

Technical Paper on Poverty Indicators

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An Roinn Coimirce Sóisialaí

Department of Social Protection

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[Policy Briefing](#): Irish and English

[Report of the Review of the National Poverty Target](#)

[Appendix A](#) - Consultation Paper on the Review of the National Poverty Target

[Appendix B](#) - Report on the Public Consultation for the Review of the National Poverty Target

[Appendix C](#) - Technical Paper on Poverty Indicators

[Appendix D](#) - Synthesis Report on the EU Peer Review on the Setting of National Poverty Targets

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Given the dramatic changes in Ireland with the onset of the recession, it is important to ask whether the existing national measures of poverty and deprivation are adequate to the task of identifying those at risk of social exclusion. The context set by the EU 2020 strategy, the commitment in the Programme for Government to review national poverty targets (*Government for National Recovery 2011-2016*) and the availability of additional indicators of deprivation in EU-SILC 2009 provide a further impetus for this review.

In this paper, we draw on the SILC data for Ireland for the period 2004 to 2009 to examine the three core measures of social exclusion used in Irish national policy: at-risk-of-poverty (income poverty), material deprivation and consistent poverty. We examine the following topics:

- trends between 2004 and 2009 in poverty, as measured by the three indicators
- reliability and validity of the Irish indicators over time
- Irish and EU approaches to measuring deprivation
- Irish indicators and the EU measure of 'low work intensity'
- potential contribution of additional indicators (at-risk-of-poverty anchored in time, persistent at-risk-of-poverty, economic vulnerability and the additional indicators included in EU-SILC 2009).

We conclude that the Irish measures of deprivation and consistent poverty have remained reliable and valid and compare favourably to alternative measures. We do argue, however, for the inadvisability of relying on a single indicator and propose a number of core and supporting indicators for use in monitoring social exclusion.

Key words: poverty indicators; poverty target; EU-SILC; material deprivation.

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1. Introduction

1.1 A Multidimensional Approach to Poverty

Poverty is understood as a restriction in participation in the customary standard of living in society and in customary social activities due to lack of resources (Townsend, 1979). This concept of poverty underpins the *National Action Plan for Social Inclusion 2007-2016* (Office for Social Inclusion, 2007), where poverty is defined as follows:

People are living in poverty if their income and resources (material, cultural and social) are so inadequate as to preclude them from having a standard of living which is regarded as acceptable by Irish society generally. As a result of inadequate income and resources people may be excluded and marginalised from participating in activities which are considered the norm for other people in society. (p. 20)

A considerable literature has argued for a multidimensional measure of poverty. By this we mean that, as well as income, we need direct measures of standard of living in order to identify the poor (Ringen, 1988; Mack and Lansley, 1985; Callan, Nolan and Whelan, 1993; Nolan and Whelan, 1996; Gordon et al., 2000; Whelan et al., 2001; Bradshaw and Finch, 2003; Pantazis, Gordon and Levitas, 2006; Boarini and d'Ercole, 2006; Nolan and Whelan, 2007; Whelan, 2007; Guio, 2009; Nolan and Whelan, 2010).

There are a number of problems in relying solely on current income. The first problem is that low income does not, in practice, identify those who are excluded from a customary standard of living because of a lack of resources. Part of the reason is conceptual, as Ringen (1988) notes: poverty is defined in terms of low living standards, so an income-based measure is, at best, an *indirect* measure, while measures of deprivation would capture poverty directly. A range of studies in industrialised countries has shown that a significant proportion of those below the at-risk-of- poverty threshold are not deprived in terms of living standards, while some households with incomes above the poverty threshold are deprived (see review in Perry, 2002; also for example, Callan, Nolan and Whelan, 1993; Halleröd, 1995; Kangas and Ritakallio, 1998; Mayer and Jencks, 1989; Nolan and Whelan, 1996; Ringen, 1988; van den Bosch, 2001; Bradshaw and Finch, 2003; Berthoud, Bryan and Bardasi, 2004).

A second problem is that income is only one measure of access to resources. A household may have a low income in a particular year, but it may be able to draw on savings or assets in order to maintain an adequate standard of living. On the other hand, a household may have higher expenses than average, such as those that may be associated with disability (Cullinan, Gannon and Lyons, 2010) or with accumulated debt, so that it has a low standard of living, despite an income that is above the poverty threshold.

Low income captures the situation of an individual or household at a point in time, rather than over a longer period. As such, it does not take account of the accumulation over time of resources through savings or erosion of resources over time through expenditure or debt (Whelan, 2007; Nolan and Whelan, 2007).

A third problem is that there are difficulties in adequately measuring income from self-employment, so that groups such as the self-employed and farmers often emerge as having particularly low incomes but without the associated drop in living standard (Whelan, Nolan and Maître, 2007). As a result of these three problems 'it is hazardous to draw strong conclusions about whether a household is poor or socially excluded from current income alone' (Whelan, Nolan and Maître, 2007, p. 10). Some researchers have sought to develop a measure of poverty based directly on standard of living (Mack and Lansley, 1985; Gordon et al., 2000; Pantazis, Gordon, and Levitas, 2006), without taking account of income. This involves identifying the poor as those experiencing an enforced lack of socially perceived necessities. Even here, however, the authors do not completely ignore income, as the group identified as poor based on the deprivation measure may be adjusted in some of the analyses by excluding those with high incomes (Mack and Lansley, 1985).

Sen (1979) argues that the direct method (based on deprivation) and income method of identifying the poor represent two alternative conceptions of poverty. A measure based on deprivation captures those who fail to meet certain minimum living standards, while a measure based on low income captures those who lack the capacity to meet the customary level of living in a society. Atkinson (1987) makes a related distinction in policy terms, between a concern to ensure a minimum standard of living, on the one hand, and the citizen's right to a minimum level of resources, on the other.

Apart from the conceptual distinction between actual standards and capacities, there are other potential problems with a measure of poverty based purely on deprivation. The concept of poverty is based on a notion of restricted participation in society *due to lack of resources*. However, lack of resources is not the only potential cause of reduced participation. Other social conditions – such as disability, lack of familiarity with the language, prejudices of other people, atypical spending priorities and so on – may also reduce somebody's capacity to participate fully in society, even when material resources are quite adequate. As a result, some households with higher incomes report deprivation (Nolan and Whelan, 2010). We would not want to consider such households poor in the sense of being unable to achieve the customary living standard due to lack of resources. Thus, it is necessary to include in the measure of poverty a direct measure of access to material resources to ensure that it is not confounded by these other potential restrictions on participation in the customary living standard.

A second problem with relying on deprivation indicators to identify the poor relates to the measurement of deprivation. It is important to 'count' as deprivation only cases where a household lacks something due to resource constraints, rather than for reasons of preference (Mack and Lansley, 1985). As a result, survey measures of deprivation include a check that asks whether the household lacks the item or activity because it 'cannot afford' it. The problem is that people may adapt their preferences to what they can actually afford. There is some evidence of a weak tendency towards adaptive preferences, particularly among older adults and among those who have had an extended period of low income (Halleröd, 2006). Although Halleröd concludes that this should not lead to the abandonment of measures of deprivation, it may lead to an understatement of the extent of reduced living standards arising from a lack of material resources. Because of this, it is important to retain the income-based measure as an indicator of low resources.

Finally, even apart from any problems with the measurement of deprivation, there are reasons to be concerned with the issue of access to resources in itself. Atkinson (1987) argues that falling below a minimum adequate income level may be seen as a violation of rights even if it does not always or immediately result in deprivation. The income-based at-risk-of-poverty indicator, despite its limitations, provides a widely used and comparable measure of the extent to which certain groups in society fall well below the 'norm' in terms of access to current resources (Callan et al., 1993). The Irish approach to these challenges, has been to take the two relevant indicators – at-risk-of-poverty and deprivation, each with different limitations from both conceptual and measurement perspectives – and to incorporate them into an indicator which would more reliably identify the poor (Nolan and Whelan, 2010).

1.2 Poverty Measurement in the Irish Policy Context

Ireland was an early adopter of a multidimensional approach to poverty measurement in the context of national targets (Callan et al., 1993; Nolan and Whelan, 1996; Layte et al., 2000). There are three components to the measurement of poverty in Ireland: low income (below 60 per cent of the median, having adjusted for household size and composition); deprivation (lacking a number of commonly available goods or services due to lack of resources) and consistent poverty (both income poor and deprived).

The Irish poverty and social exclusion targets are defined in terms of consistent poverty: a measure which considers both income and standard of living. For instance, the *NAPinclusion* target is:

To reduce the number of those experiencing consistent poverty to between 2% and 4% by 2012, with the aim of eliminating consistent poverty by 2016. (Office for Social Inclusion, 2007, p.13).

The main strength of the consistent poverty indicator is that, by using two indicators, we can be confident that the consistently poor are a group that is genuinely at risk of social exclusion. In addition, it is less subject to the instability that may be associated with an indicator relying solely on current incomes. This is particularly important for measuring poverty during a period of economic change – an issue as pertinent now during the rapid decline in economic activity as it was during the boom period.

1.3 Poverty Measurement in the European Context

At a European level, the Europe 2020 strategy, adopted by the European Council in June 2010, has as one of its goals the promotion of social inclusion, in particular through the reduction of poverty, by aiming to lift at least 20 million people out of the risk of poverty and exclusion (European Commission 2010a, p. 3). Although the target was initially specified in terms of the at-risk-of-poverty rate, or income poverty (European Commission 2010a, p. 9, footnote 3), this was expanded in the report *The European Platform against Poverty and Social Exclusion* (European Commission, 2010b). The target is here defined in terms of three indicators: at-risk-of-poverty, the index of severe material deprivation and being in a household with very low work intensity (European Commission, 2010b, p. 3). While the move away from a reliance on income as the sole indicator of poverty constitutes a significant improvement, there are a number of features of the EU 2020 approach, as it has come to be known, which are potentially problematic. In particular, the deprivation threshold adopted (lacking 4 or more of 9 items) is very severe, so that very few

people in the wealthier EU countries will be deprived according to this criterion. Second, the addition of the measure of very low work intensity is a new departure, which has not been sufficiently tested in the European context (Nolan and Whelan, 2012). Third, the approach to the combination of these indicators is to consider as socially excluded those who meet any of the three criteria. This contrasts with the Irish approach, which considers as socially excluded those who meet both of the Irish criteria. In other words, the EU 2020 approach to the poverty target identifies a much larger population. The risk is that the targets may be achieved by enacting policies which benefit those who are just below the income thresholds, but bring no improvements for the groups most severely affected by poverty and social exclusion.

1.4 Research Questions

There are a number of reasons why it is timely to review the measurement of poverty in Ireland. The most obvious change since the last review of the measure of consistent poverty, in 2006 (Maître, Nolan and Whelan, 2006; Whelan, 2007), is the impact of the economic recession on employment, household income and living standards. In this context, it is important to ask about the continuing suitability of the consistent poverty measure as a single measure for identifying the groups that are the most vulnerable to poverty in Ireland.

A second reason is the context set by the EU 2020 strategy. The EU 2020 strategy adopts quite a different approach to the identification of those who are socially excluded, involving at-risk-of-poverty, severe material deprivation or low work intensity. As noted above, the EU 2020 approach is to consider as socially excluded those who meet *any* of these three criteria. This contrasts with the Irish consistent poverty approach, which identifies a group that is *both* income poor and deprived. We explore the consequences of choosing the 'And' (meeting all of the criteria) versus the 'Or' (meeting any of the criteria) approach to combining these indicators.

A third reason is that the 2009 wave of EU-SILC contains a number of additional items that could be potential indicators of deprivation (money to spend on self; internet access; leisure activities; mobile telephone; housing and environment indicators). It is worth asking whether these indicators could be a useful addition to the Irish deprivation measure.

Finally, this analysis will contribute to the review of the Irish poverty targets, as outlined in the *National Reform Programme for Ireland under the Europe 2020 Strategy* (Department of the Taoiseach, 2011).

This technical paper aims to assess the reliability and validity of the Irish poverty indicators in capturing the target population through these three research questions:

1. To what extent are the three existing measures of at-risk-of-poverty, deprivation and consistent poverty still adequate in recessionary times? To address this question, we will examine trends over time in these indicators and their relationship to subjective economic stress and to risk factors for poverty (unemployment, disability and lower social class). Our analytic strategy will be to assess the extent to which the existing measures adequately identify those experiencing economic stress. In this respect, it is similar to an earlier review carried out in 2006 (Maître, Nolan and Whelan, 2006).
2. To what extent are the European deprivation indicators and the indicator of low work intensity identifying individuals other than those captured by the three existing Irish social exclusion indicators? Moreover, if there is a group identified by the EU measure of deprivation and/or low work intensity, but not in consistent poverty, how does this group differ in terms of socio-demographic characteristics and perceived economic stress?
3. How might additional indicators contribute to the understanding of poverty in Ireland? These include the adult deprivation indicators in EU-SILC 2009, persistent poverty, at-risk-of-poverty anchored in time, and economic vulnerability.

Note that these questions concern the measurement of poverty, rather than the setting of poverty-reduction targets. In other words, we are concerned with the indicators used in target setting, rather than with the level of reduction in poverty that is proposed. These indicators should validly and reliably identify the poor. However, in order to understand the risk factors and consequences of poverty, they must also be distinct from these risk factors (such as unemployment, social class, disability and lone parenthood) and consequences (such as financial stress, subjective ill-being, physical and mental health problems). While some of the risk factors for poverty (such as unemployment, lone parenthood or disability) might be useful in identifying the poor, indicators that include these risk factors cannot then be used to examine the way in which the risk factors for poverty vary across time, across countries or in different welfare regimes.

1.5 Outline of Paper

We begin in Section 2 with a description of the EU-SILC data and of the measurement of poverty and other related concepts. In Section 3, we provide an overview of changes in the Irish poverty measures between 2004 and 2009, and examine any changes in the relationship between these measures and expected consequences of poverty and risk factors for poverty. The goal here is to establish whether the construct validity of the Irish measures, in the context of very rapid economic changes, is still adequate.

Construct validity refers to whether the measure is associated with other factors (such as unemployment, disability, economic stress) that we would expect, either from theory or previous research findings, to be associated with poverty. In Section 4, we focus on the Irish and EU measures of deprivation and ask what can be learned from the EU approach in the Irish national context. In Section 5, we examine the concept of ‘low work intensity’ which forms part of the EU 2020 measure of social exclusion. We also consider the consequences of adopting different approaches to the combination of indicators. The Irish approach, as noted above, places particular emphasis on those who are both below the poverty threshold and deprived. This contrasts with the EU 2020 approach, which gives equal weight to those meeting any of the EU social exclusion indicators. In Section 6, we examine the potential role of other indicators in contributing to our understanding of poverty. Finally, in Section 7, we draw together the findings to provide answers to the three research questions.

2. Data and Measurement

2.1 The SILC Data

This paper analyses data from the European Survey on Income and Living Conditions (SILC) for Ireland.¹ The data are based on a voluntary survey of private households carried out by the Central Statistics Office (CSO). The SILC survey was initiated in 2003, with interviews in Ireland carried out during a six-month period from June to December 2003. The survey was then carried out every year, with data collection taking place throughout the year. The SILC survey collects information on the income and living conditions of households as well as a large range of socio-demographic information about the household members, ranging from personal characteristics to personal income, living conditions, labour market position, education and health status.

For this paper we analyse six waves of SILC, running from 2004 to 2009. The sample size ranged from 5,477 households and 14,272 individuals in 2004 to 5,183 households and 12,641 individuals in 2009. The sample design was a two-stage design with eight population density stratum groups and with a random selection of sample and substitute households within blocks. Weights were constructed to adjust for any departures from representativeness (CSO, 2010). Further information on the sample, survey construction and detailed survey questionnaire are available from the CSO.² Previous research using the 2008 SILC data has shown that SILC gives good representation of the population of social welfare recipients, but that the upper middle and high earning groups are somewhat underrepresented (Callan et al., 2010). This means that the group of primary interest in this paper is well-represented in the data. The implications for the at-risk-of-poverty and deprivation rates of the under-representation of upper middle and high earning groups is unclear,³ but investigating this issue is beyond the scope of the present paper.

2.2 Unit of Analysis

In this paper the unit of analysis is the individual living in a private household. A household is defined as a person living alone or a group of people who live together in the same dwelling and share expenditures, including the joint provision of the essentials of living.

¹ At a European level EU-SILC refers to the European Union Statistics on Income and Living Conditions. There are slight differences between European and national data particularly in the composition of some of the indicators (e.g. income, deprivation) and the equivalence scales used.

² <http://www.cso.ie/en/silc/abouttheeu-silc/>

³ The under-representation of higher income groups may mean that ++the median income is underestimated, which would tend to depress the ARP estimate. On the other hand, the under- representation of people above the poverty threshold would work in the opposite direction.

2.3 Income, Equivalence Scale and At-risk-of-poverty

2.3.1 Income measure

The income poverty measure is based on disposable household income. This is measured as the sum of the income of every individual within the household across all sources, after compulsory deductions (income tax, PRSI contributions and levies).

2.3.2 Equivalence scale

Within households all individuals are presumed to share the same standard of living, derived from the total household income. However as 'economic needs' are different across individuals (adult versus children for example) within households and as economies of scale occur as the household size increases, it is important to adjust for these differences to allow comparison between individuals. Therefore we use an 'equivalence scale' to adjust for differences in household size and composition. While a variety of equivalence scales are possible, we use the same 'National' equivalence scale as the CSO. This is the equivalence scale that has been adopted for monitoring poverty trends in Ireland and has been adopted in the *NAPinclusion* poverty measure.

This scale assigns a weight of 1 to the first adult in a household, a weight of 0.66 to each additional adult and of 0.33 to children. A child is defined as an individual less than 14 years of age. The household equivalised income is thus calculated as the total household income divided by the number of equivalent adults in the household. For example, in a household with two adults and two children, the 'equivalised' income would be the total household income divided by 2.33 ($1 + .66 + .33 + .33$). The household equivalised income is then attributed to each individual within the same household.

2.3.3 At-risk-of-poverty (income poverty or ARP)

The at-risk-of-poverty rate identifies the population with an equivalised household income below a certain percentage of the median income (known as the at-risk-of-poverty threshold or at-risk-of-poverty line). The EU has emphasised the at-risk-of-poverty threshold set at 60 per cent of median income (Dennis and Guio, 2004). However, in order to evaluate the sensitivity of the results to the choice of the at-risk-of-poverty threshold, occasionally throughout the Paper we present additional results for the population below the 50 per cent and 70 per cent median income thresholds. The at-risk-of-poverty rate set at 60 per cent of median income is an official poverty measure used in Ireland and is also one of the key EU Common Indicators of Social Protection and Social Inclusion devised to study poverty across Europe.

2.4 Irish Dimensions of Deprivation

The EU-SILC survey includes a wide range of questions relating to non-monetary indicators of deprivation. The Irish questionnaire includes some additional items that are not part of the EU-SILC core items. These deprivation questions relate to a large range of domains, from consumer durables, quality of housing and neighbourhood environment to aspects of participation in social life, health status and related issues. Most of the questions were posed to the person answering the household questionnaire (the household respondent) and referred to the household as a whole. In the case of the questions posed to the household respondent, the responses have been allocated to all individuals within the household. A small number of questions (3) were asked of all persons aged over sixteen. These refer to going without heating, being unable to afford an afternoon or evening out and lacking access to a car. When the questions were answered individually, the response of the household reference person (HRP) has been allocated to each individual in the household.

As described in Maître, Nolan and Whelan (2006) we reproduce below the list of relevant items in Figure 2.1. A number of different formats were used in posing these questions. The first format asked respondents a series of questions about specific items; if (1) the household possessed/availed of the items (2) did not possess/avail of because they could not afford it or (3) did not possess/avail of for other reasons. We reported the household as being deprived on a specific item if the household could not afford to have the items.

A different format of question was used in relation to the dwelling amenities (bath or shower, internal flush toilet, central heating, hot running water). It was simply asked whether the household had these amenities. As these amenities constitute consensual basic facilities, we assume that the absence of any of these amenities (i.e. negative responses) was due to an inability to afford them.

In relation to the quality and the environment of the dwelling, respondents were asked if their dwelling suffered any of the problems listed below such as leaking roof or dampness, not enough light, noise or pollution.

Figure 2.1: Deprivation Items from the Irish SILC Questionnaire

<p>Household cannot afford ...</p> <p>Paying for a week's annual holiday away from home in the last 12 months.</p> <p>Eating meat chicken or fish (or vegetarian equivalent) every second day, if you wanted to.</p> <p>Having a roast joint (or equivalent) once a week.</p> <p>Buying new, rather than second-hand clothes.</p> <p>A warm waterproof overcoat for each household member.</p> <p>Two pairs of strong shoes for each household member.</p> <p>Replacing any worn-out furniture.</p> <p>Keeping your home adequately warm.</p> <p>Having friends or family for a drink or meal at least once a month.</p> <p>Buying presents for family/friends at least once a year.</p>
<p>Household cannot afford consumer items:</p> <p>Satellite dish, video recorder, stereo, CD player, camcorder, home computer</p> <p>washing machine, clothes dryer, dish washer, vacuum cleaner, fridge, deep freeze</p> <p>microwave, deep fat fryer, liquidiser, food processor, telephone (fixed line).</p>
<p>Household does not have ...</p> <p>Bath or shower</p> <p>Internal toilet</p> <p>Central heating</p> <p>Hot water</p>
<p>Dwelling or area has problems ...</p> <p>Leaking roof, damp walls/ceilings/floors/foundations, rot in doors, window frames.</p> <p>Rooms too dark, light problems.</p> <p>Noise from neighbours or from the street.</p> <p>Pollution, grime or other environmental problems.</p>
<p>Household Reference person ...</p> <p>Had to go without heating during the last 12 months through lack of money.</p> <p>Cannot afford to have a morning, afternoon or evening out in the last fortnight for entertainment.</p> <p>Cannot afford a car.</p>

One simple way to measure deprivation consists in counting the number of deprivation items that individuals and households are lacking. This approach gives us an aggregate index running from 0 to 39, where 1 is added to the total score for each item lacking. As we can see from the list above, since several of the items are likely to be closely related, we might identify subsets of items that tend to occur together. Such analysis can be conducted through an exploratory factor analysis of all the items presented above.

In earlier work, Nolan et al. (2002), Maître, Nolan and Whelan (2006) using respectively the *Living in Ireland* (LII) Survey and the SILC data, have identified several dimensions of deprivation, five for the LII and four for SILC.

Focusing on the results from the 2003 SILC, Maître, Nolan and Whelan (2006) identified the following dimensions:

- basic deprivation – consisting of items relating to food, clothing, furniture, debt and minimal participation in social life (see Figure 2.2)
- secondary deprivation – comprising mainly a range of consumer durables including a phone, PC, Video, CD, dish-washer, etc.
- housing facilities – comprising basic facilities such as bath, toilet, etc.
- neighbourhood environment – encompassing pollution, crime/vandalism, noise. This dimension also incorporates a couple of items relating to deteriorating housing conditions.

In order to evaluate the stability of the dimensions of deprivation and the consistency of the loading of the items into the various dimensions of deprivation we present in the Appendix Table A2.1 the results of the exploratory factor analysis from SILC 2004 to 2009.

As we can see from Table A2.1 the results indicate substantial stability in the dimensions of deprivation over time. This is very important as it implies that the meaning of the dimensions of deprivation remains stable across the 2004 to 2009 period, and are not affected by the recent cycle in the Irish economy as it moves from the end of the economic boom into recession. This is particularly relevant with respect to the basic deprivation dimension which is used in the consistent poverty measure, as this dimension and the subsequent consistent poverty measure has been revised in 2006 (see Maître, Nolan and Whelan, 2006) and adopted by the Irish Government in 2007.

2.5 Irish Measure of Consistent Poverty

This indicator measures the proportion of the population that is at-risk-of-poverty and living in a household lacking 2 or more items of a list of 11 items from the basic deprivation index (see Figure 2.2).

Figure 2.2: Basic Deprivation Items from the Irish 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.

2.6 EU Measure of Deprivation

As part of the development of the Lisbon Strategy, the European Council established in 2001, a common set of European statistical indicators on poverty and social exclusion, known as the Læken indicators. Initially most of these indicators relating to poverty and inequality were based on an income measure only. With the development of the recognition that poverty indicators based on income only cannot capture the complexity and the multidimensionality of poverty and social exclusion, the Social Protection Committee has since extended the list of poverty and social exclusion indicators with the adoption of the material deprivation indicator.⁴

In Section 2.5, we noted that the common EU-SILC dataset that includes all EU member states has a more restrictive set of items than the Irish SILC. Figure 2.3 presents a comparative list of the items comprising the Irish basic deprivation dimension used in the consistent poverty measure and the EU material deprivation indicator. The Irish measure includes 11 items while the EU one includes only 9 items.

As we can see from Figure 2.3, only two items are common across the two indicators: the inability to afford to eat meat, fish or a protein equivalent every second day and to keep the home adequately warm. Four of the 9 EU items are basic consumer durable goods (television, washing machine, car, telephone).

⁴ See European Commission (2009) for the most up-to-date list. The Indicators Sub-Group of the Social Protection Committee is currently revising the list to incorporate developments under the *Europe 2020 Strategy*.

Figure 2.3: Items used in the Irish and EU Deprivation Measures

Common Items	
Eat a meal with meat, chicken, fish (or vegetarian equivalent) every second day	
Keep the home adequately warm	
Irish Measure of Deprivation	EU Measure of Deprivation
Two pairs of strong shoes	Arrears (mortgage or rent, utility bills or hire purchase)
A warm waterproof overcoat	Inability to face unexpected financial expenses
Buy new (not second-hand) clothes	Inability to afford paying for one week annual holiday away from home
Have a roast joint or its equivalent once a week	A television set
Had to go without heating during the last year through lack of money	A washing machine
Buy presents for family or friends at least once a year	A car
Replace any worn-out furniture	A telephone
Have family or friends for a drink or meal once a month	
Have a morning, afternoon or evening out in the last fortnight for entertainment	

Major differences exist also in terms of the threshold chosen. In Ireland the threshold that identifies the population as deprived is where people lack at least 2 of the 11 deprivation items. The EU measure uses two different thresholds depending on how the deprivation indicator is used:

- the EU defines material deprivation as lacking at least 3 of the 9 indicators
- the EU defines severe material deprivation as lacking at least 4 out of the 9 indicators. This indicator is used in combination with other indicators to identify the population that is at-risk-of-poverty or exclusion in the context of the *Europe 2020 Strategy*.

In the Irish case the choice of the items making up the basic deprivation measure as well as the choice of the threshold have been explicitly justified (see Maître, Nolan and Whelan (2006), Whelan (2007). Considerable analysis was also conducted on the EU items (Marlier et al., 2007; Guio, 2009; Guio, Fusco and Marlier, 2009; see review by Nolan and Whelan, 2012), but the number of potential deprivation items was more limited.

In the EU analysis, there was also a concern to choose a set of items that would provide useful information on low living standards across a set of European countries with very different standards of living. In the present paper, we do not have this constraint and can focus on the best set of items for the Irish case.

It is worth noting that the measurement of the item on 'unexpected expenses' changed significantly between 2005 and 2006. In 2004 and 2005, the item wording was 'Can your household afford to pay unexpected required expenses (e.g. service/repair of a TV or washing machine)?' From 2006, a specific amount was introduced, and the wording 'without borrowing' was added: 'Can your household afford an unexpected expense of €875 without borrowing?' The amount was linked to the monthly at-risk-of-poverty threshold for a one-person household in year $t-2$, that is in 2004 for the 2006 survey, 2005 for the 2007 survey and so on. In Ireland the amount increased to €900 in 2007, €985 in 2008 and €1,085 in 2009. Not surprisingly, there was a sharp increase in the percentage of the Irish population unable to meet such expenses, from 21 per cent in 2004 and 23 per cent in 2005 to 38 per cent in 2006. By 2009, when incomes had fallen but the amount mentioned was linked to incomes at the peak of the boom in 2007, the percentage unable to meet unexpected expenses had increased to 49 per cent. This points to a problem in linking an item to the lagged poverty threshold in a period of rapid economic change.

2.7 Subjective Measures of Economic Stress

Poverty literature has highlighted the significant relationship that exists between the experience of poverty and social exclusion and psychological distress as well as (subjective measures of) economic stress (Kessler and Neighbors, 1986; Whelan, 1994; Lynch, Kaplan and Shema, 1997; Marks, 2007; Whelan and Maître, 2007; Whelan, Nolan and Maître, 2007b; Halleröd and Larsson, 2008). This relationship is particularly relevant in any exercise to validate the measurement of poverty, as we would expect that poverty should be associated with such outcomes. In this section we describe the various measures of economic stress that are available in the SILC and that we will use in this paper, to test how well consistent poverty performs as a poverty measure.

We have identified four questions asked during the interview that could be used as indicators of economic stress. Economic stress in this context refers to the experience of difficulties or burden in managing the household finances, given the level of expenses and financial resources available in the household. These four items are shown in Figure 2.4.

Figure 2.4: Measures of Subjective Economic Stress in SILC

‘Concerning your household’s total monthly or weekly income, with which degree of ease or difficulty is the household able to make ends meet?’ Six possible answers were offered ranging from ‘very easily’ to ‘with great difficulty’. We considered a household to have great difficulty in making ends meet for those answering ‘with difficulty’ and ‘with great difficulty’.
‘Do you make repayments of debts from hire purchases or loans other than mortgages or loans connected with the house and if so how much of a financial burden is the repayment(s)?’ We distinguished households between those answering that ‘repayment is a very heavy burden’ from all others.
‘Has the household had to go into debt within the last 12 months to meet ordinary living expenses such as mortgage repayments, rent, food, Christmas or back-to-school expenses?’ We distinguished household between those answering ‘Yes’ or ‘No’.
‘When you think of your household’s total housing costs including payments on mortgage or rent, insurance and service charges (refuse removal, regular maintenance and repairs etc). Would you say they are ...?’ Three possible answers were offered from ‘not a burden at all’ to ‘a heavy burden’. We distinguished households answering to the last one from all others.

Source: CSO (2009), items ‘Ends_Meet’, ‘Repay_Burd’, ‘Debt’ and ‘Hous_Cost’

We use these items to construct an index of ‘high economic stress’ that identifies households experiencing two or more of the four kinds of economic stress shown in Figure 2.4. We present in Table 2.1 the percentage of the population reporting difficulties on each of these four items as well as the percentage experiencing difficulties on at least two of them (‘high economic stress’).

Table 2.1: Economic Stress Items and Overall Measure, SILC 2004 to 2009

	2004	2005	2006	2007	2008	2009
Difficulty or great difficulty making ends meet	25.0	24.8	24.9	21.8	23.6	26.5
Go into debt for ordinary expenses	8.7	10.0	8.8	7.8	10.9	13.1
Housing costs a heavy burden	23.3	23.1	24.2	20.7	24.0	28.9
Repayment of debt a heavy burden	9.7	8.8	8.8	7.6	9.2	10.8
High economic stress	18.7	20.0	20.4	17.4	20.3	24.8

As we can see from Table 2.1 and across all years, the highest percentage observed is for households having difficulty in making ends meet and finding that the housing costs are a heavy burden. Both items range between 21 per cent and 29 per cent. The two other items have similar values, at half the percentage of the first two items, ranging from eight per cent to thirteen per cent. For all four items we observe over time an increase in the level of stress reported. The overall measure of high economic stress increases from 19 per cent in 2004 to a high of 25 per cent in 2009, with a sudden increase of five percentage points between 2008 and 2009.

2.8 Socio-Economic Characteristics

In validating the measure of poverty, it is also important to examine its relationship to risk factors for poverty: socio-demographic characteristics which have been shown to be associated with a greater risk of being poor. In this paper we focus on three risk factors: unemployment, disability and social class. In order not to exclude children, we use the situation of the household reference person and attribute that to all household members.

2.8.1 Unemployment

Unemployment is based on the principal economic status of the household reference person. This status (being unemployed or at work) is attributed to all members of the household.

2.8.2 Disability

Disability is based on an item from the individual questionnaire: 'For at least the last 6 months have you been limited in activities people usually do, because of a health problem?' While we would prefer a measure that included specific mention of disability and of mental health (Gannon and Nolan, 2005), this is the wording used in SILC. The disability status of the household reference person (being limited or severely limited) is attributed to all household members. Again, we do this so that we can include all household members, not just the adults who have been interviewed.

2.8.3 Social class

Social class is important in the poverty literature as it is a very good indicator of longer-term command over resources and exposure to deprivation (Breen and Rottman, 1995). Social class is measured using the European Socio-Economic Classification (ESeC) (Rose and Harrison, 2007 and 2010). The ESeC schema is based on the work of Erikson and Goldthorpe (1992) and focuses on employment relations, distinguishing between those who own the means of production and those who do not. For the former category it distinguishes large from small employers. Among employees, distinctions are made based on their different forms of employment relationship, which will be influenced by their position in the workplace hierarchy and by the level of scarce skills they possess. At a European level, and employing the ESeC schema, researchers have already established that a strong relationship exists between social class, at-risk-of-poverty, deprivation and consistent poverty (Whelan, Watson and Maître, 2007; Watson, Whelan and Maître, 2009).

The ESeC schema distinguishes ten social classes, as shown in Figure 2.5.⁵ We use an aggregated version of the ESeC schema in this paper for ease of presentation. We focus on the contrast between social classes 1 and 2 (professionals, managers, senior officials and large employers) and social classes 7, 8 and 9 (lower sales and services and lower manual occupations). Note that this approach excludes those where the household reference person is a small employer or self-employed without employees (4 and 5) and those where the household reference person never worked (10). In the context of examining the relationship between income poverty and social class this is a prudent strategy, because of the known differences in measuring income among the self-employed (Coder 1991; Hurst, Li and Pugsley, 2011). As with the other socio-demographic characteristics, we attribute the ESeC of the household reference person to all household members.

Figure 2.5: The European Socio-economic Classification (ESeC) Social Classes

1. Large employers, higher grade professional, administrative & managerial occupations
2. Lower grade professional, administrative and managerial occupations and higher grade technician and supervisory occupations
3. Intermediate occupations
4. Small employer and self-employed occupations (excl. agriculture, etc.)
5. Self-employed occupations (agriculture, etc.)
6. Lower supervisory and lower technician occupations
7. Lower services, sales and clerical occupations
8. Lower technical occupations
9. Routine occupations
10. Never worked and long-term unemployed.

In the next section, we begin our overview of the performance of the Irish measures of at-risk-of-poverty, deprivation and consistent poverty by focusing on how these indicators have performed over time.

⁵ In recoding occupations into the ESeC schema, the version we use is ESeC Version 4 from February 2006.

3. Poverty in Ireland, 2004 to 2009

3.1 Introduction

The goal of this section is to ask whether the capacity of the Irish measures of poverty to capture those experiencing social exclusion has persisted over a period of striking economic change.

The period 2004 to 2009 spanned one of the most dramatic periods of economic and social change in Ireland. In 2004, Ireland had experienced a period of sustained and rapid economic growth for about a decade, with employment growing at record levels and an unemployment rate dropping below five per cent. By 2009, however, Ireland was in the throes of a severe economic recession. This was precipitated by the global financial crisis which led rapidly to a bursting of the property bubble in Ireland. This resulted in a major crisis in the banking system and in the public finances, whose revenues had become overly dependent upon taxes on property transactions. Gross National Product contracted by 2.7 per cent in 2008, fell by 9.8 per cent in 2009, remained essentially unchanged in 2010 and is expected to remain flat in 2011 (Barrett, Kearney and Goggin, 2009; Durkan, Duffy and O'Sullivan, 2011). As a consequence of this severe contraction, total employment fell by 1.5 per cent in 2008 and by 8.8 per cent in 2009. Employment losses have been widespread across the private sector but have been especially heavy in the construction sector. Young adults and men have been particularly affected. Unemployment increased from less than five per cent at the beginning of 2008 to 11.8 per cent in 2009 (Durkan, Duffy and O'Sullivan, 2011). Since then, it has risen further, almost to 15 per cent by mid-2011 (CSO, 2011).

The recession and financial crisis have not only taken a heavy toll on the Irish economy, they have also led to a very rapid deterioration in the public finances. Reduced economic activity and employment, combined with over-reliance on property-related taxes which were used to fund rapid increases in expenditure, have led to a dramatic shortfall of Government revenue over expenditure. The General Government Balance of Payments fell to -7.3 per cent of Gross Domestic Product (GDP) in 2008 and, even following a series of emergency budgets, was -14.2 per cent of GDP in 2009 and is forecast to be -10.3 per cent of GDP in 2011 (Department of Finance, 2011). The long-term implications for the economy and the public finances of Government actions to resolve the banking crisis through the National Asset Management Agency (NAMA) remain uncertain. In response to the severe fiscal crisis, Government introduced a series of expenditure cuts as well as tax increases and a levy on public sector incomes early in 2009, and further cuts in public sector pay and social welfare in the budget for 2010.

In a broader European economic context, in 2009 Europe had not fully entered into recession and it was only from 2010 that the economic and financial situation worsened significantly in Europe. From 2010 the public finances of a number of EU member states deteriorated strongly and Greece (May 2010) and Ireland (November 2010) were forced to seek financial assistance from the International Monetary Fund and the EU.

Compared to 2004, then, 2009 was a period of greater economic challenge for Ireland, characterised by job losses and recession, fiscal crisis and an embargo on public sector recruitment. These changes are likely to have a significant impact on the experience of poverty both through job loss, reduced incomes and difficulty in accessing public services.

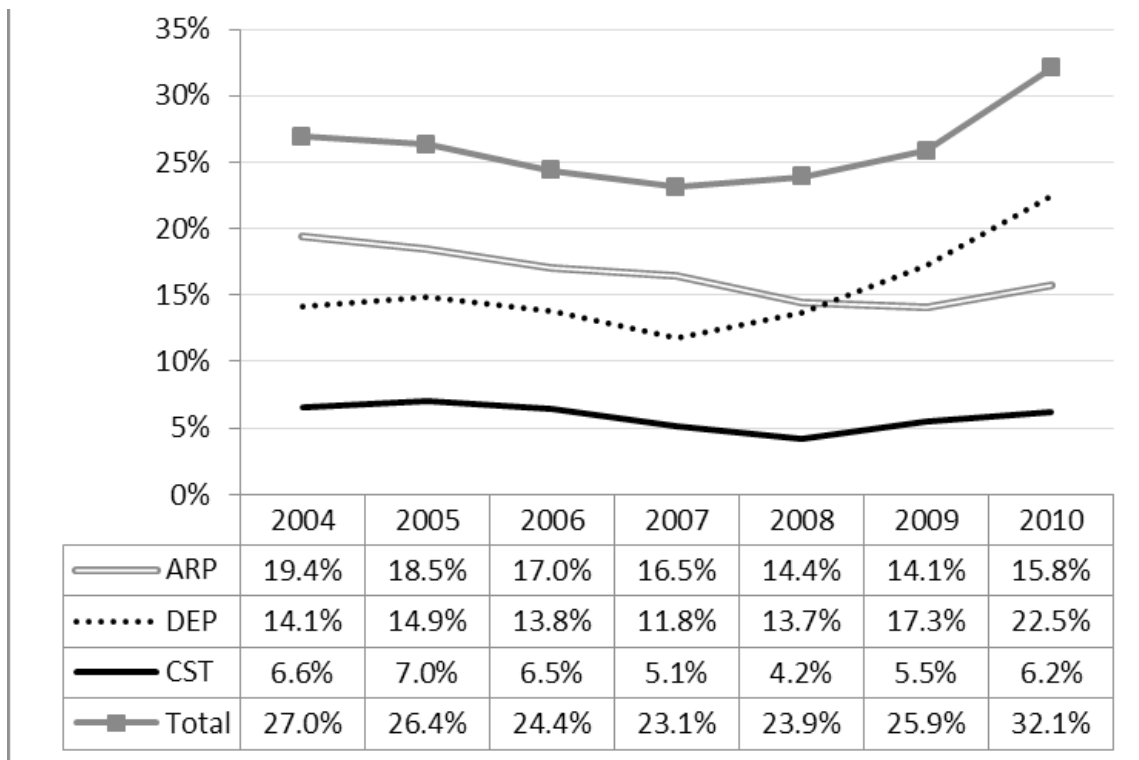
In this section, we examine trends in poverty as measured in Ireland between 2004 and 2009, distinguishing those who are at-risk-of-poverty only (ARP-only), those who are experiencing deprivation only (DEP-only) and those who are consistently poor (CST). We then examine whether the relationship between these poverty measures and economic stress have changed over the 2004 to 2009 period and go on to ask whether the profile of the three groups in terms of social class, unemployment and disability have changed. The final section discusses whether the factor structure and reliability of the measure of basic deprivation have changed between 2004 and 2009; this is particularly relevant in a context of falling at-risk-of-poverty rates for most of the period and entry into recession towards the end.

3.2 Trends in Poverty

We begin in this section by examining the trends between 2004 and 2009 in the Irish measures of poverty. As noted in Section 2, there are two main components of the Irish measure of poverty. The first is the income component which identifies a group at-risk-of-poverty (ARP), comprising those in households where the equivalised income is below 60 per cent of the median equivalised income. The second is those experiencing deprivation (DEP): those in households which lack 2 or more of the 11 basic goods and services outlined in Section 2. A third group, the consistently poor, consists of those who are both at-risk-of-poverty and lack 2 or more of the 11 basic items.

Figure 3.1 shows how the size of these three groups has changed over the period. While most of the analysis in this paper focuses on the SILC data for 2004 to 2009, we add the 2010 figures here as these are now published by the CSO (CSO, 2011). Turning first to the total figure, we see that the percentage of those who are either ARP or DEP fell from 27 per cent in 2004, to 23 per cent in 2007, before rising again to 24 per cent in 2008 and to a high of 32 per cent in 2010.

Figure 3.1: Trends in At-risk-of-poverty (ARP), Deprivation (DEP) and Consistent Poverty (CST), 2004-2010



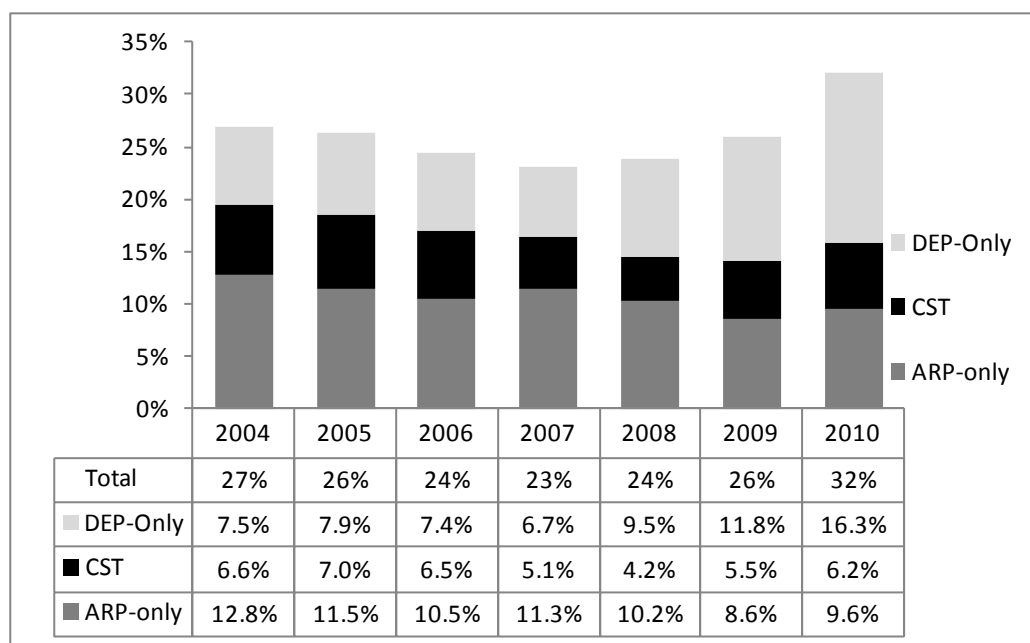
Source: SILC, Ireland, 2004-2009, analysis by authors. CSO (2011) for 2010 figures

Turning to the components of the total, the percentage who are ARP fell throughout the period until its rise again in 2010 as Ireland entered deeply into recession. In 2004, 19 per cent of the population was at-risk-of-income-poverty. The figures for 2008 and 2009 reached a low of 14 per cent approximately, before increasing to 16 per cent in 2010. Deprivation, on the other hand, showed a decline from 2005 (15 per cent) to 2007 (12 per cent) and had begun to increase again by 2008 (14 per cent), reaching 22 per cent in 2010. The overlap between ARP and DEP, those who are both income-poor and deprived, can be seen in the figures for consistent poverty. The rate fell slowly between 2004 and 2008 (from 6.6 per cent to just over 4 per cent) and increased again to 6.2 per cent in 2010.

An important question, given that there is a certain overlap between deprivation and at-risk-of-poverty, is how the recession affected the unique contribution of each of the components (ARP and deprivation) to the total. Figure 3.2 shows the trends over time in a slightly different format that emphasises the unique contribution of ARP and DEP. It shows the percentage of the population that is at-risk-of-income-poverty only (but not deprived), the percentage deprived only (but not at-risk-of-poverty) and consistently poor (those both poor and deprived).

We can see from this chart that the percentage of the population that is ARP-only continued to decline between 2008 and 2009 (from 10.2 to 8.6 per cent), while the percentage who are DEP-only increased sharply (from 9.5 to 11.8 per cent).

Figure 3.2: Trends in the Irish Poverty Typology, 2004-2010



Source: SILC, Ireland, 2004-2010, analysis by authors

There are a number of reasons why the impact of the recession might be visible sooner in the deprivation measure than in the at-risk-of-poverty measure. First, the definition of income is based on a rolling 12-month period, so that some of the income recorded in 2008 (especially for those interviewed in the early part of the year) will have been received in 2007. Those who have just become unemployed or suffered a fall in income at the time of the survey may still have annual incomes above the poverty threshold, but current weekly or monthly incomes that are much lower. This means that there may be a lag between the timing of the drop in income and the capture of that drop in the SILC survey. These measurement characteristics then create an 'artificial' lag between the two measures where the deprivation measure is 'ahead' of the at-risk-of-poverty measure in capturing the reduction in the standard of living in the recent context of the recession.

Second, the cuts in wages and salaries and reduced income from self-employment and investments will also have the effect of lowering the equivalised at-risk-of-poverty threshold. This can be seen in Table 3.1, where the threshold fell by 3.1 per cent in 2009, after a period of sustained growth between 2004 and 2008.

Table 3.1: Change in ARP Threshold (60 per cent of median), 2004-2009

	2004	2005	2006	2007	2008	2009
Threshold (60% median equivalised income)	€9,677	€10,057	€10,566	€11,890	€12,455	€12,064
Change		3.9%	5.1%	12.5%	4.8%	-3.1%

Source: Central Statistics Office, SILC reports for 2005, 2006, 2007, 2008 and 2009

The third reason we might expect to see the impact of recession sooner in the measure of deprivation is that several of the deprivation items capture goods or activities likely to be affected by current income, rather than being consumer durables which may have been purchased some time ago. This can be seen in Table 3.2, which shows the percentage lacking each item from 2004 to 2009. Across all of the items, the general trend was downwards between 2004 and 2007, with fewer people lacking each of the items by 2007. Two items showed an upward trend beginning in 2008: being unable to keep the home adequately warm (from 3.5 to 3.7 per cent) and being able to afford an afternoon or evening out (from 8.4 to 11.1 per cent). These percentages increased further between 2008 and 2009. Three additional items showed a marked increase between 2008 and 2009: being able to afford presents for family and friends (2.3 per cent to 3.4 per cent), having to go without heating (from 6.1 to 7.6 per cent) and being unable to afford to replace worn-out furniture (from 13.3 to 16.3 per cent).

Table 3.2: Percentage Experiencing Enforced Lack of 11 Basic Goods and Services, 2004-2009

	2004	2005	2006	2007	2008	2009	Change 2009-2008
Warm waterproof overcoat	2.7%	2.8%	2.1%	2.3%	2.6%	1.1%	-1.5%
Protein meals	3.7%	2.9%	2.4%	2.2%	3.0%	2.1%	-0.9%
Two strong pairs of shoes	3.8%	3.3%	3.1%	3.0%	2.7%	2.1%	-0.6%
Annual presents for family/friends	4.5%	4.5%	3.3%	2.9%	2.3%	3.4%	+1.1%
Keep home adequately warm	3.3%	4.0%	3.8%	3.5%	3.7%	4.1%	+0.4%
Weekly roast or equivalent	4.5%	4.2%	4.4%	3.9%	3.8%	3.4%	-0.4%
New (not second-hand) clothes	5.8%	6.8%	5.5%	5.2%	5.6%	4.5%	-1.1%
Go without heating	5.6%	6.5%	5.7%	5.9%	6.1%	7.6%	+1.5%
Family/friends for meal or drink	11.3%	11.5%	10.7%	9.6%	9.1%	9.4%	+0.3%
Afternoon or evening out	10.1%	10.4%	8.8%	8.4%	11.1%	14.9%	+3.8%
Replace worn-out furniture	13.4%	13.8%	13.7%	13.1%	13.3%	16.3%	+3.0%

Source: SILC 2004-2009, Ireland, analysis by authors

It is noteworthy that the items showing an increase in the recession cover a range of dimensions (home heating and furnishing, leisure and social interaction), and are not limited to those items that were capturing a larger percentage of the population at the outset. However, it is precisely those items which are lacked by a higher percentage of the population that are showing higher levels of deprivation in 2009 than in 2004. In particular, we see a higher percentage of the population in 2009 unable to replace worn-out furniture (16 per cent vs. 13 per cent in 2004) and unable to afford an afternoon or evening out (15 per cent vs. 10 per cent in 2004).

The differences in timing in the effect of the recession on ARP and deprivation has affected the measure of consistent poverty, which represents the overlap between the two. Table 3.3 shows the extent of the overlap between the income-based and deprivation-based measures over time. The figures show the consistently poor as a percentage of the total (either ARP or DEP), as the percentage of those who are deprived (DEP) and as a percentage of those who are income poor (ARP).

Table 3.3: Overlap between At-risk-of-poverty (ARP) and Deprivation (DEP), 2004-2010

	2004	2005	2006	2007	2008	2009	2010
Overall ARP rate	19%	19%	17%	17%	14%	14%	16%
Overall DEP rate	14%	15%	14%	12%	14%	17%	22%
Consistent poverty rate	7%	7%	7%	5%	4%	6%	6%
Consistent poverty ...							
... as % total ARP	34%	38%	38%	31%	29%	39%	39%
...as % total DEP	47%	47%	47%	43%	31%	32%	28%
... % total (ARP or DEP)	24%	27%	27%	22%	18%	21%	19%

Source: SILC 2004-2010, Ireland, analysis by authors. Figures rounded to nearest percentage

Generally, there has been some fluctuation over the period, with a tendency for the overlap to be smaller after the beginning of the recession in the case of those who are deprived and larger in the case of those who are ARP. The percentage of the ARP group who are also deprived increased from 34 per cent in 2004 to 38 per cent in 2006. This was followed by a marked fall to 31 per cent in 2007 and 29 per cent in 2008 and a sharp increase to 39 per cent in 2010. In the case of deprivation, the overlap has tended to decrease after 2006. Of those who were deprived, 47 per cent were also income poor from 2004 to 2006. This fell slightly to 43 per cent in 2007 and fell sharply to 31 per cent in 2008 and 28 per cent in 2010. Considering the total population captured by either of the ARP and DEP indicators, we see less change over the period, but with a somewhat lower figure in 2010 (19 per cent) than in 2004 (24 per cent).

The extent of overlap between ARP and DEP may change over time for a number of reasons. If the two component indicators (ARP and DEP) are changing in different directions or at different rates, the extent of overlap will be affected. For instance, between 2007 and 2009 the ARP rate fell while DEP was increasing, so the consistently poor as a percentage of the deprived also fell.

Differences in the timing of changes in the ARP and DEP indicators may be linked to a combination of aspects of the measurement of income and behavioural responses to the recession. As noted above, the measurement of income may result in an ‘artificial’ lag so that the DEP measure is ‘ahead’ of the ARP measure in capturing the reduction in the standard of living.

This different timing also explains why, as Ireland enters into recession into 2008, we saw DEP increased that year and in the following year while the ARP continued to decrease until 2009, before rising only from 2010. It was only in 2009 that the overlap between DEP and ARP increased while it was stable for the same final year for the deprivation measure.

Another possible explanation is the behavioural response to income insecurity. In the recession, with rising unemployment and an increase in job insecurity, people may reduce their spending and their living standard in anticipation of a drop in income. For the unemployed, redundancy payments and savings may provide a cushion, preventing their incomes from falling immediately below the poverty threshold. At the same time, the insecurity they face may induce them to cut back on standard of living items. These ‘anticipatory’ cutbacks in spending may be part of the explanation for the increase in the DEP level while the ARP level was still falling in 2008.

It is clear from the figures in Figure 3.2 and Table 3.3 that by 2009 those who were deprived-only formed a larger proportion of those captured by the two indicators. It is unclear whether we can expect this pattern to continue into the future. Preliminary results for 2010 suggest a similar picture to 2009: the consistently poor remain at about 39 per cent of those who are at-risk-of-poverty but have fallen slightly to about 19 per cent of those who are deprived (CSO, 2011, Table A). It may well be that the gap closes again in future years, when the full effects on income of the rising unemployment levels are reflected in household incomes.

It is also worth noting that a significant minority of those who are deprived-only are in households with incomes only slightly above the 60 per cent poverty threshold. On average, from 2004 to 2009, 34 per cent of the deprived-only group had household incomes that would have placed them above the 60 per cent of median threshold, but below the 70 per cent of median threshold. There is no clear trend over time in the location of the deprived-only group with respect to the poverty threshold, however. In other words, the explanation for the non-overlap between deprivation and at-risk-of-poverty does not lie in the deprived being located just above the poverty threshold; and the explanation in the change in the non-overlap does not lie in increases or decreases in the proportion of the deprived who are just above the at-risk-of-poverty threshold.

Given the shifting pattern in the relationship between at-risk-of-poverty and deprivation, it is important to ask whether the current indicators are as valid in 2009 as they were in 2004. Are they still identifying the group most at risk of social exclusion? It is to this question that we turn in the next two sections.

3.3 Relationship to Perceived Economic Stress

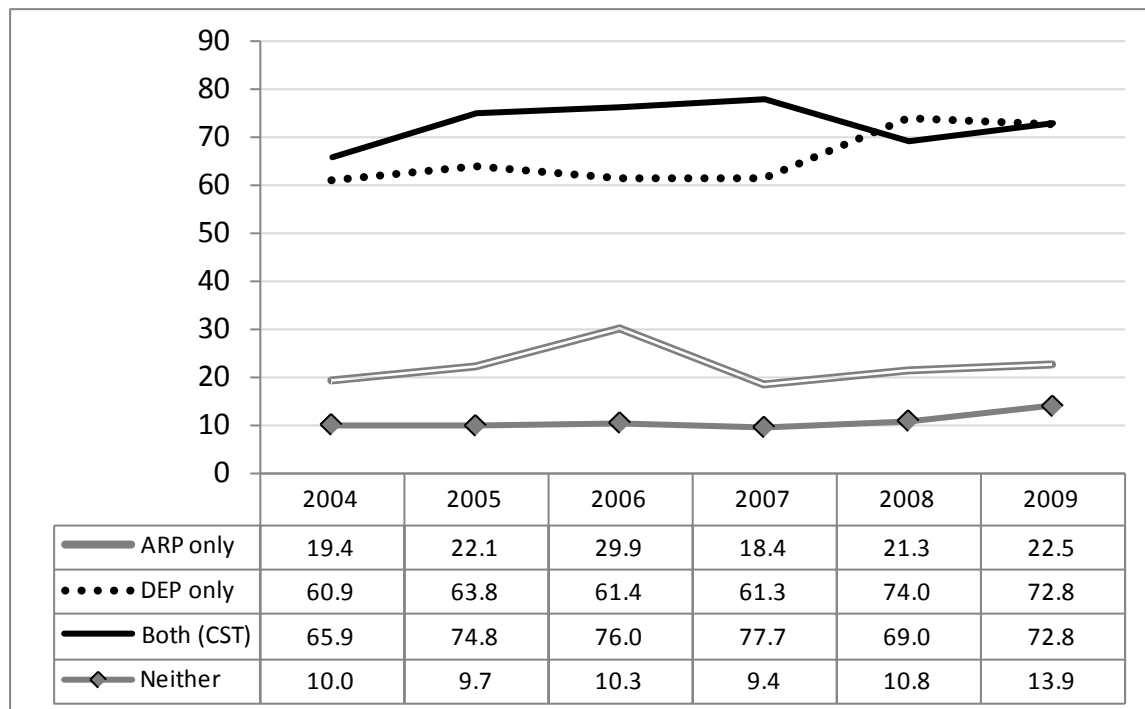
In this section we examine the relationship between the Irish indicators and perceived economic stress. As outlined in Section 2, this is one of the steps in validating the indicators as measures of poverty: do the indicators behave as expected in terms of their relationship to the consequences of poverty?

Given the overlap between those who are income poor and those who are deprived – and the shifting nature of this overlap as seen in the previous section – we examine the levels of economic stress experienced by those who are income poor only, those who are deprived only and those who are both income poor and deprived (the consistently poor).

As noted in Section 2, economic stress is measured by four indicators, which capture difficulty in making ends meet, burden of housing costs, burden of repaying debts and having to borrow money to meet ordinary living expenses. Those who have difficulty according to two or more of these criteria are considered to be experiencing high levels of economic stress.

Figure 3.3 shows the percentage of each group (neither income poor nor deprived, income poor only, deprived only and consistently poor) experiencing high levels of economic stress between 2004 and 2009.

Figure 3.3: Percentage experiencing High Levels of Economic Stress by Poverty Typology, 2004-2009



Source: SILC, Ireland, 2004-2009, analysis by authors

Two things are notable in this chart. First there are marked differences in reported stress levels between the measures that include deprivation (DEP-only and consistent poverty) and the measures that do not (neither poor nor deprived and ARP-only). The percentage reporting high levels of economic stress is between 65 and 78 per cent for those who are consistently poor but is almost as high (60 to 74 per cent) for those who are deprived but not income poor. For most of the period, those who are consistently poor are most likely to experience high levels of economic stress. On the other hand, those experiencing at-risk-of-poverty only (and who are not deprived) are much less likely to report high levels of economic stress, with percentages in the region of 20 to 30 per cent.⁶ Nevertheless, those experiencing at-risk-of-poverty, but who are not deprived, are more likely than those who are neither poor nor deprived to experience high levels of economic stress.

In considering the strong association between deprivation and economic stress, it is important to note that both measures contain an element of subjective assessment of one's situation. In the case of economic stress, the items require the respondent to identify housing costs or repayment of debts as a 'heavy burden' or to report difficulty in 'making ends meet'. In the case of the deprivation items, we require the

⁶ In 2006 there was a sharp increase in the percentage of the 'ARP-only' group experiencing high levels of economic stress. This is linked in particular to greater difficulty in 'making ends meet' and an increase in finding housing costs a heavy burden. This may be linked to a sharp increase in inflation in 2006 to 4.0 per cent compared to 2.5 per cent in 2005 (CSO, 2012, Table 1).

respondent to admit that they lack certain items (or cannot do certain things) because they ‘cannot afford’ them. If there are differences in the population in the willingness to report negative experiences, we might expect this to inflate the association between economic stress and deprivation. This is not to deny the very real impact of difficult economic circumstances on quality of life and mental well-being, nor to deny the significance of subjective experiences and the value in measuring them. It is intended, rather, as a caution against reliance entirely on the strength of these associations in validating the indicators of poverty. It is for this reason that we turn, in the next section, to an examination of the association between the indicators of poverty and more objectively measured risk factors for poverty.

The second notable feature of the trend over time is that despite the very dramatic economic changes between 2004 and 2009, there is relative stability in the association between economic stress and the measures of poverty. All groups are more likely to report high levels of economic stress in 2009 than in 2004. However, apart from the closing of the gap between the consistently poor and those deprived-only in 2008 to 2009, the relative ranking of the groups remains stable.⁷

The strong relationship between the poverty indicators and economic stress affirms the continuing validity of these indicators as measures of social exclusion in a recessionary period as well as in a period of growth.

3.4 Relationship to Unemployment, Disability and Social Class

In this section we continue our examination of the construct validity of the poverty measures by turning our attention to their relationship to known risk factors for poverty. We focus on three risk factors: unemployment, disability and social class. As work is the main source of income for most households, we expect unemployment to be associated with an increased risk of poverty. Unemployment is also associated with a range of other factors which contribute to vulnerability to poverty, such as low levels of education (OECD, 2011, Table D), insecure unemployment (OECD, 2006, Figure W5.2), and is also influenced by the labour market policies of the state (Russell and O’Connell, 2001). Disability is associated with lower participation in the labour market which would be expected to reduce income (Watson and Nolan, 2011), but there are also costs associated with disability itself (Cullinan, Gannon and Lyons, 2010) which may be reflected in higher levels of deprivation for people with a disability who are above the at-risk-of-poverty threshold. Social class captures a constellation of factors associated with life chances including education, labour market participation, job security and job progression, and has been shown to bear a strong relationship to poverty risk (Whelan, Watson and Maître, 2007; Watson, Whelan and Maître, 2009).

⁷ We examined whether any particular economic stress items were driving the fall in the association with consistent poverty after 2007. In 2008 those in consistent poverty reported a lower level of stress on each of the four stress components. Thus, the pattern does not appear to be driven by particular components of the economic stress scale.

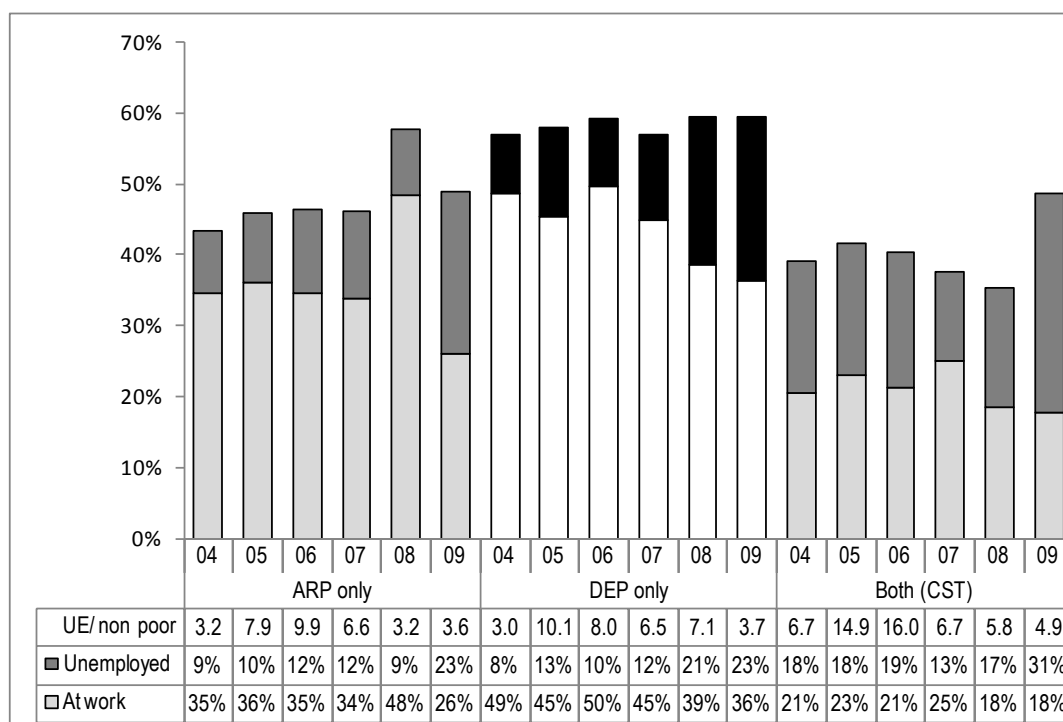
3.4.1 Poverty and unemployment

Figure 3.4 shows the percentage of each group (for example, those at-risk-of-poverty only) who are at work and the percentage who are unemployed. As unemployment is a clear risk factor for poverty (Gallie, Paugam and Jacobs, 2003) we would expect a higher proportion of the poor than the non-poor to be unemployed. Similarly, work is one of the main routes out of poverty (Corcoran and Hill, 1980; ILO, 2005; OECD 1998, 2004) so we would expect a lower proportion of the poor than the non-poor to be at work.

Note that the classification ‘at work’ and ‘unemployed’ is based on the household reference person, so that we can include all persons (including children in the household) in the analysis. We will refer to these as ‘working households’ and ‘unemployed households’ below, for convenience, even though not all adult members of the household may be at work or unemployed.

In interpreting the figures for the three poverty groups (i.e. ARP-only; DEP-only; CST), it is worth knowing how these groups compare to those who are neither poor nor deprived. Over the period 2004 to 2009, three per cent of those who were neither poor nor deprived were unemployed and 61 per cent were at work. The remaining 28 per cent were otherwise economically inactive – retired, on home duties, students, or unable to work due to illness or disability.

Figure 3.4: Percentage At Work and Unemployed by Poverty Typology, 2004-2009



Source: SILC, Ireland, 2004-2009, analysis by authors. Note: ‘UE/non-poor’ shows the ratio of the percentage unemployed in each of the poverty groups to the percentage unemployed among those neither income-poor nor deprived

Figure 3.4 shows that there was a dramatic shift in the composition of the poor between 2007 and 2009. By 2009, many more of those who fall into each of the poverty groups were unemployed. For instance, nine per cent of those who were at-risk-of-poverty (but not deprived) in 2008 were unemployed, while this had risen to 23 per cent in 2009. For the deprived-only (but not income poor) group, the shift occurred earlier, between 2007 and 2009. The percentage of this group who are unemployed increased from 12 per cent in 2007 to 21 per cent in 2008 and 23 per cent in 2009. We see a small increase in the percentage unemployed among those who are consistently poor in 2008 (from 13 per cent in 2007 to 17 per cent in 2008), but a very dramatic increase to 31 per cent in 2009.

The chart clearly shows that the percentage unemployed is higher for all three poverty groups than the three per cent average over the period for those neither poor nor deprived. It is also noteworthy, however, that a substantial proportion of all three poverty groups is in households where the HRP is at work. This is particularly the case for those deprived only (and not below the income poverty threshold), where between 39 per cent and 50 per cent are in households where the HRP is at work. Those who are consistently poor are more likely than the other two poverty groups to be outside the labour market entirely. Recall that 28 per cent of those neither poor nor deprived were outside the labour market in this period. In contrast, over half of the consistently poor in all of the years were outside the labour market (neither at work nor unemployed).

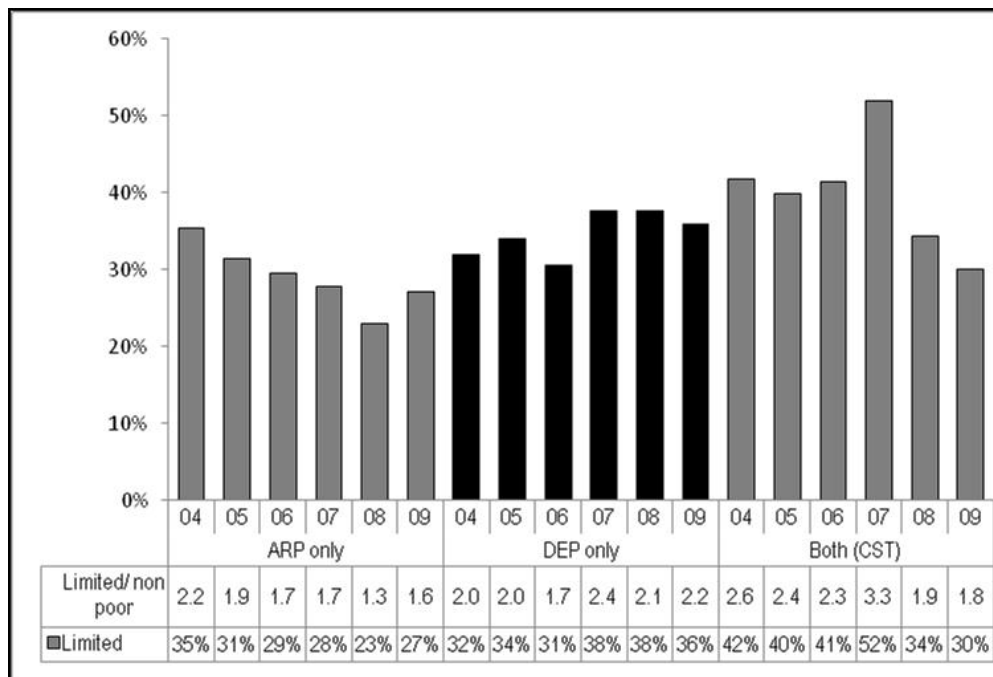
In sum, the analysis in this section has shown that the three poverty measures continue to show a strong relationship to unemployment. The relationship is strong for both ARP-only and DEP-only, but the percentage in unemployed households is particularly high for those in consistent poverty.

3.4.2 Poverty and disability

In this section we ask whether the relationship between disability and poverty has persisted over the period 2004 to 2009. As noted in Section 2, the measure of disability is based on a question to the household reference person regarding whether he or she had been limited in their activities due to a health problem.⁸ As noted elsewhere (Watson and Nolan, 2011) we would prefer a measure that included mention of disability and that included a reference to mental health, but this is the wording used in the SILC questionnaire.⁹ We would expect the percentage of people with a disability to be higher among the poor than among the non-poor. On average across the 2004 to 2009 period, 17 per cent of the non-poor (neither poor nor deprived) were limited in their activities. About twice that many in the poverty groups are limited in their activities, as shown in Figure 3.5.

⁸ 'For at least the last 6 months have you been limited in activities people usually do, because of a health problem?'

**Figure 3.5: Percentage Limited in Activities due to Health Problem
Poverty Typology, 2004-2009**



Source: SILC, Ireland, 2004-2009, analysis by authors. Note: 'Limited/non-poor' shows the ratio of the percentage limited in their activities in each of the poverty groups to the percentage so limited among those neither income-poor nor deprived

There is some fluctuation across years, with the percentage tending to decrease in the last two years among the consistently poor and those deprived-only and increase among those who are income poor only. This can be understood against the backdrop of the increasing prevalence of unemployment among those experiencing poverty in 2008 and 2009. As the unemployed form a larger component of the poor, as we saw in Figure 3.4, the share of those who have a disability has fallen.

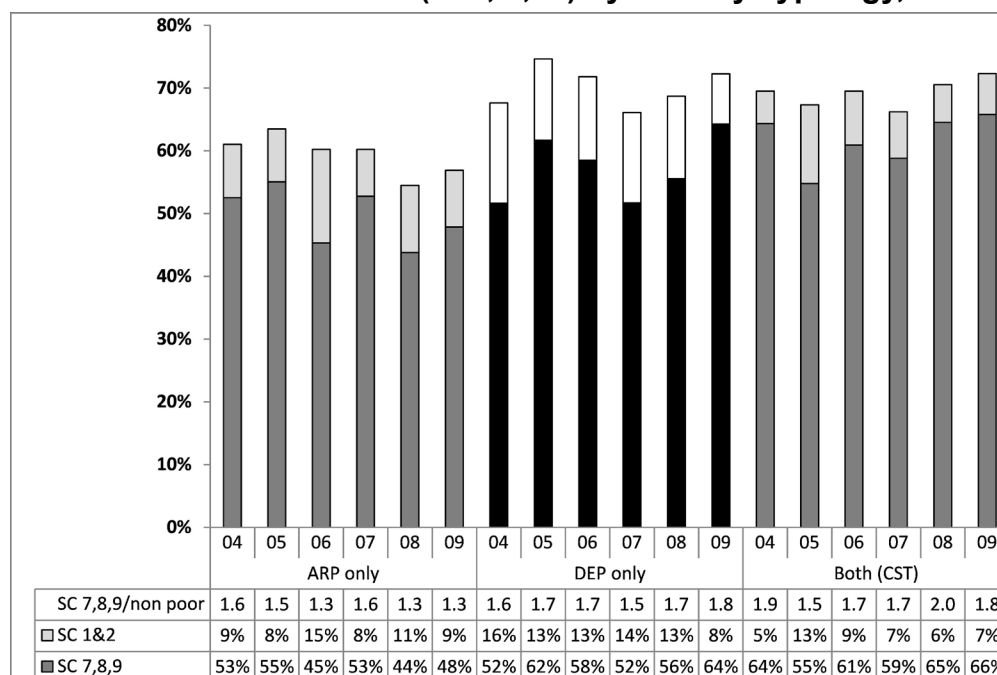
The analysis in this section, then, has shown that the poverty measures continue to be associated with disability. The fall in the percentage of the consistently poor that are limited in their activities in 2008 and 2009 comes about because of the increase in the number of unemployed persons overall who are among the ranks of the consistently poor.

3.4.3 Poverty and social class

Social class captures a range of life circumstances that are likely to be enduring and that are associated with poverty risk. As noted in Section 2, we use the European Socio-economic classification and focus on those who are in ESeC class 1 or 2 (professionals, managers and large employers) compared to those in ESeC classes 7, 8 or 9 (lower manual and lower sales and service workers). Again, we expect the latter groups to be over-represented among the poor.

9 The wording, from this perspective, has improved from SILC 2010. The SILC questions on disability were revised in line with the Census to include a list of long-standing conditions including sensory impairment, physical disability, intellectual disability and emotional or psychological conditions.

Figure 3.6: Percentage in the Professional/Managerial/Large Employer ('SC 1&2') Social Classes and in the Lower Manual / Sales / Service Social Classes ('S 7, 8, 9') by Poverty Typology, 2004-2009



Source: SILC, Ireland, 2004-2009, analysis by authors. Note: 'SC 1&2' refers to the ESeC professional, managerial and large employer social classes; 'SC 7,8,9' refers to the ESeC lower manual, sales and service social classes. 'SC 7,8,9/non-poor' shows the ratio of the percentage who are in the lower manual and service class in each of the poverty groups to the percentage who are in these classes among those neither income-poor nor deprived

Figure 3.6 shows that the lower socio-economic groups form a much bigger proportion of the poor than do the higher socio-economic groups, as expected. On average over the period, those at-risk-of-poverty-only are five times as likely to be in the lower manual, sales or service classes than to be in the professional, managerial or large employer classes.

The pattern is almost as strong (4.4 times) for those who are deprived only and is very strong indeed (8 times) for those who are both income poor and deprived. Although the relative sizes of the groups vary in particular years, the overall pattern is one where the poor, however measured, are predominantly drawn from the lower manual, sales and service classes. The percentage of those in the ARP-only group who are in these classes is somewhat lower. This is not because the ARP-only group is more likely to be in the professional or managerial social class, however. Instead, it is because the self-employed and farmers (ESeC social classes 4 and 5) are more likely to be at-risk-of poverty but not deprived.

3.5 Factor Analysis and Reliability of Deprivation Items

The final check in this section involves examining the factor structure and reliability of the Irish deprivation measure to ensure that they have remained stable over the period 2004 to 2009. The factor analysis was conducted on the same set of 39 items analysed by Maître, Nolan and Whelan in 2006, and the full table is shown in the appendix (See Appendix Table A2.1). The analysis distinguishes different groups of items that tend to cluster together: basic deprivation, secondary or consumption deprivation (which includes 19 items such as stereo, CD player, camcorder), housing amenities (bath, shower, central heating, hot running water),¹⁰ and housing/neighbourhood quality (leaking roof, too dark, pollution, crime or noise in the neighbourhood). Here we focus on the factor loadings of the 11 basic deprivation items.

Table 3.4 shows the factor structure for the 11 Irish basic deprivation items in each year. As well as the 11 deprivation items, these include measures of household durables (such as CD player, camcorder, dishwasher, car), household facilities (such as central heating, hot water) and housing/neighbourhood amenities (such as dark or damp dwelling, crime or pollution in neighbourhood). The overall factor structure has remained remarkably stable since the analysis was originally conducted on the 2004 data. In particular, with the exception of being able to afford an annual holiday, none of the additional items has a higher loading on the basic deprivation factor than any of the 11 deprivation items.

Table 3.4: Factor Structure of the Irish Deprivation Items (Principal Components with Oblique Rotation), 2004-2009

	2004	2005	2006	2007	2008	2009
Cold	0.60	0.63	0.61	0.60	0.63	0.58
Shoes	0.64	0.62	0.60	0.59	0.54	0.60
Roast	0.69	0.66	0.62	0.65	0.66	0.65
Meal	0.66	0.64	0.59	0.58	0.64	0.64
Clothes	0.68	0.64	0.64	0.62	0.61	0.61
Coat	0.61	0.60	0.57	0.57	0.56	0.57
Warm	0.62	0.67	0.60	0.58	0.58	0.62
Furniture	0.63	0.63	0.62	0.63	0.65	0.58
Friends	0.66	0.67	0.63	0.66	0.61	0.57
Evening out	0.59	0.57	0.60	0.57	0.61	0.56
Presents	0.58	0.61	0.53	0.57	0.57	0.48
Reliability (alpha)	0.843	0.841	0.819	0.822	0.817	0.800

Source: SILC 2004-2009, Ireland, analysis by authors. Analysis on unweighted data at household level

¹⁰ This factor becomes less stable after 2007, with a weaker relationship between central heating and hot water and the other two items.

In the 2006 analysis, Maître, Nolan and Whelan rejected the measure of an annual holiday as a component of the basic deprivation index for reasons of legitimacy and because the percentage who could not afford an annual holiday was much higher than for the percentages experiencing an enforced lack of the other 11 basic deprivation items. The legitimacy argument hinges on the general acceptability of the holiday item as an indicator of basic deprivation, given the relatively high percentage of the population who cannot afford an annual holiday (27 per cent, on average, from 2004 to 2009). The fact that the percentage who cannot afford an annual holiday is much higher than the percentage lacking any of the other 11 items in the scale would also result in the holiday item, if included, having a larger impact on the identification of those who are deprived. This issue is discussed further in the next section, when we compare the Irish and EU deprivation items.

Focusing exclusively on the 2009 data, one might ask whether 'being unable to afford presents for friends or family' should be excluded, since it has the lowest loading on the factor (.48). However, given the stability of the factor loading for this item from 2004 to 2008, and given the extraordinary economic circumstances prevailing in 2009, it would be premature to reconfigure the measure of basic deprivation at this point.¹¹ As with all of the items in the scale, its contribution to measuring deprivation needs to be assessed on an ongoing basis.

The final row of the table shows the reliability of the basic deprivation scale from 2004 to 2009. This is Cronbach's alpha statistic, which ranges from 0 (completely unreliable) to 1 (completely reliable). The reliability has remained above 0.8 throughout the period. The reliability is somewhat lower in 2009 (0.8) than in the other years (0.82 to 0.84), but still remains at a very satisfactory level. Again, given the extraordinary economic circumstances in 2008 and 2009, the fact that the reliability of the scale has remained respectable is very reassuring.¹²

3.6 Summary

In this section we examined trends in the Irish poverty measures (at-risk-of-poverty and deprivation) between 2004 and 2009. We saw that the measures capture evidence of the recession that began in 2008, with the increase in economic hardship evident in the deprivation measure somewhat sooner (in 2008) than in the at-risk-of-poverty measure (2009).

¹¹ The 'presents' item contributes to a slightly higher reliability in all years, including 2009.

¹² Nunnally (1978) suggests that an alpha level of 0.7 is acceptable, but lower levels sometimes appear in the literature. Some initial checks have suggested that, with the onset of the recession, people who are not otherwise deprived have been delaying replacing worn-out furniture and reducing their social activity (afternoon or evening out). These changes can be seen in the reduction in the factor loadings for these items in Table 3.4, and have contributed to the slight fall in the reliability of the scale.

Next we turned to the relationship between poverty and deprivation, on the one hand, and perceived economic stress, on the other. We asked whether the strength of the relationship between the poverty measures and economic stress persisted in this period. We saw a great deal of stability in the association between deprivation and economic stress, with a stronger relationship for deprivation than for at-risk-of-poverty. We attributed this to the fact that both measures – economic stress and deprivation – rely on the individual's willingness to disclose hardship at interview.

Next, we examined the profile of the poor and asked whether there remained a strong association between the poverty measures and unemployment, disability and social class. We found that the strong association persisted over the period, but with some fluctuation from year to year. In 2009, for instance, many more of the poor were unemployed so that a smaller proportion consisted of people with disabilities. In all of the years, the poor are more likely to be drawn from the less advantaged social classes, with the figures ranging from 1.3 times as likely to twice as likely.

In this section we have seen a very strong association between the Irish measure of deprivation and economic stress, even when we look at the group that is deprived but is not income poor. We might ask, then, whether it would be better to use direct measures of deprivation to identify the poor and dispense entirely with measures of at-risk-of-poverty. This would be inadvisable, for the reasons outlined in Section 1. In particular, a household may be deprived for reasons other than limited resources and the measure of deprivation on its own may understate the poverty of some groups, because of 'adaptive preferences'.

4. The Irish and EU Measures of Deprivation

4.1 Introduction

As noted in Section 1, one approach to dealing with the shortcomings of low income as an indicator of poverty is to seek more direct measures such as non-monetary indicators of standard of living and/or direct measures of participation (Townsend, 1979; Mack and Lansley, 1985; Mayer and Jencks, 1989; Callan, Nolan and Whelan, 1993; Muffels, 1993; Gordon et al., 1995; Hallerod, 1995; Nolan and Whelan, 1996).

In this section, we describe the different indicators used to measure deprivation in the Irish and EU approaches. As noted in Section 1, the EU 2020 approach involves identifying those who are ‘severely materially deprived’ (lacking 4 or more of the 9 items), which is a much stricter criterion than the Irish one. We focus on a broader group identified with the EU items, those lacking 3 or more of the 9 EU items so that we can highlight the impact of the choice of items rather than the impact of the choice of threshold.

In order to explore the differences between the Irish and EU measures, we construct a deprivation typology, distinguishing between those who are deprived according to the EU measure but not according to the Irish measure (‘EU-only deprived’) and those who are deprived according to the Irish measure, but not according to the EU measure (‘IRL-only deprived’).

4.2 Measuring Deprivation

4.2.1 Irish and EU deprivation measures

Table 4.1 shows the 11 Irish basic deprivation items and the 9 EU deprivation items. As noted in Section 2, there is little overlap in the choice of items: the only common items are inability to afford a protein meal and inability to keep the home adequately warm. Table 4.1 also shows the average percentage of the Irish population deprived according to each item over the 2004 to 2009 period. The distribution of the percentage deprived of each good or service is quite different between the Irish and EU measures. The percentages lacking each of the Irish items falls within a fairly narrow range, from 2.3 per cent for a ‘warm, waterproof overcoat’ to 13.9 per cent for ‘being able to replace worn-out furniture’. This means that the index will not be dominated by any single item.

Table 4.1: Percentage Deprived on each of the Irish 11 Basic Deprivation Items and on each of the 9 EU Deprivation Items (average 2004-2009)

Irish	% lack	EU items	% lack
Warm waterproof overcoat	2.3%	Colour TV	0.2%
Protein meal	2.7%	Mobile telephone or landline	0.4%
Two strong pairs of shoes	3.0%	Washing machine	0.7%
Presents for family friends (annual)	3.5%	Protein meal	2.7%
Keep home adequately warm	3.7%	Keep home adequately warm	3.7%
Roast joint (or equiv) once a week	4.0%	Car	9.8%
New (not second-hand) clothes	5.6%	Arrears on rent/mortgage, utilities, hire purchase	10.1%
Go without heating in last year	6.2%	Annual holiday	26.8%
Family/friends for a meal or drink (month)	10.2%	Meet unexpected expenses	35.4%
Afternoon or evening out (last fortnight)	10.7%		
Replace worn-out furniture	13.9%		
Average number lacking	0.66		0.90
Threshold for identifying deprived	2+		3+
Per cent deprived according to this threshold	14.3%		12.4%

Source: SILC, Ireland, 2004-2009, analysis by authors

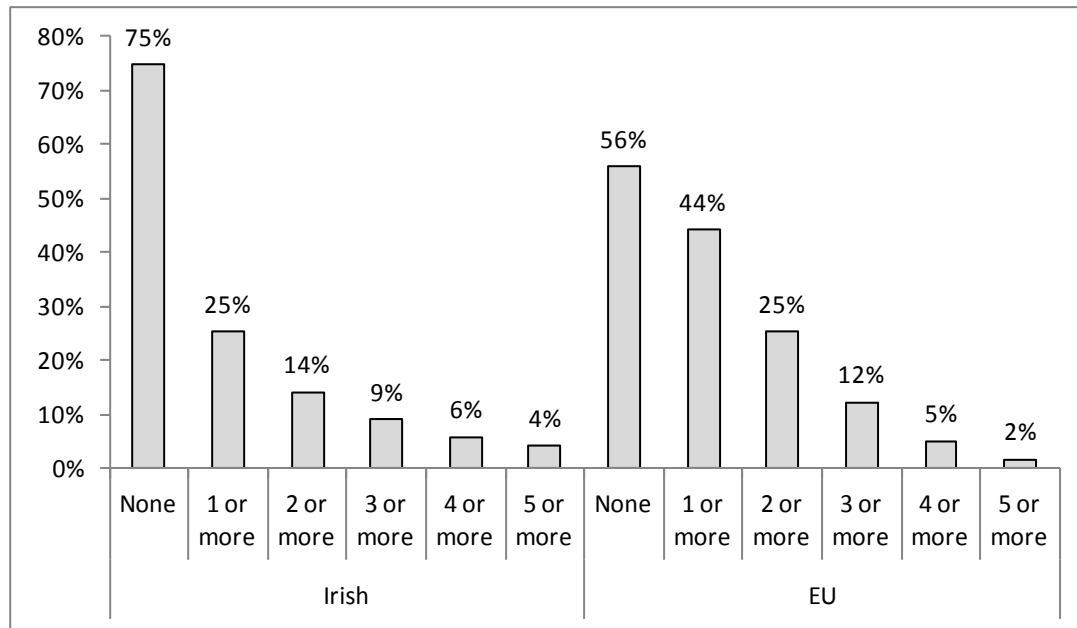
The range in terms of the percentage of the population lacking each item is much wider for the EU items. Less than one per cent of the population is unable to afford a colour TV, a telephone (mobile or landline) or a washing machine. On the other hand, the percentage who cannot afford an annual holiday is almost 27 per cent and over 35 per cent cannot meet unexpected expenses. The distribution here means that the final two items ('annual holiday' and 'unexpected expenses') will feature very strongly in the EU measure, as applied to Ireland.

On average, the Irish population between 2004 and 2009 lacked 0.66 of the 11 Irish deprivation items and 0.90 of the 9 EU deprivation items. These figures show the importance of the items chosen for the scale: although the Irish deprivation scale has 11 items, the average number lacked is lower. This in itself might not lead to the two scales identifying different groups as deprived, however, since the identification will also depend on the threshold chosen.

4.2.2 Irish and EU deprivation thresholds

Figure 4.1 shows the percentage of the population that would be identified as deprived using the Irish and EU scales, depending on the threshold chosen. The figure shows, for each scale, the percentage of the population identified as lacking 1 or more, 2 or more, 3 or more (and so on) of the 11 Irish items and 1 or more, 2 or more, 3 or more of the 9 EU items.

Figure 4.1: Percentage Deprived according to the Threshold adopted on the Irish and EU Deprivation Scales (average 2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

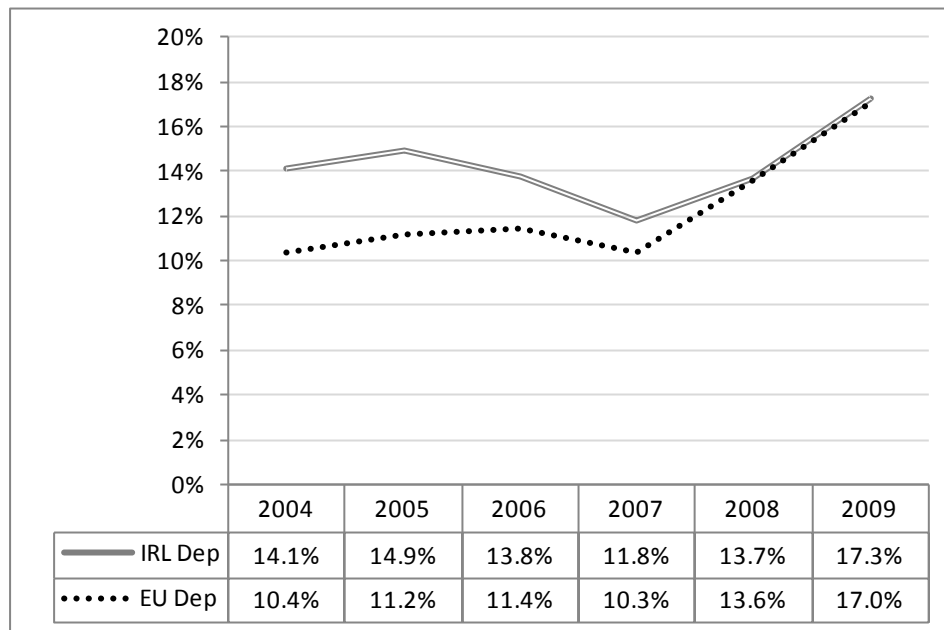
The two distributions are quite different. On the Irish scale, three quarters of the population lack none of the items, whereas only 56 per cent lack none of the EU items. The Irish scale shows a gradual drop from 25 per cent lacking 1 or more of the 11 items down to 4 per cent lacking 5 or more of the items, with the sharpest fall between the 1+ and 2+ thresholds (from 25 per cent to 14 per cent). On the EU scale, the drop in the percentage of the population identified is steeper as we move from a threshold of 1+ (44 per cent of the population) to a threshold of 5+ (2 per cent). The shapes of the distributions – particularly the size of the gap between those lacking none and those lacking 1 or more items – suggest that the Irish items do a better job in capturing a subset of the population with a qualitatively different experience in terms of living standards. In addition, the choice of threshold will be more consequential in the case of the EU items than in the case of the Irish items.

As noted above, the threshold adopted in Ireland for the 11 item scale was 2 or more, while the recommendation by Guio (2009) was that a threshold of 3 or more of the 9 EU items be used. Using these thresholds, the Irish scale identifies 14.3 per cent of the population as deprived between 2004 and 2009, while the EU scale identifies 12.4 per cent as deprived.

4.2.3 Trends over time in the Irish and EU deprivation measures

Figure 4.2 shows the prevalence of deprivation according to the Irish scale and the EU scale between 2004 and 2009. On the Irish scale, the deprived are those who lack 2 or more of the 11 Irish items while the EU scale is based on lacking 3 or more of the 9 EU items.

Figure 4.2: Change in the Percentage Deprived according to the Irish and EU Measures, 2004-2009



Source: SILC, Ireland, 2004-2009, analysis by authors

Although the two scales identify a very similar proportion of the population as deprived in 2008 and 2009, the pattern from 2004 to 2007 is quite different. Between 2004 and 2007 the level of deprivation was falling according to the Irish scale, from just over 14 per cent to just under 12 per cent. This is consistent with what we know of changes in the economy in this period: the economy was still growing and median incomes were rising.¹³ However, the EU scale shows a slight increase in deprivation from 2004 to 2007 (from 10.4 to 11.4 per cent), followed by a small drop in 2007 to 10.3 per cent. Both scales show a sharp increase in deprivation between 2007 and 2009, reflecting the impact of the recession.

4.2.4 Overlap between Irish and EU deprivation measures

Even though the two indices have few items in common, they may be identifying substantially the same population. Alternatively, the 14 per cent identified by the Irish measure may be a very different group from the 12 per cent identified by the EU measure. Table 4.2 shows overlap between the two indices. The figure shows the percentage of the population identified as deprived according to neither index, according to the Irish index only, according to the EU index only and according to both indices.

¹³ see Table 6.1 in Section 6.

The majority (82 per cent) are non-deprived according to both measures, and 8.8 per cent are identified as deprived by both measures. However, 5.5 per cent of the population are identified as deprived by the Irish measure, but not by the EU measure. A further 3.6 per cent are identified as deprived by the EU measure, but not by the Irish measure. The size of these two groups is quite substantial (a total of 9.1 per cent of the population) when considered in relation to the size of the group identified as deprived according to both scales (8.8 per cent of the population).

Table 4.2: Percentage Deprived of 2+ Items on the Irish 11 Basic Deprivation Scale and of 3+ Items on the EU 9-Item Deprivation Scale (average 2004-2009)

		EU		
		Not deprived	Lack 3+	Total
Irish	Not deprived	82.1%	3.6%	85.7%
	Lack 2+	5.5%	8.8%	14.3%
	Total	87.6%	12.4%	100.0%

Source: SILC, Ireland, 2004-2009, analysis by authors

It is worth noting that the Irish measure (2+) threshold would capture a larger percentage of those identified as deprived by the EU measure (3+) threshold than vice versa. Of those identified as deprived by the EU measure, 71 per cent are also identified as deprived by the Irish measure. Of those identified as deprived by the Irish measure, only 62 per cent are identified as deprived by the EU measure. This means that when the EU measure is used in the case of Ireland, 38 per cent of those identified as deprived by the Irish measure are excluded.

Although we will focus in the remainder of this section on the EU measure using the 3+ threshold, it is worth highlighting how the EU 4+ threshold compares to the Irish measure. The difference between the two approaches is even greater if the 4+ threshold is used with the EU scale, as shown in Table 4.3.¹⁴

Table 4.3: Percentage Deprived of 2+ Items on the Irish 11 Basic Deprivation Scale and of 4+ Items on the EU 9-Item Deprivation Scale (average 2004-2009)

		EU		
		Not deprived	Lack 4+	Total
Irish	Not deprived	85.1%	0.6%	85.7%
	Lack 2+	9.7%	4.6%	14.3%
	Total	94.9%	5.1%	100.0%

Source: SILC, Ireland, 2004-2009, analysis by authors

¹⁴ Recall that the 4+ threshold has been adopted in the Europe 2020 Strategy as a method of identifying those experiencing social exclusion using three distinct measures (at-risk-of-income-poverty, severe deprivation and low work intensity).

Using the 4+ threshold in the case of the EU measure and the 2+ threshold in the case of the Irish measure would mean that only 4.7 per cent of the population are identified as deprived according to both measures. Very few people are identified as severely deprived on the EU 4+ measure but as non-deprived on the Irish measure (0.6 per cent). However, if the EU 4+ threshold is used, almost one in ten of the Irish population (9.7 per cent) – who are identified as deprived on the Irish measure – are not identified as deprived by the EU measure. If the criterion of 4 or more items were to be adopted, virtually all of those deprived according to the EU measure would be captured by the Irish measure, while most of those captured by the Irish measure would be ‘missed’ by the EU measure. This means, in effect, that deprivation plays a much diminished role in identifying those who are socially excluded according to the EU 2020 measurement strategy.

4.3 Irish and EU Measures of Deprivation – Typology

In the previous section we saw that the EU approach, using the 3+ threshold, identified 12 per cent of the population as deprived while the Irish approach, using a threshold of 2+, identifies 14 per cent of the population as deprived. Although these percentages are quite close, there is limited overlap between the two, with about as many people identified as deprived by one measure only as are identified as deprived by both. It is worth focusing on those uniquely identified as deprived by one scale and not by the other, and asking how these differ. We can distinguish two groups:

1. ‘Irish-only’ deprived: those deprived according to the Irish measure, using the threshold of 2 or more of 11 items, but not deprived according to the EU measure with the threshold of 3 or more of 9 items and
2. ‘EU-only’ deprived: those deprived according to the EU measure, using the 3 or more threshold, but not deprived according to the Irish measure with the 2 or more threshold.

The remainder of this section is concerned with understanding how these two groups differ. We undertake this exercise in the context of the assessment of the Irish measure to see whether something can be learned from the EU approach. We focus on the 3+ threshold for the EU measure on the grounds that it is more similar to the Irish measure both in the percentage of the population identified as deprived and in the purpose of the indicator. The EU 4+ threshold is designed to identify the most severely deprived and is intended as a component of a measure that also incorporates at-risk-of-poverty and low work intensity.

We begin our exploration of the differences between the two measures by examining which items in the two scales are most important in distinguishing the two groups. The first two columns in Table 4.4 show the percentage of those in each of the two groups who lack each item in the Irish deprivation scale and each item in the EU deprivation scale. The figures cover the period 2004 to 2009.

Table 4.4: Differences in Items Lacked by Those Identified as Deprived Uniquely by the Irish and EU Deprivation Measures (Percentages, 2004-2009)

	% lacking each item	
	IRL-only Deprived	EU-only Deprived
Size of the groups	5.5	3.6
Irish unique deprivation items		
Warm waterproof overcoat	7.9	0.4
Two strong pairs of shoes	11.2	0.1
Presents for family friends (annual)	15.2	0.5
Roast joint (or equiv) once a week	14.5	1.5
New (not second-hand) clothes	25.3	4.7
Go without heating in last year	16.8	3.3
Family/friends for a meal or drink (month)	55.5	8.5
Afternoon or evening out (last fortnight)	45.7	12.7
Replace worn-out furniture	67.3	19.7
Average number lacked (incl. common items)*	2.68*	0.54*
Common deprivation items (both scales)		
Protein meal	2.8	0.9
Keep home adequately Warm	5.5	1.2
EU unique deprivation items		
Colour TV	0.2	1
Mobile telephone or landline	0.3	1
Washing machine	0.5	3
Car	5.0	63
Arrears on rent/mortgage, utility, hire purchase	6.9	54
Annual holiday	62.4	93
Meet unexpected expenses	76.4	99
Average number lacked (incl.common items)*	1.60*	3.16*

Source: SILC, Ireland, 2004-2009, analysis by authors. All the results reported are rounded to nearest percentage except * (average number)

Not surprisingly, the Irish-only deprived are more likely than the EU-only deprived to lack the items in the Irish scale while the EU-only deprived are more likely to lack the items in the EU scale. On average, the Irish-only deprived lack 2.68 of the 11 Irish items and 1.6 of the 9 EU items. The EU-only deprived lack 3.16 of the 9 EU deprivation items, but only 0.54 of the 11 Irish deprivation items.

It is also clear from the percentages lacking each of the EU deprivation items that three of the 9 EU items contribute very little to identifying either the Irish-only deprived or the EU-only deprived (colour TV, telephone, washing machine). Even among the EU-only deprived, three per cent or fewer lack any of these three items.

Recall that there are two items common to both scales: protein meal and keeping the home adequately warm. Very few of either of the two groups (EU-only deprived or Irish-only deprived) lack these two items – presumably because most of those who lack the items would tend to be deprived on both measures. The percentages lacking these two items are somewhat higher for the Irish-only deprived group, however.

It is worth asking whether those identified as deprived by each measure are more likely than the general population to lack the items from the other scale. From Table 4.5 we see that the Irish-only deprived lack an average of 1.6 items from the EU scale and that the general population lacks an average of 0.9 items from the EU scale. Therefore, the Irish-only deprived lack 1.8 times as many of the EU items as the general population. Repeating the calculation for the EU-deprived, we see that the EU-deprived actually lack fewer of the Irish items on average (0.54) than the general population (0.66). This suggests that the population uniquely identified as deprived by the EU set of items (and not deprived according to the Irish measure) experiences a lower level of deprivation on the Irish scale.

Table 4.5: Number of Items from Each Deprivation Scale Lacked by ‘Irish-only’ Deprived and ‘EU-only’ Deprived, relative to the General Population (Average 2004-2009)

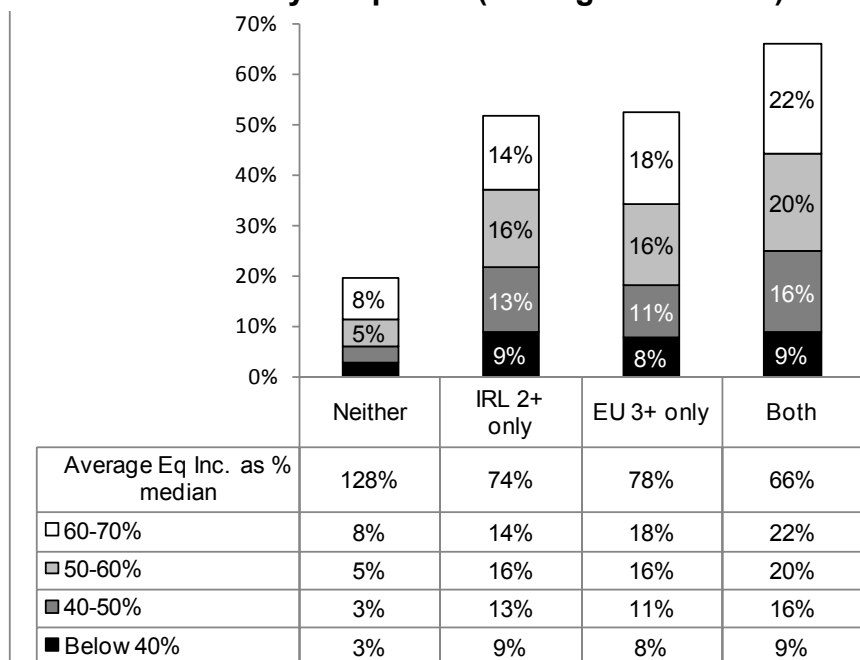
	Irish deprivation items	EU deprivation items
Average number of items lacked by:		
Total population	0.66	0.90
‘Irish-only’ deprived	2.68	1.60
‘EU-only’ deprived	0.54	3.16
Both (EU-deprived AND IRL-deprived)	4.56	3.82
Ratio of number of items lacked by deprived groups to number lacked by general population:	Irish items	EU items
‘Irish-only’ deprived	4.1	1.8
‘EU-only’ deprived	0.8	3.5
Both (EU-deprived AND IRL-deprived)	6.9	4.3

Source: SILC, Ireland, 2004-2009, analysis by authors

To gain further insight on this issue, Figure 4.3 compares the income situation of the EU-only and IRL-only deprivation groups. The figure shows the percentage in each group who fall into each of five income categories and the table also shows the average income of the group in relation to the median income. Note that all incomes are equivalised to adjust for differences in household size and composition, as described in Section 2.

There is not much difference between the IRL-only deprived and the EU-only deprived in terms of the percentage below the 70 per cent at-risk-of-poverty threshold, as can be seen from the overall height of the bars in Figure 4.3. However, the IRL-only deprived are slightly more likely to be below the 50 per cent threshold (22 per cent) than the EU-only deprived (18 per cent). The average income of the IRL-only deprived group as a percentage of median income is somewhat lower (74 per cent) than that of the EU-only deprived (78 per cent). This indicates that the Irish measure is capturing a lower-income group than the EU measure, but the difference is slight.

Figure 4.3: Relative Incomes of the ‘Irish-only’ Deprived and the ‘EU-only’ Deprived (Average 2004-2009)



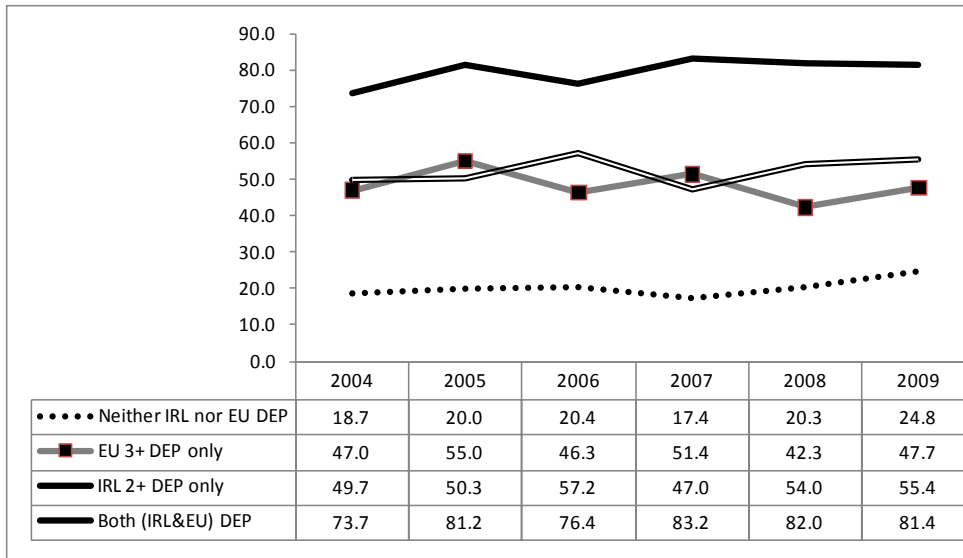
Source: SILC, Ireland, 2004-2009, analysis by author

4.4 Irish and EU Measures of Deprivation and Economic Stress

Figure 4.4 shows the percentages experiencing high levels of economic stress by the Irish and EU deprivation measures. Among those not deprived according to either the Irish or the EU measure, between 19 per cent and 25 per cent experience high levels of economic stress, with the highest figure in 2009. This shows the impact

of the economic recession on overall levels of economic stress. Looking across the groups identified as deprived by the Irish and EU measures, those who are deprived according to both measures are most likely to experience high levels of economic stress, with the percentages ranging from 74 per cent to 83 per cent.

Figure 4.4: Percentage Experiencing High Economic Stress by Irish and EU Deprivation Typology (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

There is a tendency for the percentage to be higher towards the end of the 2004 to 2009 period, but the highest figure is found for 2007. An increase in economic stress in 2008 and 2009 is understandable, given the general economic uncertainty following the onset of the recession. The higher figure in 2007 is consistent with the fact that economic sentiment was already becoming more negative at this stage, reflecting uncertainty about the economy (Duffy and Hughes, 2011).

Those identified as deprived by the Irish measure only and those identified as deprived by the EU measure only occupy an intermediate position, with between 42 per cent and 57 per cent experiencing high levels of economic stress. In several of the years, particularly towards the end of the period, the Irish-only deprived group is more likely than the EU-only deprived group to experience high levels of economic stress. For instance, the figures for the Irish-only deprived group in 2008 and 2009 are 54 per cent and 55 per cent respectively, while the figures for the EU-only deprived are 42 per cent and 48 per cent, respectively. The differences are statistically significant in 2006, 2008 and 2009.

This suggests that the Irish measure is capturing a group experiencing significantly higher levels of economic stress. This analysis so far has shown that even though the Irish measure is identifying a larger group (14 per cent of the population) than the EU deprivation measure (12 per cent of the population), this group shows levels of economic stress that are at least as high as those identified by the EU measure. In particular, after the beginning of the recession in 2008, those uniquely identified as deprived by the Irish measure are more likely than those uniquely identified as deprived by the EU measure to experience high levels of economic stress.

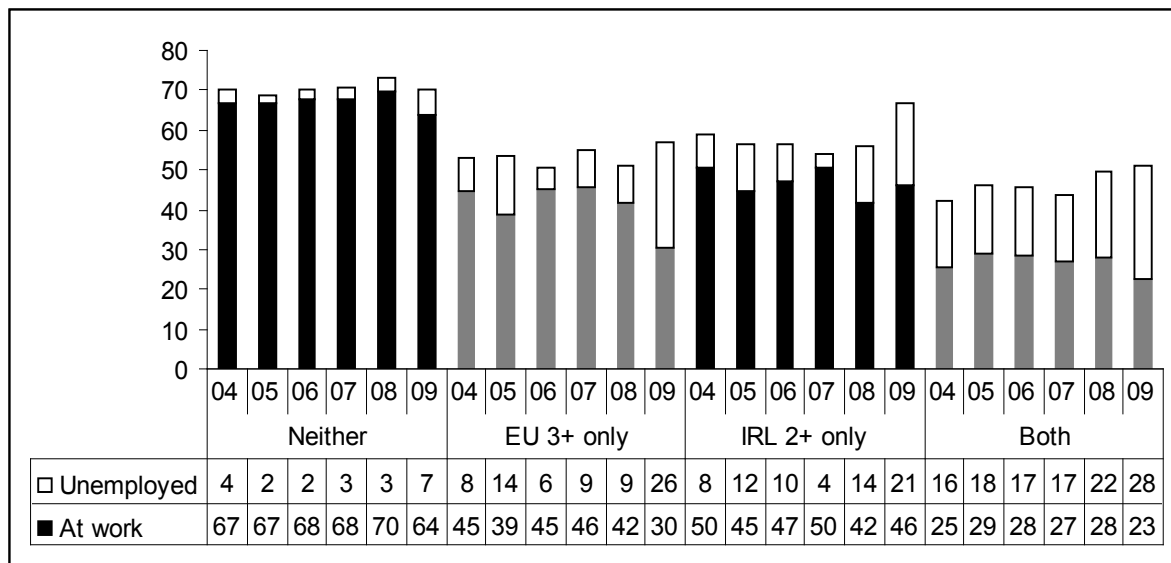
4.5 Irish and EU Measures of Deprivation and Poverty Risk Factors

In this section, we ask whether those uniquely identified by the Irish and the EU measures of deprivation differ from each other in terms of characteristics that are known to be risk factors for poverty. We focus on unemployment, disability and social class. As noted in Section 2, we base the status of all household members on the employment status, disability status and social class of the household reference person.

As in the previous section, we focus on four groups distinguished by the Irish and EU deprivation measures: not deprived, deprived according to the Irish measure only, deprived according to the EU measure only and deprived according to both measures. Turning first to unemployment and employment, Figure 4.5 shows the percentages of the four groups who are unemployed and the percentage at work.

The most striking contrast in Figure 4.5 is between those who are not deprived according to either measure and the other three groups. For the non-deprived, the percentage at work is 67 to 70 per cent between 2004 and 2008. Although the percentage employed drops to 64 per cent in 2009, it remains much higher than in the deprived groups (however measured). The percentage of the non-deprived who are unemployed is very low: between two and four per cent from 2004 to 2008. Although seven per cent of the non-deprived are unemployed in 2009, this remains well below the figures for the three deprived groups (21 to 28 per cent).

Figure 4.5: Percentage Unemployed and Percentage At Work by Irish and EU Deprivation Typology (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

Those who are deprived according to both the EU and Irish measure show the opposite pattern, with the lowest percentages at work (23 to 29 per cent) and the highest percentages unemployed (16 to 28 per cent).

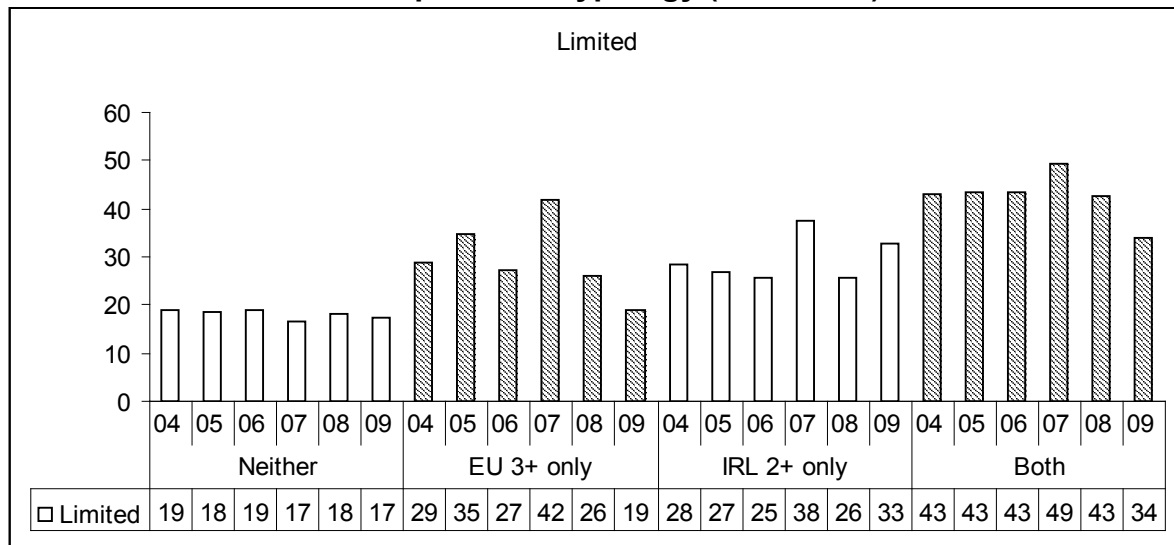
The Irish-only deprived and the EU-only deprived fall between these two patterns. Because the groups are small in size, there is quite a bit of fluctuation from year to year in the actual percentages at work and unemployed. Apart from these fluctuations, the two groups are not radically different from each other. Taking the averages of the figure for each year, 47 per cent of the Irish-only deprived were at work, 11 per cent were unemployed, and the remaining 42 per cent were outside the labour market. Among the EU-only deprived, 43 per cent were at work, nine per cent were unemployed and 47 per cent were outside the labour market.¹⁵ The employment profiles of the groups uniquely identified by the Irish and EU measures of deprivation, then, are broadly similar, with a slightly higher percentage unemployed for the group identified as deprived by the Irish measure.

4.6 Irish and EU Measures of Deprivation and Disability

Figure 4.6 shows the percentage of people living in households where the reference person was limited in his or her daily activities by a health problem over the previous six months. As we saw above in the case of unemployment, the clearest contrast is between those who are deprived according to neither measure and those deprived according to both measures.

¹⁵ In four of the years the difference between the IRL-only and EU-only in the percentage unemployed is statistically significant (2006, 2007, 2008 and 2009). In two of these, the rate is higher for the IRL-only deprived and in two it is higher for the EU-only deprived.

Figure 4.6: Percentage of People Limited in their Everyday Activities by Irish and EU Deprivation Typology (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by author

Between 17 and 19 per cent of the non-deprived were limited in their activities by a health problem. These figures remain relatively stable over the 2004 to 2009 period. There is more fluctuation in the percentage limited in their activities in the group deprived according to both the Irish and EU measures. In four of the six years, 43 per cent of this group was limited in terms of daily activities due to a health problem.

The figure was higher (49 per cent) in 2007 and lower (34 per cent) in 2009. The fall in 2009 can be attributed to the fact that rising unemployment was increasing the proportion of the deprived population that was unemployed, so that other groups (such as those who are disabled) now formed a lower proportion of the total.

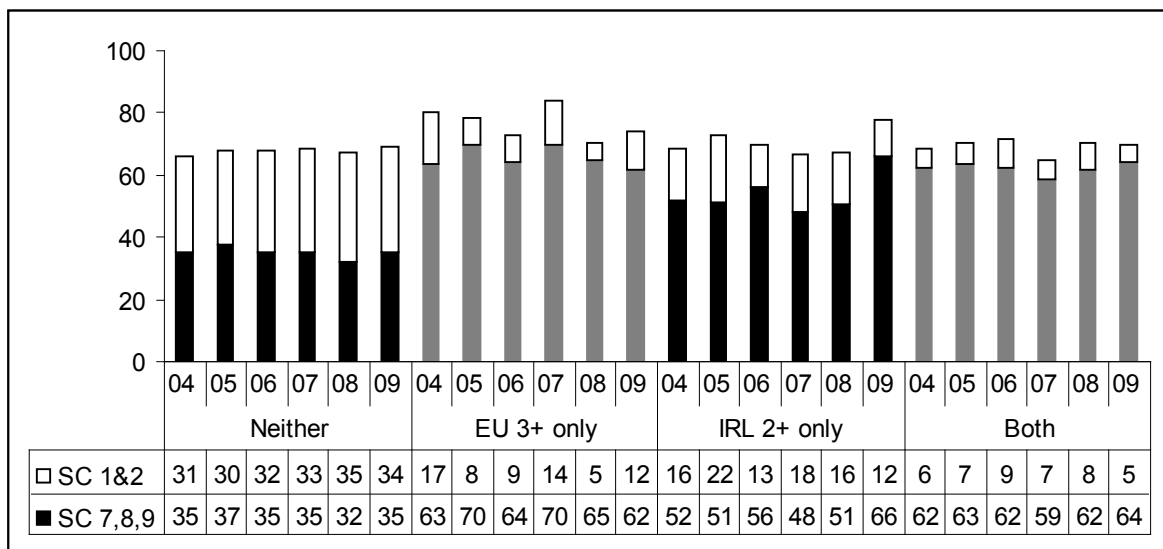
The Irish-only deprived and the EU-only deprived are small groups, so there is quite a bit of fluctuation from year to year in the percentage limited in their daily activities. The average across the period for the EU-only deprived is 32 per cent and the overall average for the Irish-only deprived is 29 per cent. This masks quite a bit of fluctuation from year to year, however. In 2009, for instance, the percentage of the Irish-only deprived who are limited in their activities had risen to 33 per cent while the percentage had fallen to 19 per cent among the EU-only deprived. Overall, then, while the group identified as deprived by the EU measure was slightly more likely to experience limitation in everyday activities over the period than the group identified as deprived by the Irish measure, this fluctuated from year to year and the pattern had reversed in 2009.

4.7 Irish and EU Measures of Deprivation and Social Class

Figure 4.7 shows how the groups identified by the Irish and EU measures of deprivation compare in terms of their social class composition. The figure shows the percentages of each deprivation group in the Professional/ Managerial/Large Employer Social Classes (SC 1 and 2) and in Lower Sales/ Service/Manual Social Classes (SC 7, 8, 9) from 2004 to 2009. The overall height of the bars shows the percentage of the population in these two social class groupings.

Among those who are not deprived (according to either the Irish or EU measure), about the same proportion of people are in these two social class groups. Among those who are deprived, however, there is a much greater concentration of the less advantaged lower sales/service/manual social classes. This is particularly marked in the group identified as deprived by both the Irish and EU measures, where only five to nine per cent are in the professional/managerial/large employer classes compared to 59 to 64 per cent in the lower sales/service/manual social classes.

Figure 4.7: Percentage in Professional/Managerial/Large Employer Social Classes (SC 1&2) and in Lower Sales/Service/Manual Social Classes (SC 7,8,9) by Irish and EU Deprivation Typology (2004- 2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

Comparing the Irish-only deprived and the EU-only deprived, we see that the EU-only group showed a greater relative representation of SC 7,8,9 for most of the years, but that by 2009 the difference between the two groups was smaller. On average across the years, 66 per cent of the EU-only deprived were in the lower service/sales/manual social classes compared to 54 per cent of the Irish-only deprived. In 2009, however, 66 per cent of the Irish-only deprived were in these social classes compared to 62 per cent of the EU-only deprived.

4.8 Conceptual and Measurement Issues in the Selection of Deprivation Items

Thus far we have examined the association between the two alternative deprivation measures and an expected consequence of poverty (economic stress) and a number of expected risk factors for poverty. Although the Irish measure identifies a bigger group than the EU measure, the Irish-only deprived show slightly higher levels of economic stress, and a slightly higher proportion of them are unemployed. On the other hand, a slightly higher proportion of the EU-deprived are limited in their activities due to a health problem and are in the lower manual/sales/service social classes. On purely empirical grounds, then, there is an argument for preferring the Irish measure since it identifies a slightly larger proportion of the population that conforms to the pattern we would expect in terms of economic stress and risk factors for poverty.

However, the EU measure is identifying a further 3.6 per cent of the population who look very similar in terms of their profile and in terms of economic stress and risk factors for poverty. We might ask whether it is worth combining the EU and Irish measures in order to capture this group. Our answer is that this would not be advisable, for a number of reasons.

The first reason concerns the need to separate risk factors and consequences of poverty from the measurement of poverty itself. One of the reasons we need to identify those who are deprived is in order to understand how deprivation is related to outcomes like economic stress and mental health. In order to do this, we must check that the items we include in our measure of deprivation work well together to identify a unique social experience. If we include measures of economic stress in the measurement of poverty itself, we cannot then use this measure to examine the relationship between poverty and economic stress or other subjective outcomes.¹⁶ Two of the items in the EU deprivation scale (arrearages and capacity to meet unexpected expenses) are actually better measures of economic stress than of deprivation. To see the extent to which this is the case, we conducted an exploratory factor analysis of the basic deprivation items, the four measures of economic stress used in this paper together with these two items from the EU scale. The results are shown in Table 4.6.

¹⁶ This is sometimes referred to as 'discriminant validity' – the capacity of a measure to distinguish the construct we are interested in from other related constructs (Carmines and Zeller, 1979).

Table 4.6: Exploratory Factor Analysis of Basic Deprivation and Economic Stress Items, Ireland (2004-2009)

IRL Basic deprivation items	Component	
	1	2
Cold	0.545	0.472
Shoes	0.672	0.226
Roast	0.687	0.333
Meal	0.665	0.278
Clothes	0.647	0.365
Coat	0.660	0.179
Warm	0.584	0.396
Furniture	0.561	0.528
Friends	0.586	0.517
Evening out	0.467	0.586
Presents	0.575	0.333
Economic stress items + 2 EU items		
Debt – ordinary living expenses	0.292	0.630
Difficulty making ends meet	0.381	0.729
Debt repayment burden	0.149	0.586
Housing costs burden	0.309	0.728
Arrears on rent/mortgage, utility, HP*	0.361	0.631
Unexpected expenses*	0.367	0.616

Extraction Method: Principal Component Analysis; Rotation Method: Oblimin with Kaiser Normalization. Data are unweighted and analysis is conducted at the household level. * indicates items that are part of the EU Material Deprivation Index.

The factor analysis with a two factor solution clearly shows that the two items from the EU deprivation scale (inability to meet unexpected expenses and arrears on rent, mortgage or utility bills) have a stronger loading on the economic stress scale than on the basic deprivation scale. This means that, from an empirical as well as a conceptual perspective, the items are better as measures of economic stress than as measures of basic deprivation. Thus, while the ‘unexpected expenses’ and ‘arrears’ items may be useful in *identifying* those who are socially excluded, including them in the measure of deprivation limits the kind of analysis that can subsequently be conducted. In the EU context, where a more limited set of items is available to measure material deprivation, for instance, this approach may be the best that is possible.

Earlier in this section we examined the relationship between the two measures of deprivation (Irish and EU) and economic stress. Strictly speaking, since two of the EU items are capturing economic stress, this was an unfair comparison of the construct validity of the two scales. Given that the EU deprivation scale already contains two items that measure economic stress, the fact that the Irish measure performed just as well (and slightly better by 2009), tilts the balance of the empirical evidence in favour of the Irish measure.

Turning to the remaining EU items, from Table 4.1 we note that three of the remaining EU items would add almost nothing to our capacity to identify a distinct group in Ireland, because the percentages experiencing an enforced lack of these items is so low (colour TV, telephone, washing machine).

The third argument concerns the need to avoid including an item that would dominate the scale because it differs radically from the other items in terms of the percentage who cannot afford it. This affects the ‘annual holiday’ item, which was considered by Maître, Nolan and Whelan in 2006, but rejected for this reason. A much higher percentage of the population experienced an enforced lack of this item than the next most frequently-lacked item. As we saw in Table 4.1, 27 per cent of the general population could not afford an annual holiday while 14 per cent could not afford to replace worn-out furniture – the most frequently lacked of the items included in the Irish scale. This means that from a technical point of view the annual holiday item would have an undue influence on the measured level of deprivation. This can be seen in Table 4.7. This table demonstrates the extent to which the Irish and EU measures of deprivation ‘depend’ on each item. The figures show the percentage of those identified as deprived with each scale (the Irish and the EU scale) who would not be considered deprived if each item were dropped. In other words, it shows the percentage of those above the deprivation threshold (lacking 2+ of the Irish items and lacking 3+ of the EU items) who would not be above the threshold without each item.

Thus, for instance, we see that the ‘unexpected expenses’ item accounts for 57 per cent of the cases considered deprived according to the EU items at the 3+ threshold. This is because 57 per cent of the cases considered deprived at the EU 3+ threshold lack exactly three items and one of these is ‘unexpected expenses’. The figure is also over 50 per cent for ‘annual holiday’ and is 30 per cent for ‘arrears’ and 23 per cent for ‘car’. We can also see from Figure 4.7 that the items ‘TV’ and ‘Phone’ contribute nothing to the scale.

The dependence of the Irish scale on individual items is much lower. The highest figure is for ‘furniture’ (20 per cent), followed by the two items capturing social participation: 16 per cent for ‘an afternoon or evening out’ and 14 per cent for ‘meal or drinks with family or friends’.

Table 4.7: Percentage of Population who would NOT be Considered Deprived at Given Threshold WITHOUT Each Item (2004-2009)

EU Items	% who would NOT be Deprived WITHOUT this item on EU scale	Irish Items	% who would NOT be Deprived WITHOUT this item on IRL scale
Unexpected expenses	57%	Cold	5%
Annual holiday	54%	Shoes	2%
Arrears	30%	Roast	3%
Meal	4%	Meal	1%
Warm	6%	New clothes	5%
Washing machine	1%	Coat	1%
TV	0%	Warm	3%
Phone	0%	Furniture	20%
Car	23%	Meal out	14%
		Evening out	16%
		Presents	3%
Total % lacking 3+ Items	12%	Total % lacking 2+ Items	14%

Source: SILC, Ireland, 2004-2009, analysis by authors

Another argument against including the annual holiday item concerns its perceived legitimacy as an indicator of deprivation. Because the measurement of poverty is bound up with social policy, the measurement needs to take account of issues of legitimacy. It is important not to undermine the legitimacy of the overall anti-poverty strategy by including in the measurement of poverty items that might not be generally seen as necessities.

Access to a car, another item included in the EU scale, would not be a good choice of item in the Irish context, as there is an important urban-rural divide in terms of the usefulness of a car. Many rural areas are poorly served by public transport and access to a car is very important in these areas. On the other hand, where public transport is available and particularly if it is also the case that parking spaces are scarce, a car is less important. For this reason, enforced lack of access to a car is rather weakly associated with the basic deprivation scale. We replicated the analysis conducted by Whelan, Nolan and Maître on the 2004 data for each of the years 2004 to 2009 and found that the loading of this item on the basic deprivation factor was weak (See Appendix Table A2.1).

4.9 Summary

In this section we compared the Irish measure of basic deprivation to the EU material deprivation indicator. As the Irish measure was specifically developed for use in the Irish context, and had a larger number of items available from which to choose, it is not surprising that it performs better in the Irish context than the EU measure. In particular, it identifies a slightly higher proportion of the population as deprived (14 per cent compared to 12 per cent for the 2004 to 2009 period), while showing a stronger relationship to economic stress in several of the years, and showing equal validity in terms of the association with risk factors for poverty. In measurement terms, the Irish scale has a higher reliability in the Irish context, is less dependent on any one item, and is clearly distinguished from economic stress, which is conceptually different from deprivation. Although some of the measurement properties of the Irish measure (e.g. reliability) might be technically improved by inclusion of some of the EU items, other measurement properties (e.g. overdependence on a single item) would be worsened and the overall validity and clarity of meaning of the index would be reduced.

5. Low Work Intensity and the EU 2020 Approach

5.1 Introduction

In June 2010 the European Council adopted the *Europe 2020 Strategy* which is a ‘new strategy for jobs and smart, sustainable and inclusive growth’ for the next ten years. The strategy identified objectives in five domains: employment, innovation, education, climate/energy and social inclusion. For each of these domains the EU has established clear and quantified targets.

The domain relevant to this paper is that of poverty and social exclusion. The EU has set a target of reducing by at least 20 million the number of people out of the risk of poverty and social exclusion by 2020. The target population is defined as the number of persons who are at-risk-of-poverty or exclusion according to any one of three indicators:

- at-risk-of-poverty (below the 60 per cent of median poverty threshold)
- severe material deprivation (lacking 4 or more of the EU items)
- jobless households (‘very low work intensity’; see below).

Member states are free to set their national targets on the basis of the most appropriate indicators, taking into account their national circumstances and priorities. In Section 4 we compared the Irish deprivation measure to the measure of material deprivation based on the EU items. We found that even taking the less restrictive threshold of 3 or more of the EU items, the EU approach to measuring deprivation had little to recommend it in an Irish context. If the criterion of 4 or more items were to be adopted, we saw that virtually all of those deprived according to the EU measure would be captured by the Irish measure, while most of those captured by the Irish measure would be ‘missed’ by the EU measure.

In this section we turn our attention to the low-work intensity indicator and to the consequences of different approaches to combining indicators. The Irish approach has been to emphasise the group in consistent poverty (those *both* at-risk-of-poverty *and* deprived). In contrast the EU approach in the *Europe 2020 Strategy* is to give equal emphasis to those meeting any of three criteria (*either* at-risk-of-poverty *or* severely materially deprived *or* in a very low work intensity household).

5.2 Very Low Work Intensity

5.2.1 Concept and measurement of low work intensity

The EU 2020 target identifies persons in households with ‘very low work intensity’. The work intensity of a household is the ratio of the total number of months that all working-age household members have worked during the income reference year to the total number of months the same household members theoretically could have worked in the same period. A working-age person is a person aged 18 to 59 years, with the exclusion of students in the age group between 18 and 24 years. ‘Very low work intensity’ is defined as a ratio of less than 0.2. In other words, a very low work intensity household is one where the working-age adults worked for less than one fifth of the time possible.

Once the work intensity is calculated for adult members, it is then attributed to all persons living in the household, including children, students and adults aged 60 and over. However, the indicator is not defined at all for households composed only of children, of students aged less than 25 or people aged 60 or more. This issue is most important for older adults, as children are likely to be living with adults of working age. Eurostat published statistics on low work intensity, therefore, are based only on persons aged 0 to 59.

The adoption of the low work intensity measure certainly represents an acknowledgment of the important link that exists between work and social exclusion. This is particularly relevant in the current circumstances of economic recession and rising unemployment. Nevertheless, while the attention given to jobless households and its relationship to poverty is very important the use of a low work intensity indicator in the *measurement of social exclusion* raises some methodological issues.

The first concerns the fact that this indicator is not universal, unlike the other indicators. Those in households with no working age persons are excluded. This introduces a difficulty in comparing levels of exclusion across life-cycle groups, particularly for comparisons between older adults and younger adults.

A second problem lies in the inclusion of the low work intensity indicator with the at-risk-of-poverty and the deprivation measure in the identification of the Europe 2020 poverty target. Indeed, the nature of the former indicator is very different from the latter two as the low work intensity constitutes a structural factor causing poverty while the last two measures are intended to capture poverty itself. This creates problems if we wish to understand the causal processes leading to social exclusion. We cannot compare the risks associated with unemployment, disability and lone parenthood, for instance, if one of these (employment/unemployment) is included in the measure of social exclusion.

This also raises the question as to why one risk factor, albeit an important one, is privileged over other potential risk factors such as low levels of education, disability, lone parenthood or social class.

Finally, including low work intensity in the identification of social exclusion will have an impact on the target group identified for policy interventions. This is particularly relevant in Ireland, which had the highest rate of very low work intensity in 2009 across the EU countries (19.8 per cent compared to an average of nine per cent in the EU 27).¹⁷ Does the group identified by the low work intensity indicator show the same patterns in terms of economic stress and risk factors for poverty as those identified by the present Irish at-risk-of-poverty and deprivation indicators?

In this section we will therefore try to explore the relationship of the low work intensity indicator (LWI) in conjunction with the Irish measures of at-risk-of-poverty (AROP) and deprivation (DEP). We will examine what value, if any, the low work intensity indicator adds to our understanding of poverty and social exclusion. In this section we do not limit our attention to the population for whom low work intensity is defined in the LWI indicator (households of working age). Instead, we show the prevalence and patterns in the broader context of the full population. In the case of persons excluded in the definition of the indicator (people in households with no working age adults), we treat them as not experiencing low work intensity. This means that the LWI rate reported will be somewhat lower than the rate reported in the EU headline figures.

5.2.2 Low work intensity, at-risk-of-poverty and deprivation

In order to evaluate the importance and pertinence of the contribution of the low work intensity indicator to identify people at-risk-of-poverty or excluded, we need to explore its relationship with these poverty indicators. In other words, how many of those in LWI households have been already identified as being at-risk-of-poverty and/or deprived?

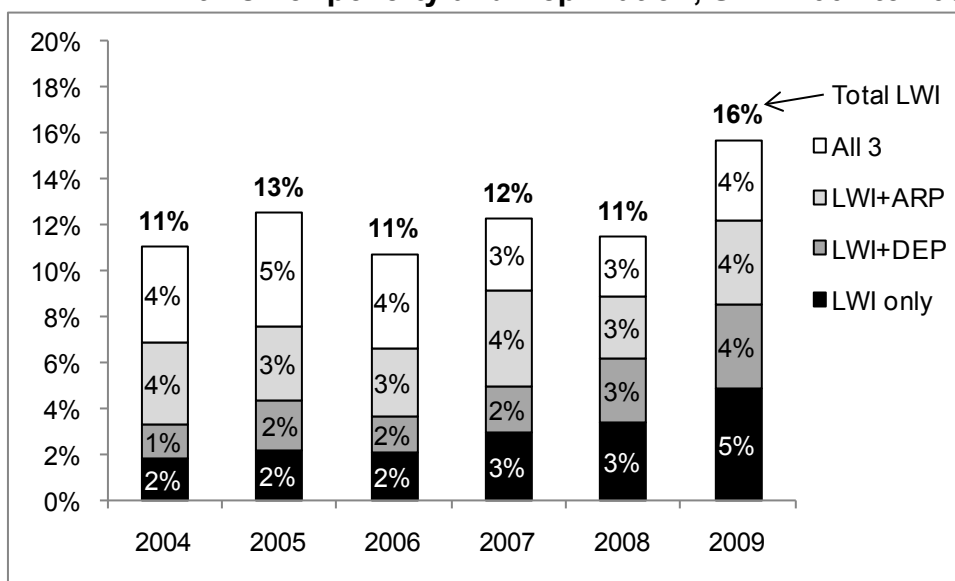
We present in Figure 5.1 the distribution of the low work intensity indicator over time as well as its overlap with the at-risk-of-poverty and deprivation measures. From Figure 5.1 we see that the overall level of low work intensity has fluctuated between 2004 and 2008, but within a narrow range (11 per cent to 13 per cent). With the onset of the recession in mid-2008, resulting in rising unemployment, the LWI rate reached a high of 16 per cent in 2009.¹⁸

¹⁷ See 'People living in households with very low work intensity', <http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators> [accessed January 31, 2012]. There are also some very minor differences between the EU estimates based on the Irish data in the EU-SILC datasets and our estimates based on the national SILC dataset, but these do not substantially affect the results here.

¹⁸ As noted above, the figure of 16 per cent is lower than the figure of 19.8 per cent reported in the EU headline figures because we include in the base all persons, not just those in households of working age.

For most of the period, only a small proportion of the population (2 to 3 per cent) would be uniquely captured by the LWI indicator. The 'LWI-only' group in the figure are those in LWI households, who are not also at-risk-of-poverty or deprived. This group had increased to five per cent of the total population by 2009, however. Most of those in LWI households are also either at-risk-of-poverty or deprived or both income poor and deprived. In the early part of the period, there was a greater overlap between LWI and at-risk-of-poverty than between LWI and deprivation. By 2008, however – with the increase in the level of deprivation in the population – the overlap of LWI with at-risk-of-poverty and deprivation are similar.

Figure 5.1: Prevalence of Low Work Intensity and Overlap with At-risk-of-poverty and Deprivation, SILC 2004 to 2009



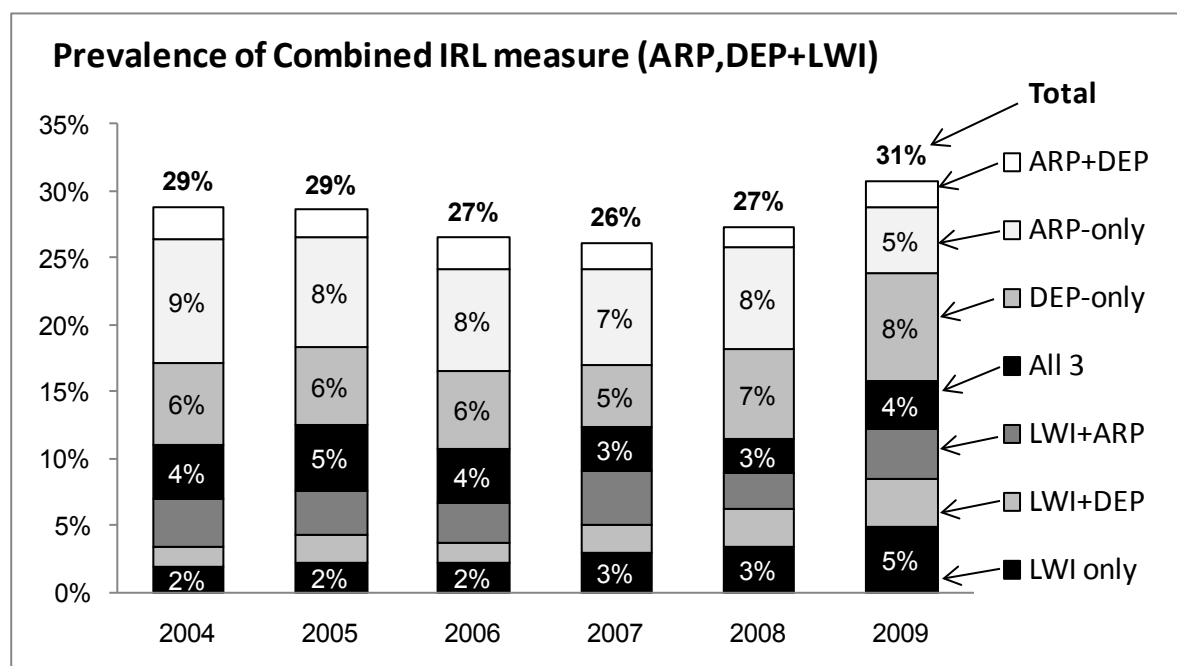
Source: SILC, Ireland, 2004-2009, analysis by authors

At this point, using the EU definition of very low work intensity (but keeping the full population and using national measures of at-risk-of-poverty and deprivation), we present in Figure 5.2 the absolute contribution of each of the three indicators (at-risk-of-poverty, deprivation and low work intensity) to the population identified as at-risk-of-poverty or exclusion.

Aggregating the three measures identifies between 26 per cent and 31 per cent of the Irish population as at risk of poverty or social exclusion. The lowest figure is in 2007 and the highest figure is in 2009.

We can see from Figure 5.2 that the relative contribution of the three indicators to the total has shifted over time, with at-risk-of-poverty declining in importance, and both deprivation and low work intensity increasing in importance.

Figure 5.2: Prevalence of Social Exclusion According to Combined Measure (ARP, DEP, LWI)



Source: SILC, Ireland, 2004-2009, analysis by authors

The impact of the different indicators on the total can be seen more clearly by expressing the percentage uniquely identified by each indicator (i.e. ARP-only, DEP-only and LWI-only) as a percentage of the total identified by all three combined. This is done in Table 5.1.

Table 5.1: Unique Contribution of At-risk-of-poverty, Deprivation and Low Work Intensity to total At risk of poverty or Exclusion, SILC 2004 to 2009

	2004	2005	2006	2007	2008	2009
ARP-only as % total	32%	29%	29%	28%	28%	16%
DEP-only as % total	21%	20%	22%	18%	24%	27%
LWI as % of total	7%	8%	8%	11%	12%	16%

Source: SILC, Ireland, 2004-2009, analysis by authors

The at-risk-of-poverty measure has declined very markedly in relative importance over the period. It uniquely identified 32 per cent of the total in 2004. This declined to 28 to 29 per cent between 2005 and 2008 and dropped sharply to 16 per cent in 2009. Deprivation, on the other hand, increased in relative importance but the increase was more gradual. In 2004 the deprivation indicator uniquely identified 21 per cent of the population.

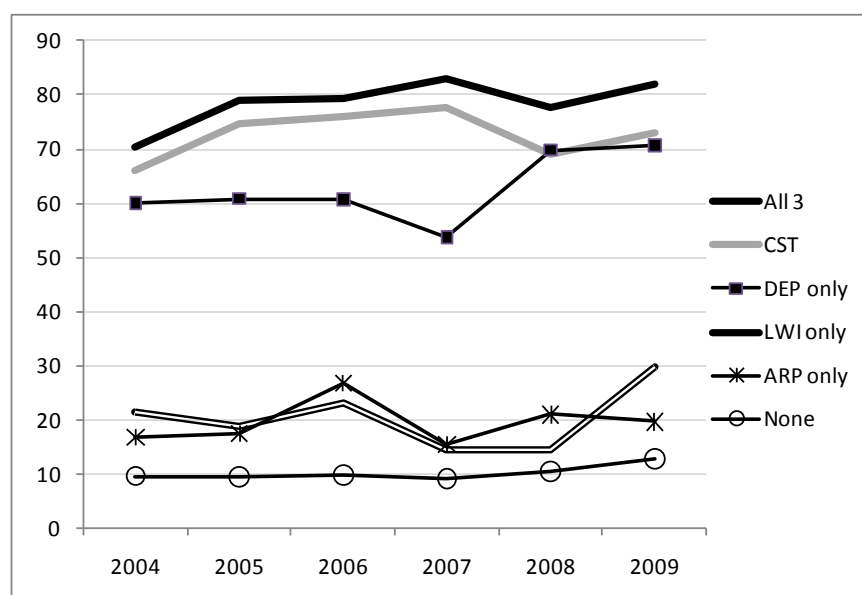
This fluctuated between 18 per cent and 24 per cent between 2005 and 2008, with no clear pattern, and increased to 27 per cent by 2009. The unique contribution of low work intensity increased over the period, especially between 2006 and 2009. In 2004 the LWI indicator uniquely identified seven per cent of those identified as at-risk-of-poverty or exclusion, rising to eight per cent in 2005, to 11 per cent in 2007 and to 16 per cent by 2009.

Over time, then, the contribution of the at-risk-of-poverty measure to the total is being reduced while it is increasing for the deprivation measure and the low work intensity indicator.

5.2.3 Low work intensity and economic stress

We know from previous research (Nolan and Whelan, 2007; Whelan and Maître, 2007; Whelan, Nolan and Maître, 2007a and 2007b) and from the analysis in earlier sections that poverty is associated with economic stress. In this section, we compare the impact on economic stress of low work intensity, at-risk-of-poverty and deprivation. We use the measure of ‘high economic stress’ discussed in Section 2: this is based on experiencing stress on at least two of four domains. As in the previous section, we highlight the unique contribution of each indicator by focusing on the groups experiencing low work intensity only (but not income poor or deprived), income poor only (but not deprived or in a low work intensity household) and deprived only (but not income poor or in a low work intensity household). As a point of reference, we also show in Figure 5.3 the percentage experiencing high levels of economic stress among those neither income poor nor deprived and not in LWI households, those who meet all three criteria (income poor, deprived and LWI) and the consistently poor (income poor and deprived).

Figure 5.3: Low Work Intensity and Levels of Economic Stress, 2004-2009



Source: SILC, Ireland, 2004-2009, analysis by authors

Not surprisingly, the group least likely to experience high levels of economic stress is the one that is neither income poor, nor deprived nor in a LWI household. The rate is fairly stable, at about ten per cent, for this group between 2004 and 2008, but rises slightly in 2009.

The income poor only (ARP-only) and those in LWI households only are very similar in terms of the percentages experiencing high levels of economic stress. The percentage fluctuates over the period, between 15 per cent and 30 per cent, with the highest levels in 2006 and 2009.

For the other poverty measures, all of which incorporate deprivation, the level of economic stress is considerably higher, with between 60 and 80 per cent experiencing high levels of economic stress. The highest level of economic stress is found for the overlap of the three measures (at-risk-of-poverty, deprivation and LWI) with values increasing steadily from 70 per cent in 2004 to just over 80 per cent in 2009. The consistent poverty measure closely follows this pattern, but with the percentages experiencing high levels of economic stress somewhat lower and reaching 73 per cent in 2009. The group that is deprived only (i.e. not income poor or in LWI households) is about as likely as the consistently poor to experience high levels of economic stress in 2008 and 2009, although the gap is wider in the earlier years. We saw a similar pattern in Section 3, where those who are deprived but not at-risk-of-poverty looked quite similar to the consistently poor in terms of economic stress in 2008 and 2009. As the groups are small in size, however, it would not be prudent to try to draw any conclusions from these fluctuations between years.

Overall, then, adding the low work intensity measure to at-risk-of-poverty and deprivation does identify a group experiencing high levels of economic stress, but this group is very small – three per cent of the population, on average, between 2004 and 2009 would be added to the group identified as experiencing social exclusion. Those in households that are income poor, deprived and LWI account for only four per cent of the population over the 2004 to 2009 period. They are a subset of the consistently poor, who account for six per cent of the population. Given the relatively low levels of economic stress associated with those in LWI households who are not poor or deprived, one would have to ask, on the basis of the evidence here, whether LWI contributes significantly to our capacity to identify a group at significant risk of social exclusion. In particular, the evidence cautions against allowing the LWI indicator to draw attention away from those who are deprived but not income poor: a group who are very likely to experience high levels of economic stress.

5.2.4 Low work intensity and social class

A general concern about the low work intensity measure concerns its ability to identify groups of the population that have been traditionally exposed and vulnerable to poverty and social exclusion, and to include groups that are generally protected from such risk. Nolan and Whelan (2012) have highlighted this issue at a European level, showing that the low work intensity indicator was capturing a much larger group of persons from higher social classes than the other poverty measures. Here, in a similar way to the analysis done by Nolan and Whelan (2012) we examine the social class composition of each of the poverty measures over the entire period 2004 to 2009.

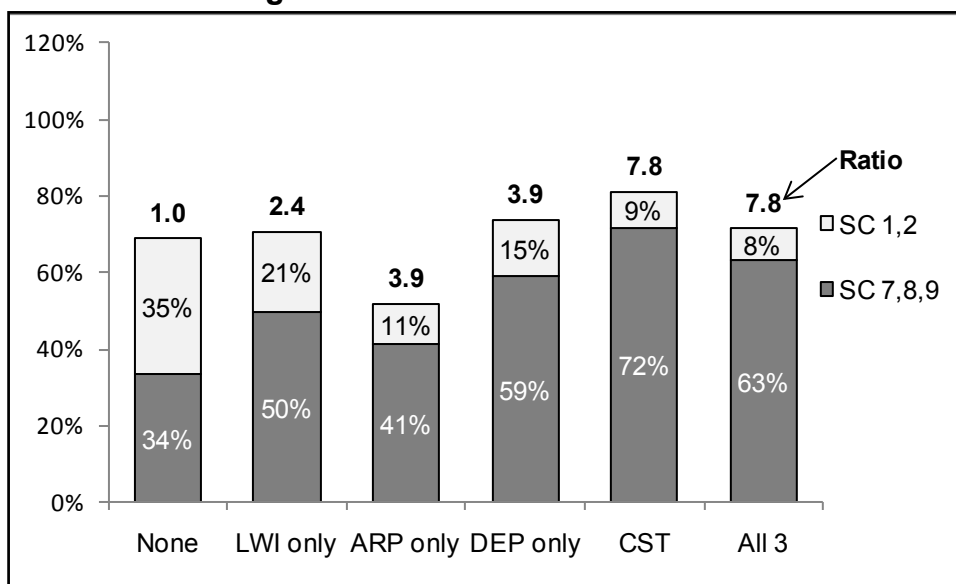
We focus on the two extreme social class positions as they are associated with different poverty and social exclusion risks and life chances.¹⁹ Our expectation is that a 'good' poverty measure should be sharply differentiated in terms of its class composition, with a high representation of the least advantaged classes and a low representation of the most advantaged classes. Note that we again exclude the intermediate non-manual, higher technical and self-employed groups and those who never worked.

The results are shown in Figure 5.4. As a reference, we see that those who are neither income poor, nor deprived nor in LWI households are equally likely to be in these two groups, with about a third in social classes 1 and 2 and a third in social classes 7, 8 and 9. The 'ratio' at the top of each column in the chart shows the ratio of the percentage in the lower social classes to the percentage in the higher social classes. Among those neither poor, nor deprived nor in LWI households, the ratio is 1.0 (i.e. those in social classes 1 and 2 are equally as likely as those in social classes 7, 8 and 9 to be in this category).

For those in LWI households only (but not income poor or deprived), 50 per cent are in the lower social classes but over one-fifth are in higher social classes, giving a ratio of 2.4. The percentage in the higher social classes is larger for the LWI-only group (at 21 per cent) than for those uniquely identified by the other poverty indicators. Only 11 per cent of those in ARP-only and 15 per cent of those in DEP-only households are in the higher social classes. The ratios are 3.9 for both ARP-only and DEP-only households, considerably higher than the figure of 2.4 for LWI-only households.

19 For ease of interpretation, as described in Section 2, we combine the two most advantaged social classes (large employers, professional, senior administrative and managerial occupations) and the three least advantaged social classes (lower service, sales and manual occupations).

Figure 5.4: Percentage in Professional/Managerial/Large Employer Social Classes (SC 1&2) and in Lower Sales/Service/Manual Social Classes (SC 7,8,9), by Detailed Poverty Typology, Average SILC 2004 to 2009



Source: SILC, Ireland, 2004-2009, analysis by authors

For the last two indicators, the ratio indicates that the concentration of the lower social classes is about the same for the tripartite (LWI and ARP and deprived) indicator and the consistent poverty indicator, at 7.8. This shows that adding the LWI indicator does not identify a group that is significantly more likely to be concentrated in the lower working classes. We saw earlier that adding the LWI indicator to deprivation and at-risk-of-poverty identifies a subgroup of the consistently poor that is about one third smaller. The evidence in Figure 5.4, however, shows that this subgroup is no more likely to be concentrated in the lower working class than the consistently poor as a whole.

5.3 The 'AND' vs. 'OR' approach to multidimensionality

5.3.1 Overview of the 'And' and 'Or' approaches

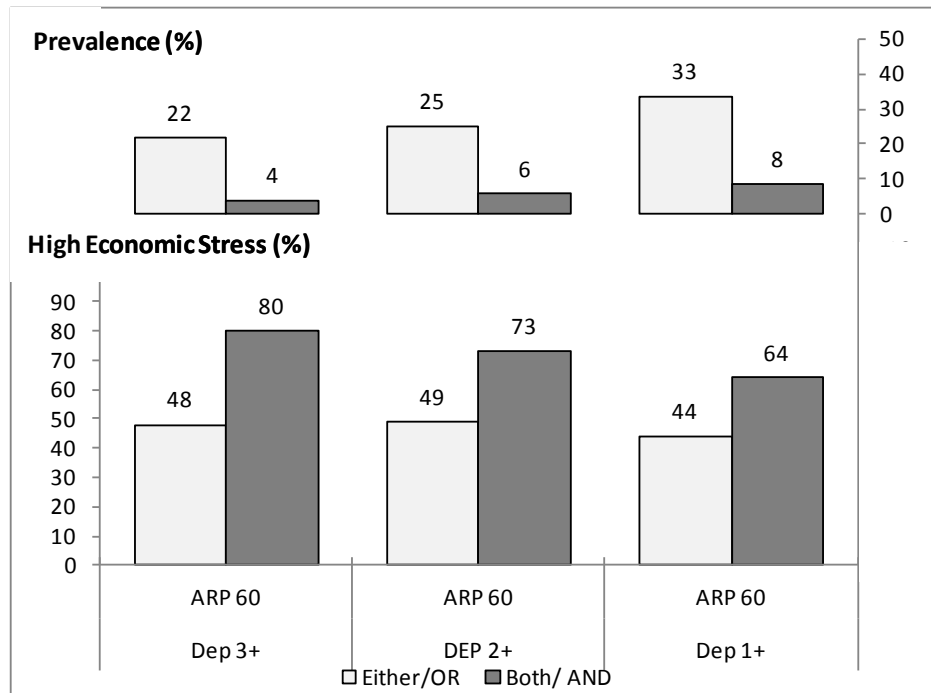
One important difference between the Irish and EU 2020 approaches to poverty measurement is that the Irish consistent poverty measure identifies a group that is *both* income-poor and deprived while the EU 2020 measure identifies a group that is *either* income poor, severely deprived or in a very low work intensity household.

In general, given a fixed set of thresholds, the 'Or' approach will identify a larger group whose level of poverty and deprivation is less severe than the 'And' approach.

This is illustrated in Figure 5.5, based on SILC data for Ireland across the years 2004 to 2009. The figure shows how the size of the group and the severity of their economic stress varies between the 'And' and the 'Or' approach for three different deprivation thresholds.

The deprivation thresholds are based on the number of the 11 Irish deprivation items lacked (1 or more, 2 or more and 3 or more). The top panel of the chart shows the percentage of the population in each group, while the bottom panel shows the percentage in each group who are experiencing high levels of economic stress.

Figure 5.5: Prevalence of Poverty and Relationship to Economic Stress, by Deprivation Threshold and use of ‘And’ or ‘Or’ Criterion (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors. Note that figures are based on the 60 per cent of median at-risk-of-poverty threshold

We see from the top panel that for all deprivation thresholds the ‘Or’ group (those either income poor or deprived – the bar in the lighter shade) is larger than the ‘And’ group (those both income poor and deprived – the darker bar in the chart).

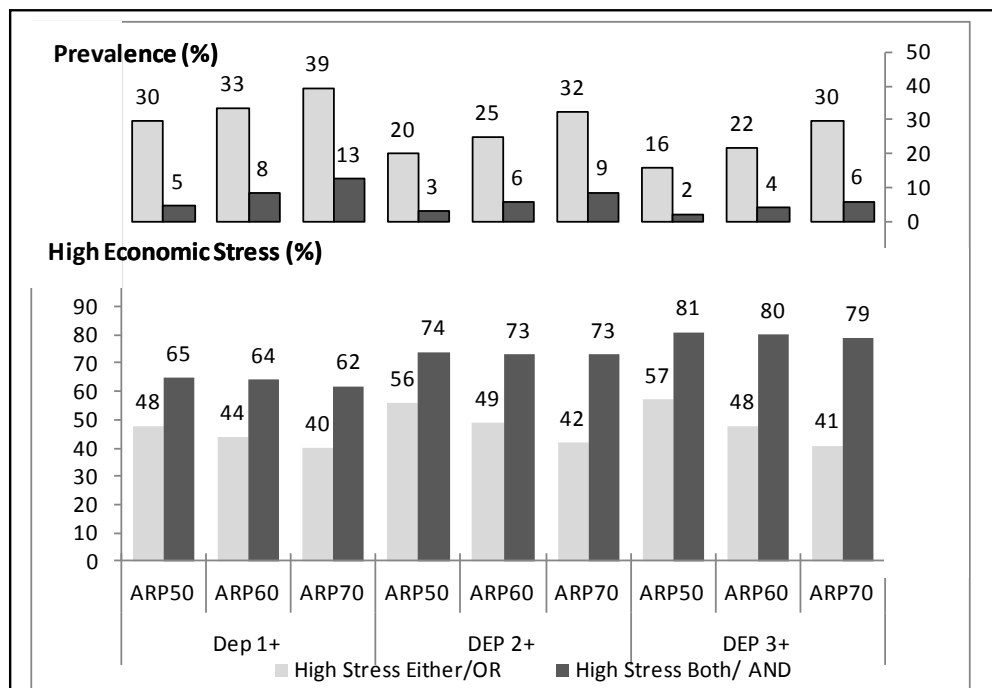
For instance, taking the 2+ deprivation threshold, 25 per cent of the population is in the ‘Or’ group (either income poor or lacks 2 or more of the 11 Irish deprivation items), while 6 per cent of the population is in the ‘And’ group (both income poor and lacking 2 or more of these items). For the same threshold (2+) in the lower panel, we see that the ‘And’ group (those both income poor and deprived) are considerably more likely to experience high levels of economic stress (73 per cent) than those in the ‘Or’ group (those either income poor or deprived, 49 per cent).

The chart also shows how prevalence and severity vary depending on the threshold chosen. As we move from a broader threshold to the stricter one, the prevalence declines and the economic stress levels increase.

Taking those either poor or deprived, for instance, using the threshold of lacking 1 or more of the 11 Irish deprivation items, 33 per cent of the population is either income-poor or deprived and 44 per cent of this group experiences high levels of economic stress. If we adopt the stricter threshold of 3 or more items, only 22 per cent of the population is identified as either income poor or deprived but the percentage of this group experiencing high levels of economic stress increases to 48 per cent.

We see a similar pattern in Figure 5.6, which shows how the prevalence and stress levels of the identified groups differ when both deprivation and at-risk-of-poverty thresholds are changed. For a given level of deprivation, taking a stricter at-risk-of-poverty threshold will reduce the prevalence and increase the level of economic stress. For instance, if we consider those lacking 2 or more of the 11 Irish deprivation items, 20 per cent are either poor or deprived at the 50 per cent poverty line; 25 per cent are either poor or deprived at the 60 per cent poverty line and 32 per cent are either poor or deprived at the 70 per cent poverty line. At the same time, the percentage of these groups experiencing high levels of stress declines as we move from lower to higher poverty thresholds: from 56 per cent at the 50 per cent poverty line to 42 per cent at the 70 per cent poverty line. This indicates, as we would expect, higher levels of economic stress at lower income levels.

Figure 5.6: Prevalence of Poverty and Relationship to Economic Stress, by Deprivation Threshold, Income Threshold and use of the ‘And’ vs. ‘Or’ Criterion (2004-2009)



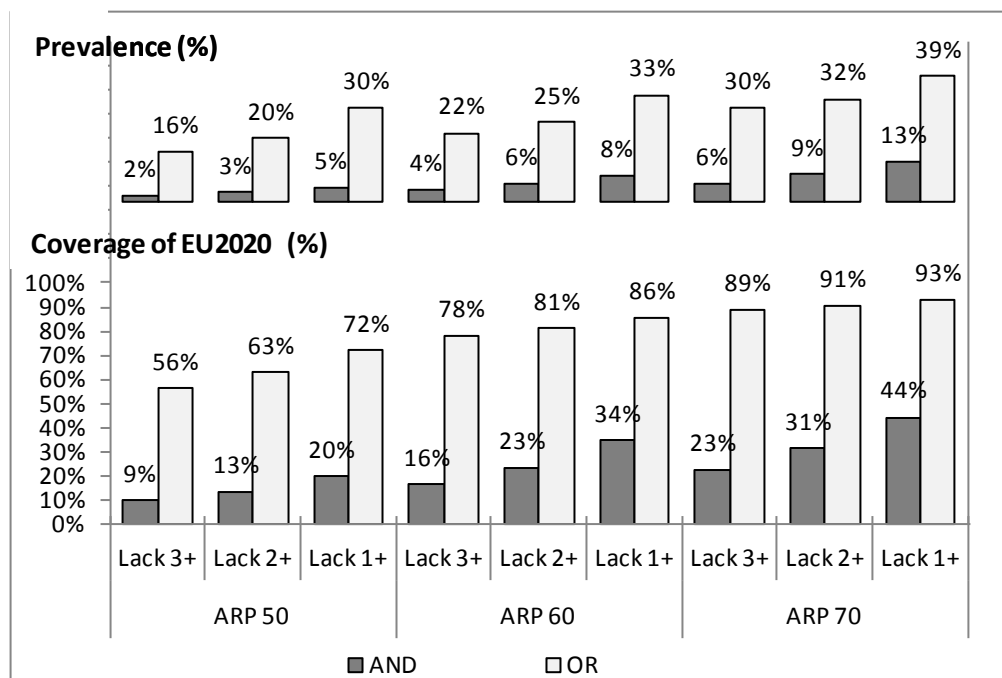
Source: SILC, Ireland, 2004-2009, analysis by authors

5.3.2 Irish and EU 2020 approaches to social exclusion – overlap

In contrast to the Irish approach to combining at-risk-of-poverty and deprivation, the indicators for the *Europe 2020 Strategy* overall poverty target are framed in terms of the ‘Or’ approach. It is worth asking what percentage of those identified by the EU 2020 measure are captured by the Irish 11 item indicator measures. The EU 2020 measure considers the socially excluded to be those who are income poor (below 60 per cent of median income using the EU definition), or *severely* materially deprived (lacking 4 or more of the 9 EU deprivation items) or in very low work intensity households. We will refer to this as the ‘EU 2020 group’.

Figure 5.7 shows how the percentage of the EU 2020 group who are also poor according to the Irish indicators varies, depending on the thresholds taken for at-risk-of-poverty, the threshold for deprivation and the approach taken to combining them (‘And’ vs. ‘Or’). Three at-risk-of-poverty thresholds (50 per cent, 60 per cent, or 70 per cent threshold) and three deprivation thresholds (lacking 1 or more, 2 or more or 3 or more of the Irish 11 items) are considered.

Figure 5.7: Prevalence of Poverty Using Different Thresholds in the Irish Measure and Percentage of EU 2020 Group Covered (2004- 2009)



Source: SILC, 2004-2009, analysis by authors

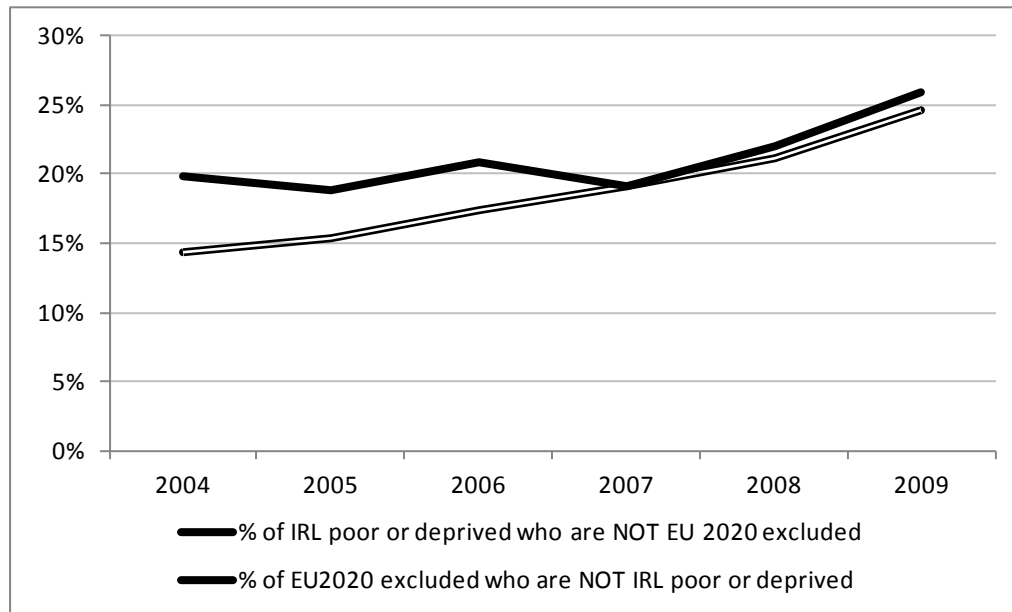
The present Irish poverty measures is based on the 60 per cent of median equivalised income threshold and lacking 2 or more of the 11 deprivation items (labelled 'ARP 60' and 'Lack 2+', respectively, in the figure). We can see from the top panel of Figure 5.7 that 25 per cent of the Irish population would have met either of these criteria in the 2004 to 2009 period, and six per cent (the consistently poor) would have met both.

The bottom panel of the figure shows the percentage of the EU 2020 socially excluded who would be captured by these Irish measures. If we take the 'Or' approach to the Irish indicators (either income poor or deprived), 81 per cent of the EU 2020 excluded group would be included in the present Irish measures. This is quite a large overlap considering the differences between the EU and Irish deprivation indices and that the EU 2020 approach includes a third dimension based on low work intensity.

Consistent poverty identifies a much smaller, but a more severely excluded group. Virtually all of the consistently poor in the 2004 to 2009 period (99 per cent) would have met at least one of the three EU 2020 criteria. However, only a relatively small proportion of those identified by the EU 2020 indicator meet the stricter consistent poverty criteria. Only 23 per cent of the EU 2020 group is consistently poor. A focus on a more severe form of social exclusion such as consistent poverty alone, then, will not contribute a great deal to the EU 2020 targets.

The figures in Figure 5.7 are based on the 2004 to 2009 period as a whole. In Figure 5.8 we examine how the overlap between the Irish and EU 2020 groups varies over time. Figure 5.8 shows the extent of non-overlap between the two approaches, taking the EU 2020 three item indicator and those who are either poor or deprived according to the present Irish thresholds (60 per cent median income line and lacking 2 or more of the 11 Irish items).

Figure 5.8: Extent of Non-overlap Between the EU 2020 Group and Those who are either Poor or Deprived According to the Irish Measures in Each Year from 2004 to 2009

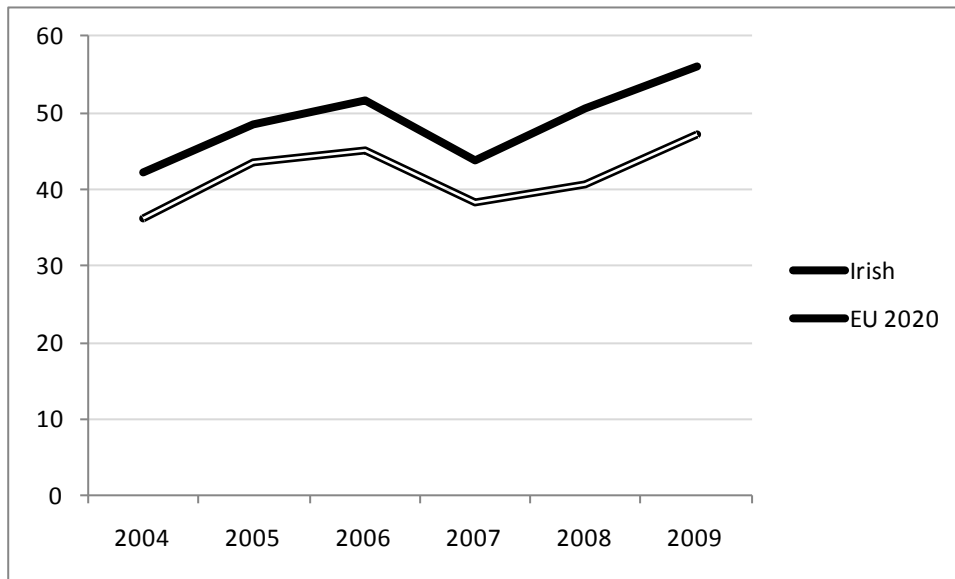


Source: SILC, 2004-2009, analysis by authors

In 2004, only 14 per cent of the EU 2020 excluded group would not have been considered poor or deprived according to the Irish approach. This had risen to 25 per cent by 2009. The increase was a gradual one over the period, so is not due to the recession which began in 2008.

At the same time, however, the Irish measure continued to have a stronger relationship to economic stress, as shown in Figure 5.9. This figure shows the percentage of the EU 2020 group and the percentage of those either poor or deprived according to the Irish measure who experienced high levels of economic stress in each year from 2004 to 2009. The gap between the Irish and EU measures tended to increase after the start of the recession.

Figure 5.9: Percentage Experiencing High Levels of Economic Stress according to the Irish and EU Measures ('Or') in Each Year from 2004 to 2009



Source: SILC, 2004-2009, analysis by authors

Does the limited overlap between the Irish indicators – particularly consistent poverty – and the EU 2020 group mean that Irish policy targets should adopt the 'Or' approach to combining indicators and abandon a concern with consistent poverty?

While this choice ultimately falls to policy makers, in our view the answer is no.

First, we noted in this section and in Section 4 some of the shortcomings of the EU measure of deprivation and the measure of very low work intensity, both with respect to the specific features of the Irish context and in conceptual terms. This means that the 'coverage' of the EU 2020 group is not the best yardstick against which to assess the adequacy of the Irish measure.

Second, there is general acknowledgement that a focus on a single indicator is inadvisable in developing poverty policy (Nolan and Whelan, 1996; Atkinson, 1997; Nolan and Whelan 2007; Layte, Nolan and Whelan, 2000). However, the consistent poverty indicator does identify a group experiencing severe levels of social exclusion. There is a danger that in adopting a broader approach, and treating with equal concern all of those who meet either of several criteria, would divert resources that are now very scarce from the group most in need. In the next section, we turn to the question of potential additional indicators of social exclusion and the issue of how these might contribute to policy.

5.4 Summary

In this section, we examined the group identified by the low work intensity (LWI) indicator that forms part of the methodology for identifying those who are at-risk-of-poverty or exclusion. While welcoming the acknowledgement of the crucial role of employment as a risk factor for social exclusion, we noted a number of conceptual and methodological problems in the use of this indicator. These problems include the fact that LWI is not a universal indicator and that it confounds structural risk factors for poverty with the direct identification of the poor.

Using national measures of at-risk-of-poverty and deprivation we explored the contribution of the low work intensity to the identification of a group at-risk-of-poverty or exclusion. We saw first that, over the period from 2004 to 2009, only a small proportion of the population is living in a household with low work intensity *only*. The majority of those living in such households are also experiencing other forms of exclusion such as at-risk-of-poverty and/or deprivation. So the low work intensity indicator adds very little to the total population identified as being at-risk-of-poverty or exclusion.

As a validation exercise, we explored the relationship of low work intensity with economic stress. We found that people living in a household with low work intensity *only* experienced a relatively low level of economic stress, particularly when compared to people living in deprived households.

We also examined the social class profile of those in LWI households. We found that, compared to both at-risk-of-poverty and deprivation, those in LWI households were more likely to be in higher social class households. Over one-fifth of those in LWI households who are not at-risk-of-poverty or deprived are in higher social class households.

Based in this evidence, and considering the conceptual and methodological problems associated with LWI, the addition of LWI to the well-established national indicators of poverty would not appear to add value to the measurement of poverty in an Irish context.

In the second part of the section, we reviewed the implications of measuring poverty in terms of the presence of *both* low income and material deprivation (the ‘And’ approach) as opposed to measuring it in terms of *either* low income or material deprivation (the ‘Or’ approach). This parallels an important difference between the Irish and EU 2020 approaches to using several indicators. The Irish consistent poverty measure is based on the presence of *both* low income and material deprivation, while the EU 2020 criterion is based on the presence of *any* one of three criteria. The ‘And’ approach, such as the Irish consistent poverty measure, will identify a smaller group than a measure based on those who are either income poor or deprived, but that small group will experience more severe social exclusion.

Comparing the Irish social exclusion measures to the EU 2020 indicators (at-risk-of-poverty, severe material deprivation and very low work intensity), we noted that only 23 per cent of the group identified by the EU 2020 indicators are consistently poor, but that 81 per cent of the EU 2020 group are either at-risk-of-poverty or derived, according to the Irish measures. This is quite a large overlap, given the very different indicators. However, we note a number of shortcomings in moving from the present Irish approach to identifying the poor to the EU 2020 approach. These include the problems (summarised above) with the LWI indicator; the problems with the indicator of severe material deprivation, as discussed in Section 4, and the fact that the EU 2020 approach attaches equal priority to groups with very different levels of deprivation (including all of those who are at-risk-of-poverty).

6. Beyond Consistent Poverty?

6.1 Introduction

So far, in our review of the Irish poverty measures, we have seen that the Irish measures of poverty and deprivation have performed well over time. This conclusion was based on (a) the capacity of the Irish measures, especially the deprivation measure, to capture the increase in poverty risk due to the recession; (b) the continuing strong relationship to perceived economic stress, particularly for the deprivation measure; and (c) the continuing relationship to known poverty risk factors (unemployment, disability and lower manual/service/sales social class position). We also saw that the Irish measure of deprivation identifies a larger group than the EU material deprivation measure, but that in terms of economic stress and risk factors for poverty, the Irish measure performed at least as well as the European measure. Comparing the Irish indicators to the new EU indicator of low work intensity, we concluded that the LWI indicator would add little to our capacity to identify a socially excluded group in Ireland.

The focus for most of the paper has been on three indicators: at-risk-of-poverty, basic deprivation and the overlap between the two (consistent poverty). The emphasis in Irish poverty reduction policy has been on target-setting in terms of consistent poverty. There is merit to this approach. It identifies a group likely to be at the most severe risk of social exclusion. In addition, a single clearly articulated target facilitates the process of mobilising national commitment and a headline target allows progress to be monitored in a transparent fashion. However, research on poverty in Ireland (Nolan and Whelan, 1996; Nolan and Whelan 2007; Layte, Nolan and Whelan (2000) and elsewhere (Atkinson, 1997) has emphasised the dangers of an exclusive focus on a single target. Having a single target indicator, no matter how well measured, runs the risk of diverting attention away from the broader structural factors that contribute to the emergence of poverty. Such factors include employment levels, the structure of the labour market, social class, educational inequalities, and the structure of social supports for families, people with disabilities and retired people. To the extent that the indicator includes only those with low incomes, the temptation is to view the challenge of social inclusion purely as an exercise in devising the correct income support packages.

In this section, we consider what kind of supporting indicators might provide additional insight into the processes and trends in social exclusion. Under this heading we ask what insights might be provided by at-risk-of-poverty anchored in time, persistent-at-risk-of-poverty, economic vulnerability and by some of the additional variables included in the 2009 EU-SILC module.

6.2 At-risk-of-poverty Anchored in Time

At-risk-of-poverty anchored in time (ARP-A), involves asking what percentage of the population today fall below the at-risk-of-poverty threshold of an earlier year, after accounting for the effects of inflation. It is a useful means of examining movement in the real incomes of those towards the bottom of the income distribution (Layte, Nolan and Whelan, 2000). When real incomes generally are rising, the ARP-A rate will be lower than the ARP rate as the ARP-A threshold will be lower. When real incomes are falling, on the other hand, the ARP-A rate may be higher than the ARP rate (assuming real incomes were higher in the 'anchor year').

To see why this is the case, consider the figures in Table 6.1. The table shows in Column A the equivalised at-risk-of-poverty threshold (at 60 per cent of median equivalised income) for each year between 2004 and 2009. This is the threshold used in constructing the ARP measure. Those in households with equivalised incomes below this threshold are at-risk-of-poverty (ARP). The table also shows in Column B the threshold that would be used for ARP-anchored (ARP-A), if 2004 were chosen as the 'anchor year'. This threshold increases between 2004 and 2008 in line with inflation, but drops back in 2009 because of price deflation in that year. From 2004 to 2008, the increase in the ARP threshold was greater than the increase in the ARP-A threshold because incomes were growing at a higher rate than inflation. This means that over the period, a gap emerged between the two: the ARP-A threshold was one per cent lower than the ARP threshold in 2005, but 14 per cent lower in 2008. In 2009 the gap narrowed again to 12 per cent, because the 60 per cent median poverty threshold fell in 2009.

Table 6.1: At-risk-of-income-poverty (ARP) Equivalised Income Threshold Compared to Threshold for ARP Anchored in 2004 (2004-2009)

	A	B	C	D
Year	ARP threshold (60% median)	ARP-A Threshold (Anchored in 2004)	Difference (B-A/B)	ARP-A as % Median
2004	€ 9,677	€ 9,677	0%	60%
2005	€10,057	€ 9,889	-1%	59%
2006	€10,566	€10,156	-4%	58%
2007	€11,890	€10,442	-12%	53%
2008	€12,455	€10,769	-14%	52%
2009	€12,064	€10,591	-12%	53%

Source: SILC, Ireland, 2004-2009, analysis by authors

Assuming incomes are rising, using the ARP-A is similar, in some respects, to using a lower income threshold to examine ‘deeper’ levels of poverty. As Table 6.1 shows, the ARP-A threshold as a percentage of the median, fell to 52 per cent in 2008 and 53 per cent in 2009. When incomes are rising, the ARP-A threshold will identify ‘poorer’ groups than the ARP threshold and those identified as below the ARP-A target will be a subgroup of the population at-risk-of-poverty.

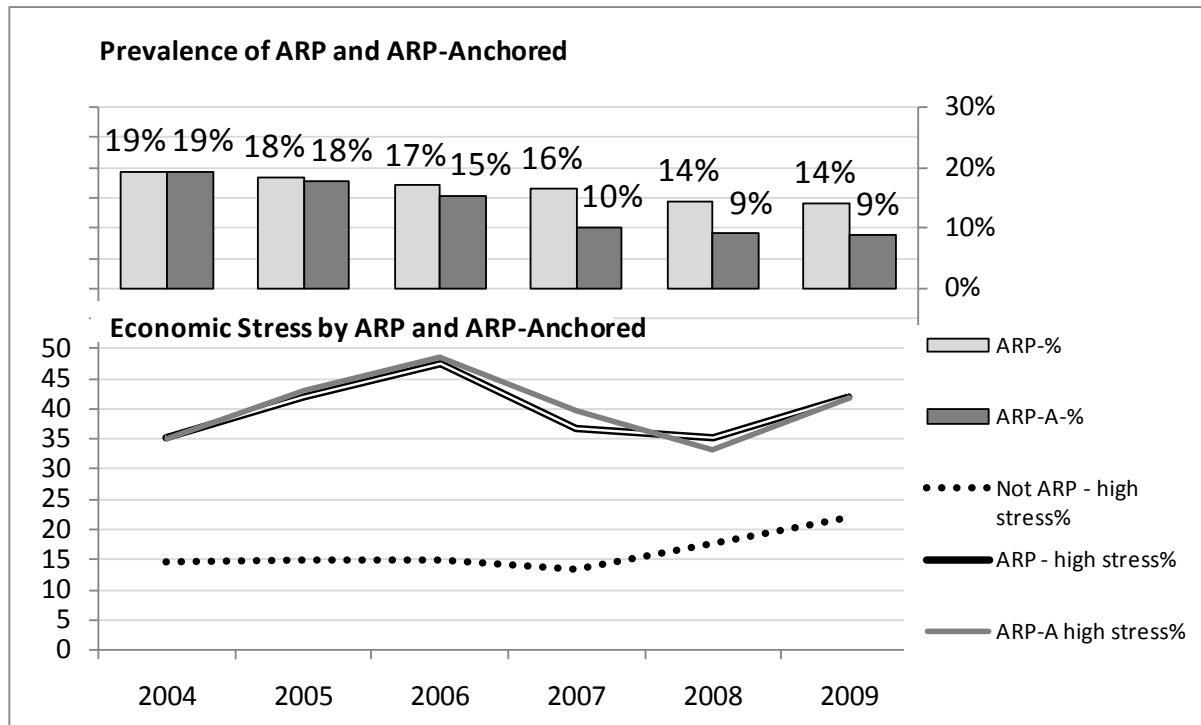
When incomes generally are falling, however, the ARP-A will identify a group that includes some people above the current poverty threshold. This means that if we were to set the anchor year at 2008 (when the poverty threshold was at its highest), we would tend to identify a larger group than the currently poor as captured by the ARP measure.

Simply comparing the thresholds, however, does not tell us what percentage of the population is below the ARP-A threshold. This will depend on the extent to which the incomes of the poor are concentrated in between the two thresholds.

Figure 6.1 shows how the prevalence of at-risk-of-income-poverty (ARP) and at-risk-of-income-poverty anchored in 2004 (ARP-A) changed from 2004 to 2009. There is no difference in prevalence between ARP and ARP-A in 2004, since the threshold is the same in that year. The gap gradually widens, until by 2008 and 2009, 14 per cent of the population are under the 2009 poverty threshold but only nine per cent have incomes below the 2004 threshold (adjusted for inflation). This means that about one-third of those who were income poor in 2009 had higher real incomes than the income poor in 2004. This arises because incomes were growing rapidly between 2004 and 2008, as can be seen from the increase in the poverty threshold in that period in Table 6.1.

The lower panel in Figure 6.1 shows the percentage of those below each of the two thresholds (ARP and ARP-A) who experience high levels of economic stress. What is most striking in the chart, however, is that the proportion experiencing high levels of economic stress is virtually identical for both groups. This is particularly noteworthy in 2008 and 2009, when those below the higher ARP threshold were a considerably larger group. This suggests that while the ARP-A threshold may allow us to identify those experiencing a ‘deeper’ level of at-risk-of-poverty (assuming income levels are rising), it does not necessarily follow that the quality of life of this group will be substantially different – at least as measured by levels of economic stress.

Figure 6.1: Prevalence of At-risk-of-income-poverty (ARP) and At-risk-of-poverty Anchored in 2004 (ARP-A) and Percentages Experiencing High Levels of Economic Stress (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

To sum up, then, ARP-A is a useful indicator if we want to ask what percentage of the population today lives in households with real incomes that are below the poverty threshold of an earlier year. For instance, we might want to know the percentage of people who are below the poverty threshold that applied at the beginning of the recession, or – in future years – the percentage below the poverty threshold that applied before the beginning of the recovery. It needs to be used with caution, however, as its meaning and its size compared to the ARP indicator will vary depending on whether incomes are rising or falling. When real incomes are rising, the ARP-A rate will tend to be lower than the ARP rate, because ARP-A is linked to a threshold that applied in a lower-income period. When incomes are falling, the ARP-A rate will tend to be above the ARP rate, because ARP-A is linked to a threshold that applied in a higher-income period.

6.3 Persistent At-risk-of-poverty

So far throughout this paper we have presented figures on poverty and deprivation measured at a point in time and examined trends in these figures from 2004 to 2009. While these measures are very informative they only can tell us about people's poverty status at one point in time without any knowledge of previous poverty experience. Poverty literature has shown that this is an important distinction to make,

not only in term of conceptualisation of poverty but also in terms of understanding the determinants of poverty and social exclusion as well as the societal and personal consequences. In particular, longer exposure to poverty may well be more damaging in terms of the consequences for people's lives. This concern is particularly relevant for children, and the damaging impact of persistent poverty on their future life chances is highlighted by international research (e.g. Brooks-Gunn and Duncan, 1997).

Research on the dynamics of poverty has been made possible by the availability of panel data where the same individuals were surveyed over a number of years. Researchers such as Bane and Ellwood in the USA have pioneered research on at-risk-of-poverty dynamics. Most poverty dynamic research has tended to focus on the probabilities of entries into poverty and exits from poverty (Bane and Ellwood, 1986; McKernan and Ratcliffe, 2002; Stevens, 1994, 1999); on the duration of poverty (Bane and Ellwood, 1986; Gottschalk, McLanahan and Sandefur, 1994; Stevens, 1999) and on the socio demographic events associated with entries/exits (Bane and Ellwood, 1986; Blank, 1997; McKernan and Ratcliffe, 2002, 2005; Ruggles and Williams, 1987; Duncan and Rodgers, 1988).

Research on poverty dynamics has revealed that there is a great deal of movement into and out of poverty over time. A person who is poor in one year may not have been poor the previous year and might not be poor the following year. Overall, poverty literature has found that the majority of people who become poor will exit poverty after a short period of time, but that many of the poor will experience recurrent episodes of poverty and a minority will experience persistent poverty (Devicienti, 2001; Fouarge and Layte, 2005).

The European Union has acknowledged the importance of the distinction between poverty at one point in time and poverty over time by including a measure of persistent-at-risk-of-poverty among the statistical indicators of poverty and social exclusion. The EU indicator is defined in terms of living in a household with equivalised income below the poverty threshold in the current year and for at least two of the three preceding years.

In Ireland very little research has been done on persistent poverty, mainly due to the requirement of having panel data. Using the 2005 to 2008 SILC data, the CSO (2010) and subsequently Maître et al (2011) found that the persistent-at-risk-of-poverty at the 60 per cent median income line was 9.5 per cent (Confidence Interval ± 1.7 per cent) while the cross-sectional at-risk-of-poverty was 14.4 per cent. Maître

et al further showed that the results are very sensitive to the choice of the poverty line. Raising the poverty threshold from 60 per cent of the median to 70 per cent of the median, for instance, affects not only the level of persistent poverty but also the profile of the groups most at risk of persistent poverty.

Many of the groups identified in the literature as having a higher risk of poverty at a point in time are also more likely to experience persistent at-risk-of-poverty. Among these groups are children, single households, and people in households where the head of household is unemployed or ill/disabled.

The difficulty with measuring persistent at-risk-of-poverty is that data are only available for a small proportion of the annual SILC survey (25 per cent), and are further reduced by sample attrition. This limits the extent to which detailed analysis of different subgroups is possible. Nevertheless, because of the serious consequences of persistent poverty for individual outcomes, and particularly those of children, the persistent-at-risk-of-poverty indicator is of interest to poverty policy.

6.4 Economic Vulnerability

We saw in the previous section that the persistent poverty measure attempted to overcome some of the limits of point-in-time poverty measures by including a dynamic perspective. A growing part of the debate on social exclusion has shifted attention to the notion of vulnerability. This involves moving attention beyond people's current circumstances to the security or insecurity of their position and their exposure to risk and shock. Already, at a macro level, the IMF (2003), the UN (2003) and the World Bank (2000) have developed a range of approaches to measuring vulnerability. At a micro level, we understand the concept of economic vulnerability as a 'heightened risk of multidimensional deprivation' (Whelan and Maître, 2005a, 2005b, 2010). The identification of a group of individuals who are economically vulnerable has involved the use of sophisticated statistical techniques, and the use of additional subjective indicators of financial stress as well as income and deprivation.

The validity of the concept of economic vulnerability has been established by showing that the economically vulnerable (a) have a substantially higher risk of lacking goods or services from the consumption deprivation, housing deprivation, neighbourhood deprivation and health disadvantage scales and (b) are more likely to belong to the social class groups known to be at higher risk of social exclusion in the long term (see e.g., Whelan and Maître, 2010).

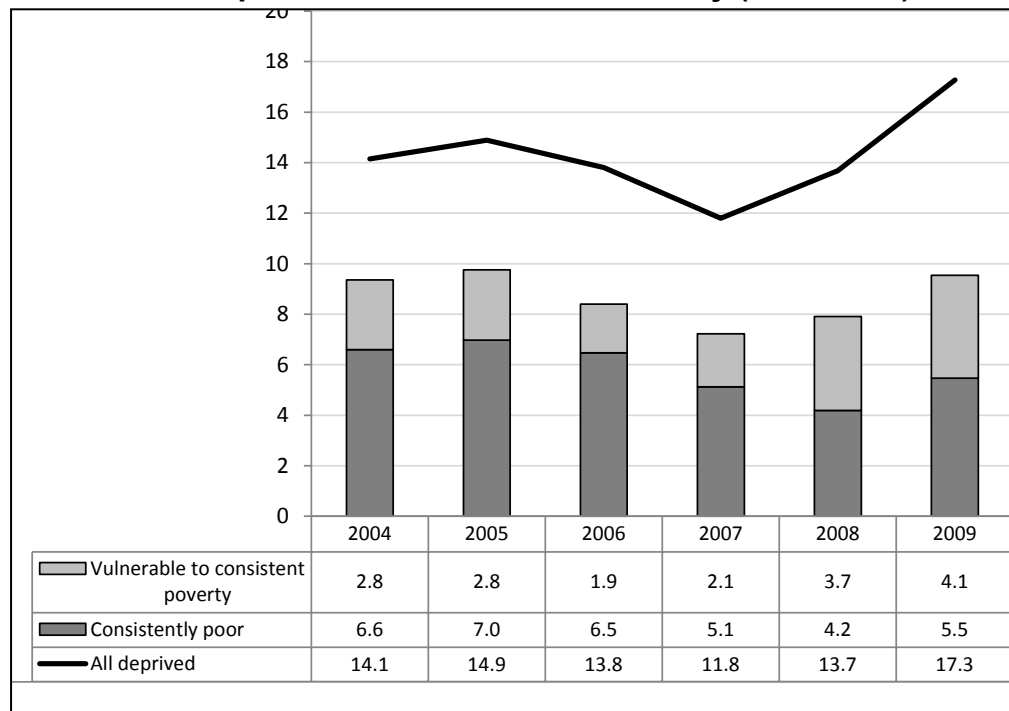
While the methodology employed in the analysis of vulnerability does not easily lend itself to use in establishing indicators for poverty monitoring, a number of lessons can be drawn from this work which are very relevant. First, the authors have found that all of the consistently poor belong to the vulnerable group (Whelan and Maître, 2010). This points to the validity of the consistent poverty measure in identifying a group that is at ongoing risk of social exclusion, and argues for retention of this indicator as a means of identifying the most severely excluded group.

Second, not all of the income poor belong to the vulnerable group. In 2008, only 48 per cent of the income poor were in the economically vulnerable group (Whelan and Maître, 2010, p. 510). Further, those who were poor but not vulnerable are less likely than the vulnerable group to experience multiple deprivation or financial difficulties (ibid. p. 512). These findings would argue against defining poverty targets in terms of at-risk-of-poverty *only*, whether the person is deprived or not. The way in which the EU 2020 social exclusion indicators are defined involves including all of those who are at-risk-of-poverty (ARP).

On the other hand, ‘the primary factor differentiating the vulnerable from the non-vulnerable class is the relative risk of being found above the basic deprivation threshold’ (Whelan and Maître, 2010, p. 509). Over the period 2004 to 2009, virtually all of those who were deprived according to the Irish measure (i.e. lacking 2 or more of the 11 items) were in the vulnerable group (96 per cent, rising to 100 per cent in 2009). This provides an argument in favour of giving a stronger role to deprivation in the identification of the poor in the Irish context. As we saw in Section 4, the EU 2020 approach includes those who lack 4 or more of the 9 EU deprivation items: a very strict target, which would identify only five per cent of the Irish population as severely materially deprived in the 2004 to 2009 period, compared to 14 per cent identified by the Irish deprivation measure.

One way of giving the deprivation indicator a stronger role in national poverty measurement is to consider an indicator that identifies a larger proportion of the deprived. The consistent poverty indicator includes the subset of the deprived who are income poor at the 60 per cent threshold. We could relax the income threshold to include those with incomes that are slightly higher, but still well below the median, as long as they meet the deprivation criterion. This could be thought of as those vulnerable to consistent poverty: they do not meet the strict consistent poverty criteria in terms of income but have a similar level of basic deprivation. Figure 6.2 shows how the size of this group would compare to the group in consistent poverty between 2004 and 2009.

Figure 6.2: Prevalence of Vulnerability to Consistent Poverty, Deprivation and Consistent Poverty (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

As we saw in Section 3, the rate of deprivation increased after 2007, having tended to fall between 2005 and 2007. The consistent poverty rate fell between 2005 and 2008, before rising again between 2008 and 2009. The fact that consistent poverty continued to fall between 2007 and 2008 – even though deprivation had begun to rise with the onset of the recession – was due to the fact that at-risk-of-poverty was still falling until the period between 2008 and 2009.

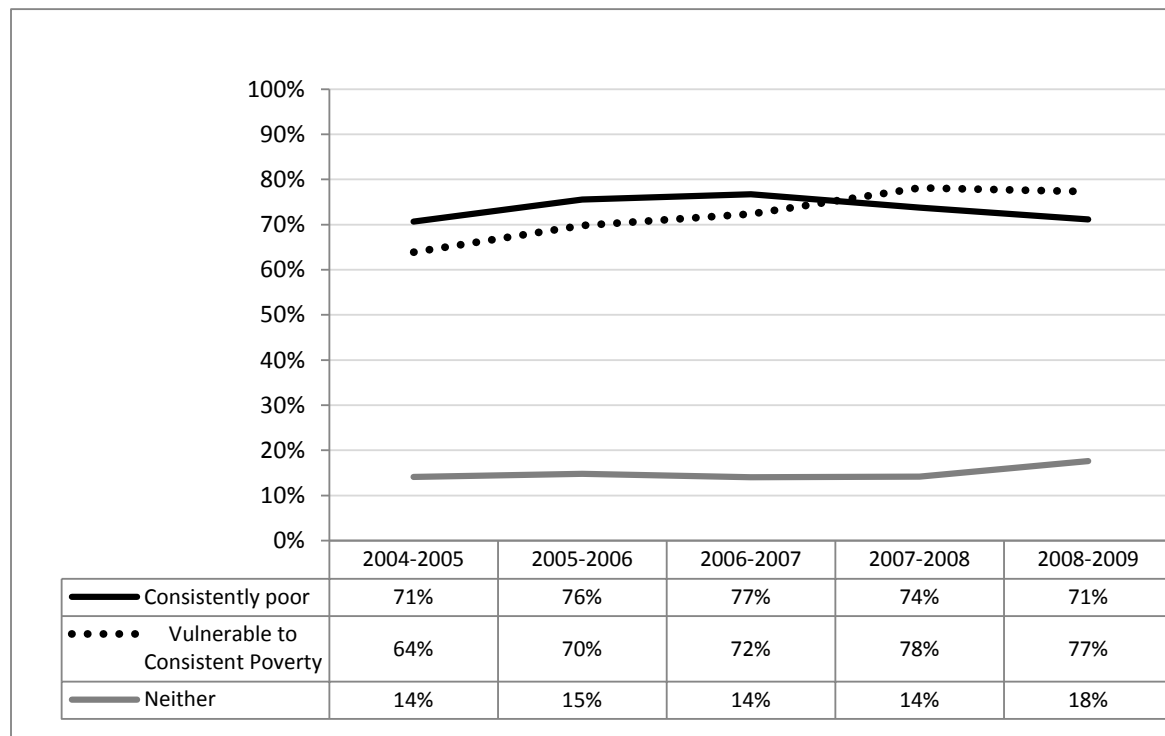
Those vulnerable to consistent poverty accounted for about 3 per cent of the population in 2004 and 2005; about 2 per cent in 2006 and 2007 and rose to about 4 per cent in 2008 and 2009. The size of this group began to increase between 2007 and 2008 while the size of the group in consistent poverty did not increase until after 2008. This suggests that early in the recession there was an increasing concentration of incomes between the 60 per cent and 70 per cent thresholds.

Figure 6.3 shows the association between consistent poverty, vulnerability to consistent poverty and economic stress. We saw in Section 3 that there was a strong association between consistent poverty and high levels of economic stress throughout the period, with between 66 per cent and 78 per cent of the consistently poor reporting high levels of economic stress. In Figure 6.3 we combine pairs of years since the number of cases in any single year is low for those vulnerable to consistent poverty.²⁰

²⁰ Combining years, there are at least 600 cases vulnerable to consistent poverty in each year.

The figures for those vulnerable to consistent poverty are only slightly lower from 2004 to 2007 and reach comparable or higher levels than for consistent poverty in 2008 and 2009. This strong relationship to economic stress is just what we would expect of an indicator of social exclusion and is evidence of the construct validity of the vulnerable to consistent poverty indicator

Figure 6.3: High Economic Stress by Consistent Poverty and Vulnerability to Consistent Poverty (2004-2009)



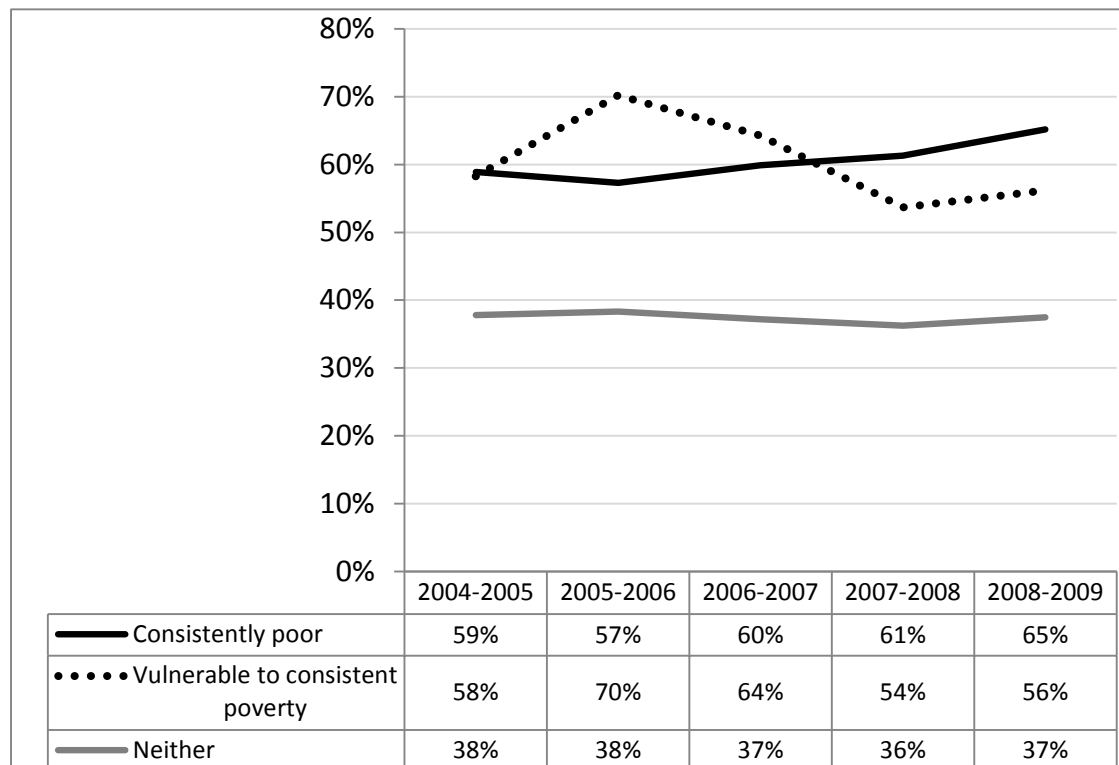
Source: SILC, Ireland, 2004-2009, analysis by authors

Another aspect of construct validity is the relationship between the indicator and risk factors for social exclusion such as lower social class position. Figure 6.4 shows the percentage of the consistently poor and of those vulnerable to consistent poverty - who are in the lower manual, service and sales social classes.

The percentage of those vulnerable to consistent poverty who are in these lower social classes is comparable to the percentage of the consistently poor in these social classes: somewhat higher between 2005 and 2007 and slightly lower in the other years. The percentage fluctuates more for those vulnerable to consistent poverty, suggesting that this is a more mixed group, whose social class composition may change depending on the economic circumstances in the country. Nevertheless throughout the period, those vulnerable to consistent poverty look more similar to the consistently poor, in terms of social class position, than they do to those who are neither consistently poor nor vulnerable to consistent poverty (36 to 38 per cent).

This is further evidence of the construct validity of the indicator of vulnerability to consistent poverty as a measure of social exclusion.

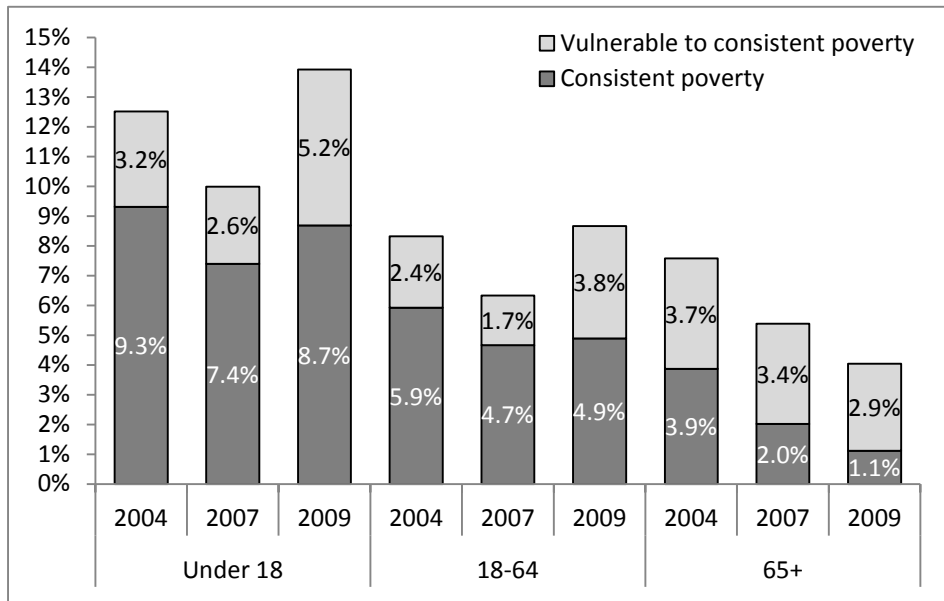
Figure 6.4: Percentage in the Lower Social Classes by Consistent Poverty and vulnerability to Consistent Poverty (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

Finally, it is worth asking how the risks of consistent poverty and vulnerability to consistent poverty vary by life cycle group. Figure 6.5 shows the percentage of each age group that is either consistently poor or vulnerable to consistent poverty in the 2004 to 2009 period. In each year, both the consistent poverty rate and the percentage of those vulnerable to consistent poverty was higher for children than for adults of working age. The percentage of children who were consistently poor declined from 9.3 per cent in 2004 to 7.4 per cent in 2007 before rising again to 8.7 per cent in 2009. After 2004, the risk of being vulnerable to consistent poverty is highest for children and had increased between 2007 and 2009. The risk of both consistent poverty and of being vulnerable to consistent poverty declined throughout the period adults aged 65 or over, with the lowest levels in 2009. The percentage of people vulnerable to consistent poverty also tends to be lower for adults of working age than for children, although it increased for the former group between 2007 and 2009 (1.7 per cent to 3.8 per cent). Also worthy of note is that the size of the group vulnerable to consistent poverty has increased for children and working-age adults, especially between 2007 and 2009, while it declined slightly in this period for adults aged 65 and over.

Figure 6.5: Group Percentage of those in each age group who are Consistently Poor or Vulnerable to Consistent Poverty (2004-2009)



Source: SILC, Ireland, 2004-2009, analysis by authors

The height of the bars in Figure 6.5 also allows us to look at the pattern over time for the two groups combined (consistently poor and vulnerable to consistent poverty). The greatest fluctuations and the highest level overall are found for children, with the lowest combined figure in 2007 (about 10 per cent) before rising again to almost 14 per cent in 2009. The pattern for adults of working age follows a similar trend, although at a lower level, declining to 6.3 per cent in 2007 before rising again to 8.7 per cent in 2009. For older adults, the percentage either consistently poor or vulnerable to consistent poverty had declined throughout the period, with the lowest figure (4 per cent) in 2009.

In terms of composition, the profile of the group vulnerable to consistent poverty will be affected by the overall numbers of children, people of working age, older adults and so on, in the population. This is very evident when we focus on the composition by broad age group. In SILC 2009, over half of those vulnerable to consistent poverty (58 per cent) are people of working age; just over one-third (34 per cent) are children and fewer than one in ten is an older adult (8 per cent). On the other hand, there is a strong concentration in the group vulnerable to consistent poverty in households where the household reference person (HRP) is not at work. Almost three-quarters of the group vulnerable to consistent poverty is made up of people in households where the HRP is not active in the labour market (33 per cent unemployed, 25 per cent on home duties, 14 per cent ill/disabled). Only one-fifth of the group vulnerable to consistent poverty is in households where the HRP is at work.

The indicator of being vulnerable to consistent poverty is useful for a number of reasons. It is associated with economic stress and social class in the way we would expect of a social exclusion indicator. It also allows us to check whether certain groups have current incomes that are just above the 60 per cent at-risk-of-poverty level but who are similar to the consistently poor in terms of living standard.

6.5 Alternative Deprivation Indicators

6.5.1 The 2009 EU-SILC module

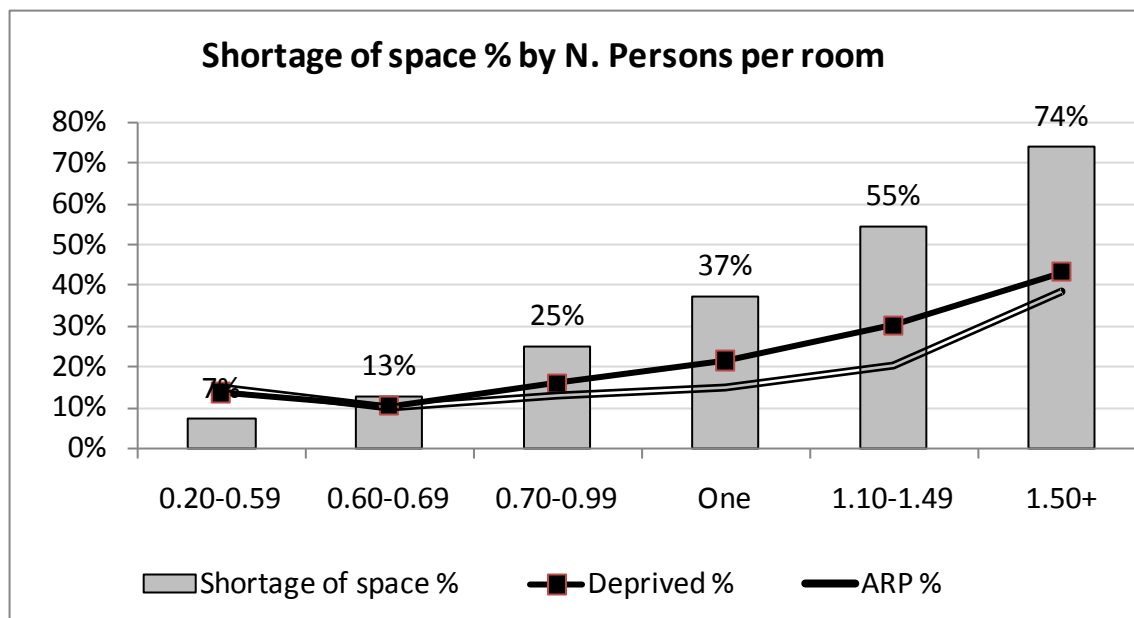
The 2009 EU-SILC survey contained a number of additional measures of deprivation. A subset of these additional items specifically concerned deprivation among children, and we will consider those in a separate report (Watson, Maître and Whelan, 2012). Here, however, we focus on the more general items on the 2009 survey. The items are shown in Table 6.2 together with the percentage of persons who would be considered 'deprived' according to each item.

Table 6.2: Additional Deprivation Items in EU-SILC 2009

Variable	Wording	% Dep- rived
Spend money on self	Can you spend a small amount of money on yourself each week without having to consult anyone? (Deprived if any adult cannot afford)	19.0
Internet access	Does your household have access to an internet connection? [no because cannot afford]	8.3
Hobbies	Do the household members have hobbies or leisure activities? (Deprived if 'no' because cannot afford)	7.7
Mobile	Do you own a mobile phone? (Deprived if any adult would like but cannot afford)	2.5
Overcrowding	How many rooms in the dwelling? (Constructed variable identifies households with more than one person per room)	3.7
Shortage of space	Is there a shortage of space in your dwelling?	15.9
Must leave dwelling	Do you believe that your household (as a whole) may have to leave your dwelling in the next 6 months? (Yes)	3.8
Must leave – financial reasons	What is the main reason that your household (as a whole) may have to leave your dwelling in the next 6 months? (seven reasons offered) Constructed variable identifies households who must leave for financial reasons	0.9
Access to ...	Which of the following best describes your household's ability to access (get to) ...	
... public transport	... public transport? [Great difficulty or some difficulty]	25.6
... bank	... bank facilities? [Great difficulty or some difficulty]	24.7
... post office	...post office facilities? [Great difficulty or some difficulty]	18.1
Litter in neighbourhood	How frequently do you see litter lying around your neighbourhood? [very frequently or frequently]	25.1
Vandalism in neighbourhood	How frequently do you see damage to public amenities (e.g. bus stops, lamp posts, pavements, playgrounds, signposts) around your neighbourhood? [very frequently or frequently]	16.0

The 2009 survey also included a question on the size of the dwelling in square feet or square metres, but this was missing for a high percentage of cases – 60 per cent of household respondents were unable to provide this information. A question on the number of bedrooms in the dwelling (to be completed by the interviewer) is available only for half of the households. Using the measure of the total number of rooms in the dwelling, we constructed an index showing the number of persons per room. As can be seen in Figure 6.6, this is strongly associated with reporting that the dwelling is short of space, but the relationship to at-risk-of-poverty and deprivation is more modest.

Figure 6.6: Percentage Reporting Shortage of Space, Deprivation and ARP by Number of Persons per Room (grouped) in 2009



Source: SILC, Ireland, 2004-2009, analysis by authors

6.5.2 Relationship of 2009 items to income

In the next table, Table 6.3, we turn to the relationship between income and the potential new items from the 2009 survey. The table shows the percentage deprived of each item for two income groups: those with incomes below the 60 per cent poverty threshold (i.e. at-risk-of-poverty) and those with 'comfortable' incomes (20 per cent above the median, or higher).²¹ To check whether all of the items are equally relevant to older and younger adults, we show the figures separately for those over age 60 and those under age 60. As well as showing the percentage lacking each item by age group and income level, we show the ratio of the percentage of those who are income-poor to the percentage of those with 'comfortable' incomes. A higher ratio indicates that the item is more likely to be lacked among those with lower incomes. For instance, seven per cent of older adults with incomes below the

²¹ The income is at household level and is adjusted for household size and composition (equivalised income) as described in Section 2.

poverty threshold cannot afford a hobby or leisure activity compared to one per cent of their counterparts with comfortable incomes, giving a ratio of seven.

Table 6.3: Percentage lacking each item (Basic & Additional 2009 items) by Income Category and Age Group, SILC 2009

	Age Under 60 and Income ...				Age Over 60 and Income ...		
	... under 60% median – % Lack	... above 120% median – % Lack	Ratio		... under 60% median – % Lack	... above 120% median – % Lack	Ratio
Basic items							
Cold	17%	3%	5.7		7%	3%	2.6
Shoes	4%	1%	4.8		5%	<1%	23.7
Joint	8%	0%	16.6		4%	<1%	13.6
Meals	7%	0%	18.9		3%	<1%	---
Clothes	11%	1%	10.0		7%	1%	13.6
Coat	2%	0%	6.5		3%	0%	---
Warm	9%	1%	7.3		5%	<1%	18.8
Furniture	40%	5%	7.3		15%	1%	12.0
Meal out	28%	2%	11.1		5%	1%	6.4
Evening out	32%	6%	5.6		11%	1%	12.1
Presents	9%	0%	18.6		3%	0%	11.6
2009 Module							
Overcrowding	13%	1%	19.8		<1%	0%	---
Short space	24%	14%	1.7		3%	6%	0.6
Must leave	4%	4%	1.2		<1%	<1%	13.9
Leave – financial	2%	1%	2.7		<1%	<1%	---
Litter	29%	23%	1.3		18%	22%	0.8
Vandalism	20%	15%	1.3		9%	13%	0.7
Access – Transport	26%	20%	1.3		43%	27%	1.6
Access Bank	27%	20%	1.4		38%	24%	1.6
Access PO	18%	15%	1.2		28%	20%	1.4
Spend self	41%	9%	4.7		8%	3%	3.4
Internet	22%	2%	10.1		13%	<1%	21.4
Hobbies	18%	3%	6.7		7%	1%	7.1
Mobile	6%	0%	38.0		7%	<1%	12.1

Source: SILC, Ireland, 2009, analysis by authors. Note: due to rounding of percentages, there is some rounding error in the calculation of the ratios

Turning first to the 11 existing basic deprivation items, we see that the ratio averages about ten for the adults under age 60 and about thirteen for the adults over age 60. This indicates that those in households below the at-risk-of-poverty threshold are ten to twelve times as likely to lack these items as those in households with comfortable incomes. There is quite a bit of variation in the ratio across the items, but only one is below five (going without heating in the last year, 2.6 for older adults).

Among the items in the 2009 module, most have a relatively weak association with income, as measured by the ratio. Overcrowding is strongly associated with income, but only for the younger age group, where 13 per cent of those below the poverty line experience overcrowding. Virtually no older adults live in overcrowded conditions.

On the other hand, the ratio suggests a relatively strong relationship between having to leave the residence and low income for older adults. This affects less than one per cent of poor older adults, however.

Being able to spend some money on oneself – an item we might expect to find associated with income – has a surprisingly low ratio: less than 5.0 for both groups. In addition, almost one in ten younger people in the ‘comfortable’ income category are not able to spend a small amount of money on themselves. This may reflect pressures on income arising from other sources (such as repayment of loans or mortgages, or the form of household decision-making about money) rather than indicating a lack of access to resources.

Three of the items show some promise as potential indicators of deprivation: lack of access to the internet, inability to afford a leisure activity and lack of a mobile telephone. The poor are 10 times as likely as the ‘comfortable’ to lack internet access in the younger age group and 21 times as likely in the older age group. The corresponding ratios for leisure activity are 6.7 in the younger age group and 7.1 in the older age group. The ratios for lack of access to a mobile telephone are quite different for younger (38.0) and older (12.1) adults.

We performed three additional checks on these potential items. We investigated their impact on the reliability of the basic deprivation scale, their impact on the percentage of the population who lack two or more items and the relationship of the new items to the different dimensions of deprivation outlined in Section 2 (basic, secondary, housing facilities and housing/neighbourhood amenities).

6.5.3 Impact of selected 2009 items on reliability of deprivation indicator

Since we have concluded from the analysis in Section 3 that the deprivation scale is working reasonably well, we would consider adding an item to the scale only if it significantly increased the reliability. We checked this by adding each item one at a time to the basic deprivation scale. This check will tell us whether the item would contribute to the capacity of the scale to identify the deprived group. Reliability is measured by Cronbach’s alpha, which ranges from 0 (lowest) to 1 (highest).

Table 6.4 shows that only two of the three items would improve the reliability of the scale. Adding the item on the mobile telephone would reduce the reliability from .800 to .796. Adding the item on internet access would increase the reliability from .800 to .808, while adding the item on leisure activities would increase the reliability from .800 to .816. Adding both items (internet access and leisure activity) would result in an increase in reliability to 0.824.

Table 6.4: Reliability of Basic Deprivation Scale and Impact on Reliability of Adding Potential Items from 2009 Module

Scale	Reliability
Basic deprivation scale (11 items)	.800
Basic 11 items plus internet access	.808
Basic 11 plus hobby/leisure activity	.816
Basic 11 plus mobile telephone	.796
Basic 11 plus internet access plus hobby/leisure activity	.824

Source: SILC, Ireland, 2009, analysis by authors. Reliability is calculated at the household level on unweighted data

6.5.4 Impact of selected 2009 items on level of deprivation and consistent poverty

Next, we consider the impact of adding the internet access and leisure activities items to the basic deprivation scale. What impact would the addition of these two items have on the percentage of the population identified as deprived? The results are shown in Table 6.5. The addition of these two items would increase the percentage of the population identified as deprived by about two to three percentage points, depending on the threshold. In 2009, 17.3 per cent of the population lacked 2 or more of the 11 basic deprivation items and 9.6 per cent lack 3 or more of these items. Adding the items on internet access and leisure activities would result in a 13 item scale. The percentage of the population lacking 2 or more of these 13 items would be 19.4 per cent and 12.5 per cent would lack 3 or more items.

Table 6.5: Comparing the 13-Item Scale to the Basic Deprivation Scale

	Basic deprivation (11 items)	Basic 11 plus internet, leisure (13 items)
Per cent of population lacking 2 or more items	17.3%	19.4%
Per cent of population lacking 3 or more items	9.6%	12.5%
Per cent of population consistently poor (below 60% median equivalised income and lacking 2+ items)	5.5%	6.0%
Per cent of population lacking 2+ items but NOT below the 60% median equivalised income threshold	11.8%	13.3%

Source: SILC, Ireland, 2009, analysis by authors

The impact on the consistent poverty rate would be considerably smaller. With the 11 item basic deprivation index, 5.5 per cent of the population was consistently poor in 2009. If the same threshold (lacking 2 or more items) is adopted with the 13 item scale, the consistent poverty rate would be higher by only half a percentage point (6.0 per cent). Most of the increase, then, would be in the percentage of the population deprived at the 2 or more threshold but not below the 60 per cent of median equivalised income threshold. This would increase from 11.8 per cent with the basic deprivation scale to 13.3 per cent with the 13 item scale.

6.5.5 Relationship of selected 2009 items to dimensions of deprivation

We now turn to our third question, concerning the relationship of the 2009 items to the dimensions of deprivation developed in earlier work on SILC data (Maître, Nolan and Whelan, 2006, Whelan, Maître and Nolan, 2007a).

The dimensions, as briefly discussed in Section 2.5 are:

- basic deprivation – consisting of items relating to food, clothing, furniture, debt and minimal participation in social life. Those lacking 2 or more of the 11 items are considered deprived on this dimension
- secondary deprivation – consisting of a range of consumer durables including a phone, PC, Video, CD, dish-washer. This dimension is strongly associated with basic deprivation (Whelan, Maître and Nolan, 2007a). Following Whelan, Maître and Nolan, (2007a), those lacking 4 or more of the 19 items are considered deprived on this dimension
- housing facilities – comprising basic facilities such as bath, toilet, hot water and central heating. Those lacking any one of these items are considered deprived on the housing facilities dimension
- neighbourhood environment – encompassing pollution, crime/vandalism, noise. This dimension also incorporates some of items relating to deteriorating housing conditions. Those lacking 2 or more of the 5 items are considered deprived on this dimension.

We are concerned here with discriminant validity, that is, the extent to which the items are useful in distinguishing basic deprivation from other related constructs such as secondary or lifestyle deprivation, housing deprivation and so on. The question we address here is whether the items have a stronger association with basic deprivation than with secondary deprivation. To preview the answer, we can say that they do not. Lack of leisure activities is strongly associated with both basic and secondary deprivation. Internet access and mobile telephone both have an even stronger association with secondary deprivation than with basic deprivation. This prevents us from using the customary factor analysis results to illustrate this point. The fact that several of the items have a substantial association with both dimensions of deprivation causes the factor structure to emerge less clearly in exploratory factor analysis. To illustrate the association between the dimensions of deprivation and the potential items from the 2009 SILC module, we instead compare the percentage lacking the 2009 items depending on whether they are deprived or not deprived on each of the four dimensions.

As we saw in Table 6.2, there are differences in the percentages of the population deprived according to each of the new 2009 items, ranging from less than one per cent for being forced to move residence for financial reasons to almost 26 per cent for lack of access to public transport. A useful way to examine the association with the dimensions of deprivation is to ask to what extent someone experiencing basic deprivation is more likely to lack each of the new items than someone not experiencing basic deprivation. For instance, almost 29 per cent of those experiencing basic deprivation lack internet access compared to four per cent of those not experiencing basic deprivation (See Appendix Table A6.1 for the percentages). This means that those experiencing basic deprivation are about 7.3 times as likely to lack internet access as those not experiencing basic deprivation. It is these ratios that are shown in Table 6.6, and they are calculated separately for each of the four dimensions of deprivation (basic, secondary, housing amenities and housing/neighbourhood facilities). A higher ratio indicates a stronger association between the item and the dimension of deprivation. For comparison, the average ratio for the original items that are included in each scale is shown at the bottom of the table. Thus, in the case of basic deprivation, the average ratio is 23.8 across the 11 items in this scale.²²

As we might expect, since the new items are not included in the basic deprivation scale, the 2009 items have a weaker relationship to the basic deprivation scale than the original 11 items. The strongest association among the 2009 items is for leisure activities: those experiencing basic deprivation are 14.5 times as likely to be unable to afford leisure activities as those not experiencing basic deprivation. However, this item also has a relatively strong association with secondary deprivation (a ratio of

²² The average ratio is calculated as the ratio of the average percentage lacking each item in the original scale among those who are deprived to the average percentage among those not deprived.

8.3 compared to an average of eleven across the 19 items in this scale). This means that it will not differentiate between basic and secondary deprivation as well as the other items that form part of these scales.²³

Internet access is more strongly associated with secondary deprivation than with basic deprivation. The ratio is 10.9, compared to an average of 11.0 across the 19 items in the secondary deprivation scale and compared to a ratio of 7.3 for the association between internet access and basic deprivation.

The association with both secondary and basic deprivation – albeit a weaker association with the latter – means that this item, like the item on leisure activities, would tend to blur the distinction between basic and secondary deprivation. Lack of access to a mobile telephone is another item with a stronger association to secondary than to basic deprivation (5.7 vs. 4.0).

Table 6.6 Association between Potential Deprivation Items in SILC 2009 and Four Dimensions of Deprivation

	Dimension of Deprivation (threshold shown in parentheses)			
	Basic (2)	Secondary (4)	Housing Facilities (1)	Housing/Neighbourhood (2)
Potential new items:				
Leisure activities	14.5	8.3	2.4	2.6
Internet access	7.3	10.9	2.5	2.1
Mobile telephone	4.0	5.7	2.1	1.6
Spend money on self	4.4	3.3	1.5	1.5
Overcrowding	4.1	3.2	1.9	2.8
Shortage of space	1.8	1.7	1.9	2.1
Must leave dwelling	2.1	1.7	2.0	3.7
Must leave – financial	4.1	3.1	0.6	1.0
Litter in area	1.7	1.6	1.1	2.6
Vandalism in area	2.2	1.9	0.9	3.5
Access – public transport	0.8	1.0	1.3	0.8
Access – bank	1.0	1.4	1.4	0.9
Access – post office	0.9	1.3	1.3	1.0
Average ratios for existing items				
Basic items	23.76	5.61	2.60	2.23
Secondary Items	7.24	10.97	2.74	2.11
Housing items	2.38	2.74	---	1.81
Housing/Neighbourhood items	2.39	2.11	2.02	10.18

Source: SILC 2009, analysis by authors, based on individual level weighted data. Note that the figures show the ratio of the percentage lacking each item among the deprived according to the dimension at the top of the column to the percentage lacking the item among those not deprived on that dimension.

²³ In fact, because several of the items have an association with both basic and secondary deprivation (particularly internet access, capacity to spend money on oneself, leisure activities and mobile telephone), when the items are included in the factor analysis shown in Appendix Table A2.1, the factor structure is no longer clear. It is for this reason that an alternative method to factor analysis was chosen in Table 6.3 to describe the patterns of relationships among the variables.

In the case of housing facilities, none of the items has a substantial association with this factor. Since the four items in this scale (bath/shower, central heating, hot running water, toilet) are not lacked by anyone who does not experience deprivation in housing facilities, it was not possible to construct an average ratio across the four items in this scale.

For the final dimension of deprivation – housing/neighbourhood facilities – the average ratio across the items in the scale is 10.2. Among the new items, the items dealing with vandalism in the area and litter in the area are quite similar in form to three of the five items in the scale (pollution, crime and noise in the area), but the ratio is not as high as the average for the included items. This is because a higher proportion of people who are *not* deprived according to the housing/neighbourhood dimension experience problems with litter (21 per cent) and vandalism (12 per cent) than is the case for pollution (1 per cent) or noise (4 per cent – see Appendix Table A6.1).

6.5.6 Conclusions regarding 2009 Items as indicators of deprivation

To summarise, then, none of the potential items is a compelling candidate for inclusion in the Irish basic deprivation index. Only three of the items show a relationship to income that is as strong as the relationship between the existing basic deprivation items and income (Internet access, leisure activities and mobile telephone). Two of the items tested would increase the reliability of the measure of basic deprivation (internet access and leisure activities), and would have a small impact on the number of people identified as deprived (an increase of about two percentage points). However, the addition of these items would make very little difference to the number of people identified as consistently poor (increased by only half a percentage point). Finally, the potential items in the 2009 survey do not have the capacity of the basic deprivation items to clearly distinguish between basic and secondary deprivation.

6.6 Summary

We began this section by noting that while there are advantages to having a well-defined poverty reduction target; it is unwise to rely on a single indicator for a full understanding of changes over time. This is because no one indicator will adequately capture the range of concerns in poverty research and policy: the concern with low incomes, the extent to which these low incomes are persistent or transitory, improvement or deterioration over time in the real incomes of those at the bottom of the income distribution, and access to a basic standard of living.

We examined a range of alternative indicators, noting their potential usefulness in understanding poverty and in developing policy to promote social inclusion. At-risk-of-poverty anchored in time (ARP-A) involves asking what percentage of the population today have real incomes that are below the poverty threshold of an earlier year. This allows us to assess the extent of improvement or deterioration in the real incomes of those at the bottom of the income distribution. Persistent poverty is based on asking what percentage of the population is below the poverty threshold today and was also below the poverty threshold in at least two of the last three years. This indicator is useful in identifying the extent to which poverty is persistent or transient, as persistent poverty is likely to have more serious long-term consequences, particularly for children.

We examined a number of potential indicators of deprivation from the 2009 SILC but found that none of them would contribute sufficiently to improving the existing measure of basic deprivation to warrant their inclusion.

7. Conclusions

7.1 Introduction

In this technical paper we reviewed the measurement of poverty in Ireland from 2004 to 2009, using data from the SILC surveys. The definition of poverty, following Townsend (1979) is an inability to participate in the customary standard of living due to a lack of resources. The Irish approach to poverty measurement uses both at-risk-of-poverty and deprivation as a way to arrive at a more reliable and valid indicator than using either on its own. The resulting three Irish indicators are low income (below 60 per cent of the median, having adjusted for household size and composition); deprivation (lacking a number of commonly available goods or services due to lack of resources) and consistent poverty (both income poor and deprived).

We set out to address three research questions in this paper:

1. To what extent are the three existing measures of at-risk-of-poverty, deprivation and consistent poverty still adequate in recessionary times?
2. To what extent are the European deprivation indicators and the indicator of low work intensity identifying individuals other than those captured by the three existing Irish social exclusion indicators?
3. How might additional indicators, including the adult deprivation indicators in EU-SILC 2009, contribute to the understanding of poverty in Ireland?

In the following, we summarise the findings of the paper as they relate to these three questions and draw out the implications for policy.

7.2 Poverty in Ireland, 2004 to 2009

One of the challenges in this technical paper is to assess the ability of the at-risk-of-poverty and deprivation measures to capture people experiencing poverty and social exclusion over a period of profound economic change. In Section 3 we saw that over time, both at-risk-of-poverty and deprivation indicators have been able to identify those at risk of social exclusion as the recession was progressing. In this respect the deprivation measure seems to have been better able to pick-up the impact of the recession at an earlier stage than the at-risk-of-poverty indicator. This, we surmised, is due to the nature of some of the deprivation items involving social participation and interaction, items which are very sensitive to small changes in levels of income and deterioration in the standard of living.

There were some differences between at-risk-of-poverty and deprivation in terms of their relationship to subjective economic stress, on the one hand, and risk factors for poverty, on the other. Both those at-risk-of-poverty and those who were deprived had higher levels of subjective economic stress than those who were neither poor nor deprived. However, the levels of perceived economic stress were much higher for those who were deprived (between 60 and 74 per cent compared to between 18 and 30 per cent). On the other hand, at-risk-of-poverty and deprivation were much more similar in terms of the association with the risk factors for poverty. Compared to those who are neither poor nor deprived, both the income poor and the deprived had a much higher percentage of people who were in unemployed households, households where the reference person had a disability and in the lower service and manual social classes.

Consistent poverty, which identifies those *both* at-risk-of-poverty and deprived, began to increase in 2009 as the recession progressed. There was some fluctuation over the period in the size of the consistently poor population compared to the size of the population that is either at-risk-of-poverty or deprived. Consistent poverty tended to show a stronger relationship to perceived economic stress and to the risk factors for poverty than at-risk-of-poverty or deprivation. For most of the 2004 to 2009 period, consistent poverty had the strongest relationship to subjective economic stress, with between 66 and 77 per cent of the poor reporting high levels of economic stress. Apart from some year-to-year fluctuations, consistent poverty also showed the strongest concentration of lower manual working class, people with disability and unemployment over the 2004 to 2009 period.

The extent of the overlap between at-risk-of-poverty and deprivation fluctuated over the 2004 to 2009 period. The greatest degree of overlap was in 2005 and 2006, when the consistently poor accounted for 27 per cent of those who were either poor or deprived. This had fallen by 2009 to 21 per cent, mainly due to the fact that the at-risk-of-poverty rate was declining while the deprivation rate had begun to increase in 2008. The percentage of people who are deprived but not income poor has increased since the start of the recession. This may be due to the impact on consumption of the general economic uncertainty, where people cut back on spending in anticipation of (or in fear of) a future fall in income.

7.3 Irish and EU Measures of Deprivation

The Irish deprivation measure differs from the EU measure not only in the choice and number of items but also on the deprivation threshold used. The Irish measure includes 11 items and uses a threshold of lacking at least 2 items, while the EU measure uses an 9 item deprivation indicator with a threshold of lacking at least 3 items.²⁴ We saw that the Irish measure captures a slightly higher level of deprivation than the EU measure. On average over the years 2004 to 2009 the Irish measure identifies 14 per cent of the population as deprived while the EU indicator identifies 12 per cent as deprived. To some extent, the two indicators are identifying different groups of people. Almost nine per cent of the population over the 2004 to 2009 period would be identified as deprived according to both indicators. However, an equally large group would be identified as deprived according to one indicator but not according to the other (5.5 per cent ‘Irish-only deprived’ and 3.6 per cent ‘EU-only deprived’).

Since the two measures are identifying somewhat different groups, we went on to ask how the groups compared in terms of economic stress and risk factors for poverty. The Irish measure showed a stronger relationship to economic stress in several of the years, despite the fact that the EU scale includes some items (unexpected expenses, arrears) which factor analysis indicated to behave more like measures of economic stress. In terms of the relationship to risk factors for poverty, such as unemployment, disability and lower social class, the Irish and EU deprivation indices were less distinct. However, in measurement terms, the Irish scale has a higher reliability in the Irish context, is less dependent on any one item, and is clearly distinguished from economic stress, which is conceptually different from deprivation. Given the methodological and conceptual problems with the EU deprivation measure, which are discussed in detail in Section 4, we concluded that there was little to be gained by modifying the present Irish indicator by including any of the items from the EU scale.

7.4 Low Work Intensity

In June 2010 the European Council adopted a very ambitious programme, Europe 2020, covering five domains of intervention. One of these domains concerns social inclusion. A European-wide poverty target was established: to reduce by 20 million the number of Europeans at risk of poverty and social exclusion by 2020. Three indicators are proposed for the identification of people at-risk-of-poverty or exclusion: at-risk-of-poverty, severe material deprivation (lacking 4 or more of the EU set of 9 items), and very low work intensity (LWI).

24 The EU uses also an alternative threshold of lacking at least four items within the context of the EU 2020 strategy on social inclusion. In this context the EU uses the terminology of being severely materially deprived.

While the inclusion of the LWI indicator is to be welcomed as an acknowledgement of the vital role played by employment in reducing the risk of social exclusion, it raises a number of conceptual and methodological problems. These include the fact that it is not a universal indicator (excluding, for example, households with older age adults); the fact that it includes a structural risk factor for poverty in the measurement of poverty, thus making it impossible to empirically assess the impact of employment on poverty; and its adoption in the absence of a substantial validation exercise at a European level.

In Section 5, we examined in detail the behaviour of the LWI indicator as it is related to the present Irish poverty indicators, to economic stress and to social class. We found that, over the 2004 to 2009 period, only a small proportion of the population are uniquely captured by the LWI indicator (i.e. they are not also income poor or deprived), although the percentage had increased since the start of the recession. Indeed the at-risk-of-poverty and deprivation measures already capture a large proportion of those living in very low work intensity households. Those in LWI-only households are less likely than those who are consistently poor or deprived to experience high levels of economic stress, although their rates were similar to those in ARP-only households. An examination of the social class composition of those living in LWI-only households revealed a higher representation of those in the professional/managerial/employer classes than was the case for the Irish measures. We concluded, based on the empirical findings and consideration of the methodological and conceptual problems, that it would be unwise to add the LWI indicator to the Irish national poverty indicators for the purpose of monitoring the Irish social inclusion strategy. Although employment is very important in preventing poverty and in enabling households to move out of poverty, including LWI in the measurement of poverty risks diverting attention from those experiencing the most severe exclusion.

7.5 Alternative Poverty Indicators

So far, we have established that the Irish poverty measures performed well over time, particularly the deprivation and consistent poverty measures. Nevertheless, we considered the possibility that alternative measures might have the potential to improve our understanding of poverty. In Section 6 we considered at-risk-of-poverty anchored in time, persistent at-risk-of-poverty, economic vulnerability and those vulnerable to consistent poverty (i.e. those who are deprived but with slightly higher incomes than the consistently poor).

7.5.1 At-risk-of-poverty anchored in time

First we explored the added value of using an at-risk-of-poverty measure anchored in time (ARP-A). Poverty anchored in time tells us the proportion of individuals who are below a poverty threshold set in a previous year, with adjustments for inflation only. Using 2004 as the reference year, we examined how the group identified as below the 2004 threshold, adjusted for inflation, would look in the years 2005 to 2009. In 2009, while the current at-risk-of-poverty rate fell to 14 per cent, the at-risk-of-poverty anchored in time fell further to nine per cent. This indicates that one-third of those at-risk-of-poverty in 2009 had higher real incomes than those at-risk-of-poverty back in 2004. The at-risk-of-poverty anchored in time measure is a good indicator of the progress that is achieved over time in the real incomes of those in poverty. However, it must be considered as a complementary indicator to the current official poverty measures rather than a substitute for them. This is because the behaviour of the ARP-A indicator will differ, depending on whether incomes are rising or falling.

The discussion in Section 6 focused on a measure anchored in 2004. If the anchor year were to be 2008, we would find a different pattern in subsequent years because 2008 was the year where the SILC data show the highest median income level for Ireland. This means that the ARP-A rate (anchored in 2008) would be higher in 2009 and 2010 than the current at-risk-of-poverty rate for those years. This may be a useful way of thinking about the impact of the recession on low-income households. It would involve asking what percentage of people were in households with real incomes below the poverty threshold at the beginning of the recession. Because the ARP-A indicator is linked to incomes in an earlier year, it loses some of the advantages of ARP as an indicator of at-risk-of-poverty in relative terms. It is no longer a measure of the income position of households relative to the *current* median in the country.

7.5.2 Persistent at-risk-of-poverty

The EU indicator of persistent at-risk-of-poverty is based on those who are below the poverty threshold in the current year and for at least two of the previous three years. Research on poverty dynamics has shown that most of those who become poor will exit poverty after a short period; a small proportion is persistently poor and a larger proportion will experience recurrent spells of poverty (see review in Maître, Russell and Watson, 2011). The length of time for which a person has been below the at-risk-of-poverty threshold is important, because long-term exposure to poverty is more likely to have negative consequences for the individual, particularly for children (Maître, Russell and Watson, 2011).

The difficulty with persistent-at-risk-of-poverty is that it is only available for a small sample, because of the design of the SILC survey (Maître, Russell and Watson, 2011). This limits the extent to which detailed analysis of different subgroups is possible, and limits its usefulness as an indicator for target-setting purposes. Nevertheless, because of the serious consequences of persistent poverty for individual outcomes, and particularly those of children, the persistent-at-risk-of-poverty indicator is of interest to poverty policy, and is an important supporting indicator.

7.5.3 Economic vulnerability

Economic vulnerability is intended to identify a group who may not be poor or deprived currently, but who have a profile (based on income, standard of living and economic stress) which identifies them as vulnerable to poverty and deprivation. The methodology employed in the analysis of vulnerability does not easily lend itself to use in establishing indicators for poverty monitoring. Instead, the economic vulnerability indicator is valuable as a means of assessing the validity of different potential indicators of social exclusion. A good social exclusion indicator should capture as many of the vulnerable group as possible, while not including individuals who are not vulnerable.

The analysis of economic vulnerability has affirmed the vulnerability of the consistently poor and has also highlighted the strong relationship between deprivation and vulnerability. This research cautions against assuming that all of those with current incomes below the at-risk-of-poverty threshold are socially excluded (Whelan and Maître, 2010, p. 510). It also points to the strong association between deprivation and economic vulnerability (Whelan and Maître, 2010, p. 509). This finding is important in considering how poverty targeting might move beyond the emphasis on consistent poverty, which identifies only a very small group. Given these findings, we would advocate that the search for indicators to capture a broader vulnerable group move in the direction of making greater use of the deprivation indicators, rather than in the direction of placing greater weight on the at-risk-of-poverty measure. In other words, we argue that the findings support a strategy that is almost directly the opposite to that adopted in the EU 2020 approach.

7.5.4 Vulnerability to consistent poverty

In Section 6 we argued that one way of taking account of the important role of deprivation in identifying those who are socially excluded is to consider an indicator that includes a larger proportion of those who are deprived. The consistent poverty indicator only includes those who are deprived if they are also below the 60 per cent at-risk-of-poverty threshold.

For the reasons outlined in Section 1.1, a robust indicator should retain a link to current incomes. We proposed considering the group with incomes slightly higher than those who are in consistent poverty, but with similar levels of deprivation. Those ‘vulnerable to consistent poverty’ are those with incomes between the 60 per cent and 70 per cent at-risk-of-poverty threshold, but lacking 2 or more of the deprivation items. They have similar levels of economic stress to the consistently poor and a broadly similar concentration of lower working class households, although with some fluctuation over the 2004 to 2009 period. This group has been smaller than the group in consistent poverty in the 2004 to 2009 period, but has increased in size since the recession began. In 2009, 5.5 per cent of the population were consistently poor; a further 4.1 per cent were vulnerable to consistent poverty, giving a combined total of 9.5 per cent.

7.5.5 EU-SILC 2009 additional deprivation indicators

The EU-SILC 2009 survey included a special module with additional deprivation items. We explored the potential to use some of these deprivation items to improve our measure of basic deprivation. We identified three items that had a relatively strong association with low income: lack of internet access, lack of access to leisure activities and lack of a mobile telephone. We examined their potential contribution to increase the reliability of the basic deprivation scale, the impact of their inclusion on the measured level of deprivation and consistent poverty, and their relationship to the dimensions of deprivation. Although two of the items (internet access and leisure activity) would potentially increase the reliability of the scale, adding these two items would have very little impact on the identification of the consistently poor (increased by only half a percentage point). In addition, both items had quite a strong association to secondary deprivation as well as to basic deprivation, so that adding them to the scale would make it difficult to differentiate between the two dimensions. On balance, we concluded that none of the additional items included in the 2009 EU-SILC was a compelling candidate for inclusion in the basic deprivation index for Ireland.

7.6 Irish Indicators and EU Targets

In Section 5 we explored the association between the Irish indicators and the group identified as socially excluded by the EU 2020 indicators (at-risk-of-poverty, severe material deprivation and very low work intensity). In particular, we asked what proportion of the EU 2020 group would already be captured by the Irish ARP, deprivation and consistent poverty measures. Following a discussion of the implications of identifying the target group as those experiencing multiple problems,

as opposed to those experiencing any one of several problems, we looked at the overlap of the EU and Irish measures. If we consider those who are either poor or deprived according to the Irish indicators, this would capture 81 per cent of the EU 2020 group over the 2004 to 2009 period. With the onset of the recession, the Irish measures would capture a somewhat smaller proportion of the EU group (down to 75 per cent by 2009), because of the increasing rate of unemployment which tends to push up the EU total. Just under one-quarter of the EU 2020 group were consistently poor (i.e. both at-risk-of-poverty and deprived on the Irish indicators). If we include those vulnerable to consistent poverty as well as the consistently poor (that is, consider all of those below the 70 per cent at-risk-of-poverty threshold and deprived) this rises to 31 per cent of the EU 2020 group.

Although the Europe 2020 strategy focuses attention on how the Irish anti-poverty strategy is meeting targets defined in terms of the EU 2020 indicators, for all of the reasons outlined in this technical paper, the EU 2020 approach is not a good yardstick against which to assess the performance of the Irish indicators. The EU 2020 group includes a significant minority who would not be considered poor or deprived according to the Irish indicators. We have shown that the Irish indicators performed well in identifying those at most risk of poverty and social exclusion in the 2004 to 2009 period, using a range of validation techniques. We have also noted a number of conceptual and empirical problems with the EU 2020 approach.

Thus, it would not be wise to change the national approach to the measurement of poverty because it differs from the EU 2020 approach. To do so could have the effect of diverting resources away from the consistently poor – the group at highest risk of social exclusion.

There is, nevertheless, an argument to be made for a tiered approach that prioritises the consistently poor but does not limit attention to that group. Based on work by Whelan and Maître (see, for example, Whelan, Nolan and Maître, 2007b; Whelan and Maître, 2005a, 2005b and 2010), we would argue that rather than combining the indicators to identify those who are either poor or deprived, a better strategy would be to expand the measure in the direction of giving greater weight to deprivation.

7.7 Options for Irish Poverty Targets

Throughout this analysis we were very conscious that the development of new measurement approaches based on data from an exceptional economic period, such as the current recession, would be unwise in the long term as such measures may be unduly affected by present economic circumstances. Thus, our analysis in this technical paper made use of the SILC data for the 2004 to 2009 period – covering a

period with exceptional variation in economic circumstances. We are conscious also of two somewhat contradictory constraints in developing indicators for poverty policy. One is the advantage associated with having a single, clearly defined indicator on the basis of which the effectiveness of social inclusion policy can be assessed. A second constraint is the argument against relying on a single indicator in order to understand how social exclusion is changing over time. A third constraint is the tension between a narrow and a broad focus. A narrow focus would attempt to direct attention towards the most severely excluded group, but at the cost of failing to attend to the situation of those whose circumstances may be only a little better. A broad focus would be more inclusive in terms of coverage of the population at risk of social exclusion, but would risk not giving any special priority to those most severely affected. For this reason, we would propose adopting a tiered approach that is concerned primarily with the situation of the consistently poor, then with the situation of the group vulnerable to consistent poverty and, at the third tier, with the broader indicators relevant to identifying those at risk of social exclusion.

We would suggest that a number of options are possible for poverty targeting:

1. The current **consistent poverty** measure (below 60 per cent median equivalised income and lacking 2 or more of the 11 deprivation items) should continue to be taken as the core poverty measure in setting targets. Consistent poverty has continued to perform well over time in identifying a group exposed to severe social exclusion. An emphasis on this measure also ensures that the focus in anti-poverty programmes continues to be on the group who are most severely affected. In the current recession, it would be particularly important not to divert scarce resources away from the consistently poor towards other targets where improvements may be easier to achieve, but which bring no improvements to the circumstances of those most severely affected by poverty. Those in consistent poverty accounted for 5.5 per cent of the population in 2009. We would suggest setting the primary, or 'first tier', poverty target with respect to this group.
2. A second tier target could be set with respect to the group **vulnerable to consistent poverty**, or with respect to the combined total of those in consistent poverty or in vulnerable to consistent poverty. Those vulnerable to consistent poverty have slightly higher incomes (between the 60 per cent and the 70 per cent at-risk-of-poverty thresholds) than the consistently poor, but with similar levels of deprivation. This group accounted for an additional 4.1 per cent of the population in 2009. A test of the success of anti-poverty programmes would be to reduce (or at least maintain) the size of this group, while also reducing the consistent poverty rate. This group could be considered as the second 'tier' in setting poverty targets.

3. We would also suggest that the **persistent-at-risk-of-poverty** indicator be included in the second tier. This captures a dimension of the experience of poverty that is of central concern to policy. This is because long-term exposure to poverty is likely to result in the worst outcomes for those concerned, particularly persistent poverty in childhood (see review in Maître, Russell and Watson, 2011). This indicator shares some of the limitations of the ARP indicator, since it is based solely on income, but its strength is that it considers incomes over a four-year period rather than just in one year. One difficulty with this indicator from the perspective of poverty monitoring is that, due to the design of the SILC data, it is available for a much smaller sample than the other indicators discussed. We would recommend considering persistent-at-risk-of poverty as a second tier indicator for policy purposes.
4. The third tier would consist of a set of indicators which identify a larger group in the population and which are important in understanding changes and patterns in consistent poverty, vulnerability to consistent poverty and persistent poverty.
 - a. The first indicator in this third tier should be the **deprivation** indicator. Our results showed a strong link between deprivation and economic stress and between deprivation and risk factors for poverty (unemployment, disability, lower social class), even when the deprived do not have incomes below the at-risk-of-poverty threshold. We also saw that the deprivation rate began to increase sooner after the beginning of the recession than the at-risk-of-poverty rate. As such, it provides an important 'early warning' system of changes in living standards for those who are most vulnerable. It must be remembered, however, that not all of those who are deprived have low incomes; that deprivation may be arising for reasons other than lack of material resources. For this reason, we would propose treating deprivation, in the absence of low income (i.e. those vulnerable to consistent poverty) as a 'third tier' indicator for policy purposes.
 - b. A second supporting indicator in the third tier could be the **at-risk-of-poverty** (ARP) indicator. However we caution against giving priority to ARP in policy planning if this is done at the expense of consistent poverty. Our results show that those who are income poor, but not deprived, experience considerably lower levels of economic stress. Research on economic vulnerability (Whelan and Maître, 2010) shows that not all of those who are income poor belong to the economically vulnerable group. Nevertheless, ARP is an important indicator of the extent to which the lowest incomes are falling below the current median level. As such it identifies changes in the capacity of those with low incomes to meet the customary living standards in society. The ARP indicator provides an important indication of the adequacy of current social transfer programmes and taxation policy in ensuring the capacity to achieve a minimum standard of living. Like the indicator of deprivation, we would recommend treating the at-risk-of-poverty indicator as a third tier indicator of social exclusion.

- c. A third supporting indicator in the third tier could be based on the **ARP-anchored-in-time** (ARP-A) indicator. This would allow us to examine changes in the real incomes of those towards the bottom of the income distribution. Essentially, we would be asking what per cent of the population has equivalised incomes below the 60 per cent poverty threshold of the ‘anchor year’, adjusted for inflation (or deflation). The choice of the anchor year is important. If we choose a year (such as 2004) after which incomes rose faster than inflation, the ARP-A rate will be below the ARP rate, as we saw in Section 6. If we choose a year (such as 2008) after which incomes fell faster than inflation,²⁵ the ARP-A rate would be above the ARP rate.

For instance, if 2008 is taken as the anchor year, the ARP-A rate in 2009 would be 14.3 per cent – slightly higher than the 2009 ARP rate of 14.1 per cent. This illustrates that 14.3 per cent of the population in 2009 is in households with real incomes below the poverty threshold of the previous year. A case could be made for choosing 2008 as the anchor year, as it would highlight the impact of the recession on lower incomes. This is also the year that is taken as the base year for the EU 2020 targets.

²⁵ The median income fell by 3.1 per cent between 2008 and 2009, while the inflation rate for the same period was -1.7 per cent.

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Appendix

Appendix Table A2.1:

Factor Analysis of 39 Deprivation Items in the Irish SILC dataset, 2004-2009

	2004 structure matrix: Component				2005 structure matrix: Component				2006 structure matrix: Component			
	1	2	3	4	1	2	3	4	1	2	3	4
Cold	0.28	0.60	0.16	0.20	0.28	0.63	0.10	0.25	0.22	0.61	0.05	0.20
Shoes	0.27	0.64	0.06	0.06	0.23	0.62	0.05	0.11	0.24	0.60	0.04	0.04
Roast	0.38	0.69	0.12	0.10	0.30	0.66	0.08	0.09	0.31	0.62	0.06	0.08
Meal	0.29	0.66	0.14	0.07	0.24	0.64	0.06	0.11	0.19	0.59	0.03	0.00
Clothes	0.33	0.68	0.14	0.13	0.34	0.64	0.15	0.16	0.28	0.64	0.10	0.06
Coat	0.20	0.61	0.07	0.01	0.21	0.60	0.03	0.06	0.18	0.57	0.00	0.03
Warm	0.28	0.62	0.17	0.13	0.22	0.67	0.12	0.19	0.19	0.60	0.10	0.20
Furniture	0.41	0.63	0.13	0.27	0.39	0.63	0.09	0.27	0.29	0.62	0.13	0.25
Friends	0.43	0.66	0.08	0.26	0.43	0.67	0.04	0.25	0.34	0.63	0.05	0.23
Evening out	0.32	0.59	0.05	0.31	0.31	0.57	-0.02	0.25	0.22	0.60	0.01	0.21
Presents	0.40	0.58	0.16	0.07	0.34	0.61	0.09	0.10	0.29	0.53	0.12	0.11
Holiday	0.51	0.54	0.08	0.33	0.46	0.55	0.04	0.29	0.41	0.59	0.07	0.28
Phone	0.44	0.41	0.15	0.17	0.41	0.44	0.05	0.27	0.34	0.45	0.04	0.25
PC	0.67	0.37	0.04	0.25	0.65	0.38	-0.02	0.26	0.63	0.42	0.01	0.26
Satellite dish	0.62	0.33	0.07	0.19	0.61	0.38	0.03	0.22	0.58	0.41	0.07	0.18
Video	0.65	0.27	0.19	0.05	0.65	0.29	0.15	0.10	0.67	0.26	0.15	-0.01
Stereo	0.71	0.26	0.18	0.03	0.68	0.29	0.13	0.08	0.71	0.25	0.18	0.03
CD	0.71	0.27	0.16	0.09	0.70	0.30	0.12	0.08	0.68	0.25	0.16	0.05
Camcorder	0.69	0.36	0.03	0.24	0.68	0.37	-0.02	0.26	0.67	0.40	0.01	0.22
Dryer	0.61	0.39	0.12	0.18	0.65	0.37	0.09	0.21	0.62	0.38	0.09	0.16
Dishwasher	0.68	0.41	0.07	0.23	0.69	0.41	0.03	0.25	0.68	0.40	0.04	0.24
Vacuum	0.52	0.34	0.22	-0.07	0.51	0.28	0.26	0.03	0.51	0.30	0.19	0.00
Fridge/Fr	0.51	0.30	0.13	-0.07	0.48	0.16	0.13	-0.02	0.51	0.14	0.12	-0.05
Freezer	0.63	0.30	0.05	0.05	0.57	0.28	0.10	0.06	0.64	0.23	0.04	0.12
Microwave	0.60	0.28	0.20	-0.01	0.58	0.16	0.24	-0.04	0.58	0.19	0.13	-0.02
Fryer	0.64	0.25	0.15	-0.03	0.66	0.25	0.17	-0.03	0.68	0.17	0.06	0.00
Liquidiser	0.68	0.35	0.03	0.07	0.70	0.32	0.07	0.05	0.70	0.31	0.00	0.14
Food processor	0.68	0.36	0.02	0.10	0.70	0.34	0.06	0.08	0.70	0.32	0.01	0.16
Car	0.32	0.38	0.06	0.24	0.32	0.38	0.02	0.24	0.26	0.39	0.00	0.24
Wash	0.44	0.25	0.31	-0.06	0.46	0.17	0.31	0.01	0.48	0.18	0.21	-0.09
Bath	0.09	0.09	0.86	-0.02	0.13	0.05	0.85	0.03	0.09	0.03	0.85	0.01
Toilet	0.04	0.05	0.79	0.01	0.12	0.05	0.78	0.01	0.06	-0.01	0.77	0.02
C Heat	0.25	0.25	0.58	0.15	0.25	0.23	0.53	0.19	0.21	0.19	0.56	0.12
Hot water	0.13	0.13	0.82	-0.01	0.15	0.12	0.79	0.04	0.09	0.09	0.79	0.04
Leak	0.18	0.24	0.31	0.38	0.16	0.26	0.23	0.43	0.14	0.18	0.20	0.39
Dark	0.15	0.20	0.28	0.33	0.11	0.18	0.19	0.37	0.10	0.15	0.17	0.37
Pollution	0.02	0.04	-0.01	0.61	0.01	0.05	-0.01	0.64	-0.01	0.02	-0.03	0.64
Crime	0.02	0.13	-0.02	0.61	0.02	0.12	-0.05	0.62	0.01	0.14	-0.04	0.60
Noise	0.07	0.09	0.00	0.71	0.07	0.11	-0.02	0.70	0.01	0.08	-0.05	0.69

Table 2A.1 (Continued)

	2007 structure matrix: Component				2008 structure matrix: Component				2009 structure matrix: Component			
	1	2	3	4	1	2	3	4	1	2	3	4
Cold	0.20	0.60	0.04	0.19	0.18	0.63	0.04	0.19	0.26	0.58	0.05	0.27
Shoes	0.25	0.59	0.01	0.16	0.23	0.54	0.06	0.14	0.22	0.60	0.01	0.03
Roast	0.29	0.65	0.07	0.09	0.31	0.66	0.12	0.06	0.29	0.65	0.12	0.09
Meal	0.21	0.58	0.06	0.09	0.23	0.64	0.10	0.05	0.22	0.64	0.14	0.04
Clothes	0.33	0.62	0.12	0.10	0.33	0.61	0.09	0.17	0.26	0.61	0.03	0.16
Coat	0.20	0.57	0.01	0.14	0.16	0.56	0.10	0.08	0.14	0.57	0.01	0.04
Warm	0.21	0.58	0.10	0.15	0.22	0.58	0.09	0.19	0.29	0.62	0.03	0.20
Furniture	0.31	0.63	0.05	0.23	0.39	0.65	0.06	0.26	0.32	0.58	-0.05	0.37
Friends	0.35	0.66	0.03	0.22	0.35	0.61	0.07	0.20	0.37	0.57	0.03	0.36
Evening out	0.22	0.57	-0.01	0.21	0.20	0.61	0.03	0.19	0.26	0.56	0.02	0.35
Presents	0.27	0.57	0.14	0.04	0.34	0.57	0.14	0.05	0.34	0.48	0.03	0.13
Holiday	0.39	0.58	0.03	0.25	0.38	0.55	0.06	0.23	0.35	0.51	0.00	0.42
Phone	0.29	0.49	-0.03	0.09	0.29	0.47	0.03	0.18	0.40	0.39	0.00	0.32
PC	0.62	0.44	-0.03	0.14	0.57	0.38	0.02	0.13	0.54	0.30	0.02	0.31
Satellite	0.58	0.39	-0.01	0.10	0.52	0.37	0.03	0.08	0.58	0.33	0.01	0.28
Video	0.65	0.26	0.10	-0.04	0.64	0.28	0.08	-0.07	0.63	0.30	0.05	0.06
Stereo	0.71	0.30	0.07	-0.06	0.71	0.25	0.08	-0.09	0.65	0.27	0.06	0.01
CD	0.68	0.30	0.08	-0.03	0.71	0.26	0.08	-0.06	0.65	0.25	0.09	-0.01
Camcorder	0.66	0.44	-0.04	0.17	0.64	0.38	0.02	0.12	0.63	0.35	0.05	0.31
Dryer	0.58	0.40	0.02	0.12	0.62	0.47	0.04	0.20	0.58	0.39	0.00	0.27
Dishwasher	0.65	0.46	-0.03	0.20	0.66	0.46	0.03	0.21	0.61	0.40	0.01	0.31
Vacuum	0.51	0.23	0.17	0.03	0.50	0.20	0.08	0.04	0.51	0.31	0.05	-0.05
Fridge/Fr	0.51	0.17	0.09	0.01	0.35	0.16	0.08	0.09	0.40	0.18	0.03	0.07
Freezer	0.62	0.30	0.02	0.15	0.54	0.29	0.04	0.16	0.48	0.20	0.01	0.18
Microwave	0.56	0.17	0.15	0.04	0.48	0.12	0.02	0.07	0.46	0.13	0.06	-0.08
Fryer	0.67	0.17	0.06	0.09	0.61	0.18	0.05	0.12	0.67	0.14	0.06	0.03
Liquidiser	0.73	0.30	0.02	0.18	0.69	0.29	0.02	0.19	0.72	0.24	0.06	0.12
Food processor	0.73	0.34	0.01	0.18	0.68	0.32	0.02	0.19	0.68	0.25	0.05	0.16
Car	0.22	0.41	-0.01	0.10	0.31	0.47	0.13	0.16	0.32	0.38	0.02	0.36
Wash	0.46	0.16	0.14	-0.02	0.39	0.15	0.13	-0.03	0.36	0.13	0.03	0.01
Bath	0.05	0.02	0.81	0.01	0.02	0.02	0.95	0.04	-0.01	0.01	0.93	0.05
Toilet	0.03	0.04	0.76	0.04	0.02	0.02	0.95	0.04	-0.01	0.00	0.93	0.04
C Heat	0.22	0.17	0.41	0.08	0.24	0.23	0.14	0.18	0.24	0.20	0.04	0.19
Hot water	0.07	0.04	0.76	0.04	0.07	0.10	0.26	0.00	0.07	0.06	0.10	0.03
Leak	0.13	0.25	0.20	0.42	0.13	0.28	0.06	0.38	0.12	0.17	0.03	0.42
Dark	0.09	0.17	0.17	0.45	0.07	0.17	0.09	0.35	0.11	0.14	0.06	0.36
Pollution	0.04	0.06	-0.03	0.65	0.04	0.03	-0.03	0.68	0.01	-0.02	0.01	0.53
Crime	0.05	0.16	-0.07	0.61	0.08	0.17	-0.04	0.60	0.00	0.12	-0.01	0.49
Noise	0.02	0.11	-0.02	0.70	0.06	0.09	0.01	0.73	0.05	0.09	0.03	0.60

Appendix Table A6.1: Association Between Deprivation Items in 2009 Module and Dimensions of Deprivation (% lacking each item)

	Deprived or not Deprived on each Dimension of Deprivation (threshold – number of items –shown in parentheses)							
	Basic (2)		Secondary (4)		Housing facilities (2)		Housing/Neighbourhood (2)	
	No	Yes	No	Yes	No	Yes	No	Yes
Per who cannot afford / lack								
Internet access	4%	29%	4%	43%	7%	18%	7%	15%
Spend money on self	12%	53%	15%	50%	18%	26%	18%	28%
Leisure activities	2%	34%	4%	36%	7%	16%	7%	17%
Overcrowding	2%	10%	3%	10%	3%	7%	3%	9%
Shortage of space	14%	26%	15%	25%	15%	27%	14%	30%
Must leave dwelling	3%	7%	3%	6%	3%	7%	3%	11%
Must leave – financial	1%	3%	1%	2%	1%	1%	1%	1%
Litter in area	22%	39%	24%	38%	25%	27%	21%	56%
Vandalism in area	13%	29%	15%	27%	16%	15%	12%	44%
Access – public transport	26%	22%	26%	25%	25%	33%	26%	20%
Access – bank	25%	24%	24%	33%	24%	33%	25%	23%
Access – post office	18%	17%	18%	22%	18%	23%	18%	19%
Mobile telephone	2%	7%	2%	9%	2%	5%	2%	4%
Average for existing items in each scale								
Basic 11 items	1%	30%	3%	20%	2%	5%	8%	18%
Secondary (19) items	4%	27%	3%	33%	5%	15%	6%	12%
Housing facilities (4) items	6%	13%	5%	15%	0%	27%	9%	17%
Housing/Neighbourhood items (5)	6%	13%	6%	12%	2%	5%	5%	49%

Source: SILC 2009, analysis by authors.

Interpretation: figures show the percentage deprived on each item according to whether they are deprived on each Dimension of deprivation (See Section 2.5 for items in each dimension)

Glossary

At-risk-of-poverty thresholds: income thresholds derived as proportions of median income. These are based on the household income adjusted for household size and composition (referred to as equivalised income). A household at-risk-of-poverty has an adjusted (or equivalised) income below 60 per cent of the median adjusted household income. The at-risk-of-poverty rate takes account of household income from all sources, number of adults and number of children in the household. There are some minor differences in the income concept and the equivalence scale between the Irish and EU measures of at-risk-of-poverty.

At-risk-of-poverty: a term used at EU level to denote whether a household's income falls below the 60 per cent of median income threshold.

At-risk-of-poverty or exclusion: this EU measure combines three separate indicators: the number of people who experience at-risk-of-poverty or severe material deprivation or low work intensity. It is the basis for the Europe 2020 poverty target. In cases where people experience more than one of these indicators, they are counted only once. The Irish version of this measure is the combination of at-risk-of-poverty and basic deprivation.

At-risk-of-poverty anchored at a moment in time: the proportion of people with an equivalised disposable income below the at-risk-of-poverty threshold calculated in survey year N, adjusted by inflation over subsequent years. It essentially measures the percentage of the population falling below an income poverty threshold of an earlier year, after accounting for the effects of inflation. This indicator is also referred to as an **absolute measure of poverty** which reflects changes in fixed living circumstances, as distinct from changes in relative living standards.

Basic deprivation: people who are denied - through lack of income – at least 2 items or activities on this index / list of 11 are regarded as experiencing relative deprivation. This is **enforced deprivation** as distinct from the personal choice not to have the items. 11 basic items are used to construct the deprivation index:

- unable to afford two pairs of strong shoes
- unable to afford a warm waterproof overcoat
- unable to afford new (not second-hand) clothes
- unable to afford a meal with meat, chicken or fish (vegetarian equivalent) every second day
- unable to afford a roast joint or its equivalent once a week
- without heating at some stage in the last year through lack of money
- unable to afford to keep the home adequately warm
- unable to afford to buy presents for family or friends at least once a year
- unable to afford to replace any worn out furniture Unable to afford to have family or friends for a drink or meal once a month
- unable to afford a morning, afternoon or evening out in the last fortnight for entertainment.

The indicator **of basic deprivation** was developed by the Economic and Social Research Institute using data from the CSO *Survey on Income and Living Conditions*. See Maître B, Nolan B and Whelan C (2006) *Reconfiguring the measurement of deprivation and consistent poverty in Ireland*, Dublin: ESRI, for further information on the indicator.

Confidence interval: whenever we use data from a probability sample to draw conclusions about the population, there is a degree of uncertainty around our estimates. This is often reported as a confidence interval. This is the range within which we can be 95% confident that the population figures lies. For instance, recent calculations of the persistent-at-risk-of-poverty rate show a rate of 9.5 per cent (Confidence Interval ± 1.7 per cent). This means that we can be 95% confident that the 'true' rate in the population lies between 7.8 per cent and 11.2 per cent (i.e. between 9.5-1.7 per cent and 9.5+ 1.7 per cent). In general, for a smaller sample size the confidence interval will be wider.

Consistent poverty: population who are both at-risk-of-poverty (see above) and in basic deprivation (see above). This is a measure of poverty is used to set the national poverty target in the *National Action Plan for Social Inclusion 2007-2016* (NAPinclusion).

Cronbach's alpha: a measure of reliability (i.e. internal consistency). It informs us how closely related a set of items are as a group.

Economic vulnerability: a measure of the economic situation of a household based on whether it is at-risk-of-poverty, experiences enforced basic deprivation and has difficulty making ends meet.

Employment rate: the proportion of the working-age population that is working.

Equivalence scales: a set of relativities between the needs of households of differing size and composition, used to adjust household income to take into account the greater needs of larger households. In Ireland the national scale attributes a weight of 1 to the first adult (aged 14+) and 0.66 to each subsequent adult and a weight of 0.33 to each child. International comparisons such as the one done by Eurostat uses the Modified OECD scale which attributes a weight of 1 to the first adult (aged 14+) and 0.5 to each subsequent adult and a weight of 0.3 to each child.

EU 15: Member States of the European Union prior to the accession of 10 new member states on 1 May 2004, i.e. Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden, United Kingdom.

EU 25: Member States of the European Union after the accession of 10 new member states on 1 May 2004, i.e. EU 15 plus Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, Slovenia.

EU 27: Member States of the European Union since 1 January 2007, namely EU25 plus Bulgaria and Romania.

EU-SILC: European Union Statistics on Income and Living Conditions; this is a voluntary household survey carried out annually in a number of EU member states allowing comparable statistics on income and living conditions to be compiled. In Ireland, the Central Statistics Office (CSO) have been conducting the survey since 2003. The results are reported in the *Survey on Income and Living Conditions* (SILC). Any data as compiled by Eurostat and any reference to the questions or questionnaire in the household survey is here referred to as 'EU-SILC'.

European Socio-economic Classification (ESeC): an occupationally based classification but has rules to provide coverage of the whole adult population. The information required to create ESeC is:

- occupation coded to the minor groups (i.e. 3-digit groups) of EU variant of the International Standard Classification of Occupations 1988 (ISCO88 (COM))
- details of employment status, i.e. whether an employer, self-employed or employee;
- number of employees at the workplace
- whether a worker is a supervisor.
- economic sector (agriculture or other industries).

Factor analysis: a statistical technique to see whether a number of variables of interest (such as deprivation items) are linearly related to a smaller number of unobservable factors (such as dimension of deprivation).

Household: usually defined for statistical purposes as either a person living alone or a group of people (not necessarily related) living at the same address with common housekeeping arrangements – that is, sharing at least one meal a day or sharing a living room or sitting room.

Household equivalent (or equivalised) income: household income adjusted to take account of differences in household size and composition by means of equivalence scales.

Inactive: inactive population is the working-age population that is not in the labour force.

Labour force participation: a measure of the proportion of the working-age population that engages actively in the labour market, either by working or looking for work.

LIIS: *Living in Ireland Survey*, a household survey carried out by the Economic and Social Research Institute between 1994 and 2001.

Lone parent: a parent who has primary custody of a dependent child and is not living with the other parent.

Low work intensity: this measure of poverty is used in defining the at risk of poverty or exclusion indicator for the EU poverty target. It is the proportion of people aged 0 to 59 living in households characterised by '**very low work intensity**'; that is, in households in which working-age adults (aged 18 to 59) have worked less than 20 per cent of their total work-time potential during the previous 12 months.

The work intensity of the household refers to the ratio between the number of months that all working age household members worked during the income reference year and the total number of months that could theoretically have been worked by the same household members. A working age person is defined as a person aged 18 to 59, not being a student aged between 18 and 24.

Material deprivation: this EU indicator measures the proportion of the population lacking at least three out of the following nine items on the EU index of material deprivation:

- arrears on mortgage or rent payments, utility bills, hire purchase instalments or other loan payments
- capacity to afford paying for one week's annual holiday away from home
- capacity to afford a meal with meat, chicken, fish (or vegetarian equivalent) every second day
- capacity to face unexpected financial expenses [set amount corresponding to the monthly national at-risk-of-poverty threshold of the previous year]
- household cannot afford a telephone (including mobile phone)
- household cannot afford a colour TV
- household cannot afford a washing machine
- household cannot afford a car
- ability of the household to pay for keeping its home adequately warm.

Mean: the average value (for example, the average income in a sample obtained via household survey).

Median: the value that divides a sample in half (e.g. the income level above and below which half the people in a sample fall).

Population living in jobless households: proportion of people living in jobless households, expressed as a share of all people in the same age group.

Poverty and Social Exclusion: these terms are defined broadly in the *National Action Plan for Social Inclusion 2007-2016* (NAPinclusion) as follows: 'People are living in poverty if their income and resources (material, cultural and social) are so inadequate as to preclude them from having a standard of living which is regarded as acceptable by Irish society generally. As a result of inadequate income and resources people may be excluded and marginalised from participating in activities which are considered the norm for other people in society.' The two concepts are very similar when used in Irish policy-making but poverty is sometimes used in the narrower context to refer to low income (or wealth). On the other hand, social exclusion is almost always used in the broader sense, to refer to the inability to participate in society because of a lack of resources that are normally available to the general population.

Reliability: the extent to which a set of items is measuring a single underlying construct. For example, the extent to which the 11 items in the basic deprivation scale are all capturing basic deprivation. It is usually measured by Cronbach's alpha.

Severe material deprivation: this EU indicator measures the proportion of the population lacking at least 4 out of the 9 items listed in the EU index of material deprivation (see definition above).

SILC: In Ireland, the Central Statistics Office (CSO) are responsible for carrying out the EU-SILC survey. They often produce data and analysis in accordance with Irish national poverty targets, indicators and related issues. These results are reported in the *Survey on Income and Living Conditions* (SILC). There are a number of additional items on the Irish SILC that are not included on the EU-SILC core questionnaire. Any data or analysis that is sourced specifically from the CSO is here referred to as ‘SILC’.

Validity: the extent to which a measure is identifying the construct we are interested in. Sometimes a distinction is made between:

- Face validity (the items appear, on the ‘face’ of it) to measure the construct we are interested in and
- Construct validity: the measure is related to other characteristics in the way we would expect. This is sometimes divided into:
 - **convergent validity:** the measure is positively associated with things we would expect it to be associated with (e.g. deprivation is associated with low income);
 - **discriminant validity:** the measure is distinct from other indicators that may be related but are not the same, e.g. At-risk-of- poverty is distinct from economic stress – they are related, but not identical.

Vulnerable to consistent poverty: this is indicator of poverty used to measure the proportion of the population which experiences basic deprivation (lacks 2 or more of 11 deprivation items) and has an income between 60 per cent and 70 per cent of the median. This indicator is intended to identify the proportion of the population who are on the verge of becoming consistently poor.