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## Reassessing Income and Deprivation Approaches to the Measurement of Poverty in the Republic of Ireland

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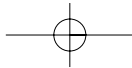
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*Abstract:* This paper reassesses the validity of a poverty measure combining relative income and non-monetary deprivation indicators, first developed and applied to Irish data for 1987, in the light of experience since then and current debates. A crucial issue is whether the measure has failed to capture fundamental changes in living patterns and expectations. A range of analyses confirm that it continues to identify a set of households experiencing distinctive levels of generalised deprivation, economic strain, psychological distress and exposure to persistent income poverty.

### I INTRODUCTION

The most widely used approach to measuring poverty in industrialised countries relies entirely on income, often comparing household income as reported in large-scale surveys with a threshold derived as some proportion of mean or median income. Poverty is now widely conceived in terms of exclusion from the ordinary life of society due to lack of resources, and current income may be a seriously inadequate indicator of such exclusion. Recognising this, a poverty measure was developed in the Economic and Social Research Institute (ESRI) in the early 1990s, incorporating both relative income and non-monetary measures of deprivation. This has played a central role in subsequent domestic analysis and policy formation and has also received a good deal of attention internationally.<sup>1</sup> Over Ireland's period of unprecedented

<sup>1</sup> Andreß (1998); Gordon *et al.* (2000); Gordon and Townsend (2000); Hills (1999); O'Boyle (1999).



economic growth since 1994, this measure shows a very different pattern to conventional poverty measures based on relative income alone. It is, therefore, timely to reassess this approach in the light of experience.

In this paper we revisit the underlying rationale for the approach, assess how it has actually performed, and draw out the implications for poverty measurement. We begin by describing the conceptual underpinnings and the way the combined income plus deprivation poverty measure was originally constructed. This brings out the core finding that underpinned its development, that the cross-sectional relationship between income and deprivation is much weaker than often implicitly assumed. We contrast trends in alternative poverty measures since 1987 and in particular since Ireland's remarkable boom got under way in 1994. We then assess the validity of the combined income and deprivation measure over time, and consider whether the indicators of deprivation currently included now need to be extended. Finally, we bring together the conclusions.

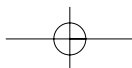
## II MEASURING POVERTY

One of the valuable functions of the Irish National Anti-Poverty Strategy has been to articulate an explicit official definition of poverty:

People are living in poverty if their income and resources (material, cultural and social) are so inadequate as to preclude them from having a standard of living which is regarded as acceptable by Irish society generally. As a result of inadequate income and resources people may be excluded and marginalised from participating in activities which are considered the norm for other people in society. (National Anti-Poverty Strategy, 1997, p. 3).

This has much in common with Townsend's influential formulation in his seminal 1970s book on poverty in Britain, and with the definition adopted at European Community level by the Council of Ministers in the mid-1980s. It is this definition which we seek to implement empirically in what follows.

The approach most commonly used to measure poverty in industrialised countries is to define a poverty line in terms of income, and regard those with incomes below that line as poor. Many different ways of establishing an income cut-off have been proposed, including by reference to budget standards, food expenditure or its ratio to total expenditure, official income standards, and views in the population. None of these avoid a significant element of judgement (for a review see Callan and Nolan, 1991). The relative income poverty line approach is most widely used, both in academic studies and in European Union discourse (e.g. Eurostat, 2000). It involves deriving poverty



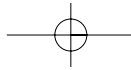
line incomes as fixed proportions of mean or median incomes, with thresholds such as 40 per cent, 50 per cent, 60 per cent or 70 per cent of median or mean income being used.

This method in itself leaves entirely open the percentage cut-off to be applied, but it also faces a more fundamental problem. As pointed out some years ago by Ringen (1988), analysis of direct measures of deprivation suggests that low income is not in fact a reliable measure of exclusion arising from lack of resources. He illustrated this argument with data for Sweden, but the results were consistent with a variety of other studies showing that ownership of durables, for example, is not particularly low at the bottom of the income distribution (e.g. McGregor and Borooah, (1992) for the UK). The same conclusion was supported by analysis of a broader range of indicators for Irish households from the survey carried out by the ESRI in 1987. The first study based on this data (Callan *et al.*, 1989) noted the extent to which deprivation scores varied across households at similar income levels. Deprivation scores for those below relative income poverty lines were higher than for other households on average, but significant numbers of the income-poor had relatively low deprivation scores. Subsequent regression analysis of the determinants of deprivation showed that, while current income does play a role, other indicators of longer-term resources and needs were also important (Nolan and Whelan, 1996a). When these variables were included, the ability to explain deprivation scores was greatly enhanced.

How are we to understand this finding and its implications? To provide a framework, it is necessary to incorporate both theoretical considerations and the very real difficulties in measuring the theoretical concepts involved (see the discussions in, for example Atkinson *et al.* (2001) and Mayer (1993)).<sup>2</sup> Focusing first on the key relationships at the conceptual level, a household's level of relative deprivation will depend crucially on its command over resources and its needs compared with others in the same society. (While our focus here is on deprivation rather than living standards more generally, similar arguments apply.)

While current disposable cash income is a key element in the resources available to a household, it is by no means the only one. The importance of the time dimension has been brought out by the income fluctuations seen in panel data sets (for example Jarvis and Jenkins, (1998)). Savings accumulated in the past add to the capacity to consume now, and servicing accumulated debt reduces it. Income measured over a number of years is thus likely to be a better indicator of long-term or "permanent" income than a measure for one

<sup>2</sup> This framework and subsequent discussion is also helpful in considering issues raised in a review published in this journal by Walker (1996) of Nolan and Whelan (1996a).

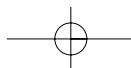


year only. Since consumption cannot always be fully smoothed over time and households take time to adjust to income “shocks”, shorter-term income is still important but needs to be set in the context of the way income has evolved over time. Similarly, the level of past investment in consumer durables influences the extent to which resources must be devoted to expenditure on such durables now. The most substantial investment made by many households is in owner-occupied housing, and the flow of services from this investment – the imputed rent – should in principle be counted among available resources but very often is not. Non-cash income – in the form of goods and services provided directly by the State, notably health care, education and housing – may also comprise a major resource for households.

Turning to needs, these also differ across households, in a manner which is difficult to capture adequately at the conceptual much less empirical level. Most obviously, differences in household size and composition, in terms of numbers of adults and children, affect the living standards a particular level of income will support. It is customary to seek to take this into account by dividing household income by the number of “equivalent adults” in the household, but the equivalence scales employed may or may not satisfactorily achieve this objective. Households may also vary in a variety of other ways that affect the demands on their income, such as the ages of the adults and children and their health status. Capturing the implications of chronic disability for needs is particularly difficult. Work-related expenses such as transport and childcare may also affect the net income actually available to support living standards and avoidance of deprivation. Finally, geographical variation in prices may mean that the purchasing power of a given income varies across households depending on their location.

Focusing on measurement, we cannot of course be certain that income itself has been measured comprehensively and accurately at a point in time. Household surveys – on which poverty research generally relies – face (intentional or unintentional) misreporting of income. They also find it particularly difficult to adequately capture income from self-employment, from home production, from capital, and from the imputed rent attributable to homeowners. One would be particularly concerned about the reliability of very low incomes observed in surveys – particularly in countries with what are thought to be effective social safety-nets – but other incomes may also be mismeasured to an unknown extent.

These conceptual and measurement considerations mean that it may well be hazardous to draw strong conclusions about whether a household is poor – unable to reach an acceptable standard of living due to lack of resources – from current income alone. This provides the essential rationale for seeking to measure levels of deprivation directly, and seeing whether these measures can

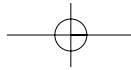


assist in improving the measurement and understanding of poverty. (There are of course alternative responses, which we discuss shortly.) Townsend (1979) and Mack and Lansley (1985) pioneered the use of non-monetary indicators of deprivation in this context, and other studies in that vein include Townsend and Gordon (1989), Frayman *et al.* (1991) and Gordon *et al.* (1995) with British data, Mayer and Jencks (1988) with US data, Muffels and Vrien (1991) using Dutch data, and Hallerod (1995) with data for Sweden. These studies used non-monetary indicators either to directly identify the poor, or to derive an income threshold for that purpose.

Callan, Nolan and Whelan (1993) and Nolan and Whelan (1996a and b), by contrast, used Irish data for 1987 to implement Ringen's (1987) proposal that information on both income and deprivation be used to identify households excluded from society due to lack of resources: since both living standards and resources are central to the definition of what constitutes poverty, they should also both be incorporated into its measurement.<sup>3</sup> In the light of the previous discussion it is easy to see what such non-monetary indicators can contribute. For example, where income is currently genuinely low, but this is unusual for the household and savings can be run down, non-monetary indicators should suggest a higher standard of living than income. The same will be true where income has been misreported as low. Where the household benefits more than others on their income level from non-cash support from the state, this should enable them to attain a higher standard of living and should again be reflected in lower levels of deprivation, *ceteris paribus*. Where a household faces particular needs which act as a drain on income, due to disability for example, then once again deprivation levels as reflected in non-monetary indicators should be higher than others on the same income. Where prices are considerably higher in one part of the country than another, lower levels of deprivation for those in the low-cost regions should again in principle be reflected in appropriate non-monetary indicators.

The challenge, of course, is to empirically identify and employ indicators that come as close as possible to fulfilling this potential, and to use them in a way which maximises the probability that they capture genuine differences in levels of deprivation rather than choices and tastes. In the 1987 Irish survey, direct information was available for a range of items and activities on whether households regarded each as a necessity, whether they did or did not have the item or participate in the activity, and if not whether this was because they could not afford or did not want it. The aim was to select those that would best

<sup>3</sup> Note that if one's conception of poverty is concerned with the right to a minimum level of resources, on the other hand, as Atkinson (1987) points out, the fact that people with the same level of resources may have different standards of living is irrelevant.

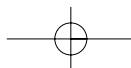


serve, together with income, as indicators of generalised exclusion. Factor analysis revealed three underlying clusters of items. The “basic deprivation” cluster included not being able to afford heating, a substantial meal once a day, new rather than second-hand clothes, a meal with meat, chicken or fish every second day, a warm overcoat, two pairs of strong shoes, a “roast” or equivalent once a week, and falling into arrears or debt paying everyday household expenses. All these items were perceived to be necessities – that is, “things that every household should be able to have and that nobody should have to do without” – by a clear majority of sample respondents.<sup>4</sup> They were also possessed by most people, and reflected what would generally be regarded as rather basic aspects of current material deprivation. The fact that they clustered together was also consistent with the notion, plausible from the nature of the items themselves, that they represented a common dimension of generalised deprivation in terms of everyday consumption.

On this basis, this set of items were taken to be suitable as indicators of underlying generalised deprivation. Most of the items in the secondary dimension, by contrast – such as a car or a telephone – were not then overwhelmingly regarded as necessities. The housing and related durables indicators, while generally regarded as necessities, appeared to be related to very specific factors such as private rented tenure or rural location, and so were not satisfactory as indicators of current generalised exclusion. (Hagenaars (1986) came to the same view about these housing-related indicators at European level.)

But how could we be reasonably sure that basic deprivation reported by households was due to what would be generally accepted as lack of resources rather than simply tastes and preferences? First, subjective assessments by respondents were employed: deprivation was regarded as enforced only when respondents stated that they did not have the item in question because they could not afford (rather than did not want) it. These subjective assessments have to be interpreted with care: some persistently low-income households may simply have grown accustomed to doing without, while some households on high incomes may nonetheless say they cannot afford basic items because they have in effect prioritised other spending. However, those doing without basic items and saying this was by choice had similar mean incomes to those who actually had the items, so for the most part they are unlikely to represent what would be generally regarded as enforced lack. We then excluded higher-income households by taking only those reporting some enforced deprivation *and* with incomes below relative income poverty lines as experiencing

<sup>4</sup>The “roast or equivalent” item was regarded as a necessity by 64 per cent of the sample, and for all the other items the corresponding figure was 84 per cent or higher. The patterns of responses did not differ greatly across the age range or by social class (Nolan and Whelan, 1996a).



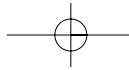
generalised deprivation or exclusion due to lack of resources – in other words, as poor.

Implementing this approach was seen to have major implications for both the extent and the composition of measured poverty. Only about half the households falling below 60 per cent of average disposable (equivalised) income in 1987 were also experiencing basic deprivation (that is, reporting enforced lack of one or more of the eight items), accounting for about 16 per cent of sample households. They were more likely to be drawn from the working class, and less likely to be self-employed or farm households, than the bottom 16 per cent of the sample on the basis of income alone. Households that were “consistently poor” were also seen to be considerably more likely to report both serious difficulty in making ends meet and psychological distress, and to have much lower levels of savings.<sup>5</sup>

The relationship between income and deprivation found for Ireland is not attributable to features specific to Ireland, or to the way income and deprivation were measured: rather similar patterns are found for other European Union countries in the data provided by the European Community Household Panel Survey (see Layte, Maitre, Nolan and Whelan 2001; Layte, Whelan, Maitre and Nolan, 2001). This has also led to the development in other countries of approaches using income together with other information to identify the poor. Bradshaw and Finch (2001), for example, seek to refine the definition of poverty with British data by considering the subset of those below the financial cut-off who are also classified as poor by other criteria: the “core poor”. Lollivier and Verger (1997) examine the overlap between poverty in terms of living standards, monetary poverty, and subjective poverty in France. The Austrian National Anti-Poverty Strategy also highlights a measure combining income and a small set of non-monetary indicators.

While the limitations of cross-sectional income in this respect are increasingly recognised, alternative approaches such as focusing on consumption or on income over a number of years do not offer an entirely satisfactory way of accurately identifying those experiencing exclusion due to lack of resources. Studies such as McGregor and Borooah, (1992), Hagenars, de Vos and Zaidi, (1994), and O'Neill and Sweetman (1998) have explored the use of household expenditure rather than income in measuring poverty, on the basis that consumption is likely to be a better indicator of standard of living than income. However, these are based on expenditure as measured in household budget surveys, which is not the same as consumption. The amount spent in a fortnight (the usual recording period) may differ from consumption in that households run down stocks, purchase consumer durables, etc., and low

<sup>5</sup> For a detailed discussion see Nolan and Whelan (1996a) (Chapter 6).

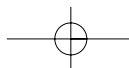


expenditure may sometimes be associated with saving. Recorded expenditure – while a very valuable addition to the information available about a household – may thus also mislead as to standard of living. Having information from panel surveys on income over a number of years rather than just a snapshot is also extremely valuable, allowing recent studies based on the ECHP to look at, for example, the proportions persistently below relative income thresholds for three years (OECD, 2001). However, even leaving measurement problems aside one could not be confident that only those persistently on low income are likely to be poor, since smoothing of consumption over time is often difficult and a catastrophic fall in income can be enough to produce real current deprivation. Thus, longitudinal information on income – where available – can be very helpful in understanding the cross-sectional relationship between income and deprivation, but it does not tell the whole story and direct indicators of deprivation still have much to offer in identifying poor households.

Going beyond identification of the poor at a point in time, the use of relative income poverty lines to capture trends in poverty over time raises further issues for which non-monetary indicators can also be useful. While it makes sense to see poverty primarily in relative terms, concentrating entirely on relative income poverty lines will miss the serious implications of periods when average incomes and real incomes for the poor actually fall – which can happen, even in rich countries. In such circumstances, expectations will still reflect for some considerable time the higher living standards to which people have become accustomed, and even if their relative position has not deteriorated, those on low incomes will undoubtedly feel poorer. Purely relative income lines are also particularly problematic when real incomes are rising rapidly, as they did in Ireland since 1994, so that growth in incomes may for a time run ahead of the rising expectations about what is “adequate”. While employing both relative income lines and ones held fixed in real terms over time can give a more rounded picture, income lines will still find it difficult to fully reflect changes in the extent and nature of exclusion arising from inadequate resources. We go on in the next section to discuss how incorporating non-monetary indicators allows a more comprehensive picture to be presented of the evolution of poverty in Ireland in recent years.

### III RECENT TRENDS IN POVERTY IN IRELAND

By providing a different perspective on the profile of the poor and the causal processes involved, the combined income and deprivation approach has influenced the way poverty is understood and policy formulated in Ireland,





and indeed the way policy objectives have been framed. Following the United Nations Social Summit in Copenhagen in 1995, the Irish Government drew up a National Anti-Poverty Strategy (NAPS) launched in 1997. Research employing the combined income and deprivation approach contributed to various aspects of the initial Anti-Poverty Strategy, including the underlying understanding of the causal processes and the types of households who are most vulnerable. In terms of explicit targets, the centrepiece of the Strategy was a global target for the reduction of poverty, framed in terms of the poverty measure incorporating both relative income and direct measures of deprivation (NAPS, 1997).

We now describe how alternative poverty measures have evolved since 1987. The measures we employ at this point are a relative income line set at 50 per cent of mean equivalised income, a real income measure based on the level of the 50 per cent relative line in 1987 and indexed subsequently to consumer prices, and the consistent poverty measure identifying those falling below 60 per cent of mean equivalised income and experiencing some basic deprivation, using the set of basic items outlined earlier and unchanged from 1987.

Between 1987 and 1994 Ireland experienced real if patchy economic growth after years of stagnation, but from 1994 on remarkably high and sustained rates of economic growth have been seen. Unemployment had reached 17 per cent of the labour force by 1987 and was still as high as 15 per cent by 1994, but subsequently fell rapidly, down to 7.8 per cent by 1998. However, this economic growth translated into rather different outcomes for households depending on whether they were (or remained) dependent on cash transfers because social welfare support rates, while increasing well ahead of prices, did not keep pace with the very exceptionally rapid rise in incomes from the market. This turns out to be critical to understanding the divergence in the way alternative measures of poverty changed over the period.

Table 1 shows the way these poverty measures evolved, using data from the household surveys carried out by the ESRI in 1987, 1994 and 1998. (These data sets and results are fully described in Callan *et al.* (1989), (1996) and (1999) and Layte, Nolan and Whelan (2000), and a summary description of the surveys is given in the Appendix). Between 1987 and 1994, the proportion of households below the 50 per cent relative income poverty line rose from 16 per cent to over 18 per cent. From 1994 to 1998, despite very rapid economic growth and falling unemployment, this figure rose to about 25 per cent. A similar pattern is found with alternative equivalence scales or using 60 per cent of the median rather than 50 per cent of the mean.

Table 1: *Percentage of Households Below Alternative Poverty Standards, Ireland 1987, 1994 and 1998*

<i>Poverty Standard</i>	<i>Percentage of Households Below Line</i>		
	<i>1987</i>	<i>1994</i>	<i>1998</i>
50 per cent of mean income	16.3	18.6	24.6
50 per cent of mean income in 1987, indexed to prices	16.3	5.0	1.7
60 per cent of mean income and basic deprivation	16.0	15.1	8.2

These relative income lines have of course risen substantially in real terms, given the scale of economic growth over the period. The table then shows how many households fell below an income standard set at 50 per cent of mean equivalised income in 1987 and adjusted upwards only in line with prices from then on. This figure declined very sharply, from 16.3 per cent in 1987 to 5 per cent in 1994 and finally to about 2 per cent in 1998. Thus, in a period of rapid though uneven income growth, relative income and real income poverty lines provide radically different perspectives on the evolution of poverty.

Turning now to the combined income and basic deprivation measure, we can see that the percentage of households below the 60 per cent relative income lines and experiencing enforced basic deprivation declined only marginally from 16 per cent to 15 per cent between 1987 and 1994 but then fell sharply to 8 per cent by 1998. So the combined income and deprivation approach suggests a marked decline in poverty since 1994, albeit a more modest one than indicated by income lines simply held constant in real terms.

This reflects substantial reductions in levels of deprivation since 1994. Indeed, the percentage of sample households reporting enforced basic deprivation had fallen from one in three in 1987 to 13 per cent by 1998. Declining deprivation levels were seen across different types of household in terms of composition, age, social class and urban/rural location. Declines were also seen for households relying on social welfare as well as those with income from employment or self-employment. This reflects the fact that levels of social welfare support rose in real terms, rather faster than prices. These support levels lagged behind average after-tax earnings, however, which was a crucial ingredient in the increase in numbers falling behind relative income poverty lines.

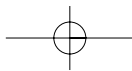
Declining deprivation levels must in themselves represent an important

development. However, they also give rise to a key question about the consistent poverty measure: as living standards rise, does the set of non-monetary indicators continue to adequately capture what is regarded as generalised deprivation? This is particularly important from a policy perspective in that the global poverty reduction target originally adopted by the National Anti-Poverty Strategy was to reduce the numbers falling below the 50 per cent or 60 per cent relative income poverty line and experiencing basic deprivation to 5-10 per cent by 2007. When results for 1997 became available and showed the progress already made by that date, this target was revised to reducing these numbers below 5 per cent by 2004. Implementing and assessing the validity of the combined income and deprivation measure over time clearly raises issues over and above those faced in a cross-sectional context, and it is to these that we turn in the next section.

#### IV EMPLOYING THE COMBINED POVERTY MEASURE OVER TIME

The combined income plus deprivation poverty measure was never intended to be a mixture of relative income and absolute or fixed deprivation indicators. The enforced absence of the basic items was seen as involving a distinctive level of deprivation, but, the intention was not to focus on the specific items making up the index as such. Instead, in employing the index, each item is acting as an imperfect measure of the underlying deprivation dimension. Thus there is no inconsistency or contradiction in the fact that many of those displaying basic deprivation had some other items going beyond the basic deprivation set – such as a video, central heating and telephone.

The set of basic items were not intended to define the standard of living of the household in either a descriptive or a normative fashion. Instead the results of the factor analysis were the starting point of a search for a measure that would allow us to identify households that are distinctive in terms of a set of characteristics that conform to our theoretical understanding of poverty. We arrive at the “consistent” poverty measure neither by reading off the results of a factor analysis nor by arbitrarily opting for an absolute standard, but rather by a process of construct validation. Fundamentally, construct validity is concerned with the extent to which a particular measure relates to other measures in a manner which is consistent with theoretical expectations – in this case, whether those identified as poor display the types of characteristics and subjective responses one would expect. It follows that the consistent poverty measure which proved acceptable in terms of these criteria in 1987 might fail to do so a decade later. In particular, the notion that expectations



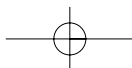
and perceptions of need will change over time as general living standards rise is central to a relative conception of poverty. The non-monetary deprivation indicators thus have to be reassessed over time in the light of improved living standards, changing perceptions about what constitutes necessities, and potential transformations in the underlying structure of deprivation.

This requires *inter alia* information about views in the population as to which items from a broad range are seen as constituting necessities. The available evidence shows that between 1987 and 1998 across the range of items available in the surveys, there has been a significant reduction in the numbers lacking items and in the extent of enforced lack. This is true of basic items such as a warm waterproof overcoat and a meal with meat, chicken or fish every second day. It is even more marked for many of the secondary items, such as central heating, a telephone, a car, a colour television and presents for friends or family at least once a year. The vast majority of households already possessed most of the housing items in 1987, but there was also a further decline in the percentage lacking those items.

Expectations about what constitutes a necessity are found to have adjusted rapidly. The numbers considering central heating and a telephone to be necessities went from under half the sample to over 80 per cent between 1987 and 1997. For car ownership the figure increased from 59 per cent to 70 per cent, and for a colour TV from 37 per cent to 75 per cent. Finally, for presents to families and friends the figure rose from 60 per cent to 73 per cent. The pattern of change in expectations thus very much mirrors the increasing extent to which these items are possessed in the society.<sup>6</sup>

It is worth focusing on five items that, between 1987 and 1997, became available to a substantial majority of households and came to be perceived as necessities by comparable numbers: central heating, a telephone, a car, a colour TV and presents for friends and families once a year. Should these additional five items now be incorporated into the basic deprivation index, and consequently in the combined income and deprivation poverty measure? The first point to keep in mind is that in 1987 there were already a set of items widely available and generally considered necessities but not incorporated in the basic deprivation index, namely those relating to housing deprivation. These items were not included in the basic index because factor analysis suggested that the basic and housing deprivation dimensions constituted quite distinct dimensions. Households suffering basic deprivation were more likely than others to suffer housing deprivation but the relationship between them was modest – many households experiencing one type of deprivation managed to avoid the other. Rather different socio-demographic factors could be at work,

<sup>6</sup> For further details see Table 4 in Layte, Nolan and Whelan (2000).



for example, a household affected by unemployment might be deprived in terms of basic food, clothing and heating but live in relatively high-quality public sector housing. Conversely, an elderly rural household might be in low-quality housing without being exposed to difficulties in relation to food, clothing or debt.

The first step in reassessing the basic deprivation measure is thus to examine if the structure of deprivation has changed. The factor analytic results for the late 1990s turn out to be remarkably similar to 1987. In particular, the additional five items on which we are focusing continue to cluster with the secondary rather than basic deprivation set.<sup>7</sup> Since these results suggest that these dimensions continue to be determined by rather different factors, the logic of our earlier argument would suggest that in the combined income and deprivation poverty measure we should restrict ourselves to the original basic deprivation items. However, the concern may persist that by failing to incorporate a range of items that are now both widely available and generally perceived to be necessities, the poverty measure could be seen as increasingly restrictive and perhaps absolutist in nature. We therefore explore what would happen if the basic deprivation index were indeed broadened to include these additional items in measuring poverty in 1998.

For this purpose we distinguish three groups of households. The first we refer to as the “poor”: households who in 1998 fall below the 60 per cent relative income line and are experiencing basic deprivation with the original set of items. The second are households fulfilling the income criterion but not the basic deprivation one, but who are suffering enforced absence of one or more of the five additional items we have identified i.e., central heating, a telephone, a car, a colour television and presents for friends and family at least once a year. This group, which we label the “poor?”, constitutes an additional 8 per cent of households. Finally, we have those households who fulfil neither criteria and whom we label the “non-poor”. Having made this distinction, we proceed to examine how these different groups of households are differentiated in terms of life-style patterns, socio-demographic composition and what one might expect to be the subjective consequences of poverty.

Table 2 shows that both these groups are differentiated from the “non-poor” in that a significantly lower proportion has cars, deep-freezers, dishwashers, annual holidays and ability to save. However, when we look at items such as being able to replace worn out furniture, a daily newspaper, having friends or family for a drink or meal once a month, presents for friends and family once a year and a hobby – reflecting broader social and communal

<sup>7</sup> See Layte, Nolan and Whelan (2000), Appendix A.

life – the “poor?” group are considerably more favourably placed than the consistently poor.

Table 2: *Percentage Possessing Certain Items, Living in Ireland Survey 1998*

	“Non-poor”	“Poor?”	“Poor”
	<i>Per Cent Having Item</i>		
Car	79.9	25.2	26.9
Deep freeze	63.9	22.3	28.6
Able to save	73.3	28.4	12.0
Holiday	66.9	18.4	7.8
Dishwasher	33.3	3.0	10.1
Furniture	81.7	55.7	19.7
Daily paper	69.4	49.0	25.1
Friends	78.9	49.8	26.6
Hobby	82.6	67.8	39.2

Some understanding of how these groups come to have different life-style profiles can be reached by examining differences in their socio-economic profiles. The “poor” are disproportionately comprised of households where the reference person is aged less than forty-five, is separated or divorced, a lone parent or working class, or where there are three or more children. They are differentiated from both the non-poor and the “poor?” by a set of factors that are likely to reflect less success in accumulating resources, weaker support networks and additional demands on available resources.

We then consider the extent to which these groups are differentiated in terms of the subjective consequences one would expect to be associated with poverty. Table 3 first shows the proportion of respondents saying their household was able to make ends meet “with great difficulty”, followed by the proportion saying they were “not at all satisfied” with their financial situation (using the responses of the household reference person). The responses of the “poor” are sharply differentiated from both the other groups. Almost four out of ten of the poor report “extreme difficulty” making ends meet, compared to only about 7 per cent of the “poor?” and 3 per cent of the non-poor. A very similar pattern emerges in relation to extreme dissatisfaction with current financial situation. While the “poor?” are thus experiencing greater economic strain and greater financial dissatisfaction than the non-poor, they are much closer to the latter than they are to the “poor”.

We can also use data on psychological distress as measured by the General Health Questionnaire (or GHQ), a 12-item version of the standard instrument

adapted for use in survey questionnaires to which we have already referred earlier.<sup>8</sup> The twelve questions ask respondents about their *present* mental and emotional condition “over the last few weeks” in comparison to their *normal* condition, and research on the GHQ has shown that if scores are compared with clinical diagnoses, at a score of three or more the probability of diagnosis of a psychiatric disturbance rises to at least one-half. Table 3 also shows the percentage scoring above this threshold for our three groups of households, once again using the responses of the household reference person. We find that 40 per cent of poor households are above the GHQ threshold. For the “poor?” this figure falls to 17 per cent, and for the non-poor to 15 per cent. Thus, even more than for economic strain and satisfaction, “poor” households are sharply differentiated from all other households in the sample. Poverty measured using both low income and basic deprivation with the original set of basic deprivation indicators is thus still associated with distinctively high levels of economic strain, financial dissatisfaction and psychological distress in 1998.

Table 3: *Economic and Psychological Strain, Living in Ireland Survey 1998*

	“Non-poor”	“Poor?”	“Poor”
		%	
Having great difficulty making ends meet	3.1	7.2	37.1
Not satisfied at all with economic situation	5.9	10.7	50.5
Above GHQ threshold	15.5	17.1	40.1

As noted earlier, longitudinal data is increasingly allowing researchers to move beyond income at a point in time to look at the duration of low income and income poverty, at movements in and out of income poverty, and at the factors producing these movements. Such data is now available for Ireland from the first five waves of the Living in Ireland Survey. This opens up exciting possibilities for the analysis of income and poverty dynamics, with the additional scope for placing Irish experience in a comparative context using data from the ECHP (on which see Layte, Maître, Nolan and Whelan, 2001; Layte, Whelan, Maître and Nolan, 2001; Layte and Whelan, 2002; Whelan,

<sup>8</sup> Tests have shown this to be as reliable as the full version although obviously less sensitive (Bowling, 1991).

Layte and Maître, 2002a and b and forthcoming). Here we simply make use of these data to illustrate the overall relationship between income poverty persistence and deprivation. This is done most directly by distinguishing those who experienced no years below half mean income over the five years from 1994 to 1998, those who experienced one year below the line, and so on. Table 4 illustrates that the proportion reporting basic deprivation rose steadily as the number of years in poverty rose, from only 7 per cent of those who spent no years below the income threshold to almost half of those who spent all five years in that situation.

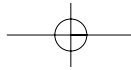
Table 4: *Proportion Experiencing Basic Deprivation by Number of Years Below 50 per cent Relative Income threshold, Living in Ireland Surveys 1994-98*

<i>Number of Years Below Income Threshold</i>	<i>Per Cent Experiencing Basic Deprivation</i>
0	7.3
1	10.6
2	17.3
3	29.6
4	31.1
5	48.3
Total	13.5

We can then examine the number of years spent below the 50 per cent relative income poverty line from 1994 to 1998 distinguishing those who would be categorised as “poor”, “poor?” and “non-poor” in the 1998 wave of the Living in Ireland Survey. This reveals that 70 per cent of the “non-poor” spent no years below the 50 per cent income threshold during the period, whereas by construction all the “poor” and “poor?” spent some time under that threshold. However, the proportion experiencing four or more years under that threshold is considerably higher for the “poor” than the “poor?” group (at about 45 per cent versus 20 per cent). Thus, although the latter have experienced income poverty, it is not as persistent as that experienced by the group currently identified as poor by the consistent poverty measure.

Overall the manner in which the consistently poor are differentiated from all other households can be seen as arguing against simply extending the lifestyle deprivation component of the poverty measure at this point. Simply extending the set of items would entail adding to those currently identified as poor a group which is currently quite different in terms of levels of economic strain, satisfaction and distress. It may be, of course, that over time levels of stress etc. converge across the two groups, as having to do without the





additional items comes to be seen and felt as more and more serious relative deprivation. In the meantime, those we have termed here the “poor?” are clearly a key group to monitor. There may be different views about the appropriate label to apply to this group, and some may choose to regard them as also poor: however, the evidence presented here strongly supports the argument for maintaining a distinction between the two groups for analytic purposes at this point.

## V CONCLUSIONS

In this paper we have reassessed the validity of a poverty measure combining relative income and non-monetary deprivation indicators, first developed and applied to Irish data for 1987, in the light of experience since then and current debates. The available evidence suggests that increasing affluence is likely to exacerbate the difficulties associated with income line measures. We found that from 1987 to 1998 the numbers falling below relative income poverty lines increased, while real income measures (indexed to prices) suggested a dramatic decline in poverty. The measure combining relative income and direct indicators of deprivation produced an intermediate picture, with poverty decreasing but to a more modest extent than suggested by real income lines. This reflected substantial reductions in the extent of deprivation, as measured by a fixed set of “basic deprivation” indicators.

With living standards improving, a key question is whether this measure – with an as yet unchanged set of deprivation items – has failed to capture fundamental changes in living patterns and expectations. We saw that expectations about which items constitute necessities did change over the period, and central heating, a telephone, a car, a colour TV, and presents for friends and family at least once a year came to be widely regarded as necessities. However, the deprivation component of the combined poverty measure is not designed to include all socially perceived necessities, but only those tapping underlying generalised deprivation.

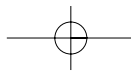
Factor analysis showed the structure of deprivation to be remarkably stable over time, supporting the argument for continuing to distinguish basic deprivation from the additional items at this point. This conclusion was supported by a comparison of the additional households who would be counted as poor if one did broaden the deprivation element of the measure by incorporating these five additional items. In terms of self-assessed economic strain, psychological distress, socio-demographic composition, and exposure to persistent income poverty at the 50 per cent line these households were similar to the “non-poor” and strikingly different from the “poor”. The combined income and deprivation measure, as originally constituted,



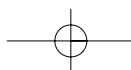
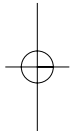
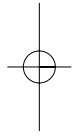
continues to identify a set of households experiencing a level of generalised deprivation, a degree of economic strain and psychological distress, and exposure to a risk of persistent income poverty that marks them out from the rest of the population.

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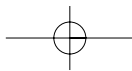
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APPENDIX:  
The Living in Ireland Surveys

Many of the results presented in this paper are based on analysis of the household samples produced by the Living in Ireland Surveys carried out by the Economic and Social Research Institute. This constitutes the Irish element of the European Community Household Panel, but also includes a variety of additional questions. Detailed descriptions of the data are presented in Callan *et al.* (1996, 1999) and Layte *et al.* (2000), but some key features are summarised here.

The objective of the sample design for the first wave, in 1994, was to obtain a representative sample of private households in Ireland. Those living in institutions such as hospitals, nursing homes, convents, monasteries and prisons, were excluded from the target population, in line with the harmonised guidelines set down by Eurostat and standard practice adopted in surveys of this kind (such as the Household Budget Survey conducted by the Central Statistics Office). The sampling frame was the Register of Electors, providing a listing of all adults age 18 and over who are registered to vote in the Dáil, Local Government or European Parliament elections. Since the probability of selection is greater for households with a larger number of registered voters, this means that the resulting sample will tend to over-represent larger households, which was taken into account in reweighting the sample for analysis. The total number of households successfully interviewed was 4,048, representing 57 per cent of the valid sample, containing a total of 14,585 persons. Of these, 10,418 were eligible for personal interview (i.e. born in 1997 or earlier), and 9,904 eligible respondents completed the full individual questionnaire (964 on a proxy basis).

To ensure the representativeness of the sample, it was reweighted for analysis in terms of a number of key classificatory variables on which information was available from the Census of Population, the Labour Force Survey, and administrative statistics on the number of recipients of different social welfare payments. The representativeness of the 1994 data after reweighting was assessed by comparison with independent external sources on a variety of dimensions. The results of this validation, again described in detail in Callan *et al.* (1996), were for the most part highly satisfactory.

The sample from Wave 1 was followed in subsequent years and re-interviewed. The follow-up rules for the survey meant that new households might be included in each wave where a sample person from Wave 1 moved to another household. All individuals in the Wave 1 sample were to be followed in Wave 2 and household and individual interviews were to be conducted, as long as the person still lived in a private or collective household within the EU.

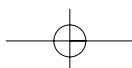


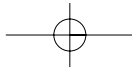
Table A1 summarises the wave-on-wave response rates, from Wave 2 to Wave 5.

Table A1: *Number of Completed Households in Each Wave, Number of Sample Persons in Completed Households and Number Interviewed, Living in Ireland Surveys 1994-1998.*

	1994	1995	1996	1997	1998
<i>Households</i>					
Completed Households	4,048	3,584	3,174	2,945	2,729
Non-Response	3,038	794	624	390	391
Non-Sample	166	98	125	119	96
Total Households	7,252	4,476	3,923	3,454	3,216
Household Response Rate	57%	82%	84%	88%	87%
<i>Individuals</i>					
N. in Completed Households	14,585	12,649	10,939	10,006	9,045
(% in Completed Households)		(84%)	(85%)	(89%)	(89%)
N in NR Households	n.a.	2,286	1,819	1,068	1,048
N in Non-sample Households	n.a.	117	181	169	116
Total Individuals		15,052	12,939	11,243	10,209
Eligible for Individual Interview (*)	10,418	9,048	7,902	7,255	6,620
Interviewed	9,904	8,531	7,488	6,868	6,324
% Individual Interviews Completed	95%	94%	95%	95%	96%

Note: \* In completed Households.

This shows that there has been a sizeable attrition between Waves 1 and 5. Of the original 14,585 sample individuals, only 56 per cent (8,182) were still in completed Wave 5 households, with another 863 individuals having joined the sample at some point in the intervening years. The main reason for household non-response was refusal (ranging from 9 per cent of the eligible sample in Wave 2 to 5 per cent in Wave 5). Among the newly generated households, difficulties in obtaining forwarding addresses for those who moved also contributed to the non-response rate. Given the relatively high sample attrition rate, it was important to carefully check for any biases that may be introduced if attrition is related to characteristics of households, such as size, location, economic status and income. These checks were conducted in the course of devising sample weights for the data in Waves 2 to 5, using information on the households and individuals from the previous wave's



interviews. In general, the results are encouraging. Although there is an association between non-response and changing address (which particularly affects young, single householders), the overall impact on the sample structure is slight. Although the attrition rate is relatively high, it has only a minor impact on the sample distribution of household characteristics. In particular, there is no evidence that households with specific characteristics related to the measurement of poverty and income distribution have been selectively lost from the sample.

