

Non-Monetary Indicators and Multiple Dimensions: The ESRI Approach to Poverty Measurement

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Abstract: This paper seeks to distil the lessons on poverty measurement from a period that extends back to the early days of poverty research at the ESRI in the mid to late 1980s. What was the problem to which non-monetary indicators was the solution? How were the indicators chosen and justified? What have we learned about the role and limitations of non-monetary indicators? What are the key future challenges? It makes clear that a variety of approaches are required to do justice to the complex and multi-faceted nature of poverty. The essential elements of the definition of poverty underpinning the research at the ESRI has been that poverty is something rooted in a lack of resources that results in exclusion from the customary standard of living. In pursuing such understanding over the last thirty years, the ESRI research programme has sought to develop measures exhibiting satisfactory levels of reliability and validity which are subject to re-evaluation in changing circumstances. The paper demonstrates that, viewed from a broader sociological perspective on social stratification, the fact that the complexities of poverty and social exclusion are far from being adequately captured by a single indicator relating to current disposable income is not surprising. Measurement of poverty must be viewed within a broader framework relating to the socially structured nature of disadvantage and social inequality. As a consequence poverty targets need to be framed in a manner which focuses attention on long-term structural issues.

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I INTRODUCTION

This paper was written as part of the celebration of 50 years of social research at the Economic and Social Research Institute (ESRI). It is more than a retrospective account of the development of non-monetary indicators of poverty. It seeks to distil the lessons on poverty measurement from a period that extends back to the early days of poverty research at the ESRI. What was the problem to which non-monetary indicators was the solution? How were the indicators chosen and justified? What have we learned about the role and limitations of non-monetary indicators? What are the key future challenges?

II THE CONCEPT OF POVERTY

Research on poverty in rich countries has relied primarily on household income to capture living standards and distinguish those in poverty. This is also true of official poverty measurement and monitoring for policy purposes. However, with increasing awareness of the limitations of income as the sole means of capturing both levels of poverty and the underlying processes, there has been a fundamental shift towards a multi-dimensional approach (Grusky and Weeden, 2007).

In the Irish context, a concern with poverty had a long tradition in Catholic social teaching and it was often in fora organised by the Catholic Church that the topic was discussed. Kavanagh at the 1971 Kilkenny Conference on Poverty defined poverty as “being deprived of something which one might reasonably hope to have” (Kavanagh, 1972, p. 31). He went on to argue for a definition that went beyond the notion of bare subsistence to include “the ordinary decencies of living, such as having a roof over one’s head, health, educational opportunity, recreational facilities, participation in decision-making at the industrial or community level” (Kavanagh, 1972, p. 372).

A definition which has formed the basis of much international and Irish research in the area is that of Townsend (1979, p. 31):

Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diet, participate in the activities and have the living conditions and amenities which are customary, or are at least widely encouraged or approved, in the societies to which they belong. Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities.

Neither of these definitions equates poverty with low income, although the link with resources is more explicitly defined in Townsend’s definition. The essential

elements of the definition of poverty underpinning the research at the ESRI has been that poverty is something rooted in a lack of resources; the resources available are not sufficient to obtain the customary standard of living (broadly understood to include goods, services and activities). As a result, the person is excluded from participation in typical activities.

It is worth drawing out these three elements. The first is that poverty is based on a lack of resources. Although not specified, the implicit assumption is that it is largely material resources that are in question. Therefore, restrictions on access to goods or services due to other causes, such as natural disaster, discrimination or personal disability are not in themselves poverty, although they may lead to poverty. It is also important that there is an element of constraint involved. Some people may voluntarily relinquish access to typical goods and services, perhaps as a form of asceticism, but this is not poverty in Townsend's sense.

The second element is concerned with the extent of the lack: it is the resources required to attain the customary or typical living standards. Thus, it is linked to an idea of the "norm" or the "ordinary" in the society. As such, what we have in mind is a relative concept of poverty – it is relative to the society in which the person lives.

The third element of the definition links this lack of resources to exclusion from what is considered "ordinary" in terms of patterns of life, customs or activities. This broader aspect of participation is not in itself poverty – non-participation may be due to choice or other constraints such as those mentioned above. This means that the understanding of poverty is conscious of the broad implications while maintaining clarity of focus on the lack of resources.

The link to the society in which the person lives was also adopted in the European Council definition of poverty and social exclusion with respect to the "minimum acceptable way of life in the Member State to which they belong" (EEC, 1985).

III WHY WE NEED NON-MONETARY INDICATORS

While most quantitative research employs income to identify the poor, the reliance on income has been increasingly questioned. In that context the potential uses of direct measures of deprivation have come to the fore. While the use of non-monetary indicators in monitoring living conditions or quality of life has a long history, their use in capturing deprivation and poverty received a major impetus with Townsend's pioneering British study (1979). As these indicators became more widely available, they underpinned a more radical critique: that reliance on income actually fails to identify those who are unable to participate in their societies due to lack of resources (Ringen, 1988). Since then, an extensive research literature on

measures of material deprivation in the Organisation for Economic Co-operation and Development (OECD) countries has grown up. The review by Boarini and Mira d'Ercole (2006) lists over a hundred studies covering a wide range of countries. In Europe the widespread adoption of the terminology of social exclusion/inclusion reflected *inter alia* a concern that focusing simply on income misses an important part of the picture, and reinforced the interest in material deprivation, and more broadly in multi-dimensional approaches to measuring poverty and exclusion (Nolan and Whelan, 2007; Burchardt *et al.*, 2002; Bradshaw and Finch, 2003).

There are a number of reasons why it is necessary to go beyond relative income measures. First, income is typically measured at a point in time or over a reference period such as a year. As such, it does not take account of longer term command over resources such as savings, access to credit or the availability of financial help from families. These resources can cushion standards of living in a period where income falls. Second, some groups may have unusually high expenses that create a greater need for income, such as the expenses associated with certain illnesses or disabilities. Third, accumulated debt may be a drain on income, particularly as households emerge from a period of unemployment. Fourth, it is difficult to adequately measure income for some groups, such as the self-employed, particularly farmers, or those for whom labour market participation is casual or seasonal. Fifth, comparative research has highlighted the differences between countries in the extent to which the state provides important services. In the Social-democratic countries (the Nordic countries), for instance, incomes are relatively heavily taxed, but access to education, healthcare and pensions is provided through the state without the often high costs to the families who access these services in Liberal economies (Ireland and the UK for example). Finally, relative income measures of poverty do not capture generalised economic fluctuations and shocks where all incomes (or at least the median) fall, so that the income poverty rate may remain static but standards of living fall.¹ In general, relative income poverty measures based on household income tend to produce modest variation across time and countries.

This was true in relation to relative income poverty and indeed the Gini coefficient in periods of both bust and boom in Ireland while deprivation indices varied sharply in relation to economic circumstances (Watson and Maître, 2013; Nolan and *et al.*, 2014; Whelan and Nolan, 2017). The factual situation contradicts Powell's (2017: 171) claim that the consistent poverty approach, incorporating both relative income and deprivation, sought to minimise the scale of poverty in Ireland and was intended to make it easier for the government to achieve its anti-poverty targets by making poverty more static.

¹ Speaking in 1982, Sen cautioned of just this issue at the 1982 Geary Lecture in Dublin (Sen, 1983, p.7).

In the European Union (EU) the widespread adoption of the terminology of social exclusion/inclusion reflected a concern that focusing simply on income misses an important part of the picture while reinforcing an interest in material deprivation and more broadly in multi-dimensional approaches to measuring poverty and social exclusion (Nolan and Whelan, 2007). Locating such concerns in a wider theoretical context involves taking into account Sen's (1993; 2009) argument that wellbeing should be defined and assessed in terms of the functionings and capabilities that people enjoy. Functionings are "beings and doings" that people value and capabilities represent the various combinations of functioning that people can achieve. Sen argues that poverty should be understood as capability deprivation. This implies a multi-dimensional view of poverty and a concern with the choices open to people rather than the choices actually made.

The ESRI approach to non-monetary indicators was firmly located in the context of earlier critiques of purely relative income approaches by authors such as Townsend (1979), Ringen (1998) and Sen (1993). The intention was never to develop an absolute poverty indicator, fixed for all time. The approach sought to go beyond the limitations of reliance on income while maintaining the link to the living patterns in the society in which the person lived (see Callan *et al.*, 1993 and Nolan and Whelan, 1996).²

IV THE EVOLUTION OF AN INDICATOR

In 1972 ESRI Director, Kieran Kennedy, asked colleague Brendan Walsh to organise a conference on poverty. The conference identified several priorities, including the need for data on the distribution of income (Walsh, 1972). At this stage, the focus was on income with no mention of direct measures of poverty.

4.1 The Research Infrastructure

It was not until over a decade later that the necessary infrastructure was in place to allow the collection of the kind of data required. By then, the ESRI had its own Survey Unit with the capacity to design and execute household surveys to the best international standards. In addition, it had a core group of researchers committed to developing Irish research infrastructure in this area. Funded mainly by the EU Directorate General (DG) for Employment, Industrial Relations and Social Affairs, with inputs from the Combat Poverty Agency and the ESRI, the 1987 "Survey of Income Distribution, Poverty and the Usage of State Services" (known more simply

² This makes it difficult to understand the characterisation of the ESRI approach by Powell (2017: 171) as evoking Rowntree's notion of subsistence poverty with its moralistic overtones. However, some explanation might be found in the absence from Powell's references of several crucial publications on poverty measurement, deprivation and inequality by ESRI researchers.

as the 1987 Poverty Survey) provided comprehensive information on income and deprivation outcomes. The questionnaire was designed by ESRI researchers and the technical aspects of sampling were designed by the researchers in the survey unit of the ESRI. The survey collected data from over 3,000 private households and measured household income from all sources, non-cash transfers, labour market situation, household possessions and activities. By collecting data on living standards more generally, the 1987 Poverty Survey began a rich and dynamic period of research on poverty and social exclusion at the Institute.

In common with national studies of poverty in other countries, the survey-based approach in Ireland focused on individuals in private households. As a consequence the circumstances of individuals residing in institutions or of the homeless could not be assessed through these surveys. While such groups will undoubtedly display higher levels of poverty and deprivation, they constitute a sufficiently small proportion of the population that they are unlikely to affect population estimates, or cross-national comparisons, of risk and incidence of poverty derived from national surveys of households.³

4.2 The First Irish Indicators

Following the logic adopted by Mack and Lansley (1985), the 1987 Poverty Survey collected data on a wide variety of goods, services and activities, including information on whether the household possessed them (or could participate in them), whether they were wanted, and whether they were seen as necessities. Identifying whether non-possession was a matter of preference or because the household could not afford an item was important in order to take account of differences in tastes.

A measure of deprivation was developed based on an enforced lack of at least one of ten items which were regarded by the majority (over 50 per cent) as a necessity and were possessed by at least three-quarters of the population. The items were: regular protein meals, a warm waterproof overcoat, two pairs of shoes, new rather than second-hand clothes, washing machine, refrigerator, a damp-free dwelling, heating for the living room, a bath or shower, an indoor toilet (Callan *et al.*, 1989). The authors went on to show that although there was a strong association between deprivation and income poverty, the overlap was far from perfect. Given the limited overlap, they concluded that “continued use of both indices, rather than placing entire reliance on one or the other, would seem to be warranted” (Callan *et al.*, 1989, p.119).

³ Although national surveys are ill-suited to studying the circumstances of these groups, ESRI researchers have drawn on census data and other sources to study Travellers and the homeless (Rottman and Wiley, 1986; Fahey and Watson, 1995; Williams and Gorby, 2002; Nolan and Maître, 2009; Watson *et al.*, 2011; Watson *et al.*, 2017).

In a later analysis of these data, Whelan *et al.* (1991) used factor analysis to distinguish three distinct dimensions of deprivation:

- Basic life style deprivation – consisting of eight items such as food, clothes, adequate heating and managing without debt or help from charity;
- Secondary life style deprivation – consisting of nine items including leisure activities, annual holidays and consumer durables such as a car;
- Housing deprivation – consisting of seven items relating to housing qualities and facilities (see also Callan *et al.*, 1993; Nolan and Whelan, 1996).

4.3 Developments in the 1990s

The 1987 survey was then followed in 1994 by The Living in Ireland survey (LII) which was the Irish component of the European Community Household Panel (ECHP), an EU-wide survey designed to measure household incomes, poverty and living standards. The LII survey ran from 1994 to 2001 and the fieldwork was carried out in Ireland by the ESRI Survey Unit. This afforded ESRI researchers considerable flexibility in terms of being able to include additional items suited to the Irish context. For instance, given the difficulties in measuring farm incomes, a special approach to this was adopted which drew on the Teagasc Farm Incomes Survey.

The extended set of deprivation items included in the LII Survey allowed for the identification of additional dimensions of deprivation relating to health and neighbourhood environment. A range of analyses reported by Layte *et al.* (2000) examined the extent to which expectations about living standards and the structure of deprivation have changed over time. Using confirmatory factor analysis and tests of criterion validity with alternative definitions of deprivation, the authors concluded that it was not necessary to alter the content of the basic deprivation index at that time.

The existence of an annual survey now made it possible to monitor trends over time in poverty and deprivation. Drawing on ESRI research, the Irish Government adopted measures derived from analysis of the Living in Ireland Survey for the purpose of setting poverty targets and monitoring poverty trends. A key indicator developed in ESRI research was “consistent poverty” which involved being below the 60 per cent poverty line and experiencing basic deprivation (Government of Ireland, 1997). The National Anti-Poverty Strategy was updated in 2002 and again in 2007 and the targets were revised, again drawing on ESRI research (Government of Ireland, 2002; 2007).

4.4 Developments in the 2000s

The final wave of the ECHP was conducted in 2001. At the EU level, the ECHP was to be replaced by a new instrument (the Statistics on Income and Living

Conditions – SILC) from 2004 onwards. ESRI survey experts worked as part of SILC Task Force to design the new instrument, arguing strongly for the inclusion of non-monetary indicators whose utility had been demonstrated in both the Irish and EU contexts through publications by ESRI researchers (Whelan *et al.*, 2001; 2004).⁴

The range of non-monetary indicators included in EU-SILC was somewhat less comprehensive than for ECHP. Greater discretion was afforded to national statistical agencies in how the data were collected as the indicators were output rather than input harmonised. However, it was possible to identify a similar set of dimensions to those noted earlier in relation to the ECHP (Maître *et al.*, 2006).

It should be clear from the foregoing that the ESRI approach to poverty and deprivation measurement has, since 1994, taken place as part of collaborative EU-wide work to develop the concepts, measures and data infrastructure for poverty research. Consequently the claim by Powell (2017), that EU-SILC served to bring Irish poverty measurement back in line with the rest of the EU with regard to a focus on income inequality, displays a serious misunderstanding of the sequencing of both Irish and EU work on poverty measurement. In fact the ESRI approach developed not only in the context of EU data collection exercises but also as a part of a range of EU-funded comparative projects including EPUSE, EUROPANEL, CHANGEQUAL and EQUALSOC involving the leading interdisciplinary research teams in the area of social stratification across Europe. More recently the Growing Inequalities' Impacts (GINI) project involved contributions from those central to the ESRI approach to poverty measurement relating to both inequalities and its impacts in boom and bust in Ireland (Nolan *et al.*, 2014) and a comparative analysis of the social impact of inequality on poverty, deprivation and social cohesion (Nolan and Whelan, 2014).

As Nolan and Whelan (2010) observe, non-monetary indicators are now being used in a variety of ways in European countries and at EU level in the belief that they can bring out what it means to be poor, help to do a better job than income on its own in identifying the poor, and directly capture the multi-faceted nature of poverty and exclusion. While there is no consensus about how best to employ them, and the underlying rationale(s) may often be implicit rather than explicit, the ESRI approach has sought from the beginning to explicitly address issues of reliability and validity.⁵

In the following, we will focus on what has been labelled “basic deprivation” which constitutes the deprivation component of the Irish consistent poverty measure. While Layte *et al.* (2000) concluded that there was no need to change the constituent elements of the index between the 1987 Poverty Survey and the 1994

⁴ In Ireland, response rates ranged between the mid-fifties to low sixties. In order to adjust for potential non-response bias all analyses involved appropriate weights.

⁵ For a more detailed discussion of such issues particularly in a comparative context see Kus *et al.* (2016).

ECHP, that did not prove to be the case in moving from the 1990s to the 2000s. As Whelan (2007) noted, it was clear from the outset that as living standards rose the specific items employed would need to be revised in light of changing notions of what is minimally adequate. In an analysis based on EU-SILC, Maître *et al.* (2006) and Whelan (2007) demonstrated the superiority of a revised 11-item index of basic deprivation over the original 8-item index. Later, drawing on SILC data for the period from 2004 to 2009, Watson and Maître (2012) concluded that the 11-item index remained reliable and valid and performed better in the Irish context than the EU “material deprivation” indicator.⁶

The 11 items are set out in Table 1. These include six items from the original basic set – shown in the first part of the table – referring to deprivation in relation to food, clothing and heating. The five items added to the original set are shown in the second part of the table. These involve an emphasis on basic participation in family and social life. They include being able to afford to entertain family and friends; buy presents once a year; have an afternoon or evening out; keep the house warm; and buy new furniture. These items incorporate a rather broader notion of poverty as social exclusion than was true for the original measure, particularly in the inclusion of items on leisure, social participation and social obligation.

The items making up the basic deprivation indicator are intended to capture enforced deprivation relating to absence of resources rather than choice or adaptive preferences. Adaptive preferences occur when people compare themselves with others who are in the same precarious situation or even worse off and, as a result, lower their expectations. Crettaz and Suter (2013) found that the impact of adaptive preferences was most evident in relation to items such as ability to save a certain amount of money each month or the fact of being in arrears with payments. However, deprivation measures of the Townsend form were found to be robust in this respect. Crettaz and Suter (2013:148) conclude that when a large proportion of the population thinks that certain items are necessary to lead a decent life, it appears more difficult for people to “adapt” to not being able to afford them. In order to minimise the impact of adaptive preferences, ESRI researchers have consistently distinguished between enforced deprivation and subjective economic stress (Whelan and Maître, 2013; Whelan *et al.* forthcoming).

Ultimately the quality of the index must also be subject to assessment in terms of reliability and construct validity. Related to this, two items included in the original measure, as shown in the final part of Table 1, were dropped. These comprise the item relating to “being unable to afford a substantial meal because of

⁶ The EU has recently proposed a revised set of deprivation indicators (Guio *et al.*, 2012; 2016) and part of our future research agenda will involve an assessment of how well the basic deprivation indicator performs in comparison with this revised measure. For comparative analyses employing the new module but maintaining the distinction between material deprivation and economic stress see Whelan and Maître (2013; 2014).

a lack of money” and “going into debt to meet ordinary living expenses”. The former showed a weak relationship to the items retained. The decision in relation to the latter item was guided by the argument that the items comprising the basic deprivation index should, as far as possible, be based on objective deprivation arising from lack of resources rather than veering into the area of economic stress. The policy of distinguishing basic deprivation from economic stress is a consistent feature of the ESRI approach from this point on.

Table 1: Basic Deprivation Items in the 1990s and 2000s

<i>Items</i>	
Warm waterproof overcoat Meals with meat, fish or chicken or vegetarian equivalent Two strong pairs of shoes Roast joint or equivalent once a week New rather than second-hand clothes Going without heating in past 12 months ⁷	Common Items, 1990s and 2000s
Presents for family/friends Keep home adequately warm ⁶ Family or friends for drink or meal once a month Able to afford afternoon/ evening out in last fortnight (HRP) Able to replace worn-out furniture	New items in the 2000s
Going without substantial meal in last fortnight due to lack of money Debt for ordinary living expenses	Dropped Items

Source: Maître *et al.*, 2006, Table 3.6, Table 3.7 (SILC 2003, Ireland).

In evaluating the relative merit of the original and revised indices, Maître *et al.* (2006) and Whelan (2007) focused on issues of reliability and validity. The former refers to the extent to which a set of items comprising an index can be shown to be tapping the same underlying construct. Both indices displayed high levels of reliability. Construct validity is concerned with the extent to which an index is related to other variables in a manner that is consistent with theoretical expectations. The revised basic deprivation index met the criteria adopted in that it was strongly associated with income; it was rarely reported in high income households; it had a strong relationship with social class, employment status, educational qualifications and housing tenure and it had a substantial impact on economic stress.

⁷ The correlation between the two items dealing with home heating/warmth is 0.56 over the period 2004 to 2015, indicating that they capture slightly different elements of experience. The factor analysis showed that the basic deprivation measure performs better with these two items included.

V POVERTY AND THE MISMATCH BETWEEN INCOME AND DEPRIVATION

Going back to Ringen (1988), the mismatch between deprivation and low income measured at a point in time has been highlighted as a concern with respect to reliance on income-based poverty measures. Kus *et al.* (2016) conducted a comparative European analysis of the correlation of household disposable equivalent income with a deprivation indicator that differed slightly from the Irish basic deprivation index. This correlation was substantially higher than the correlation between income and other deprivation dimensions such as consumption, housing, health and neighbourhood environment. However, even then the correlation was relatively modest and there is a clear tendency for correlations to be higher in less affluent countries. The level of association is influenced by national income levels and welfare regime membership. The findings suggest that the relationship is influenced by two main factors: the extent to which current disposable income serves as an adequate proxy for longer-term command over resources and the degree to which needs are satisfied predominantly through market mechanisms rather than welfare state interventions. Similar considerations apply in interpreting within-country variations in the strength of the association between basic deprivation and income across socio-economic groups. Current income proves to be a poorer indicator for older people, rural residents and the self-employed, and in particular farmers who are more likely to be asset rich (Nolan and Whelan, 1996). We should stress that the ESRI approach does not involve a sole reliance on deprivation measures. Income continues to be a crucial indicator and deprivation measures are of a limited value unless we can develop an understanding of the manner in which they are related to longer term accumulation and erosion of resources. It is perhaps worth keeping in mind that, viewed from a broader sociological perspective on social stratification, the fact that the complexities of such processes are far from being adequately captured by a single indicator relating to current disposable income is not surprising. Nolan and Whelan (2011: 108-119) review a range of evidence demonstrating that social class differentiation is significantly sharper where we focus on joint exposure to income poverty and deprivation and where we employ longitudinal rather than cross-sectional measures.⁸ Goldthorpe (2010:735), in drawing attention to the value of the ESRI approach in situating poverty in a wider social context, concurs with its view that it is not helpful to see those experiencing poverty as some quite distinctive group cut off from the mainstream. Instead, they are best seen as simply the most disadvantaged stratum within a socially structured system of inequality.

⁸ For empirical support for these claims see Whelan *et al.* (2010).

Similarly, while the choice of poverty targets is a matter for policymakers, the ESRI researchers have consistently proposed a relative and multi-tiered approach to such targeting.

We suggest that what is required is a broadening in the scope of NAPS poverty targets, to ensure not only that those on low incomes see their real incomes rise and their deprivation levels fall, but also that no-one falls too far below ordinary living standards which are themselves rising rapidly. There is every chance that the current NAPS global poverty reduction target could be reached by 2004, but that in time poverty would be “rediscovered” as a more usual growth path emerges and societal expectations converge with higher living standards. The only way to avoid this is to frame targets in a way which focuses attention on the long-term structural measures required to ensure that no-one falls too far below what will in time come to be taken for granted as ordinary living standards. (Layte et al., 2001).⁹

From the foregoing it should be clear that poverty and deprivation in the ESRI approach have been firmly located in a wider context of social inequalities relating to social class, educational qualifications and life-course factors. The view that the ESRI approach sought to “break the link with social inequality” (Powell, 2017:171) is entirely without foundation. Similarly, the argument that “the sociological conceptualisation of poverty measurement in Ireland was being subordinated to wider concerns of political economy in a society that was becoming increasingly unequal” (*ibid.* 2017:189) represents a serious misreading of the evidence and of the large volume of research to emerge from the ESRI using the multi-dimensional approach to poverty measurement.

In this context it is worth stressing that the ESRI approach has consistently argued that “underclass” theories of poverty are seriously misleading (Whelan, 1996; Nolan and Whelan, 2000) and has focused attention on wider notions of vulnerability (Whelan and Maître, 2005a; 2005b; 2006; 2008).

VI CONSISTENT POVERTY

We now focus on the implications of our foregoing discussion of deprivation indicators for how best to employ them in measuring, tracking and understanding poverty and exclusion. The conceptual and measurement problems involved in relying on income alone to identify the poor suggest that incorporating deprivation into the process could have significant potential. If low current income is an unusual

⁹ See also Layte *et al.* (2000).

scenario for a household, it may be able to maintain living standards by drawing on savings. Non-monetary indicators can also act as a corrective where income has been misreported as low. Where the household benefits from non-cash support from the state, this should enable it to attain a higher standard of living, again reflected in lower levels of deprivation. Where a household faces particular needs that act as a drain on income, due to disability for example, deprivation levels should be higher than for others on the same income. The modest level of correlation between income and basic deprivation captures among other things the fact that some middle and even high income households report basic deprivation.¹⁰ While this is telling something of interest relating to these households it does not seem a reliable basis for concluding that they are poor. Given two relevant pieces of information about a household – income and deprivation – incorporating both into the measurement process is one way to improve reliability in identifying the poor (Nolan and Whelan, 2011). This approach was developed by the ESRI from the early 1990s to distinguish those consistently poor, that is poor when assessed both by income and deprivation. This was subsequently adopted as the official Irish measure of poverty for use in the National Anti-Poverty Strategy (NAPS) and had a major impact on the development and monitoring of policy in this area.

For the 1987 Poverty Survey and the LII surveys it was argued that, given the extremes of deprivation captured by the original basic deprivation items, the enforced absence of even one item together with falling below 60 per cent of median household income was sufficient to fulfil the conditions for consistent poverty. In the analysis of SILC in the 2000s, an almost identical proportion of the population was identified as consistently poor when defined in terms of being below 60 per cent of median income and experiencing enforced lack of two or more of the 11 items from the new set. However, those deprived according to the revised measure were much more sharply differentiated in terms of income decile location and levels of economic stress (Whelan, 2007).

VII TRENDS IN INCOME POVERTY, BASIC DEPRIVATION AND CONSISTENT POVERTY IN BOOM AND BUST

At this point, in order to illustrate the value of focusing on indicators of both income poverty and deprivation, we direct our attention to the manner in which alternative indicators were affected by the economic crisis in Ireland. Figure 1 shows the trends in income poverty and basic deprivation between 2004 and 2015. The figure also

¹⁰ For instance, applying the 11-item basic deprivation index to the 2004 SILC data for Ireland, Whelan (2007) found that 2.5 per cent of the top equalised income decile reported basic deprivation, compared to 8.5 per cent of the sixth decile and 36.2 per cent of the bottom decile.

shows the trend for consistent poverty, which involves being both income poor and lacking two or more of the 11 basic deprivation items.

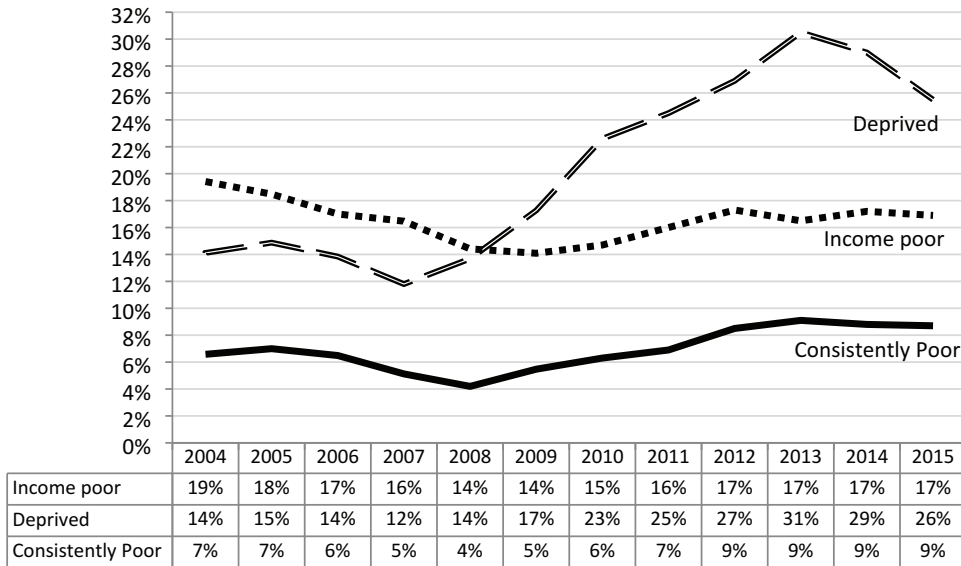
The relative income poverty rate, measuring those in households below 60 per cent of median equivalised income, actually fell in the early years of recession, from 16 per cent in 2007 to 14 per cent in 2008, before rising again to 16 per cent in 2011. This was in a context where median income itself was falling sharply, so the income poverty threshold also fell. The poverty threshold fell when the recession began, due to falling incomes from work, and social welfare payments provided a floor below which income would not fall for most households. As a result, the level of income poverty continued to fall until after 2009 (Watson and Maître, 2012; Watson *et al.*, 2016). While the stability in relative income poverty rates and indeed income inequality (as measured by the Gini coefficient) show the crucial role of automatic stabilizers associated with welfare state intervention (Savage *et al.*, forthcoming), they fail to capture important consequences of the economic crisis on the living standards of individuals and households.

A contrasting picture is provided by the basic deprivation indicator which is likely to be influenced by declines in real income, debt issues, erosion of savings, and weakening of economic support networks. The level of basic deprivation began to rise in 2008 (from 12 to 14 per cent) and continued to rise year-on-year to reach 31 per cent in 2013 before falling back to 26 per cent in 2015. Because income poverty was still falling in 2008, although basic deprivation levels had begun to rise, the level of consistent poverty did not begin to increase until 2009. Consistent poverty continued to rise, reaching about 9 per cent in 2012 and remaining at that level even into the early recovery from 2013 to 2015.

As levels of basic deprivation rose dramatically throughout the recession so too did levels of subjective economic stress and economic vulnerability; understood as being characterised by a multi-dimensional profile involving a high risk of income poverty, basic deprivation and economic stress. However, contrary to widely held assumptions, the pervasive nature of the impact of the recession did not result in increased polarisation in relation to the impact of factors such as social class. Instead the profiles of the deprived and vulnerable in terms of both income classes and social classes became more heterogeneous. Changing risk profiles involved elements of polarisation accompanied by a substantial degree of “middle class squeeze” that was particularly noticeable for (but by no means restricted to) the self-employed (Whelan and Maître, 2014; Whelan *et al.*, 2016, Whelan *et al.*, 2017).¹¹ In relation to economic stress Whelan *et al.* (forthcoming), found that a comparison of the peak of 2008 with the trough of 2012 revealed a significant erosion of the advantages associated with the higher social classes. These outcomes derived primarily from a weakening of the degree of association between social

¹¹ For similar findings in relation to the families of children see Watson *et al.*, 2016.

Figure 1: Trends in Income Poverty, Basic Deprivation and Consistent Poverty



Source: SILC data, 2004 to 2013; population of all ages. The margin of error for a 95 per cent confidence interval varies slightly by indicator and year (being lower where the percentage is lower). The average margin of error is ± 1.7 per cent for income poverty; ± 1.8 per cent for basic deprivation; ± 1.1 per cent for consistent poverty and ± 1.4 per cent for vulnerable to consistent poverty.

class and income class and a reduction of the buffering effect of social class within the lower income classes. By 2012 social class had no impact on economic stress net of income class. Between 2008 and 2012 the ability of social class to capture aspects of permanent income over and above income class seems to have been significantly reduced.

VII UNDERSTANDING AND MEASURING MULTI-DIMENSIONAL POVERTY

The experience of poverty is sufficiently multi-faceted and complex that any quantitative indicator constructed at an aggregate level will fail to capture the full complexities of the multi-dimensional experience (Tomlinson and Walker, 2009: 20). Providing such a multi-dimensional account of poverty could be realistically achieved only by a mixed approach combining both quantitative and qualitative techniques. A particularly good example of the value of such a multi-pronged approach is provided by childhood poverty and deprivation. A recent strand of

research explores the impact of poverty from the perspective of children themselves. In an in-depth study of 40 children (aged 10-17) from low income families Ridge (2002) found that effects of poverty and disadvantage can permeate every aspect of children's lives – material, social and emotional. Impacts that were specific to children included limited access to their own economic resources, access to transport and the importance of friendship.

It is helpful to maintain a clear distinction between understanding the multi-faceted nature of poverty, which clearly requires a mixed methods approach and identifying those exposed to multi-dimensional deprivation (Nolan and Whelan, 2007). National quantitative measures cannot deliver on the former objective. However, it does not follow that adult indicators cannot be successful in identifying children exposed to multi-dimensional deprivation. For example, Whelan and Maître (2012) employing both adult and childhood national deprivation measures have shown that the former are largely successful in capturing those exposed to childhood deprivation. In fact, there are very few children who experience child-specific deprivation in households where the adults are not also deprived (Watson *et al.*, 2012).

The consistent poverty approach involves a fairly restricted form of multi-dimensional measurement. When the number of dimensions increases, or where the overlap is limited, the issue of how to combine them becomes pressing. From the beginning ESRI researchers, while paying particular attention to basic deprivation as a component of consistent poverty, emphasised that deprivation was multi-dimensional. The early research identified additional dimensions relating to secondary or consumption deprivation and housing deprivation (Callan *et al.*, 1993) while later work added a focus on deprivation relating to health and neighbourhood environment and economic stress (Nolan and Whelan, 2011).

Atkinson (2003) distinguishes between the union and intersection approaches to counting dimensions of deprivation. The union approach would count as poor or deprived anyone lacking on any of the dimensions. This is the approach adopted in the EU2020 poverty target in combining the three dimensions it adopts. The intersection approach, on the other hand, was adopted in setting a national anti-poverty target in the case of Ireland, defined in terms of “consistent poverty”.

As a consequence of the fact that deprivation dimensions turn out to be more moderately correlated than is generally assumed, the union and intersection approaches can produce sharply contrasting results in identifying the poor or excluded. Where the number of dimensions is large, the union approach can result in the identification of an implausibly large group as poor/excluded. With a smaller

¹² The “Europe 2020 strategy” for the period includes a target to reduce by at least 20 million (compared to 2008) the population at risk of poverty or social exclusion, that is those who are below the income poverty threshold, experience severe material deprivation (i.e. lack four of more of nine basic goods and services) or live in jobless households (European Commission, 2010).

number of dimensions, the intersection approach can result in the identification of an implausibly small minority (Whelan *et al.*, 2014).

The dilemma presented by such contrasts is captured in Room's (1999: 171) discussion of notions of continuity and catastrophe in the social exclusion literature, and it is also recognised in Levitas *et al.*'s (2007) distinction between "social exclusion" and "deep exclusion". The former refers to restriction of access to any of a wide range of commodities and services necessary for full participation in the society. "Deep exclusion" on the other hand, focuses on deprivation across more than one dimension of disadvantage, resulting in severe negative consequences for quality of life, wellbeing and future life chances.

The population for the EU's central 2020 poverty and social exclusion reduction target is currently identified by combining indicators of low income, deprivation, and household joblessness. This approach involves a compromise between different political and policy traditions. However, the particular decisions made in constructing the target result in a fundamental incoherence in the approach adopted (Maître *et al.*, 2014; Nolan and Whelan, 2017). In moving forward, rather than seeking to increase the number of dimensions captured by an aggregated index, our preference would be for keeping the focus on the core elements of income poverty and material deprivation. Alongside such efforts we clearly need to enhance our understanding of the processes leading to such outcomes, such as labour market exclusion, and the factors mediating the consequences of such disadvantage for wider exclusion from society, social cohesion and quality of life.

The ESRI research programme has involved a variety of analytic strategies that focused on exploring multi-dimensional poverty and quality of life while avoiding those dilemmas presented by conventional applications of union or intersection approaches. These include using latent class analysis to identify those experiencing "economic vulnerability" in the sense of having a heightened level of risk of experiencing income poverty, deprivation and economic stress without necessarily experiencing such outcomes at a particular point in time (Whelan and Maître, 2005a, 2005b; 2010; Watson *et al.*, 2015); the application of self-organising maps to identify multiple clusters of deprivation (Pisati *et al.*, 2010; Whelan *et al.*, 2010); and the application of the adjusted head count ratio (AHCR) approach which focuses on clustering of dimensions of deprivation among those located above a multi-dimensional deprivation threshold (Alkire and Foster, 2007; 2011a; 2011b; Whelan *et al.*, 2014; Watson *et al.*, 2016).

A number of significant insights were derived from the development of these multi-dimensional perspectives. For instance, basic deprivation and economic stress became substantially more pervasive from the onset of the recession with the consequence that economic vulnerability became more evenly distributed across income classes and social classes (Watson *et al.*, 2015; Whelan *et al.*, 2016). Analysis of quality of life using the adjusted head count ratio approach showed

that, among those with multiple problems, the composition of those problems did not vary across social classes but showed marked differences across life-cycle stages (Whelan *et al.*, 2016; Watson *et al.*, 2016).

The application of a multi-dimensional approach does not necessarily imply the need for a multi-dimensional poverty index (Ravallion, 2011) and there has been robust debate relating to the merits of an aggregate indicator such as the composite United Nations Development Programme (UNDP) Human Development Index versus the Millennium Development Goals and now the Sustainable Development Goals, which avoid such aggregation. Combining indicators across a variety of dimensions into a “headline” summary index provides a basis for highlighting overall trends and differences across countries, though there is inevitably a loss of information in doing so. Ultimately such decisions must be justified on the basis of the extent to which they increase our understanding of the underlying processes generating poverty and inform policy choices. Both the dimensions under consideration and the context in which they are employed are likely to have a crucial bearing on what can be considered appropriate. Where it is deemed appropriate to construct a multi-dimensional index it is clearly desirable that it should be done on a transparent basis with clearly identified properties.

IX CONCLUSION

It is clear that a variety of approaches are required to do justice to the complex and multi-faceted nature of poverty and social exclusion. In pursuing such understanding over the last 30 years, the ESRI research programme has sought to adopt approaches with clearly understood criteria to allow for the evaluation of the consequences of alternative strategies for our understanding of levels and distribution of poverty.

In the course of the work on non-monetary indicators of deprivation, a number of lessons have been learned about the desirable properties of a basic deprivation index. First, it needs to be linked to customary living standards. This is a requirement if the index is to be consistent with the understanding of poverty as exclusion from ordinary living patterns. It is also important if the indicator is to have legitimacy as part of a target-setting exercise in social policy. Second, the items chosen should be broadly relevant in the population so as to allow the comparison of different social groups, such as older adults and families with children. Using items from several dimensions facilitates this broad relevance. If the chosen items are very specific to a particular life-cycle stage – such as access to child-care or work-life balance – it makes comparisons across groups more difficult. This is one of the problems with including household joblessness as part of the EU 2020 social exclusion measurement: it is not defined for older households

with nobody of working age. Examining the reliability of the items in an index contributes to assessing its general relevance in the population.

Third, the index needs to have both construct and discriminant validity. Construct validity can be assessed by examining its association with factors expected to be related to social exclusion such as lower income, lower social class position, unemployment and financial strain. Discriminant validity can be assessed by establishing that it is distinct enough from income poverty to provide a useful addition to our understanding of social exclusion. In addition, it is important not to collapse the indicator of basic deprivation into the measurement of factors we wish to examine as causally related to social exclusion (such as unemployment or household joblessness, for instance) or factors we expect to be outcomes or consequences of social exclusion, such as subjective distress or financial stress. This is a second problem with the inclusion of household joblessness in the EU 2020 social exclusion indicators. If joblessness enters into the measurement of social exclusion, then we cannot examine the impact of employment on social exclusion or differences between countries in the extent to which joblessness results in exclusion.

Finally, if it is to be accepted and put to use in policy planning and monitoring, the index should be easily communicated.

The question of when and how to change the measure of basic deprivation in response to changing living standards involves taking account of the relative and absolute in the understanding of poverty. In arguing against a purely relative conception of poverty, Sen (1983) notes that “an absolute approach in the space of capabilities translates into a relative approach in the space of commodities, resources and incomes in dealing with some important capabilities, such as avoiding shame, participating in social activities and retaining self-respect.” In other words, the ESRI concept of poverty has an absolute element in that it is grounded in the capability to participate in “ordinary living patterns, customs and activities” (Townsend, 1979, p.31), but a relative element insofar as what is considered “ordinary” will change over time as living standards change. There is nothing absolute about the items that are used as indicators of basic deprivation. What matters is that they capture this capability to avoid exclusion. Their usefulness in this respect will need to be continually verified and validated by empirically examining their reliability and validity.

Analysis of the socio-economic distribution of the impact of the recession in Ireland is, in important respects, different from the straightforward picture of polarization assumed by many. As yet we have a very limited understanding of the corresponding distribution of gains from the recovery. This is partly because there is likely to be a significant lag between changes in household income levels and related changes in deprivation and economic stress levels. Understanding such developments and additional exploration of poverty dynamics must be priorities for future research.

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