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Identifying Childhood Deprivation: How Well Do National Indicators of Poverty and Social Exclusion in Ireland Perform?*

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Abstract: In the context of the significance that the life-cycle has been afforded in social policy discussion in Ireland, current national measures of poverty and social exclusion have been criticised for failing to capture such phenomena accurately in relation to particular stages of the life-course. In this paper we have taken advantage of the inclusion of a special module on childhood deprivation in *EU-SILC* 2009 to create reliable measures of both household basic deprivation and childhood deprivation. Overall, our analysis leads us to the conclusion that those exposed to childhood deprivation are generally a sub-set of the children captured by population indicators. Adopting a multidimensional and dynamic perspective on household resources and deprivation enables us to capture the large majority of children exposed to childhood deprivation. Restricting our attention to childhood deprivation would lead us to miss out on a significant number of children living in households experiencing basic deprivation but not exposed to childhood deprivation. It would be unwise to assume that such deprivation has no consequences for children. While there is clearly a value in supplementing existing national measures with child specific indicators, it would not appear sensible to rely solely on the latter.

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I INTRODUCTION

1.1 *From Income Poverty to Multidimensional Deprivation*

While poverty is still most often measured in terms of income, it has long been accepted that poverty is not just about money. The widespread adoption of the terminology of social exclusion/inclusion in Europe reflects the concern inter alia that focusing simply on income misses an important part of the picture. Most research takes as a starting point that people are in poverty when "… 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" (Townsend, 1979). This definition is echoed in a variety of influential formulations at EU level and in the US (Citro and Michael, 1995, EEC, 1985, EC, 2004). Recognition that income may not be a reliable measure of poverty in this sense has stimulated a wide range of efforts to incorporate measures of deprivation into the analysis of poverty and social exclusion.[1]

A particularly ambitious statement of what a multidimensional approach to poverty measurement should encapsulate is provided below.

> … Poverty is not just the absence of income or even the material deprivation that accompanies it. It is both of these and everything that follows from them: the hassle; the hard work; the stress; the budgeting; the conflict the shame; the degraded environment; the isolation; the helplessness; the ill-health; the misfortune – and much else that, taken together, is both a reasoned and involuntary response to hardship and which may, quite often, serve to exacerbate it.
>
> (Tomlinson and Walker, 2009, p. 20).

By these standards, pretty well all measures of poverty constructed at the national level will fail the 'multidimensionality' test. However, before reaching the conclusion that this necessarily invalidates such indicators it is worthwhile subjecting the notion of multidimensionality to critical scrutiny.

Where we compare measures of poverty or deprivation we should not assume that one involving more dimensions is necessarily superior to one with less. Nor that focusing on any particular unit of analysis is preferable in any absolute sense. Nor that approaches that incorporate subjective experience should be afforded a privileged status. The need for a multidimensional approach is not something that can simply be read off from the multi-dimensional nature of the concepts themselves but rather must be justified on both theoretical and empirical grounds. As with most situations in the social

[1] Reviews of these efforts can be found in Boarini and Mira d'Ercole (2006); Gordon *et al.* (2000); Couch and Pirog (2010) and Nolan and Whelan (2011).

sciences, we are not in a position to evaluate superiority in terms of validity by employing external criteria as benchmarks. Our assessment of the relative merits of different measures must be based on a process of construct validity. This involves exploring the manner in which a particular measure is related to other relevant variables and the extent to which such relationships are in accordance with our theoretical expectations relating to the underlying concept.[2]

In practice, the implementation of a multidimensional approach to poverty has tended to be pursued on a fairly ad hoc basis. The underlying rationale for adopting such an approach is often not spelt out and its implication followed through. Here, drawing on Nolan and Whelan (2007, pp. 146-148), we attempt to clarify exactly when a multidimensional approach might be necessary or helpful. A clear distinction needs to be maintained between conceptualising and measuring poverty. In particular, for the purposes of this paper, we wish to stress the fact that poverty may be best thought of as multidimensional does not necessarily imply that the poor can be identified only by using a multidimensional approach.

The evaluation of any particular approach to multidimensionality is also dependent on the position one takes in relation to the importance of the causal relationship between different dimensions. Tomlinson and Walker (2009, p. 1) conclude that:

> … the direction of causality is important in devising policy responses and in providing individuals with advice, but less so in the measurement of poverty.

We take a somewhat different view and would argue for the crucial importance of keeping clear the distinction, highlighted in Townsend's definition, between resources and exclusion. For the purposes of this paper it is not necessary to resolve this issue but it does serve to illustrate that the choice between more and less multidimensional approaches to the measurement of poverty" is far from being a straightforward matter and requires the evaluation of a range of evidence on the basis of clearly articulated theoretical assumptions.

1.2 *Exploring the Relationship Between Childhood Deprivation*

The importance which has been attributed to the life-cycle perspective has ensured that the discussion of multidimensionality has focused considerable attention on the extent to which indicators focused on measuring poverty in

[2] For a detailed discussion of predictive, criterion and construct validity see Carmines and Zeller (1979).

the population as a whole, can adequately capture the experience of poverty at specific stages of the life-cycle (NESC, 2005, Whelan and Maître, 2008). Bradshaw and Main (2010, p. 5) note that if income is collected at individual and household level, without detailed expenditure data we do not know whether or not it is spent on children. They note that being in a position to cross-classify child deprivation with income poverty could be extremely revealing in this respect. This argument can be extended to the value of being able to explore the relationship between adult and childhood deprivation indicators.

A primary purpose of national indicators is to facilitate comparisons across the life-course using a common metric. The fact that such measures do not capture the multidimensional complexity of the experience of specific groups, such as children, clearly does not in itself invalidate them. Legitimate questions can be raised about the relative value of measures constructed to capture poverty or deprivation for the population as a whole and those focused on the distinctive manner in which such phenomena are experienced at a particular stage of the life course. However, such questions must be addressed taking into account the purposes for which specific measures have been constructed and should be based on rigorous assessment of issues relating to reliability and validity.[3]

A central question which we address in this paper is the extent to which household measures of poverty and social exclusion capture those children who are separately identified by childhood specific indicators. Employing both types of measures allows us to explore the determinants and consequences of particular combinations of forms of deprivation. For example, how do children who are exposed to household deprivation but not childhood deprivation or vice versa differ from those who are exposed to both forms? Is it reasonable to assume that children who are not exposed to childhood deprivation but experience household deprivation are unaffected by the latter?

In order to conduct such analysis it is necessary to have a data set which contains measures of poverty and social exclusion for the population as a whole and additional specifically childhood deprivation measures. Fortunately, the Irish Central Statistics Office (CSO) Survey of Income and Living Conditions (SILC) 2009 data fulfils these conditions. We are not in a position to report on the direct experiences of children but must rather rely on the reports of an adult household member. We are, therefore, dealing with parents' views of the extent of deprivation among their children. It is not possible for us to assess the argument that children protect parents from

[3] For a detailed discussion of issues relating to the measurement of deprivation for children and older people see Willitts (2006) and McKay (2008). For a detailed treatment of the relationship between poverty, social exclusion and the life-cycle in Ireland see Whelan and Maître (2008).

knowledge of their experience of poverty and conceal their desires (Ben-Arieh, 2005, Ridge, 2002, 2005, 2009). The data, however, do allow us to consider the extent to which children may be protected from the consequences of household poverty and deprivation through the priorities of their parents and the choices that they make (Bradshaw and Main, 2010 and Bradshaw, Williams and Middleton, 2010).

II CENTRAL STATISTICS OFFICE EUROPEAN UNION – SURVEY OF INCOME AND LIVING CONDITIONS 2009 DATA AND MEASURES

2.1 *Data*

In Ireland, the information required under the EU-SILC framework is being obtained via a survey conducted by the Central Statistics Office each year. The SILC survey is a voluntary survey of private households. For this report we are using the SILC 2009 data. In 2009, the total completed sample size was 5,183 households and 12,641 individuals. A two-stage sample design with eight population density stratum groups with random selection of sample and substitute households within blocks and the appropriate deign weight is employed in our subsequent analysis (CSO, 2010). In 2009 a special module was added on childhood deprivation. Our analysis is restricted to children aged between 2-16, where measures of both household and childhood deprivation measures are available. The total number of children in our analysis is 2,554.

2.2 *Childhood Deprivation Items*

Figure 1 shows the child-specific items that are available in the 2009 EU-SILC module. The information is gathered from one of the child's parents or guardians and is not generally asked specifically of each child. Two exceptions are the item on being able to participate in school trips or events and having a suitable place to do homework. In the case of the general items, they are assigned to all children in the household. To avoid awkward phrasing we refer to a child as deprived on any of these items if any child in the household lacks it. In the case of the items asked specifically of each child, the response in respect of that child is attached to him or her.[4,5] Since children in

[4] Items relating to an outdoor space in the neighbourhood to play safely and not being able to visit a GP or specialist or dentist during the past 12 months were excluded from our analysis because of weak associations with the remaining items.

[5] Given the measurement procedure employed, for many purposes it would be sensible to proceed at household level. However, since our central interest is to consider how well national measures which are defined at the individual level capture childhood deprivation, our analysis will be conducted at the level of the individual child. When calculating significance levels we correct for clustering of individuals within households.

Figure 1: *Child-Specific Deprivation Items*

Name	*Description*	*Base*
Clothes	Does the child/children have some new (not second hand) clothes? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Shoes	Does the child/children have two pairs of properly fitting shoes, including a pair of all-weather shoes? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Fruit	Does the child/children eat fresh fruit and/or vegetables at least once a day? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Meals	Does the child/children eat three meals a day? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Protein	Does the child/children eat a meal with meat, chicken or fish (or vegetarian equivalent) at least once a day? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Books	Does the child/children have books at home suitable for his/her age? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Equipment	Does the child/children have outdoor leisure equipment (bicycle, roller skates, etc.)? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Games	Does the child/children have indoor games (educational baby toys, building blocks, board games, computer games etc.)? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Activity	Does the child/children participate in a regular leisure activity (swimming, playing an instrument, youth organisations, etc.)? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Party	Does the child/children have celebrations on special occasions (birthdays, religious events)? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Friends	Does the child/children invite/have friends to your house to play and/or eat from time to time? (Yes; No, because cannot afford; No, other reason)	Age 2-16
Trip	Does <Name> participate in school trips and school events that cost money? (Yes, No,-cannot afford; No, other reason)	School children
Homework	Does <Name> have a suitable place to study or do homework? (Yes, No, cannot afford; No, other reason)	School children

Source: EU SILC, 2009, Manual.

households where there are no children aged two or above will necessarily have scores of zero our analysis focuses on children aged between 2 and 16.

2.3 *Basic Deprivation*

The measure of household deprivation we employ in this paper is that relating to enforced deprivation which forms part of the Irish consistent poverty measure. This index is made up of the 11 items shown in Figure 2. These items are measured at the household level and the focus is on the household being unable to afford them ('enforced lack').

Figure 2: *Basic Deprivation Items from the EU-SILC Questionnaire*

1. Two pairs of strong shoes
2. A warm waterproof overcoat
3. Buy new (not second-hand) clothes
4. Eat a meal with meat, chicken, fish (or vegetarian equivalent) every second day
5. Have a roast joint or its equivalent once a week
6. Had to go without heating during the last year through lack of money
7. Keep the home adequately warm
8. Buy presents for family or friends at least once a year
9. Replace any worn out furniture
10. Have family or friends for a drink or meal once a month
11. Have a morning, afternoon or evening out in the last fortnight for entertainment

2.4 *At-Risk of Poverty (ARP)*

The "at risk of poverty" measure identifies persons in households with a household equivalent income below 60 per cent of median income. The measure is constructed as the sum of the income of every individual within the household across all sources, after income tax and PRSI contributions. The CSO 'National' equivalence is employed to adjust for the number of persons and composition within the households. The household income is then divided by the number of adults equivalent to produce the household equivalent income.

2.5 *Consistent Poverty*

This indicator measures the proportion of the population that is "at risk of poverty" and living in a household experiencing enforced lack of two or more of the 11 basic deprivation items.

2.6 *Economic Vulnerability*

"Economic vulnerability" distinguishes between two clusters of individuals in terms of risk profiles relating to ARP, experiencing enforced deprivation and

economic stress where this final element is defined as being in a household that experiences "difficulty" or "great difficulty" in making ends meet (Whelan and Maître, 2008).

III OUTLINE OF ANALYSIS

In Section IV we will describe levels of deprivation on the available childhood measures, the relationships between these items and the development of a childhood deprivation index. In Section V we explore the relationship between 'basic deprivation' measured at the household level, which is a component of the national consistent poverty measure, and childhood deprivation. In Section VI we extend our analysis by considering the relationship between childhood deprivation and national "at risk of poverty", consistent poverty and economic vulnerability indicators in terms of both risk levels and composition. In Section VII we construct a typology of overlapping and non-overlapping forms of basic deprivation and childhood deprivation and review the relationship of different combinations to "at risk of poverty", consistent poverty and economic vulnerability. In order to extend our understanding of specific combinations of deprivation, we consider the manner in which membership of such groups is related to location in the income distribution and marital status. In Section VIII we provide an overview of our findings and their implications.

IV MEASURING CHILDHOOD DEPRIVATION

In Table 1 we report levels of enforced deprivation for 13 childhood items. The levels of deprivation are extremely modest. The highest levels are observed for a regular leisure activity, participation in school trips and events that cost money and two pairs of shoes where the level ranges between 5.1 and 3.5 per cent. For new not second hand clothes, a meal with meat, chicken or fish (or vegetarian equivalent), outdoor leisure equipment and a suitable place to study or do homework and inviting friends around to play and eat the figure ranges between 2.6 and 1 per cent. For the remaining items the rate is below 1 per cent.

Levels of childhood deprivation are substantially lower than those relating to household deprivation. Taking a threshold of 1+ items on the former and 2+ on the latter, we find that the basic deprivation measure identifies twice as many children as deprived as does the childhood specific index. This suggests

Table 1: *Enforced Deprivation Levels for Childhood Items for Children Aged Between 2-16 Years*

	% Deprived
Deprivation Items	
New not second-hand clothes	2.6
Two pairs of shoes	3.5
Fresh fruit and vegetables once a day	0.7
Three meals a day	0.5
Meal with meat, chicken or fish	1.9
Books at home suitable for their age	1.0
Outdoor leisure equipment	1.2
Indoor games	0.4
Regular leisure activity	5.1
Celebrations on special occasions	0.9
Invite friends around to play and eat	1.1
Participate in school trips and events that cost money	4.1
Suitable place to study or do homework	1.7

Table 2: *Reliability of Childhood Enforced Deprivation Items for Children Aged 2-16 Years*

	Cronbach's Alpha if Item Deleted
Deprivation Items	
New not second hand clothes	0.69
Two pairs of shoes	0.67
Fresh fruit and vegetables once a day	0.69
Three meals a day	0.70
Meal with meat, chicken or fish	0.69
Books at home suitable for their age	0.69
Outdoor leisure equipment	0.69
Indoor games	0.70
Regular leisure activity	0.68
Celebrations on special occasions	0.69
Invite friends around to play and eat	0.69
Participate in school trips and events that cost money	0.70
Suitable place to study or do homework	0.71
Overall Alpha	0.71

that parents prioritise protecting their children from deprivation. However, it could also reflect their reluctance to admit such deprivation. To address the question of whether these items are tapping a common underlying dimension, in Table 2 we report the findings from a reliability analysis. The table shows the overall Cronbach's alpha reliability coefficient and the reliability of the

scale if each item were omitted.[6] The reliability level is extremely satisfactory (0.71) and would not be improved substantially by dropping any of the items. The results indicate that there is considerable homogeneity in the degree to which the individual items tap the latent dimension of childhood deprivation. The relatively uniform contribution of the items to the index shows that those whose content is relatively similar to the corresponding items in the basic deprivation measures are tapping the same underlying dimension as specifically childhood items such as, having books at home, outdoor leisure equipment, regular leisure activity and celebrations on special occasions. Any association between the childhood deprivation dimension and the basic deprivation index cannot, therefore, be a consequence of common wording of items.

V EXPLORING THE RELATIONSHIP BETWEEN CHILDHOOD DEPRIVATION AND BASIC DEPRIVATION

In order to extend this analysis we will proceed to consider the relationship between the childhood deprivation index and the basic deprivation measure. The latter index has an alpha of 0.71 and exhibits very little variation across the life course. The correlation between the dimensions is .44.

In Table 3 we set out the correlation between the basic deprivation index and each of the 13 childhood items. The average correlation is 0.30. Six of the items have correlations between 0.31 and 0.45. The three items exhibiting the weakest correlation with the corrected childhood deprivation index are, inviting friends around, school trips and suitable place to study where the correlations are between 0.15 and 0.24. These findings confirm that the strong correlation between the childhood deprivation and basic deprivation dimensions derives from the degree to which each taps an underlying dimension of generalised deprivation rather than the specificities of individual item.

The rather skewed distributions for both the childhood deprivation and basic deprivation variables suggest caution in interpreting the substantive implications of the bivariate correlation. In Table 4 we show the risk of experiencing enforced deprivation in relation to at least one childhood item for categories of basic deprivation. For those children scoring zero on the basic deprivation index only 2 per cent are in households experiencing childhood deprivation. This rises to 15 per cent for those scoring 1 and to 29 per cent for those scoring 2. Finally the figure peaks at 47 per cent for basic deprivation

[6] alpha= [Np{1 + p(N-1}] where N is equal to the number of items and p is equal to the mean inter item correlation.

Table 3: *Pearson Correlation of Basic Deprivation with Individual Childhood Deprivation Items for Children Aged 2-16 Years*

	Correlation
Deprivation Items	
New not second-hand clothes	0.417
Two pairs of shoes	0.449
Fresh fruit and vegetables once a day	0.309
Three meals a day	0.274
Meal with meat, chicken or fish	0.342
Books at home suitable for their age	0.225
Outdoor leisure equipment	0.347
Indoor games	0.266
Regular leisure activity	0.448
Celebrations on special occasions	0.255
Invite friends around to play and eat	0.152
Participate in school trips and events that cost money	0.243
Suitable place to study or do homework	0.165

Table 4: *Risk of Enforced Deprivation on at least One Childhood Item by Basic Deprivation for Children Aged 2-16 Years*

	%
Basic Deprivation	
0	2.1
1	14.5
2	28.6
3+	47.3
0-1	4.3
2+	38.1

scores of 3+. The final two rows focus on the 2+ basic deprivation threshold that makes up one part of the consistent poverty measure. For those below that threshold the rate of childhood deprivation is 4 per cent and for those above the threshold the figure increases almost nine fold to 38 per cent.

In Table 5 we look at the same relationship from a composition rather than a risk perspective. In other words for those who are experiencing childhood deprivation we ask what percentage are drawn from children at different levels of basic deprivation. Of those children living in a household experiencing child deprivation 47 per cent are in households that report deprivation on 3+ basic deprivation items, 27 per cent and 16 per cent are drawn from households experiencing an enforced lack of 2 and 1 respectively of the latter items. Finally, only 10 per cent are located in households that

entirely avoid basic deprivation. The threshold of 2+ employed as part of the national consistent poverty measure allows us to capture close to three-quarters of those found in households experiencing childhood deprivation. In this section we have shown that there is a close correlation between childhood deprivation and basic deprivation which is most plausibly interpreted as deriving from the degree to which both tap an underlying dimension of deprivation. The strength of the association between the two dimensions is reflected in the fact that the substantial majority of those experiencing childhood deprivation are drawn from households experiencing basic deprivation.

Table 5: *Composition of Those Lacking at Least One Childhood Item by Basic Deprivation for Children Aged 2-16 Years*

	%
Basic Deprivation	
0	10.3
1	15.6
2	27.2
3+	46.9
Total	100
0-1	25.9
2+	74.1
	100

VI POVERTY, ECONOMIC VULNERABILITY AND CHILDHOOD DEPRIVATION

In this section we directly address the issue of the extent to which population measures of poverty and economic vulnerability succeed in capturing individuals who are located in households experiencing childhood deprivation.

The measure of economic vulnerability employed in this analysis is derived from a latent class analysis involving three variables. These comprises a set of four categories of income poverty; the dichotomised version of the eleven basic deprivation index distinguishing those experiencing an enforced deprivation of 2+ items; and a measure of subjective economic stress that differentiates between individuals living in households experiencing "great difficulty" or "difficulty" in making ends meet (Whelan *et al*, 2006 and Whelan and Maître 2010a and b).[7] Latent class analysis identifies a cluster of 26 per cent of vulnerable individuals in the population as a whole who are

characterised by a multidimensional risk profile relating to these three indicators that involves a heightened level of risk that sets them apart from the remainder of the population. The two class model assumes that the three indicators are independent of each other within each of the latent classes and the model misclassifies only 0.6 per cent of cases. The contrast between clusters is in terms of *risk profiles* rather than *current* patterns of disadvantage. Focusing first on income poverty we find that economic vulnerability carries a 32 per cent risk of being found below the 60 per cent of median income threshold compared to 8 per cent for the non-vulnerable. The contrasts are even sharper in relation to the remaining elements. For economic stress the figures for the vulnerable and non-vulnerable classes are 71 per cent and 11.0 per cent. However, by far the sharpest differentiation occurs in relation to being above the basic deprivation threshold where the respective figures are 66 per cent and 0.01 per cent (Whelan and Maître, 2010b).

The analysis reported in Table 6 compares risk levels for income poverty, consistent poverty and economic vulnerability for adults and children aged less than sixteen. In each case the levels are significantly higher for those in households with children. The disparity is least for income poverty where the respective figures are 13 per cent and 18 per cent. Differentiation is sharpest for consistent poverty with the rate for children being almost double that for adults with the respective figures being 5 per cent and 9 per cent. Economic vulnerability occupies an intermediate position with respective figures of 19 per cent and 31 per cent.

In Table 7 we look at the risk levels for childhood deprivation broken down by poverty and vulnerability. Focusing first on income poverty, we observe that the likelihood of childhood deprivation rises from 8 to 33 per cent as one switches from the non-poor to poor category. For the consistently poor, who form a significantly smaller part of the relevant population, the corresponding figures are 9 per cent and 51 per cent. Finally, for economic vulnerability where the group being identified is considerably larger than for income poverty the respective figures are 3 per cent and 34 per cent.[8] In Table 7 we

[7] For an accessible account of latent class analysis see McCutcheon and Mills (1998).

[8] For the remainder of the analysis involving economic vulnerability estimates are based on employing the Latent Gold programme modal class procedures. Each observation is assigned to that latent class for which, given the manifest scores, the estimated classification probability is largest. Allocation to clusters is on the basis of modal assignment. This procedure misclassifies only 6.4 per cent of cases which is a very modest level and reduces the errors involved in allocating all individuals to one class by 75.3 per cent. The introduction of error into the analysis tends to attenuate the association between variables. Consequently, the reported associations involving the latent class variable can be regarded as conservative estimates.

Table 6: *Risk of Poverty and Economic Vulnerability by Presence of Children*

	No Children %	*Children 2-16* %
Income Poverty	13.1	17.9
Consistent Poverty	4.7	8.6
Economic Vulnerability	19.4	31.1

Table 7: *Risk of Enforced Deprivation on at Least One Childhood Item by Poverty and Vulnerability for Children 2-16*

	%	*Odds Ratio*	*Nagelkerke R^2*
Not Income Poor	8.0		
Income Poor	33.1	5.7***	0.126
Not Consistently Poor	8.9		
Consistently Poor	50.9	10.6***	0.156
Not Economically Vulnerable	2.7		
Economically Vulnerable	34.3	18.8***	0.317
N	2,450		

also report the odds ratios from a set of logistic regressions that summarise the magnitude of the foregoing relativities. The odds ratio rises from 5.7 for income poverty to 10.6 for consistent poverty and finally to 18.8 for economic vulnerability. Each of the population indicators proves to have considerable power in identifying those found in households experiencing childhood deprivation. Income poverty is a highly significant factor in identifying those children exposed to childhood deprivation. The consistent poverty measure identifies a sub-set of the income poor children who are exposed to a substantially higher risk of childhood deprivation. Greater discrimination is achieved by a more restricted focus. In the case of economic vulnerability a substantially sharper pattern of differentiation is achieved even when identifying a considerably larger disadvantaged sub-group. The proportion of the variance explained rises gradually from .126 to .156 and finally to .317.

The combined impact of discriminatory power and the size of the group differentiated can be seen when we adopt a composition perspective in Table 8. Those below the income poverty line comprise 48 per cent of those exposed to childhood deprivation. For consistent poverty this figure falls to 35 per cent with the greater discriminatory capacity being outweighed by the smaller size of the disadvantaged group. For economic vulnerability the relevant figure

rises to 85 per cent reflecting both the sharper discriminatory power of this variables and the size of the vulnerable group.[9]

Clearly, all three population measures prove to be powerful predictors of exposure to childhood deprivation. The findings suggest that those exposed to childhood deprivation form a subset of those captured by the basic deprivation measure. While just over half of those exposed to childhood deprivation are not captured by the income poverty measure, almost two-thirds of this group are picked up by the economic vulnerability measure. By going beyond current income and identifying a group with a multidimensional risk profile in relation to income poverty, economic stress and, most particularly, basic deprivation we can identify over four-fifths of those exposed to childhood deprivation.

Table 8: *Composition of those Experiencing Enforced Deprivation on at Least One Childhood Deprivation Item: Percentage of Child Deprived Below Relevant Poverty or Vulnerability Threshold for Children Aged 2-16*

	% of Children Exposed to Childhood Deprivation
Threshold	
Income Poverty at 60 per cent of Median Income	47.5
Consistent Poverty at 60 per cent of Median Income	35.0
Economically Vulnerable	85.0

Given the magnitude of the relationship, it is clear that the socio-economic factors associated with childhood deprivation will inevitably bear a close relationship to those predicting poverty and vulnerability at the level of the population as a whole. However, in order to explore this issue further, in the section that follows we will distinguish between those exposed to none and both forms of deprivation and those affected by only one or the other.

VII PATTERNS OF POPULATION AND CHILDHOOD DEPRIVATION

In Table 9 we document the distribution of combinations of basic and childhood deprivation. Over 70 per cent of children succeed in avoiding both forms of deprivation. In contrast only 9 per cent are multiply deprived. The number experiencing basic deprivation but not childhood deprivation reaches 15 per cent. Finally only 3 per cent are exposed to childhood deprivation only.

[9] If we focus on those experiencing childhood deprivation on two or more items we find that 100 per cent are captured by the vulnerability measure.

Focusing solely on childhood deprivation would lead us to miss out on the 15 per cent of children who are exposed to basic deprivation but not to childhood deprivation. Given the likely consequences for children of exposure to such deprivation, it is not clear that if our concern is with the welfare of children we should necessarily focus on the childhood measure rather than the basic deprivation measure.

Table 9: *Childhood and Basic Deprivation Typology Frequencies for Children Aged 2-16*

	% of Children
Neither	72.4
Basic Only	15.1
Childhood Only	3.3
Both	9.3
Total	100
N	2,450

In Table 10 we show the relationship between the deprivation typology and the national indicators of poverty and social exclusion. Focusing first on income poverty, we observe that for children classified as poor, the levels of basic only and multiple deprivation are very similar with respective figures of 24 per cent and 25 per cent. Childhood only deprivation remains a relatively rare phenomenon even among the income poor with an observed rate of 9 per cent. For those consistently poor the risk level is close to 50 per cent for both basic deprivation only and multiple deprivation while by definition it is zero for the remaining categories. Finally for the economically vulnerable we find

Table 10: *Childhood and Adult Deprivation Typology Risk Levels by Income Poverty, Consistent Poverty and Economic Vulnerability for Children Aged 2-16 (Percentage by Column)*

	Income Poverty		*Consistent Poverty*		*Economic Vulnerability*	
	No	*Yes*	*No*	*Yes*	*No*	*Yes*
	%	*%*	*%*	*%*	*%*	*%*
Deprivation Typology						
Neither	78.8	43.1	79.3	0.0	97.3	17.2
Basic Only	13.2	23.6	11.8	49.1	0.0	48.4
Childhood Only	2.1	8.8	3.6	0.0	2.7	4.5
Both	6.0	24.5	5.4	50.9	0.0	29.8
Total	100	100	100	100	100	100
N	2,450		2,450		2,450	

that 30 per cent are multiply deprived, 48 per cent experience basic deprivation only, 5 per cent childhood deprivation only and 17 per cent neither. It is noticeable that, while for all other categories of the typology there is a striking contrast in risk levels between the vulnerable and non-vulnerable categories, for the childhood deprivation there is little in way of differentiation between these groups.

The foregoing suggests that the factors associated with childhood deprivation overlap substantially with those shaping population patterns of poverty and social exclusion. In Table 11 we provide an initial exploration of this issue by breaking down risk levels for the categories of the deprivation typology by equivalent disposable household income quintile. The likelihood of experiencing neither form of deprivation increases systematically as one ascends the income hierarchy. The lowest probability is observed for the bottom income quintile where the figure is 44 per cent. It increases sharply to 72 per cent for the second quintile and then rises steadily to 99 per cent for the top quintile. For the multiple deprivation category the reverse pattern is observed. In the bottom quintile 22 per cent are found in this category. It then falls to 10 per cent for the second quintile and gradually declines to less than 1 per cent for the top quintile. The basic only category also reveals a clear pattern of differentiation by income level. Among those in the bottom quintile 27 per cent are found in this category. This falls to 15 per cent for the second quintile and gradually declines to less than 1 per cent for the top quintile. In clear contrast to the unambiguous role of income in these cases, for the childhood only category it plays a very modest role. While no one in the top quintile experiences such deprivation very little in the way of differentiation is observed across the remaining quintiles. The highest rate of 7 per cent is observed in the bottom quintile but no significant variation is observed across the intermediate quintiles.

Table 11: *Childhood and Adult Deprivation Typology Risk Levels by Income Poverty for Children Aged 2-16*

	Income Quintile				
	1	*2*	*3*	*4*	*5*
	%	*%*	*%*	*%*	*%*
Deprivation Typology					
Neither	44.5	71.7	74.9	88.3	98.6
Basic Only	27.0	15.1	18.4	5.7	0.5
Childhood Only	6.7	3.3	1.8	2.8	0.0
Both	21.8	9.9	4.9	3.2	0.8
Total	100	100	100	100	100
	623	575	553	435	369

In Table 12 we provide a more formal analysis of the impact of income and also take into account the role of the marital status of the household reference person (HRP) in reporting the results of a multinomial regression with those experiencing neither form of deprivation as the reference category. For the purposes of this analysis, given that levels of deprivation are extremely low at the top of the income distribution, we have made the fourth and fifth quintiles the reference category for the income variable. Focusing first on the contrast between the multiply deprived category and the reference group we can see that the net impact of quintile, as captured by the odds ratios, increases from 2.3 to 4.6 and finally 14.8 as one moves from the third to the bottom quintile. The net odds ratio for divorce is 5.9 and for separation and being single the respective figures are 2.3 and 3.5. For the basic deprivation category a similar pattern of differentiation is observed for income. The odds ratio for the bottom quintile reaches 12.4 with the figures for the second and third quintile being respectively 4.8 and 5.6. The impact of being single is similar to the earlier case. However, the effect of being separated and divorced is weaker with the respective odds ratios being 1.6 and 3.3.

Table 12: *Multinomial Regression of Typology of Childhood and Adult Deprivation – Reference Category is Experiencing Neither Type of Deprivation*

	Both Odds Ratio	*Basic Only Odds Ration*	*Childhood Only Odds Ratio*
Income Quintile			
Reference Category			
Quintiles 3 and 4			
Quintile 1	14.8***	12.4***	5.9**
Quintile 2	4.6**	4.8***	1.9
Quintile 3	2.3	5.6***	1.1
Separated	2.3*	1.6	5.6**
Divorced	5.9***	3.3	0.5
Single	3.5***	3.8***	5.6***
Reduction in Log Likelihood	636.7		
Degrees of freedom	18		
Nagelkerke R^2	0.270		
N	2,450		
* p < .1, ** p < .01 *** p<.001			

Finally, for the childhood deprivation category the net impact of income is relatively weak. No significant differentiation is observed between the second and third quintiles and the reference category. For the bottom quintile the

odds ratio is 5.9. In this case the HRP being separated or being single is a highly significant influence with the odds ratio being close to 6 in both cases. However, unlike the earlier cases, being divorced has no significant impact. The differential impact of separation and divorce and being single clearly requires a degree of further exploration which goes beyond the scope of this paper. Overall, income and marital status, particularly divorce, appear to capture resource factors that influence childhood deprivation. However, where such deprivation is separated from basic deprivation and only weakly influenced by current income other more specific aspects of relationship breakdown that require more in-depth exploration independent may come in to play.

VIII CONCLUSIONS

The focus on the life-cycle in Irish social policy discussion has directed critical attention to the extent to which current population measures of poverty and social exclusion capture such phenomena at specific stages of the life cycle. In this paper we have taken advantage of the possibility of constructing reliable indices of both childhood and household basic deprivation to explore the implications of this critique in more depth. In particular, we have focused on the extent to which such measures succeed in identifying children exposed to specifically childhood deprivation. We have extended our analysis to consider the extent to which children are exposed to different combinations of deprivation. We have also sought to identify factors which are associated with particular deprivation profiles and the implications of such findings for evaluation of national measures.

Our analysis of children aged 2-16 reveals that childhood deprivation is considerably less widespread than exposure to household basic deprivation. The latter approach identifies over twice as many children exposed to deprivation as does the former. The national measures of income and consistent poverty and economic vulnerability prove to be powerful predictors of childhood deprivation with the discriminatory power increasing as one shifts attention from the first to the last. Both income poverty and consistent poverty allow us to identify over 40 per cent of those exposed to childhood deprivation with the latter doing so while focusing on a much smaller group. This figure increases to over 80 per cent for economic vulnerability. The evidence relating to economic vulnerability indicates that the extent to which the poverty indicators fail to capture children experiencing childhood deprivation appears to be in large part a consequence of their limitations in capturing a wider command of resources and a longer term risk of exposure to poverty, deprivation and stress.

In order to explore these issues further, we constructed a typology of deprivation capturing the combinations of childhood and basic deprivation. Taking those experiencing neither type of deprivation as the benchmark we find that those exposed to both types of deprivation are sharply differentiated from those experiencing neither in terms of position in the income hierarchy. For those exposed to basic deprivation only, income is also an important predictor but is significantly less powerful than in the former case. Marital status of the HRP is also a significant factor in both cases. Where only childhood deprivation is experienced, income has a substantially weaker effect and by far the most powerful influence is the household reference person being single or separated while divorce has no significant impact. Such differential effects require further in-depth exploration.

Overall our analysis leads us to agree with McKay and Collard's (2004) conclusion that those children experiencing childhood deprivation are a sub-set of those located in households exposed to basic deprivation rather than constituting a distinct sub-group. Adopting a multidimensional and dynamic perspective on household resources and deprivation enables us to capture the large majority of such children. Conversely restricting our attention to childhood deprivation, as captured by the indicators in the SILC module, would lead us to miss out on larger numbers of children living in households experiencing basic deprivation.[10] Even if adult deprivation is not accompanied by specifically childhood deprivation, it would be unwise to assume that the latter has no consequence for children. Ridge (2009) stresses that children show keen insight into the challenges and demands that poverty generates for their parents. A concern with children's welfare does not automatically dictate the choice of the childhood measure in preference to the national indicator of basic deprivation.

Our analysis does reveal a group constituting approximately 3 per cent of children comprising just over one quarter of those exposed to childhood deprivation where rather different factors to those captured by the national indicators of poverty and social exclusion come into play. However, it is highly questionable whether one would wish to recalibrate the national measures of poverty and social exclusion in order to capture a form of deprivation which has a relatively weak relationship to current household income.

As a review of the evidence by Ridge (2009) makes clear, an in-depth understanding of the manner in which children experience poverty and social exclusion would require that we take into account the coping strategies of both children and parents and the institutional contexts, such as schools and

[10] Recent evidence for the UK *Household Longitudinal Study* suggests that household deprivation is a more powerful predictor of children's life satisfaction. Although both are insignificant when one controls for other factors (Knies, 2011).

neighbourhoods, which play a substantial role in shaping the qualitative nature of that experience. Notwithstanding such qualifications, it is clear that our analysis support the view that the population measures of poverty and social exclusion that have been employed in Ireland are largely successful in capturing those children exposed to childhood deprivation. While there is clearly a value in supplementing such measures with child specific measures, it would be extremely unwise to rely solely on the latter.

REFERENCES

BEN-ARIEH, A., 2005. "Where are the Children? Children's Role in Measuring and Monitoring Their Well-being", *Social Indicators Research*, Vol. 74, No. 3, pp. 573-596.

BOARINI, R. and M. MIRA D'ERCOLE, 2006. *Measures of Material Deprivation in OECD Countries,* OECD Social Employment and Migration Working Papers No. 37. Paris: OECD.

BRADSHAW, J. and G. MAIN, 2010. PSE *Measures Review Paper: Children's Deprivation Items*, Poverty and Social Exclusion in the UK: The 2011 Survey, Working Paper Series No. 7.

BRADSHAW, J., J. WILLIAMS and S. MIDDLETON, 2010. *The Necessities of Life for Children*, Working Paper 2, Poverty and Social Exclusion Survey of Britain.

CALLAN, T., B. NOLAN and C. T. WHELAN, 1993. "Resources, Deprivation and the Measurement of Poverty", *Journal of Social Policy,* Vol. 22, No. 2, pp. 141-172.

CARMINES, E. G. and R. A. ZELLER, 1979. *Reliability and Validity Assessment*, London: Sage.

CENTRAL STATISTICS OFFICE, 2010. *Survey on Income and Living Conditions (SILC) 2009*, Dublin/Cork: Stationery Office.

CITRO, C. F. and R. MICHAEL, 1995. *Measuring Poverty: A New Approach*, Washington, DC: National Academy Press.

COUCH, K. A. and M. A. PIROG, 2010. "Poverty Measurement in the US, European and Developing Counties", *Journal of Policy Analysis and Management*, Vol. 29, No. 2, pp. 217-226.

EUROPEAN ECONOMIC COMMUNITIES, 1985. "On Specific Community Action to Combat Poverty", (Council Decision of 19 December 1984) 85/8/EEC, *Official Journal of the EEC, 2/24.*

EUROPEAN COMMISSION, 2004. *A New Partnership for Cohesion. Convergence Competitiveness Cooperation. Third Report on Economic and Social Cohesion*. Luxembourg: Office for Official Publications of the European Communities.

GORDON, D., L. ADELMAN, K. ASHWORTH, J. BRADSHAW, R. LEVITAS, S. MIDDELTON, C. PANTAZIS, D. PATSIOS, S. PAYNE, P. TOWNSEND and J. WILLIAMS, 2000, *Poverty and Social Exclusion in Britain*, York: Joseph Rowntree Foundation.

KNIES, G., 2011. "Life Satisfaction and Material Well Being of Young People in the UK" in Understanding Society: *Early Findings from the First Wave of the UK's Household Longitudinal Study*. http://research.understandingsociety.org.uk/findings/early-findings

MCKAY, S., 2008. *Measuring Material Deprivation among Older People: Methodological Study to Revise the Family Resources Survey*, London: Department of Work and Pensions Working Paper No. 54.

MCKAY, S. and S. COLLARD, 2004. *Developing Deprivation Questions for the Family Resources Survey*. London: Department of Work and Pensions Working Paper 13.

MCCUTHEON, A. and C. MILLS, 1998. "Categorical Analysis: Log Linear and Latent Class Analysis" in E. Scarborough and E. Tannenbaum (eds.), *Research Strategies in the Social Sciences*, Oxford: Oxford University Press.

NATIONAL ECONOMIC AND SOCIAL COUNCIL, 2005. *The Developmental Welfare State*, Dublin: Government Publication Office.

NOLAN, B. and C. T. WHELAN, 2007. "On the Multidimensionality of Poverty and Social Exclusion" in J. Micklewright, S. Jenkins, (eds.), *Poverty and Inequality: New Directions,* Oxford: Oxford University Press.

NOLAN, B. and C. T. WHELAN, 2011. *Poverty and Deprivation in Europe*, Oxford: Oxford University Press.

RIDGE, T., 2002. *Childhood Poverty and Social Exclusion*, Bristol: Policy Press.

RIDGE, T., 2005. "The Challenge of Child Poverty" in H. Heindrick (ed.), *Child Welfare and Social Policy*, Bristol: Policy Press.

RIDGE, T., 2009. *Living with Poverty*, London: Department of Work and Pensions.

RINGEN, S., 1987. *The Possibility of Politics,* Oxford: Clarendon Press.

TOMLINSON, M. and R. WALKER, 2009. *Coping with Complexity: Child and Adult Poverty*, London: Child Poverty Action Group.

TOWNSEND, P., 1979. *Poverty in the United Kingdom*, Harmondsworth: Penguin.

WHELAN, C. T., 2007. "Understanding the Implications of Choice of Deprivation Index for Measuring Consistent Poverty in Ireland", *The Economic and Social Review*, Vol. 38, No. 2, pp. 211-234.

WHELAN, C. T. and B. MAITRE, 2008. "'New' and 'Old' Social Risks: Life Cycle and Social Class Perspectives on Social Exclusion in Ireland", *The Economic and Social Review*, Vol. 39, No. 2, pp. 131-156.

WHELAN, C. T., B. NOLAN and B. MAITRE, 2006. "Trends in Economic Vulnerability in the Republic of Ireland", *The Economic and Social Review*, Vol. 37, No. 1, pp. 91-119.

WHELAN, C. T. and B. MAITRE, 2010a. "Welfare Regime and Social Class Variation in Poverty and Economic Vulnerability", *Journal of European Social Policy*, Vol. 20, No. 4, pp. 316-332.

WHELAN, C. T. and B. MAITRE, 2010b "Protecting the Vulnerable: Poverty and Social Exclusion in Ireland as the Crisis Emerged", *The Economic and Social Review*, Vol. 41, No. 4, pp. 501-525.

WILLITTS, M., 2006. *Measuring Child Poverty Using Material Deprivation: Possible Approaches*, London: Department of Work and Pensions, Working Paper No 2.