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## A Review of Recent Research into the Measurement of Trends in Poverty



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This paper reviews the issues involved in the measurement of poverty and also examines the available studies for Ireland. The two principal issues in poverty measurement are (a) how to identify the poor and (b) how to aggregate available information on those identified as poor into a single index. Problem (a) is usually resolved by a choice of a poverty line. There are a variety of approaches to resolving issue (b). However, those measures which are intuitively easy to grasp may also be quite seriously deficient in certain crucial aspects. Published studies for Ireland show a clear increase in living standards over the last fifteen years, but they also show that, during the recent boom period, changes in the distribution of income have not always been in favour of those on lower incomes.

### INTRODUCTION

Somewhat paradoxically, one of the features of Ireland's recent economic boom has been the increased attention devoted to the study of poverty. This probably arose due to a number of factors. First, the last ten years or so have seen the availability of datasets which enable proper measurement of poverty to be carried out. In this sense the *Living in Ireland* survey conducted by the Economic and Social Research Institute (ESRI) and their earlier *Survey of Income Distribution, Poverty and Use of State Services* are landmarks in the area of poverty research in Ireland. The availability in a more computer-friendly format of individual data from the *Household Budget Survey* (HBS), carried out approximately every seven years by the Central Statistics Office (CSO), has also facilitated research into poverty; but, as will be argued below, the HBS has so far been a comparatively underused resource.

The record growth levels in recent years have also led to greater funding for research into poverty and the role of the Combat Poverty Agency (CPA) must be noted here. The CPA was actually founded in 1986 before the boom of the 1990s, but the resources available to the Agency and other bodies have naturally benefited from the benign state of the public finances – although this may not continue to be the case in the immediate future.

The CPA and other bodies also played an important role in ensuring that, even while economic growth was reaching record levels, attention should still be addressed to how growth is distributed across the population and how it is affecting measured poverty. The climax of this was the publication in 1997 of the *National Anti-Poverty Strategy* (NAPS), which specifically placed a reduction in poverty as part of government policy and outlined a number of medium-term targets. In particular, the NAPS states that relevant government policies must be "poverty-proofed" in the sense that their expected impact on poverty must be evaluated.

Thus, it is clear that poverty analysis is an important element of economic and social research in Ireland.

## MEASURING POVERTY

Poverty measurement typically involves two issues: identification and aggregation. The first of these involves the identification of those households (or individuals depending upon the choice of unit of analysis) who are poor. The second issue involves aggregating information about the number and circumstances of the poor households into a single index. Such aggregation will usually involve the loss of some detail, but nevertheless it may be a worthwhile price to pay to reduce a complex phenomenon to a single dimension.

### IDENTIFICATION OF POVERTY

Dealing first with the identification issue, this is generally carried out via the use of a poverty line. However, before a poverty line can be identified a decision must be made as to the relevant measure of household resources. The two main contenders are income and consumption. Both measures have their advantages and disadvantages. Certain components of income are difficult to measure, for example income from self-employment.<sup>[1]</sup> It is also the case that cross-section studies typically provide income measures which are snapshots in time and thus take no account of the difference between transitory and permanent income. Since consumption/expenditure decisions are usually made with reference to permanent income, it can be argued that expenditure measures are preferable.

However, consumption measures are not without their drawbacks. Expenditure on items such as alcohol, tobacco or gambling may be under-reported. Also, although the terms are used interchangeably here, expenditure and consumption are not

[1] O'Neill and Sweetman (1999) find higher poverty rates for the self-employed when income is used as the measure of household resources compared to when consumption is used.

always the same. For example, expenditure over a two-week period may not be a reliable measure of consumption, particularly for mature households who may have a large stock of durables from which they derive services.

A further problem specific to the HBS is that income observations are 'top-coded', in that values of income in excess of say, €800 per week, are simply entered as €800 per week. Thus, the distribution of income is censored on the right-hand side at a value of €800. This causes problems when calculating a poverty line which is a certain percentage of mean income (it does not arise when using median income).

The *Living in Ireland* survey, upon which the ESRI analysis for Ireland is based, does not record consumption. However, the HBS records both consumption and income and, as will be seen below, results can be sensitive to the measure of resources employed.

The adjustment of income/consumption for household size and composition is another crucial factor. Clearly €300 per week has different implications for the welfare of a household consisting of two adults and four children, compared to a household merely consisting of one adult. Therefore, adjustments to income/consumption must be made to reflect both the size (the number of people) and the composition (the breakdown between adults and children) of the household. Such an adjustment is termed the application of an *equivalence scale*.<sup>[2]</sup> Typically there is no ideal equivalence scale and thus results of poverty studies have to be checked for their sensitivity to the choice of scale. While overall trends in poverty are unlikely to be unduly affected by the choice of equivalence scale, the measured risk of poverty for specific households, e.g. households with children compared to households without children, may be sensitive.

### **DEFINING THE POVERTY LINE**

Once the measure of household resources has been chosen, a poverty line must be identified. There is insufficient space here to discuss this in detail and a good survey can be found in Callan and Nolan (1991). However, one general issue which is worthy of discussion is the choice between an absolute or a relative poverty line. Assuming that income is chosen as the relevant measure of household resources, let  $z$  be poverty line income. The choice is then between an absolute or a relative poverty line,  $Z_a$  or  $Z_r$  respectively.

An absolute poverty line may be defined with respect to the cost of purchasing a minimum basket of necessities and, as its name suggests, this basket may remain unchanged even though incomes as a whole in the population in question may be

[2] See Lewbel (1997) for a comprehensive discussion of equivalence scales.

increasing. Examples of such lines are the official poverty line in the US. It should be noted that, while such poverty lines may be updated occasionally as is the case in the US, they are still absolute in the sense that they are not defined relative to any summary measure of income for the population as a whole.

Even absolute poverty lines are rarely cast in stone in the sense that they are completely unchanging over time. Poverty lines may be updated to reflect changes in the overall standard of living and expectations in society. Many people view it as unreasonable that what was accepted as a minimum standard of living fifty years ago should also be accepted today. A purely relative measure is one that is defined as a certain fraction of some central summary statistic, for example the mean or median of population incomes. Thus, the poverty line may be a set percentage of mean income. Alternatively, given that income is rarely symmetrically distributed, a certain percentage of median income may be chosen. The adoption of such a measure does not amount to measuring inequality, although the poverty index in this case will only change if there is a change in the income distribution; nor does it necessarily mean that "the poor are always with us".<sup>[3]</sup>

However, the choice of a poverty line does not have to be so stark between absolute or relative. It is possible to choose a hybrid between the two.<sup>[4]</sup>

### **AGGREGATION OF POVERTY**

Once the decision has been made regarding the choice of poverty line, the choice of aggregator arises. This can range from a simple count of the numbers of units below the poverty line to more complicated measures which take account of the distribution of income amongst the poor. Broadly, three classes of aggregator can be identified as follows: headcount measures, gap measures and weighted gap measures. Suppose the number of people with incomes less than or equal to  $z$  is given by  $q$ . If the total number of people in the community is  $n$ , the first poverty measure is  $H$ , known as the *Headcount Ratio*, where

$$H = \frac{q}{n}.$$

[3] See Atkinson, 1975

[4] Foster (1998) has suggested the adoption of a weighted geometric average of a relative and an absolute threshold,  $z = z^p z^{\frac{1-p}{s}}$  where  $0 < p < 1$ . This form of line has the property that a one per cent increase in the central measure of income leads to a  $p$  per cent increase in the poverty line. Thus  $p$  is the income elasticity of the poverty line and as Foster expresses it, the absolute/relative debate now becomes a question of "how relative?" with  $p$  the relevant decision variable. For example, if the poverty line is to be central in the setting of income support payments, the choice of  $p$  may decide the extent to which the poor share in economic growth. But how is  $p$  chosen? Ultimately this is a normative question and as such there is no 'right or wrong' answer.

The deficiencies of  $H$  as a poverty measure have been well documented. It takes no account of the depth of poverty in that someone just below the poverty line has the same weight as the very poorest of the poor. It also fails to obey the *principle of transfers*, that is a transfer of income from a poor person to a rich person does not increase  $H$ . Indeed, if the recipient of the transfer is just below the poverty line and the transfer raises him just above the poverty line, the transfer will have *reduced* poverty. This gives rise to the situation where the most effective means of reducing measured poverty is to target the comparatively best-off of the poor.<sup>[5]</sup> Despite these drawbacks, the headcount ratio is still perhaps the most widely quoted poverty measure, probably because of the ease of interpretation – an important factor when trying to make poverty measurement relevant to policy-makers.

If the desire is to take account of the depth of a poor person's poverty, the income gap  $g_h = z - y_h$  can be examined, where  $g_h$  is the gap for household  $h$  and  $y_h$  is its income.<sup>[6]</sup> While the income-gap ratio takes account of the depth of poverty, it does not tell us how many people are poor; and, since it also does not obey the principle of transfers, it does not take account of the distribution of income amongst the poor.

The problems associated with the headcount and the income-gap ratios led to the development of distribution-sensitive measures of poverty, whereby the poverty index is a sum of the weighted gaps for each poor household. Sen (1976) originally proposed that the weight for each household should reflect its rank amongst the poor, with higher weights being assigned to poorer households. This approach has been largely superseded by the approach of Foster, Greer and Thorbecke (1983) who proposed that the weight on a poor household's income gap should be given not by their rank amongst the poor but by some function of the gap itself. More generally, the weight may be the gap raised to a power, but typically it is just the gap itself – that is, raised to a power of one.<sup>[7]</sup> While this measure probably has the most attractive theoretical properties, it suffers from the fact that the statistic on its own has no clear intuitive interpretation and thus is only of use on a comparative basis.

Some authors have questioned the approach of identifying the poor solely as those below the poverty line, since it awards an importance to the choice of poverty line that

[5] For a discussion of this in the context of poverty alleviation in developing countries, see Collier and Dollar (2002).

[6] Then the overall distance of the incomes of the poor from the poverty line can be measured by an aggregate gap measure.

Thus if  $\mu_p$  is the mean income of the poor population, the income-gap ratio  $I = \frac{z - \mu_p}{z}$  reflects the average shortfall of the incomes of the poor expressed as a share of the poverty-line income  $z$ .

[7] Their class of measures which are often referred to as the class  $P_\alpha$  can be written as  $P_\alpha = \frac{1}{n} \sum_{h \in H} g_h^\alpha$ . Thus when  $\alpha = 0$ ,  $P_\alpha = H$ , the headcount ratio, while if  $\alpha = 1$  we have  $P_\alpha = HI$ , the per capita income-gap. Most usually  $\alpha = 2$  and so the measure is the sum of the squared gaps divided by the total number of households.

may not be warranted. For example, in many respects the standard of living of a household just below the poverty line and that of one just above the poverty line may be indistinguishable. Yet, the first household is 'poor' while the second is not. Many commentators have suggested that poverty is not a discontinuous phenomenon which ceases as soon as a household's income goes above the poverty line. As Deaton puts it: "Perhaps the best poverty line is an infinite one; everyone is poor but some a good deal more than others, and the poorer they are the greater the weight they should get in measuring welfare and in policy evaluation"<sup>[8]</sup>.

It is also clear from the above review that poverty analysts have a considerable range of choice as to how they measure poverty. Perhaps more pointedly it raises the possibility that results obtained will be sensitive to the choice of poverty line and/or index chosen. This issue has been addressed by Atkinson (1987) and Shorrocks (1995). Rather than comparing specific poverty measures for two income distributions, they examine whether *dominance* relations hold in the sense that one income distribution would be ranked as having more poverty than another distribution for all poverty measures satisfying certain properties (this approach can encompass both the issue of the poverty line and the method of aggregation). Of course, when dominance relations *do not* hold, it is always possible to find different poverty measures which will rank the two distributions differently and the choice of poverty line/measure becomes crucial again.<sup>[9]</sup>

Before reviewing published work on poverty in Ireland there is one further approach to measuring poverty which is worthy of mention. This method has its roots in the influential work of Townsend (1979) and rests on the idea that, if people are so deprived as to lack the resources to participate in the customary activities in society and thus in some sense are excluded from society, then they may be regarded as being in poverty. The key is to identify these goods/activities and to assign a 'score' to each household.<sup>[10]</sup> Households are considered to be poor in this sense if their deprivation score exceeds a given threshold.<sup>[11]</sup> This approach is partly motivated by the observation that not all households which are defined as income poor in the sense outlined above appear to be excluded or deprived. Similarly some households which are not income poor appear to be excluded and/or deprived.

This measure is of particular relevance for Ireland since it is very close to the definition of poverty employed in the National Anti-Poverty Strategy.

[8] See Deaton, 1997, p. 144.

[9] See Madden and Smith (2000) for an application of poverty dominance to Irish data.

[10] Madden (2000) uses the income elasticity of these goods as a measure for  $\rho$ , the income elasticity of the poverty line and obtains a value of around 0.5.

[11] See Nolan et al. (2002) for a more detailed account.

The next section reviews published work in Ireland in the area of poverty. The review confines itself to research based on nationally representative samples and thus does not cover many valuable, small-scale studies which have been carried out.<sup>[12]</sup>

## THE EVOLUTION OF POVERTY IN THE 1990s

As stated in the introduction, the main source of published work on poverty in Ireland in the recent past has been the series of books, reports and articles produced by the ESRI.<sup>[13]</sup> This body of work has made an enormous contribution using the *Living in Ireland* survey and its predecessor, the *Survey of Income Distribution, Poverty and Use of State Services*. The *Living in Ireland* survey also comprises the Irish part of the *European Community Household Panel (ECHP)* dataset which conducts harmonised longitudinal (following the same households over time) surveys within the EU. Thus, it is ideally suited for comparison purposes with other countries in the European Union.

Table 1 below reproduces the headcount ratio for individuals for three different relative poverty lines. This data is taken from Table 3.2 in Nolan et al. (2002) using what the ESRI term equivalence scale C, whereby the first adult in a household takes a value of 1.0, each additional adult takes a value of 0.7 and a child (aged under 14 years) takes a value of 0.5. The poverty line is based upon the average of income within a household.

**TABLE 1: PERCENTAGE OF PERSONS BELOW MEAN RELATIVE INCOME POVERTY LINES, LIVING IN IRELAND SURVEYS 1987, 1994, 1997, 1998 AND 2000**

Poverty Line	Percentage of Persons below Line					
	1987	1994 (1)	1994 (2)	1997	1998	2000
40% mean income	11.8	10.7	6.8	8.1	8.8	10.0
50% mean income	21.8	22.7	18.8	18.2	19.5	20.8
60% mean income	32.2	35.2	29.4	30.7	29.1	29.8

Source: Callan et al (1996), Nolan et al (2002).

Two figures for 1994 are included. 1994 (1) refers to the figures for 1994 contained in Callan et al (1996), while 1994 (2) refers to the 1994 figures in Nolan et al (2002).

[12] For an example of some of this work see the Combat Poverty Agency website <http://www.cpa.ie/>

[13] For a representative sample of this work see Callan et al (1996), Nolan et al (2002) and the references therein.



There is a clear discontinuity, but both figures are included so that some assessment can be made regarding the change between 1987 and 1994.

The results show that, following a fall in poverty between 1987 and 1994, over the 1994-2000 period relative poverty rose for the lowest and second lowest poverty line and marginally increased for the highest poverty line. There are a number of remarks which should be made.

First, since these results are based upon sample data, there are associated standard errors. Therefore, it is important to know whether changes in poverty are statistically significant or have come about owing to sampling variation. Unfortunately, the ESRI do not report standard errors in their tables and it is therefore not possible to assess the reliability of their results. In the case of large changes in poverty – the change in the headcount ratio from 6.8% for the 40% poverty line in 1994 to 10.0% in 2000 – the likelihood is that the change is statistically significant, but it is essential that such results are formally confirmed.

Secondly, and as explained above, changes in poverty measures which are based upon a purely relative poverty line will only come about via a change in the income distribution. Thus, the results in Table 1 do not tell us whether the individuals reported above as being in poverty experienced a real increase in their standard of living.

Following on from this, as Nolan et al (2002) point out, a purely relative poverty line may be the most preferable alternative, but it can be misleading during an era of exceptionally high growth as was the case in Ireland for the 1994-2000 period. This is confirmed below in Table 2 which shows the change in poverty when an absolute poverty line based on a 1994 relative income standard is used.

**TABLE 2: PROPORTIONS OF PERSONS BELOW 1994 RELATIVE INCOME STANDARDS, 1994, 1997, 1998 AND 2000 LIVING IN IRELAND SURVEYS**

Real Income Standard	Percentage of Persons Below Line			
	1994	1997	1998	2000
40% line	5.2	2.3	1.2	1.1
50% line	17.4	7.8	5.6	3.0
60% line	30.4	17.3	12.1	8.6

Source: Nolan et al (2002).

These figures clearly reflect the improvement in living standards following from the recent high growth period.

As stated previously, the headcount ratio, while informative in some dimensions, also suffers from a number of deficiencies, particularly in its inability to pick up the depth of poverty. Tables 3 and 4 below show poverty over the 1994-2000 period using a gap and a weighted gap measure – the latter taking account of the distribution of income among the poor.

These Tables are not strictly comparable with Tables 1 and 2 since the poverty lines used here are a fraction of median as opposed to mean income.

**TABLE 3: PER PERSON INCOME GAPS USING MEDIAN-BASED POVERTY LINES, 1994, 1997, 1998 AND 2000 LIVING IN IRELAND SURVEYS**

Poverty Line	Percentage of Persons Below Line			
	1994	1997	1998	2000
50% median	0.0090	0.0146	0.0184	0.0252
60% median	0.0238	0.0347	0.0406	0.0507
70% median	0.0510	0.0644	0.0688	0.0790

**TABLE 4: DISTRIBUTION SENSITIVE WEIGHTED GAP MEASURE USING MEDIAN-BASED POVERTY LINES, 1994, 1997, 1998 AND 2000 LIVING IN IRELAND SURVEYS**

Poverty Line	Percentage of Persons Below Line			
	1994	1997	1998	2000
50% median	0.0027	0.0049	0.0063	0.0083
60% median	0.0067	0.0108	0.0132	0.0173
70% median	0.0147	0.0120	0.0242	0.0300

Source: Nolan et al (2002).

Recall that the measure in Table 3 is the average over all poor people of the shortfalls below the poverty line. Thus this measure takes account not just of the number of poor people, but also *how poor* they are, in terms of the gap between their income and the poverty line. Table 4 is similar to Table 3 except that the weight attached to each poor household's shortfall is an increasing function of the size of that gap.

Once again evaluation of these Tables is hampered by a lack of standard errors, but there does seem to be evidence of an increase in poverty over the period. The one exception appears to be between 1994 and 1997 for the poverty line based upon 70% of median income. Here there is an increase in poverty as measured by the income gap, but the distribution sensitive measure shows a fall, indicating a change in income distribution amongst the poor.

How do these figures compare with the situation in the rest of Europe?

**TABLE 5: POVERTY RATES FOR 60% OF MEDIAN-EQUIVALISED INCOME FOR THE EU MEMBER STATES, 1997 AND 1998**

Country	1997	1998
Austria	13	13
Belgium	15	16
Denmark	8	9
Finland	8	n.a.
France	16	18
Germany	15	16
Greece	23	22
Ireland	20	17
Italy	19	20
Netherlands	11	12
Portugal	24	20
Spain	20	19
Sweden	9	10
UK	22	21
EU	17	18

Source: Eurostat

Table 5 shows that Ireland was above the EU average in 1997 but below it in 1998. It also reveals a fairly clear distinction between the Nordic countries of Denmark, Sweden and Finland who all have poverty rates in single figures and the more southerly European countries such as Greece, Portugal and Spain. Ireland is

amongst the countries in between, but clearly nearer the southern than Nordic countries.

### **INCOME VERSUS CONSUMPTION MEASURES**

As mentioned above, income is not the only measure of household resources, nor is the location of a household below a poverty line the only means of identifying poverty. Poverty can also be examined using consumption as the measure of resources, or alternatively, the deprivation approach associated with Townsend.<sup>[14]</sup>

The infrequency with which the HBS is carried out in Ireland means that analysis of poverty on the basis of consumption is quite limited. In Table 6 the headcount ratio for 1987 and 1994 is reported for three different definitions of household resources as follows:<sup>[15]</sup>

- (a) income as measured by *Living in Ireland* and the earlier *Survey of Income Distribution, Poverty and Use of State Services*;
- (b) income as measured in the HBS; and
- (c) consumption as calculated from the HBS.<sup>[16]</sup>

These figures are taken from Callan et al (1996) and Madden (1999). It should be noted that, to ensure comparability between the results, it is the percentage of households below the poverty line, not the percentage of individuals. Madden's calculations from the 1987 and 1994 HBS also calculated the relevant standard errors and the asterisks for 1994, Income, HBS, for the 40% and 60% poverty lines indicate that the difference from the corresponding measure in 1987 is statistically significant at the 99% level.

Table 6 shows that poverty developments as calculated by income do not always conform with those as calculated by consumption. Developments in income poverty are broadly the same regardless of whether the ESRI or HBS surveys are used. However, using the lowest of the poverty lines, one sees a fall in poverty which is statistically significant using HBS income (and accords with ESRI income). Yet, as measured by consumption one sees a rise, albeit not statistically significant. Madden speculates that the discrepancy between income-based poverty and consumption-based poverty may be due to greater consumption smoothing among poor households

[14] See Townsend, 1979.

[15] For another analysis of this issue see O'Neill and Sweetman (1999) who compare both inequality and poverty using measures of income and consumption. They find there can be quite considerable differences between those households deemed as "income-poor" and those deemed as "consumption-poor".

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in the 1987-94 period, perhaps reflecting an element of precautionary saving at the beginning of the recent economic boom. Proper analysis of this issue must await the availability of the 1999 HBS in micro format. In the meantime, it is well to be aware that income and consumption-based poverty measures can sometimes tell different stories. It should also be borne in mind that, even if *overall* poverty rates are similar for income and consumption, the particular households identified as poor may be different (see footnote 15).

**TABLE 6: PROPORTIONS OF HOUSEHOLDS BELOW 1987 AND 1994 POVERTY LINES, 1987, 1994, ESRI, *LIVING IN IRELAND* SURVEYS AND *HOUSEHOLD BUDGET SURVEY***

Poverty Line	Percentage of Households Below Poverty Line					
	1987 Income (ESRI)	1987 Income (HBS)	1987 Cons. (HBS)	1994 Income (ESRI)	1994 Income (HBS)	1994 CONS. (HBS)
40% mean	8.9	7.3	9.9	7.0	6.2**	10.8
50% mean	17.6	16.3	19.6	16.9	16.8	20.1
60% mean	27.7	27.1	29.5	33.3	31.3**	30.2

Source: Callan et al (1996) and Madden (2000).

What about poverty analysis based upon the deprivation approach of Townsend? Both Callan et al (1996) and Nolan et al (2002) analyse this for Ireland using the *Living in Ireland Survey*. In choosing goods the absence of which indicate various degrees of deprivation, they look at items which were identified as being necessities by a majority of the population and also possessed by a majority of the population.<sup>[17]</sup> They constructed three dimensions of deprivation from the 1994 survey in that they identified three distinct groups defined by those items that are more highly correlated with each other than with the other items. The three dimensions so identified are: (i) basic lifestyle deprivation consisting of basic items such as food and clothes; (ii) secondary lifestyle deprivation consisting of items such as a car, telephone and leisure activities; and (iii) housing deprivation consisting of items related to housing quality and facilities. Remarkably, when carrying out the same analysis for the 2000 survey, they found that broadly speaking the same goods were included in each dimension.

They then defined what they term *consistent poverty* which is the situation where a family is both income poor and poor as indicated by the presence/absence of one of

[17] Note for a household to be 'deprived' it must be the case that the deprivation in question is enforced through financial circumstances and does not arise owing to household tastes.

the eight basic lifestyle deprivation indicators. Table 7 below shows the evolution of this consistent poverty over the 1994-2000 period.

These figures echo those of Table 2 in that they show the improvement in living standards in recent years. However, as Nolan et al (2002) point out, it may be the case that the set of deprivation indicators employed for the 1994-2000 period may have to be updated when looking at poverty targets for the medium term, although they acknowledge how "well" the original set of indicators identified in the 1994 survey performed in the 2000 survey.

**TABLE 7: PERCENTAGE OF PERSONS BELOW PROPORTIONS OF MEDIAN INCOME AND EXPERIENCING BASIC DEPRIVATION IN 1994, 1997, 1998 AND 2000 LIVING IN IRELAND SURVEYS**

Poverty Line	Percentage of Persons Below Line and Experiencing Basic Deprivation			
	1994	1997	1998	2000
50% median	3.5	5.2	3.6	3.1
60% median	8.3	7.8	6.1	4.4
70% median	14.5	10.7	8.0	5.5

Source: Nolan et al (2002).

## CONCLUSION

This article has indicated the scope of research into poverty carried out in Ireland over the last fifteen years or so. The results show that in terms of overall living standards there has been a substantial fall in poverty, as would be expected given the rapid growth in recent years, and this is surely a very welcome development. However, the data also show that when poverty is measured using a poverty line which itself has increased in line with economic growth, then measured poverty appears to have increased. What this essentially reflects is that during the boom of recent years changes in the distribution of income have not been in favour of those on low incomes. While economic theory is relatively agnostic about the impact of economic growth on inequality, significant increases in relative income poverty would not be welcome, as there is the danger that they would exacerbate the extent to which people on low incomes are excluded from participation in society.

The data also show that consistent poverty (i.e. relative income poverty plus deprivation in the sense of not having access to various key goods or activities) has also fallen substantially over the last decade.

What about future research into poverty in Ireland? The following is a list of issues – by no means exhaustive – that future research might like to address:

- How much of the improvement in absolute and consistent poverty over the recent period can be accounted for by improvements in macroeconomic conditions in general and how much by specific policy interventions?
- What is the degree of correspondence between those households identified as poor via the three possible measures of resources viz. income, consumption and deprivation? This would extend the work of O'Neill and Sweetman (1999) and could only be carried out using the HBS. In general, greater analysis using the HBS would be welcome as it remains an underused resource in this area.
- More analysis on what happens within households as well as what happens across households
- Greater integration between measures of poverty and other measures which clearly impact upon personal welfare such as health.

In some cases preliminary work in these areas has already begun. Even though macroeconomic developments in the medium term will not be as favourable as in recent years, it is to be hoped that research into poverty and welfare will expand in both breadth and depth.

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