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Analysis of EU-SILC 2009**

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***Reassessing the EU 2020 Poverty Target an Analysis of  
EU-SILC 2009***

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## Abstract

As part of its 2020 Strategy adopted, the EU has set a number of headline targets including one for poverty and social exclusion reduction. Our analysis in this paper suggests that, in focusing on the union of the three chosen component indicators, cross-nationally we are not comparing like with like and the case for aggregating the indicators to produce a multidimensional indicator is seriously undermined. In relation to the measurement of deprivation, the development of this target was conducted on the basis of information available in the European Union Survey of Income and Living Conditions (EU-SILC) that was generally recognised to be less than satisfactory. More recently the introduction of a special module on material deprivation as part of EU-SILC 2009 provides an opportunity to explore the consequences of critical choices in relation to the index utilised and the threshold employed. In order to deal with problems relating to the fact that neither the union or intersection of all three of the current dimensions proves to be particularly useful, we explored a consistent poverty approach using both the EU severe material deprivation 4+ threshold and a 3+ and nationally relative threshold based on an alternative basic deprivation index. Employing the EU material deprivation index, extreme deprivation is largely abolished in more affluent member states. A purely relative measure produces much higher rates in these countries but leads to a compression of rates across counties. The basic deprivation 3+ index largely manages to avoid both of these problems.. Understanding the scale of between country difference countries while continuing to be able identify those groups who should remain the focus of national welfare state efforts is a formidable challenge. However, the capacity to respond to such a challenge in a coherent fashion is an indispensable part of any attempt to develop EU poverty targets.

## **1. Introduction**

As part of its 2020 Strategy adopted in 2010, the EU has set a number of headline targets including one for poverty and social exclusion reduction over the next decade. This is the first time these indicators have been combined to identify an overall target group “at risk of poverty and exclusion”. The population identified in framing the target is persons in the Member States either below a country-specific relative income poverty threshold, above a material deprivation threshold, or in a “jobless” household.

In this paper we seek to take advantage of the availability of the special module on deprivation as part of EU-SILC 2009 in order to extend our earlier critique of the manner in which the poverty targets have been set (Nolan and Whelan, 2011). In so doing we continue to recognise that setting a poverty target is a major development in the role accorded to social inclusion in the EU and thus very important at the level of principle. Nevertheless if such targets are to prove valuable, the specific way the target itself has been framed, and the implications for approaches to implementing it, both require careful scrutiny.

### **1. The EU’s Poverty and Social Exclusion Reduction Target**

At the European Council held in June 2010 the EU member states endorsed a new EU strategy for jobs and smart and sustainable and inclusive growth, known as the Europe 2020 strategy. This fifth headline target relating to “promoting social inclusion in particular through the reduction of poverty” focuses on lifting at least 20 million people out of risk of poverty and social exclusion. Progress vis-à-vis this target for the Union as a whole will be monitored on the basis of a measure of the target population that incorporates three indicators referred to above, using data from EU-SILC. The indicators are combined to identify the target group in a manner that meeting *any* of the three criteria suffices for an individual to be included among those counted as poor or socially excluded. The relevant figure is the union

of the three outcomes. However, Member States are free to set national targets on the basis of what they consider to be the most appropriate indicator or combinations of indicators as long as they are in a position to demonstrate how these will contribute to the achievement of the overall EU-wide target.

Looking at each element in turn, the at-risk-of-poverty (ARP) indicator distinguishes persons living in households with less than 60% of the national median (equivalised) income. This *relative* measure of poverty remains the agreed headline indicator used to quantify poverty at the EU level (Atkinson *et al*, 2002, and European Commission, 2009). The widespread adoption of the terminology of social exclusion/inclusion in Europe reflects the concern *inter alia* that focusing simply on income misses an important part of the picture (Boarini and Mira d’Ercole, 2006, Ringen, 1988, Halleröd, 1995, Nolan and Whelan, 2011). The limitations of such measures are seen to have been exacerbated by the expansion of the EU and the scale of recent economic shocks (Fusco *et al* 2010, Whelan and Maître, 2010).

In this context the second and third components of the indicators underpinning the EU target indicator are intended to provide what are now seen as *absolute* measures of poverty, and cover broader aspects of social exclusion. The second element, material deprivation, is captured by the nine items included in the common material deprivation indicator adopted in 2009 (see Fusco *et al* 2010, Guio, 2009).<sup>1</sup> Importantly though, whereas the common indicator employs a threshold of 3, this element labelled, more recently labelled as *severe material deprivation*, counts only those reporting at least 4 out of 9 as adding to the count of those poor and socially excluded.

The component relating to household joblessness is based on the pre-existing common indicator of “work intensity”, based on the number of months spent at work over the previous 12 month period by household members aged 18 to 59 excluding students (see European

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<sup>1</sup> Our own preference would be for referring to the material deprivation indices as European level rather than absolute since the content continues to be shaped by what is customary in the society.

Commission 2009). For the purpose of the target a threshold of 20% has been adopted to distinguish “low” work intensity, in other words those in households where (relevant) members were in work for a fifth or less of the available time in aggregate in the year. Part of the rationale for employing these additional measures is that they are identified on the basis of common thresholds appropriate for Social Europe as a whole (EC, 2011:100).

Using EU-SILC data for 2008, focusing on the union of these criteria identifies 24.5% of the total population, or 120 million people, so the agreed target is to lift at least 20 million of these people out of “the risk of poverty and exclusion”. In terms of the individual elements, 17% of the population are at-risk-of-poverty in terms of the 60% of national median threshold, 8% are above that material deprivation threshold and a similar figure is counted by this low work intensity measure, The aggregate EU figure is a good deal less than the sum of the three indicators.

## **2. The Implications of a Multidimensional Approach**

Combining these three distinct indicators represents a multidimensional approach to identifying the target population. However, as Nolan and Whelan (2007, 2011) have argued the value of any such approach has to be demonstrated rather than assumed.

We now proceed to provide an assessment on both conceptual and empirical grounds, of the advantages and limitations of identifying the target population in this way. The elements requiring consideration are the choice of indicators, the way each is framed, and the manner in which they are then combined to produce a single poverty and social exclusion risk measure.

With the exception of the 2009 special module, the range of deprivation items available in EU-SILC is actually highly restricted and significantly inferior to those that were available previously in the European Community Household Panel (ECHP). As spelled out in the

European Commission (2011) report on *Employment and Social Development in Europe 2011* the current definition of material deprivation in the European poverty target speaks of an *enforced* lack of 4 items on a list of 9. These 9 items are themselves divided in two sub-dimensions, labelled ‘economic strain’ (the 5 first items) and ‘durable goods’ (the 4 last items). The focus is on enforced deprivation and the list covers the ability/inability to:

1. pay the rent, mortgage, or utility bills
2. keep the home adequately warm
3. face unexpected expenses
4. eat meat or protein regularly
5. go on holiday
6. not being able to afford to buy a television
7. not being able to afford to buy a washing machine
8. not being able to afford to buy a car
9. not being able to afford to buy a telephone.

As developed by Guio (2009), the choice of items is intended to build on the work of Townsend (1979) Mack and Lansley (1985). Following the latter, a particular emphasis has been placed on establishing through Eurobarometer studies that relevant items considered to be ‘socially perceived necessities’ (Dickes et al. 2010, and Fusco et al. 2010). However, even in a national context, the extent of consensus that actually exists across different social groups within a country may be limited (see the discussion in McKay 2004, Pantazis *et al*, 2006). In seeking to apply the approach across countries, this becomes even more problematic: the Eurobarometer results show for example that an annual holiday and a car which are included in the EU index, are regarded as necessities by less than half the population in a substantial number of EU countries, and by only a bare majority across the

EU27 as a whole: it seems problematic to take this as representing a social consensus across the EU that they are necessities.

The analysis set out in this paper is based on EU-SILC 2009 and takes advantage of the special module on material deprivation included in that wave. We focus first on the material deprivation index. Our own approach is also intended to follow in the Townsend tradition of understanding poverty as involving exclusion from the life of one's society because of a lack of resources. Our focus therefore has been on what we label 'generalised' rather than 'specific' deprivation due to lack of resources. Our expectation is that those experiencing the former will experience higher levels of the latter while the reverse is not necessarily true. We also anticipate that such deprivation will exhibit a distinct pattern of relationships to variables capturing command over resources and additional needs. Our preference is for focusing on such considerations relating to construct validity rather than information relating to socially perceived necessities.

Whatever theoretical stance is adopted, the limited range of items available in the annual EU-SILC are an inadequate basis for constructing indices that could adequately capture the concept of poverty as exclusion from customary standards of living. In what follows we will endeavour to see to what extent the current EU-index can be improved upon by making use of EU-SILC 2009 special module on material. Here we draw attention to some of the issues associated with the current index that require further scrutiny. The first relates to the fact that items such as a TV, a washing machine and a telephone are almost universally available in more affluent societies. In addition, in order to construct an index of material deprivation it has been necessary to include items relating to arrears and coping with unexpected expenses. We would argue that such items relating to economic stress should be distinguished from material deprivation since questions relating to the relationship between these dimensions should play an important role in validity assessment. Significant evidence is available that the



relation between material deprivation indicators as such and subjective economic stress varies systematically across countries by level of affluence with the impact of deprivation being greater in the more affluent countries (Whelan and Maître 2009, 2012). A final issue which requires consideration is the point at which the threshold is set. As the EU report on *Employment and Social Development in Europe 2011* notes, the threshold of 4 items to depict severe material deprivation has been chosen for a mixture of empirical and practical reasons since a previous threshold of 3 items had resulted in excessively high, and politically unmanageable, estimates of levels of deprivation across the EU (EU. 2001: 104).

The rationale underlying the inclusion of an indicator of work intensity as part of the set of indicators relating to poverty and social exclusion is that tackling labour market exclusion is critical in promoting active participation in society (EC, 2011). It also involves recognition that ‘having a job remains the best safeguard against poverty and exclusion’ (European Commission 2010). While it would be difficult to dispute either of these claims, from the point of view of developing indicators and targets, the crucial question is whether the addition of this indicator adds to our ability to identify those exposed to poverty and social exclusion.

### **The Distribution of Poverty and Social Exclusion Using the EU Poverty Target Indicators**

We now proceed to investigate such variation with respect to the target population underlying the EU target and its component parts, using data from EU-SILC 2009. We start in Table 1 by presenting the percentage in each country ‘at-risk-of-poverty’ in the sense of being below the 60% of median relative income threshold. For ease of interpretation countries have been ranked in terms of their gross national disposable income per head (GNDH). This provides a familiar picture. The highest rates (of 22-26%) are seen in some of the New Member States including Estonia, Latvia, Romania and Bulgaria, the next highest levels are observed for the

southern European countries, and at the other end of the spectrum the Netherlands and Scandinavian countries have relatively low rates of 10-13 per cent. However, the Czech Republic, Slovenia and Slovakia enjoy even lower rates ranging from 9-11%. The overall extent of cross-national variation is relatively modest, and the association between the poverty indicator and average national levels of prosperity is rather weak.

The second column of Table 1 shows the impact on the size of the target population of adding to column (i) those who are deprived on 4 or more items on the 9-item material deprivation scale but who are not below the 60% income threshold. In the Scandinavian countries, the Netherlands, Luxembourg and the UK this adds no more than 1% to the target population. For Germany, Austria, Belgium Germany and Finland the figure is approximately 2%. For virtually the whole of affluent Northern Europe the union of at risk of poverty and material deprivation identifies almost the same group of people captured by the income poverty measure taken on its own. At the other extreme, in Romania, Bulgaria and Hungary the target population is approximately doubled. The rate for the union of relative income poverty and material deprivation ranges from a low of 12 per cent in the Netherlands to a high of 41 per cent in Romania. The addition of the deprivation criterion thus produces much sharper variation across countries but this mainly involves a polarization between a sub-set of New Member States and the remaining countries. This outcome is an entirely predictable consequence of the high deprivation threshold and the extremely low levels of deprivation on some of the constituent items.

	(i) Below 60% of Median Income	(ii) Below 60% of Median or Above Deprivation Threshold 4+	(iii) Below 60% of Median or Above Deprivation Threshold 4+ or Below Work Intensity Threshold 0.2
	%	%	%
Luxembourg	14.9	15.1	17.9
Netherlands	11.1	11.9	15.1
Sweden	13.3	14.1	16.7
Austria	12.0	14.3	16.7
Denmark	13.1	14.3	18.0
Germany	15.5	17.8	19.8
Belgium	14.6	16.6	19.9
Finland	13.8	15.0	16.8
UK	17.3	18.1	25.3
France	12.9	15.6	18.2
Spain	19.5	22.4	24.0
Ireland	15.0	18.6	28.2
Italy	18.4	21.7	24.5
Cyprus	16.2	20.8	22.3
Greece	19.7	24.6	28.1
Slovenia	11.3	15.1	17.2
Czech Republic	8.6	12.2	13.9
Malta	15.1	17.8	20.2
Slovakia	11.0	18.1	19.7
Estonia	19.7	22.4	23.4
Hungary	12.4	24.6	28.1
Poland	17.1	25.8	31.2
Lithuania	20.6	28.6	29.7
Latvia	25.7	36.7	37.8
Romania	22.4	41.2	43.3
Bulgaria	21.8	45.4	46.1
EU 27 Countries (Weighted)	16.3	20.4	23.8

In column (iii) we add those living in households where the level of work intensity is less than 0.20 who have not already been captured by the relative income and material deprivation criteria. For 22 countries this produces only modest increases in the size of the target population ranging from 1 to 3%. Somewhat larger increases of 4 and 6% are observed for Greece and Poland. The UK and Ireland poverty prove to be quite exceptional with additions respectively of 7 and 10%. The overall variation in the size of the target population is now from 14% in the Czech Republic to 43 % in Romania – a smaller range than in column (ii). Introducing the work intensity criterion produces less rather than more differentiation of countries in terms of the overall number at risk of poverty and social exclusion.

If being at risk of poverty and social exclusion is thought of as involving variable unions of these three elements then the phenomena being captured by quite distinctive combinations of outcomes in different countries. For most of the more affluent Northern Europe countries, together with the former the Czech Republic, Slovakia and Slovenia and Estonia, the head count is driven by the ARP measure. For Ireland and the UK this final measure plays a much more substantial role. In Italy and Greece we observe some non-trivial increases relating to the additional elements. For the remaining Eastern European countries we see substantial increases associated with the material deprivation component but little further impact of the work intensity measure. It is difficult to be persuaded that, when considering variable combinations of these outcomes, that we are comparing like with like.

We now look at the changing profiles of the target groups as conditions are added. Here we focus on social class composition measured using the European Socio-economic Classification (ESeC) (Rose and Harrison, 2010). If poverty is understood as exclusion from customary standards of living due to lack of resources, one would expect to observe an unambiguous relationship between social class and poverty (Whelan and Maître, 2008). Since country-by-country analysis produces a profusion of figures, we look at this in Table 2 for the EU as a whole. This shows first the social class profile of those below the 60% relative income threshold. We see that over 50% are drawn from the working class, while a further 24% are in the farming and petit bourgeois classes, with only 10% in the professional and managerial classes. Focusing then in column (ii) on those added to the target population because they are above the deprivation threshold, we see a somewhat different pattern. The number in the working class is substantially higher at 64%, while the farming/petit bourgeoisie group now comprise only 10%. Thus the hierarchical dimension of class stratification is more important for this group, while membership of the classes comprising small property owners is less common. When we focus in column (iii) on those added by the

work intensity criterion we see a social class distribution that contrasts quite sharply with each of the other two groups. In this case 25% are drawn from the professional and managerial classes, almost two and a half times higher than in either column (i) or (ii). Only 45% are drawn from the working class.; a figure which is identical to that for the white collar classes as a whole. This group is substantially less differentiated in social class terms than either of the other two: while adding the deprivation criterion sharpens the overall pattern of class differentiation in the target group, inclusion of the work intensity criterion dilutes it. The above findings lead us to question the value derived from the adding the work intensity index.

*Table 2: Social Class Composition of Elements of EU Poverty Target Group (population weighted)*

	Below 60% of Median Income	Above Deprivation Threshold 4+ but not Below 60% of Median Income	Work Intensity < 0.20 but Not Above Deprivation Threshold 4+ or Below 60% of Median Income
	%	%	%
<i>HRP Social Class</i>			
Higher Salariat (ESeC Class 1) Reference Category	4.5	3.8	12.1
Lower Salariat (ESeC Class 2)	5.7	7.9	13.5
Higher Grade white & blue collar (ESeC classes 3 & 6)	12.4	13.4	19.5
Petit Bourgeoisie (ESeC Class 4)	13.0	5.3	5.7
Farmers (ESeC Class 5)	11.1	5.4	4.3
Lower Grade white & blue collar (ESeC classes 7 & 8)	25.9	33.2	25.0
Semi & non-skilled workers (ESeC class 9)	27.4	30.9	19.8
Total	100	100	100

### **3. The Implications of the Choice of Material Deprivation Measured and Threshold**

While the inclusion of the material deprivation element improves the identification of the target group, this occurs despite the fact that the specific measure used has several weaknesses. The first relates to the inclusion in the 9-item index of several items relating to housing facilities where the numbers deprived approach zero in the more affluent countries. The fact that this choice is accompanied by selection of an extremely high threshold leads inevitably to obscuring socio-economic differences within such societies (Whelan and Maître, 2010). It is thus worth exploring whether alternative material deprivation could do a better job.

The availability of the special module on material deprivation in EU-SILC 2009 affords us the opportunity to improve on the indices constructed using the earlier rounds. Elsewhere we have conducted a factor analysis at the household level of 24 deprivation items included in

the 2009 special module. In light of the results of this analysis and our prior theoretical expectations we identified six distinct dimensions of deprivation which we label basic, consumption, housing facilities, health, neighbourhood and access to public facilities (Whelan and Maître, forthcoming). Our focus here is on basic deprivation which, as shown in Figure 1, comprises items relating to enforced absence of a meal, clothes, a leisure activity, a holiday, a meal with meat or a vegetarian alternative, adequate home heating, shoes. This dimension captures enforced deprivation relating to relatively basic items. The factor loadings range from 0.761 for the leisure item to 0.412 for the shoes item. This dimension is highly reliable and almost uniformly so across the EU member States. The overall Chronbach alpha at household level is 0.85 and the average across countries 0.80.<sup>2</sup> We have deliberately chosen not to include items relating to economic stress such as arrears or inability to cope with unanticipated expenses. A separate index relating to such stress can be constructed comprising items relating to difficulty in making ends meet, inability to cope with unanticipated expenses, arrears and housing costs being a burden was identified. This index has an alpha reliability of 0.70 at household level and an average reliability across countries and correlates with the basic deprivation at a level of 0.65.

<i>Figure 1 : Basic Deprivation Items in EU SILC 2009</i>
HRP_leisure
HRP_meal
HRP_money
HRP_clothes
Replace furniture
Holiday
Meals with meat, etc
Home adequately warm
Shoes

<sup>2</sup> Portugal has been excluded from this analysis because missing values on the basic deprivation items.

Setting a deprivation threshold inevitably has an arbitrary element. We have chosen a threshold of 3+ in relation to the basic deprivation index because this brings us as close as is possible with a discrete threshold to a cut off equivalent to that achieved by a 60% income threshold set at the EU rather than the national level. This leads to an EU benchmark for basic deprivation that, in principle, allows for perfect overlap between those identified by the income and deprivation thresholds. The number of individuals in EU countries (excluding Portugal) above the 3+ threshold is 22.2 % which is close to the figure of 23.4% above an EU calibrated 60% income poverty line. It is substantially higher than the figure of 8.5% for the EU material deprivation threshold but slightly lower than the figure of 23.8% for the EU poverty target.

In order to explore further the consequences of choice of material deprivation index and threshold in Table 3 we distinguish four groups and show their distribution across country:

- 1) Those neither above the 4+ threshold nor the basic 3+ cut off point the;
- 2) Those above the threshold the basic deprivation threshold but not EU material deprivation cut off;
- 3) Those above the latter but not the former;
- 4) Those both in the EU above both thresholds

The total experiencing some form of deprivation ranges from 4% in Sweden to 71% in Bulgaria. Outside of Bulgaria and Romania the next highest figures are 53% for Hungary and 48% for Latvia. Column (iii) of Table 3 identifying those above the EU material deprivation can largely be ignored since the levels range from 0.1% in Luxembourg to 1.4% in Ireland

As a consequence the figures for those above the basic deprivation threshold only are very close to those relating to those above either threshold. For Sweden and Bulgaria the respective figures are 3% and 70%. Outside Bulgaria and Romania the levels are highest in



Hungary and Latvia with respective levels of 51% and 47%. Combining columns (iii) and (iv) gives the total above the material deprivation threshold. Consistent with our earlier analysis of the EU poverty target this produces levels of deprivation of 6% or below for 16 of the 23 countries. The overall level of basic deprivation is substantially higher than for the EU material deprivation index but is a prerequisite of successfully identifying both a non-trivial minority of deprived individuals and capturing cross-national variability. Given that they identify similar numbers of individuals it is interesting to compare outcomes using both the basic deprivation threshold and the EU poverty indicator.

*Table 3: Basic and SU Material Deprivation Typology by Country EU-SILC 2009*

	Deprived on Neither	Deprived on Basic 3+ only	Deprived on EU Material Deprivation 4+ Only	Deprived on Both
	%	%	%	%
Luxembourg	92.6	6.3	0.1	1.0
Netherlands	94.1	4.5	0.2	1.2
Sweden	96.0	2.4	0.6	1.0
Austria	86.1	9.1	0.5	4.3
Denmark	94.5	3.2	0.6	1.7
Germany	79.7	15.1	0.4	4.8
Belgium	84.9	9.9	0.5	4.7
Finland	94.1	3.1	0.9	2.0
UK	84.4	11.1	0.8	3.8
France	82.0	12.4	0.2	5.4
Spain	79.9	13.9	0.9	3.0
Ireland	85.7	8.1	1.4	4.8
Italy	82.6	10.4	0.8	6.2
Cyprus	80.3	11.8	0.3	7.5
Greece	71.6	17.4	1.0	10.0
Slovenia	80.7	13.2	0.3	5.8
Czech Republic	82.2	11.7	0.3	5.9
Malta	68.9	26.5	0.1	4.6
Slovakia	72.3	16.5	1.0	10.1
Estonia	79.9	13.9	0.9	5.3
Hungary	47.4	31.8	1.1	19.7
Poland	67.2	17.9	1.0	14.0
Lithuania	60.9	24.0	0.4	14.6
Latvia	51.7	26.4	0.9	21.0
Romania	31.5	36.1	1.2	31.2
Bulgaria	29.3	28.9	0.6	41.2
EU 27 Countries (Weighted)	77.2	14.3	0.6	7.9

In Table 4 we create a typology by cross-classifying the basic deprivation dichotomy with the EU target dichotomy. This contrast between these four groups is brought out by looking at

how social class predicts into which group a person falls. Table 4 shows the results of a multinomial regression which takes group (i), those not in the EU target group or above our consumption deprivation threshold, as reference category. The estimated odds ratios then quantify the impact of social class on the odds on being in each of the three remaining groups relative to that benchmark category. If we look in the first column at the likelihood of being both in the EU target group and above our consumption deprivation threshold rather than in the reference category, we see a strong hierarchical class effect: as one moves from the higher professional managerial class to the semi and non-skilled manual class, the odds ratio rises gradually from 1 to 12 with the level for farmers being close to that for semi and non-skilled manual workers. When we focus in the column (ii) those above basic deprivation threshold but not in the EU target group, we observe a weaker but still marked class hierarchy effect, with the odds ratio gradually rising to 6 for the non-skilled class. In this case the farmers and the petit bourgeoisie are characterised by lower values than both working class groups. In the final column, we see a much weaker class hierarchy effect for those in the EU target group but below our consumption deprivation threshold, peaking at less than 4 for the semi-skilled & non-skilled workers whereas both of the propertied classes but particularly the farmers are most likely to be found in this group; with respective odds ratios of 4 and 7.

Table 4: Multinomial Regression of EU 1 of 3 Indicators and Basic Deprivation Typology on Social Class: Entire Sample			
	<i>In EU Target Group and Above Basic Deprivation Threshold</i>	<i>Above Basic Deprivation Threshold but Not In EU Target Group</i>	<i>In EU Target Group but Below basic Deprivation Threshold</i>
	Odds Ratio	Odds Ratio	Odds Ratio
<i>HRP Social Class</i>			
Higher Salarial (ESeC Class 1) Reference Category	1,000	1.000	1.000
Lower Salarial (ESeC Class 2)	1.549	1.556	1.134
Higher Grade white & blue collar (ESeC classes 3 & 6)	2.841	2.407	1.847
Petit Bourgeoisie (ESeC Class 4)	4.405	2.046	4.400
Farmers (ESeC Class 5)	11.745	3.778	6.696
Lower Grade white & blue collar (ESeC classes 7 & 8)	9.223	4.976	3.396
Semi & non-skilled workers (ESeC class 9)	12.389	5.823	3.605
Nagelkerke <sup>2</sup>	0.120		
Reduction in Log Likelihood	51,305		

As well as looking at the factors that influence both deprivation indices it also interesting to consider how they impact on relevant outcomes. Here we focus on a measure of economic stress constructed from a set of dichotomous items relating to difficulty in making ends meet, inability to cope with unanticipated expenses, structural arrears and housing costs being a burden. This measure has a Cronbach alpha reliability of 0.70 and an average alpha of 0.70 across counties. The measure employed in our subsequent analysis is a weighted prevalence measure standardised for scores to run from 0 to 1

One difficulty in assessing the relationship of the respective deprivation indices to the measure of economic stress is that the EU index includes items relating to arrears and inability to cope with unanticipated expenses. We proceed to exclude these items from this analysis. In Table 5 we report the results of an ordinary least squares regression with economic stress as the dependent variables with the seven item version of the EU material deprivation scale dichotomised at 3+ and the basic deprivation scale also dichotomised at 3+. Entering the basic deprivation dichotomy gives a standardised regression coefficient of 0.567

and an  $R^2$  of 0,322. The corresponding values for the EU material deprivation measure are 0.380 and 0.145. Entering the two variables together produces coefficients of 0.501 and 0.135 and an  $R^2$  of 0.338. Thus while both measures are significantly related to economic stress adding the EU material deprivation measure once the impact of the basic deprivation has been taken into account adds little in the way of explanatory power while the former adds substantially to the variance accounted for by the latter. The proportion of the variance accounted for uniquely by the EU measures is .016. For basic deprivation it rises to 0.193. The shared variance is 0.139.

*Table 5: OLS of Economic Stress on EU 7-Item Dichotomy (3+) and Basic Deprivation Dichotomy (3+)*

	Standardised B	Standardised B	Standardised B
Basic Deprivation Dichotomy	0.567	0.380	0.501
EU 7-item Material Deprivation			0.135
$R^2$	0.322	0.145	0.338
N	524,502	524,502	524,502
*** p< .001			

### **5. A 'Consistent Poverty' Approach?**

It is far from clear why low work intensity/joblessness should be included in identifying those “at risk of poverty and social exclusion”. However, combining relative income poverty and material deprivation, and focusing on the group where they overlap, is worth serious consideration. Such a measure has value either as an alternative way of identifying the overall target population in the EU target context or, perhaps more realistically now in the light of decisions already made at EU level, as a way of distinguishing a sub-set within that population which merits priority in framing anti-poverty policy. Some countries have combined national low income and deprivation indicators to identify the ‘consistently poor’,

notably Ireland in setting its national anti-poverty targets (see for example Noland and Whelan, 1996), and some comparative studies have combined income-based poverty measures with either relative deprivation measures or a common deprivation standard across the EU (see for example Forster, 2005, Guio, 2009, Nolan and Whelan, 2010, Whelan and Maître, 2010). Combining the relative income poverty and material deprivation elements used in identifying the EU target population is one possible application of such an approach. Here we also explore a variant utilising the basic deprivation in order to assess how much difference the choice of material deprivation indicator makes. It is also useful to include in the comparison a purely national consistent poverty measure, where the deprivation element is framed in country-specific relative terms by weighting each deprivation item according to the proportion of persons having the item in the country and deriving the deprivation threshold so the number above it matches the number below the relative income poverty line. In Table 6 we show the level of consistent poverty in each country for each of these three variants. The version incorporating the EU material deprivation measure with a 4+ threshold produces extremely low levels in the Scandinavian countries, Netherlands and Luxembourg, the only countries above 10 per cent are Latvia, Bulgaria and Romania, and the remaining rates are concentrated in the narrow range from 1-7 per cent. These results again reflect the choice of deprivation threshold and the negligible levels of deprivation on a number of the constituent items in the more affluent countries. The variant incorporating the basic deprivation index with a threshold of 3+ measure produces rather higher poverty rates, ranging from 1 per cent in Sweden to 21 per cent in Bulgaria and with a significantly greater degree of differentiation across countries. Finally, when the deprivation component of the consistent poverty measure is framed in national relative terms we observe more modest variation across countries, the range now being from 3 per cent in the Czech Republic and Denmark up to 13 per cent in Bulgaria. Twenty-one countries have rates in the narrow range

between 3-7 per cent. As one would expect when switching from a common deprivation standard across countries to country-specific reference points, consistent poverty levels are broadly similar in the more affluent countries with the exception of Denmark and Sweden where they are somewhat lower.

Despite the suggestion in the European Commission (2011) report on *Employment and Social Developments in Europe 2011* that the current EU material deprivation index is in the Townsend tradition, either singularly or in combination with income poverty, it entirely fails to capture the form of relative poverty involved in being poor in a rich country .. Allowing for the addition of those in low intensity work households who fulfil neither the material deprivation nor at-risk-of poverty conditions is not a solution because those identified appear to be a socially heterogeneous group.. The consistent poverty measure employing the basic deprivation threshold does identify such a minority in all countries while at the same time capturing a sharp pattern of differentiation across counties. A less stringent threshold would maintain this patterning while raising the poverty rates. A purely national measure is even more effective in capturing the poor and social excluded in rich societies. In this sense it is actually the approach most in line with the Townsend tradition. However, it reveals little in the way of systematic variation across countries.

Table 6: Alternative Consistent Poverty Measures by Country, EU-SILC 2008

	% Consistently Poor		
	EU Material Deprivation 4+	Basic Deprivation 3+	National Relative Basic Deprivation
	%	%	%
Luxembourg	0.9	4.1	7.3
Netherlands	0.6	2.0	3.2
Sweden	0.8	1.2	4.1
Austria	2.5	5.2	4.9
Denmark	1.1	1.7	4.1
Germany	2.9	8.4	7.1
Belgium	3.1	6.4	6.4
Finland	2.8	6.3	4.9
UK	2.6	6.2	6.8
France	1.7	2.3	5.4
Spain	1.8	5.7	10.7
Ireland	2.5	4.9	5.3
Italy	3.7	6.9	7.3
Cyprus	3.3	7.	7.0
Greece	6.1	12.2	10.5
Slovenia	2.3	5.0	3.7
Czech Republic	2.9	4.6	2.9
Malta	1.9	7.5	4.3
Slovakia	4.0	6.4	3.8
Estonia	3.5	7.9	8.0
Hungary	6.3	9.9	4.1
Poland	6.3	10.3	7.0
Lithuania	7.0	12.9	8.5
Latvia	10.9	18.5	12.4
Romania	13.6	19.1	8.8
EU 27 Countries (weighted)	2.6	6.2	6.8

## Conclusions

The population for the EU's central 2020 poverty and social exclusion reduction target is currently being identified via combining indicators of low income, deprivation, and household joblessness. Our analysis suggests that in focusing on the union of the three indicators cross-nationally we are not comparing like with like and the case for aggregating the indicators to produce a multidimensional indicator is seriously undermined. For most of affluent countries the head count is driven by the income measure. For Ireland and the UK work intensity plays a much more substantial role. For most of the Eastern European countries we observe substantial increases associated with the material deprivation component but little further impact of the work intensity measure. Not only are the dimensions of distinctly

variable relevance across countries but the profiles of those defined as poor and excluded also vary significantly across the dimensions. While those added to the count of the poor and excluded by incorporating the material deprivation dimension exhibit a social class profile in line with our theoretical expectations, adding the work intensity criterion leads to the identification of a distinctly more heterogeneous sub-group.

An alternative basic deprivation index with a threshold of 3+ was associated with a significantly more satisfactory social class profile. Furthermore, once the basic deprivation index has been taken into account the EU material deprivation index adds little to our ability to predict economic stress.

Adopting a consistent poverty approach, we find that the EU material deprivation index poverty such deprivation is largely abolished in more affluent member states. A purely relative measure produces much higher rates in these countries but leads to a compression of rates across countries. The basic deprivation 3+ index largely manages to avoid both of these problems. In addition, unlike the EU measure.

These results are in line with Whelan and Maître's (2010) analysis of the value of national and European perspectives on poverty. A purely national focus on consistent poverty produces lower levels of poverty than the ARP measure but it shares with that indicator an inability to capture the kind of cross-country differentiation that we expect to be associated with a valid measure of poverty. Switching to a purely European perspective solves that problem but at the price that socio-economic differentiation is obscured.

At time when issues of European versus national solidarity are central to the debate on the economic crisis and authors, such as Ferrera (2009), are promoting the case for increased protection of national welfare state arrangement from EU law and policies promoting market integration there are obvious danger in allowing the scale of between country differences to blind us to the continuing importance of national standards and reference points.



The mixed consistent poverty measure succeeds in identifying a non-negligible poor and excluded group in each country while also capturing substantial cross-country variation. The income component is intended to maintain a focus on resources by identifying those falling more than a certain ‘distance’ below a nationally defined income who are at particular risk of being excluded from a minimally acceptable way of life. Implicitly it accepts that such a resource level should be set at a national rather than a European level. Setting the deprivation threshold at the same level across countries involves a recognition that that the challenge for Europe is to make the whole population share the benefits of high average prosperity and not to reach basic standards of living as in less developed parts of the world (European Commission, 2004). It does not take into account that, what is regarded as minimal acceptable living standards depends largely on the general level of social and economic development, which tends to vary considerably across countries (Whelan and Maître, 2009, 2012a).

The EU *Employment and Social Developments in Europe 2011* report notes the concern of authors such as Ravallion (2011) who questions whether it is realistic to envisage a single index measure of poverty, and suggest developing a credible set of multiple indices instead of a single one. The report, however, argues that the computation of a single indicator is an effective way of communicating in a political environment, and a necessary tool in order to monitor 27 different national situations. The proposed EU poverty targets it argues removing some of the obvious weakness of current ARP indicator.

From the foregoing it should be clear that we are not entirely persuaded by such arguments. Indeed while sympathising with what it is seeking to achieve our general evaluation would be that the approach introduces more problems than it solves. Furthermore, our concerns are exacerbated by the suggestions in the report that future efforts might seek to incorporate

factors such as exclusion from social relationships, access to services etc. Seeing to accommodate a variety of very loosely correlated dimensions of social exclusion appears to us to be a recipe for confusion. An incoherent index is likely to produce incoherent communication and less than productive discussion. Our preference is for keeping the focus of EU poverty and social exclusion targets and measurement on the core elements of income poverty and generalised deprivation. Alongside such efforts we clearly need to enhance our understanding of the processes leading to outcomes, such as labour market exclusion, and the factors mediating the consequences of such disadvantage for wider exclusion from society, social cohesion and quality of life.

In any event, if we are to pursue a multidimensional approach to the European poverty targets relating to poverty and social exclusion then it is desirable that the measurement procedures involved should be explicitly considered in light of the on-going debates in the burgeoning literature on multidimensional measurement so that the principles of aggregation and disaggregation can be evaluated in a coherent fashion (Alkire and Foster 2011 a & b, Ravillon, 2011).

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