relied on over a short period where the shifts in decile shares are relatively small. This is of particular interest since a good deal of attention is paid to short-term shifts in the distribution, and implications drawn for the incidence of poverty. This suggests that *both* the distribution itself and changes in relative poverty have to be monitored, and in exploring the reasons why in the next Section entails consideration of the underlying concept of poverty itself.

7. Interpreting Relative Poverty Line Results

The results we have presented on the basis of relative poverty lines, involving comparisons across countries and over time, are illuminating about the nature of such lines and serve to highlight particular issues in interpreting them. A useful point of departure is the finding that in the UK the percentage of persons below the 50 per cent relative income cut-off - the relative line most often used - rose at a time when the income share of the bottom decile, comprising largely the same people, was actually increasing slightly. This brings us to consider the underlying increase in incomes of these groups. The DHSS data show that while real income per person on average increased over the period in question (1981-1985) by 6.4 per cent, for those below the 50 per cent cut-off the increase was considerably greater, at 11.2 per cent. This could be partly produced by the fact that, as the number of persons below the line increases, those who have been fallen just below the threshold have incomes that are still high relative to the rest of that group, in itself leading to a rise in average income of the expanded group. This would not explain, though, why the real income of the bottom decile also rose faster than average - though not as much so - by 8.3 per cent.

This pattern suggests a substantial increase in real incomes for those well below the cut-off, combined with a lower than average increase for those around the cut-off level. This pattern highlights two separate issues with respect to the use of relative poverty lines. The first, which applies equally to any income poverty line, is the need to take into account not only the numbers falling below but also the extent to which they do so - the intensity of their poverty. This has been a point of particular interest in the literature on poverty measurement since Sen's path-breaking 1976 paper. This very effectively emphasised the limitations of measures relying purely on "counting the poor" and presented one particular aggregate measure based on the Gini coefficient, which takes into account the extent of the shortfalls or "poverty gaps" of those below the poverty line.

A number of such measures have been proposed since then, notably by Thon (1979), Blackorby and Donaldson (1980), Clark, Hemming and Ulph (1981) and Foster, Greer and Thorbecke (1984). This literature is reviewed in Foster (1984), which also discusses at some length the relationship between such poverty measures and inequality measures. Using the Irish data for 1980 and 1987 already discussed, we have elsewhere applied the aggregate poverty measure developed by Foster, Greer and Thorbecke (1984), and the results remain unambiguous in continuing to show poverty increasing in Ireland between the two years (see Nolan and Callan, 1989). Corresponding results for the UK cannot be derived from the published data, but the importance of such a measurement approach has to be noted.

The second point, though, is specific to relative poverty lines. Clearly, and deliberately, such lines reflect only the relative position of low income groups and are entirely unaffected by any differences across countries or improvements over time in the incomes of these groups which are not reflected in their relative position. While this is obvious, its implications may need to be spelled out and illustrated if they are to be fully appreciated. We can do this both for comparisons across countries and over time.

Our results for Britain and Ireland have shown an unambiguously higher incidence of relative poverty in Ireland, across the entire range of cut-offs used. Income levels are also considerably lower in Ireland. For example, mean disposable income per capita in the 1987 ESRI sample is only about 65-70 per cent of that in the 1985 FES sample for the UK. (A similar picture is given by GNP or personal disposable income comparisons, and using estimated Purchasing Power Parities rather than market exchange rates.) This income differential is reflected in standard of living differences between the two countries, as shown by such indicators as housing quality and the level of possession of durables. Where, as here, the country with the higher mean income level also has less relative poverty, the *poverty ranking* of countries by the relative approach seems likely to be generally accepted. Where the country with the higher income level in fact has more relative poverty, though, the ranking produced purely by focusing on the relative position within each country without reference to the actual living standards involved is likely to be much more contentious.

Analogous issues arise in making comparisons over time within a particular country, as may be illustrated by our two examples. In Ireland, relative poverty unambiguously increased between 1980 and 1987, and this took place while mean real disposable income actually fell. There may therefore be no difficulty in accepting that poverty rose between the two years. In the UK, though, while relative poverty rose between 1981 and 1985, there was a significant rise in both average real incomes and in the incomes of lower income groups, as we have seen. This is in fact highlighted in the DHSS publication, which also shows the numbers falling below income lines which are held constant in real terms over time. Thus, if the relative income cut-offs for 1981 are held fixed in real terms and applied to the 1985 sample, a substantial decline in the percentage falling below each cut-off is revealed. The percentage under the 1981 50 per cent relative cut-off falls by $1^1/_2$ per cent, while that under 1981 average income declines by almost 6 per cent. In these circumstances, the fact that there is more poverty in the later year measured in purely relative terms may need to be qualified by the fact that the real incomes of the poor are on average higher.

It may be useful to consider these issues in the context of the direction taken by the extensive literature on the comparison of income distributions across countries and over time. In that literature, much of the recent emphasis - notably in the work of Atkinson - has been on obtaining at least *partial* orderings of distributions on which all may agree (i.e., where one Lorenz dominates the other), while explicitly accepting that there is room for disagreement in other circumstances. In the context of poverty measurement, this general approach has been put forward recently in a number of papers by Foster and Shorrocks (1988a, b). These have explored how, allowing the poverty line to vary, aggregate poverty measures may be used to obtain consistent and unambiguous rankings of certain distributions in terms of poverty. Where such results are not obtainable - where different rankings of two distributions are produced by different poverty lines - it may be more appropriate, they argue, to allow that poverty comparisons are ambiguous than to insist that a conclusive judgement is always reached.

The approach they outline is based on the application of a *common* - though variable - poverty line to each distribution, and seeing whether a consistent ranking is obtained either at all lines or within a more restricted range of 'reasonable' poverty lines. This implicitly involves an "absolutist" approach, and their results are not immediately applicable if instead a relative notion of poverty is adopted, where the poverty standard is *not* viewed as independent of the distribution.[24] None the less, their approach provides a valuable framework. In the first place, within a purely relative framework there is generally little basis on which to select a particular relative cut-off. Allowing explicitly for a variety of opinions and therefore using a range of values - as we have done in the present paper - may produce fewer conclusive rankings, but where they are possible they are much more soundly based than those using a single relative line.

This approach can be taken further, though, acknowledging that by no means everyone is happy to accept a purely relative approach to the definition of poverty. (Such unwillingness is by no means confined to the political Right, and is a strong and continuing current in the academic literature (see, for example, Sen (1983), Ringen (1988)). As we have already noted, it seems reasonable to conclude that where distribution A has *both* less relative poverty and a higher mean income than distribution B, then A has less poverty than B. Such a conclusion does *not* rest on a purely relative approach, remaining valid across the entire spectrum to a whole-heartedly "absolutist" one. This clearly applies to both comparisons across countries and over time, and our examples have shown such useful unambiguous rankings actually being obtainable in both contexts.

Where this is not possible - where the distribution with the higher mean has more relative poverty - then ranking is of necessity more demanding in terms of a tighter specification of the poverty concept to be employed. In such circumstances, an explicit acceptance of a degree of uncertainty appears preferable to the application of a purely relative approach without qualification. Accepting - as most probably would - that poverty has to be seen in the context of the society in question clearly does not necessarily entail agreement that relative position is *all* that matters. This is effectively illustrated by the findings of research estimating subjective or consensual poverty lines for a number of countries on the basis of views in the population in question about minimum income standards. The results have suggested that, comparing these lines across countries, they do not increase one-for-one as average income increases - they represent higher relative lines in the lower income countries (see Van Praag, Goedhart and Kapteyn 1980, Hagenaars and Van Praag 1985,and Hagenaars 1986: the influences on such lines are discussed in detail in the latter).

Relative poverty lines may thus best be seen as providing a basis for the partial ranking of distributions in poverty terms, and as a point of departure for the more contentious cases where such unambiguous results are not achieved - either because different relative poverty lines give different results, or because the consistently higher relative poverty is in the distribution with the higher mean. They may also provide such a starting point for the even more complex task of not just ranking but measuring the 'distance' between distributions in poverty terms. Here again the 'gap' between distributions A and B in terms of relative poverty alone is unlikely to win universal acceptance where the means are different. Even when A has both less relative poverty and a higher mean than B and the ranking is uncontentious, some may feel that the *gap* between A and B is understated by the relative approach.

Here it might be useful to consider the relative approach as helping to provide *bounds* to the distance in poverty incidence rather than one precise measure. In this example, the relative approach itself could provide the lower bound, while the application to B of lines corresponding in absolute terms to A's relative lines could be viewed as providing upper bounds. Thus the gap between Ireland and the UK will be at its lowest in terms of purely relative lines, while applying UK relative lines to the Irish distribution would lead to a much larger poverty population in Ireland and a much larger gap. We would then be in a position to focus within this range on the crux of the problem: how much weight to give to purely relative considerations and how much to absolute differences in living standards.

8. Conclusions

The paper has discussed in some detail the implementation of the relative poverty line approach to the comparison of the extent of poverty across countries and over time. The empirical results have concentrated on the UK and Ireland in the 1980s, based on survey data of a high degree of comparability. The individual rather than the household or family has been used as the unit of analysis, though the assumption has been made - following current official UK practice - that income is fully shared among all members of a particular household. A common set of equivalence scales, also in official use in the UK, has been applied to each country.

With mean equivalent disposable income per person as the base, a range of relative income cut-offs was used. Comparison between the two countries for the most recent date available - 1985 for the UK and 1987 for Ireland - revealed a higher incidence of relative poverty in Ireland at all relative lines. Over time, poverty measured in purely relative terms was seen to have risen during the 1980s in both countries for the entire range of cut-offs.

These results were contrasted with those based on "official" poverty lines derived from social security rates of support. Such lines also showed a higher level of poverty in Ireland than Britain, but with a somewhat smaller gap between the two. This was seen to be related to the generally greater generosity in relative terms of the Irish safety-net. Over time, the "official" lines for the UK showed a decline rather than an increase in poverty in Britain between 1981 and 1985.

In relating relative poverty to the income distribution, it was found that while there was some correspondence in terms of comparisons across the countries and over time between the two, this was not complete. The Irish (equivalent) income distribution became more unequal as relative poverty increased, and was significantly less equal than in the UK where relative poverty was lower. However, while the percentage of persons falling below relative poverty lines in the UK was growing between 1981 and 1985, the share of bottom groups in total income was increasing.

The importance of using a range of poverty lines rather than just a single line has been emphasised. Similarly, taking into account not just the numbers falling below these lines but also, where possible, the extent of the income shortfalls (and their distribution as well as in aggregate) is desirable.

A concept of poverty framed strictly and exclusively in relative terms is by no means generally accepted. Acknowledging this, purely relative poverty lines still allow a partial ranking of distributions in poverty terms which may meet with general agreement, where the distribution exhibiting consistently less relative poverty also has a higher mean income level. Where this is not the case, relative poverty lines none the less provide an easily interpreted point of departure. They might also be best regarded as helping to provide bounds rather than precise estimates of the distance between distributions in poverty terms. As in the case of inequality comparisons, an explicit recognition of a degree of ambiguity and uncertainty in making poverty comparisons may be preferable to apparently precise and conclusive judgements.

Footnotes

1. p. 17.

2. p.10.

3. "Family" for this purpose is more properly "benefit unit", which is a single person or married couple with their dependent children, if any, the latter being those aged under 16 years of age or under 19 if still in full-time non-advanced education.

4. Where the last receipt was exceptional, because of occasional commission, for example, the usual rather than last receipt is used.

5. The income information gathered in the survey corresponds closely with that contained in the FES. One minor difference in the concepts employed here is that the small amount of income in kind included in the UK figures is not (at present) included in the 1987 data for Ireland.

6. One very minor difference is that the value of luncheon vouchers and free meals provided by employers in the UK income data is not included. However, this, while not separately identified in the FES, is only a very small element in incomes.

7. "Low Income Families - 1985", DHSS, May 1988, Tables 2 and 6.

8. We know from the Report of the Technical Review of the Low Income Statistics that in 1983 only 3 per cent of SB recipient families were below 100 per cent of SB basic rates (para. 7, p. 9). If this proportion of the recipients of SB or HB in 1985 is added to the non-recipients under SB levels, the total numbers below 100 per cent of SB increase to 6.0 per cent of families and 4.9 per cent of persons.

9. We know, again from the Report of the Technical Review (ft. 8), that in 1983 only 8 per cent of SB recipient families were above 140 per cent of SB rates. If 92 per cent of the SB/HB recipients is added to the non-recipients under 140 per cent, the total below that level in 1985 can thus be estimated.

10. The British and Irish figures are not precisely comparable, because of the use of "normal" work income in the British figures for those actually out of work when surveyed, but for not longer than three months. This clearly biases the incomes of some families - mostly upwards - when compared with actual incomes, which are

used in the Irish figures. Using the 100 per cent of SB benchmark, this is unlikely to be at all important, because most of those involved will actually be in receipt of SB or other social security transfer and thus at or above the SB rate anyway. There could be some bias using the 140 per cent cut-off, to the extent that families are being attributed normal work incomes above that level but are actually in receipt of transfers below it. Given the overall numbers likely to be involved, the effect would appear likely to be marginal.

11. The farm incomes in the Irish sample are based on 1986 data reported by respondents, and this was a particularly poor year for agricultural incomes.

12. Of the 12 per cent of families below the SWA cut-off, 3 per cent were in full-time education.

13. Evidence from the UK has shown take-up rates of around 70 per cent - 80 per cent for SB and 50 per cent - 60 per cent for the Family Income Supplement scheme (now renamed Family Credit) for those in full-time employment supporting children (see, for example, Dilnot, Kay and Morris 1984,Ch. 2, and Atkinson 1984). Our analysis of the Irish 1987 survey data indicates take-up for the Family Income Supplement scheme (similar to the UK version) may be as low as 22 per cent (see Callan *et al.*, 1988, Ch. 6), while SWA take-up also appears to be well below UK levels.

14. Average disposable household income in the 1985 FES was £175 per week (FES 1985 Report, Table 2.2), while the SB ordinary scale rate for a married couple with two children (aged less than 11) was £65.

15. Average disposable household income in the ESRI survey was IR£198 per week, and the SWA rate for a married couple with two children was IR£74.

16. The average household size in the 1985 FES was 2.6, whereas that in the 1987 Irish sample was 3.6.

17. For example, for a married couple with two children the support rate as a percentage of average disposable income of households of that type was 38 per cent in Ireland compared with 30 per cent in the UK. For single (non-elderly) adults the figures were 34 per cent and 26 per cent, respectively. But for married couple with one child, the UK figure at 29 per cent was much closer to the Irish 31 per cent.

18. Report of Technical Review para. 18 a), pp. 23-24.

19. In this case, in other words, we would be comparing the number of persons in households falling below x per cent of average household income with the number of persons in families falling below x per cent of average family income, with equivalence scales used to adjust for differences in size and composition in each case.

20. The DHSS scales are available both including and excluding housing costs, whereas the SB scales exclude housing costs (because these are met through a separate benefit). The new low income series is also presented on both bases, using the DHSS scales. However, in this paper we focus on the figures including housing costs, and thus compare this set of DHSS scales with the SB ones in Table 2.

21. DHSS 1988 a), para. 22, p. 25.

22. See Economic Trends July 1987: "The Effect of Taxes and Benefits on Household Income 1985". The income concept is *not* that used in the published FES reports, which use 'normal' income for those out of work for three months or less (see Section 3.1 above) and includes imputed rent for owner-occupiers. It differs slightly from that used in the rest of the present paper, in that disposable income is net of income tax and N.I. contributions only, superannuation contributions are not deducted. Also, the income is to some extent a 12-month rather than a current figure, in that receipts of transfers and employment income are adjusted to take into account the number of weeks spent in work/in receipt of transfers. However, this makes only a marginal difference to the overall distribution (see Nolan 1987, Ch.5) and thus does not significantly affect the comparison with the Irish figures, which are based on current receipts.

23. See footnote 22 on the income concept employed.

24. This is pointed out by Foster and Shorrocks in earlier draft of their 1988b paper, though not addressed in the published version.

REFERENCES

ABEL-SMITH, B. and P. TOWNSEND (1965). *The Poor and the Poorest*, G. Bell and Sons, London.

BECKERMAN, W. (1979). *Poverty and the Impact of Income Maintenance Programmes*, ILO, Geneva.

BLACKORBY, C. and D. DONALDSON (1980). "Ethical Indices for the Measurement of Poverty", *Econometrica*, 48, pp. 1053-60.

CALLAN, T., D. F. HANNAN, B. NOLAN, B. J. WHELAN and S. CREIGHTON (1988). *Poverty and the Social Welfare System in Ireland*, Combat Poverty Agency, Dublin.

CENTRAL STATISTICS OFFICE (1984). "Household Budget Survey 1980 Vol. 2", Dublin: Stationery Office.

CLARK, S., R. HEMMING and D. ULPH (1981). "On Indices for the Measurement of Poverty", *Economic Journal*, Vol. 91, pp. 515-30.

COWELL, F. (1984). "The Structure of American Income Inequality", *Review of Income and Wealth*, Vol. 30, pp. 351-75.

DANZIGER, S. and M. TAUSSIG (1979). "The Income Unit and the Anatomy of Income Distribution", *Review of Income and Wealth*, Vol. 25, pp. 365-75.

DEPARTMENT OF EMPLOYMENT (1986). *Family Expenditure Survey Report for 1985*, London: HMSO.

HAGENAARS, A. J. M. (1986). *The Perception of Poverty*, North-Holland, Amsterdam.

HAGENAARS, A. J. M. and B. VanPRAAG (1985). "A Synthesis of Poverty Line Definitions", *Review of Income and Wealth*, Series 31, No. 2, pp. 139-154.

KEMSLEY, W. F. F., R. REDPATH and M. HOLMES (1980). *Family Expenditure Survey Handbook*, London: HMSO.

McCLEMENTS, L. D, (1977). "Equivalence Scales for Children", *Journal of Public Economics*, Vol. 8, No. 2, pp. 191-210.

NOLAN, B. (1987). *Income Distribution and the Macroeconomy*, Cambridge: Cambridge University Press.

NOLAN, B. and T. CALLAN (1988). "Measuring Trends in Poverty Over Time: Some Robust Results for Ireland 1980-87", *The Economic and Social Review*, forthcoming.

VanPRAAG, B., T. GOEDHART and A. KAPTEYN (1980). "The Poverty Line - A Pilot Survey in Europe", *Review of Economics and Statistics*, Vol. LXII, No. 3, pp. 461-5.

DEPARTMENT OF HEALTH AND SOCIAL SECURITY (1988a). *Low Income Statistics Report of a Technical Review*, March.

________________ (1988b). *Low Income Families - 1985*, May.

________________ (1988c). *Households Below Average Income: A Statistical Analysis 1981-85*, May.

FOSTER, J. (1984). "On Economic Poverty: A Survey of Aggregate Measures", in *Advances in Econometrics*, Vol. 3, ed. R. L. Basman and G. F. Rhodes, JAI Press.

FOSTER, J., J. GREER and E. THORBECKE (1984). "A Class of Decomposable Poverty Measures", *Econometrica*, Vol. 52, pp. 761-5.

FOSTER, J. and A. F. SHORROCKS (1988a). "Poverty Orderings", *Econometrica*, Vol. 56, pp. 174-7.

FOSTER, J. and A. F. SHORROCKS (1988b). "Poverty Orderings and Welfare Dominance", University of Essex Working Paper (forthcoming in *Social Choice and Welfare*).

RAINWATER, L. *et al.* (1987). *Poverty in Major Industrialized Countries*, LIS Working Paper 2.

RINGEN, S. (1988). "The Power to Redistribute", conference paper for "Generating Equality - the Swedish Experiment", November.

SEN, A. (1976). "Poverty: an Ordinal Approach to Measurement", *Econometrica*, Vol. 44, pp. 219-31.

SEN, A. (1983). *Poor, Relatively Speaking*, Geary Lecture, Dublin: The Economic and Social Research Institute.

THON, D. (1979). "On Measuring Poverty", *Review of Income and Wealth,* Vol. 25, pp. 429-40.