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Welfare regime and social class variation in poverty and economic vulnerability in Europe: an analysis of EU-SILC

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Summary In this paper we address a set of interrelated issues. These comprise increasing concerns about reliance on nationally based income poverty measures in the context of EU enlargement, the relative merits of one-dimensional versus multidimensional approaches to poverty and social exclusion and the continuing relevance of class-based explanations of life chances. When identifying economically vulnerable groups we find that, contrary to the situation with national income poverty measures, levels of vulnerability vary systematically across welfare regimes. The multidimensional profile of the economically vulnerable sharply differentiates them from the remainder of the population. While they are also characterised by distinctively higher levels of multiple deprivation, a substantial majority of the economically vulnerable are not exposed to such deprivation. Unlike the national relative income approach, the focus on economic vulnerability reveals a pattern of class differentiation that is not dominated by the contrast between the self-employed and all others. In contrast to a European-wide relative income approach, it also simultaneously captures the fact that *absolute* levels of vulnerability are distinctively higher among the lower social classes in the less comprehensive and generous welfare regimes while class *relativities* are significantly sharper at the other end of the spectrum.

Keywords economic vulnerability, multiple deprivation, poverty, social class, social exclusion, welfare regimes

Introduction

Increasing concern has been expressed that the enlargement of the European Union has exacerbated problems arising from focusing on income poverty measures, defined in purely national terms. This approach is seen to produce results that are counter-intuitive and at odds with our knowledge of variation across the EU in objective living conditions and subjective feelings of deprivation (Fahey, 2007), Whelan and Maître (2009) using European Union Statistics on Income and Living Conditions (EU-SILC) to

assess the case made by Fahey (2007) for the development of an EU-wide poverty line instead of, or alongside, national measures. Their analysis employed both national and EU indicators in relation to relative income poverty and 'consistent poverty' incorporating both income and deprivation thresholds. Their findings led them to conclude that, while national level income poverty indicators produce implausible variation across nations and welfare regimes, EU level measures fail to capture the kind of socioeconomic variation that one would expect to be associated with a valid measure of poverty.

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They suggested that the resolution of this dilemma requires alternatives to policies based solely on income-based relative poverty measures. A 'mixed consistent poverty' measure involving a national income poverty line and an EU deprivation threshold seemed best suited to achieving the stated EU objective of assessing the scale of exclusion from minimally acceptable standards of living in individual countries while also measuring the extent to which the whole population of Europe is sharing in the benefits of high average prosperity (European Commission, 2004).

This approach involves a fairly restricted extension of the one dimensional income poverty approach. In this paper we explore further the possibilities afforded by the EU-SILC data set to implement a multidimensional approach to the measurement of social exclusion: understood as exposure to a set of interrelated risks. We do so by employing a multidimensional approach to identifying 'economically vulnerable' groups.

In relation to issues concerning EU enlargement, the availability of data from EU-SILC allows us to go significantly beyond earlier efforts. Whelan and Maître's (2005a) analysis, employing the European Community Household Panel (ECHP), covered thirteen EU countries but included no representatives of the new member states (NMS). Whelan and Maître's (2008) analysis extended measurement to cover a period of five years but at the cost of reducing the number of countries covered to nine, of which only five were located outside southern Europe. Whelan and Maître (2005b) covered 28 countries using the European Quality of Life Survey (EQLS). However, in order to overcome difficulties associated with small sample sizes and variable response rates, Whelan and Maître (2005b) operated at a high level of aggregation that involved identifying four clusters adapted from a classification used by the European Commission Directorate General for Regional Policy (DG REGIO). Furthermore, because of the rather crude nature of the income measurement procedures, it was not possible to calculate income poverty lines and analysis was conducted at the level of within-cluster income quartiles.

The EU-SILC data set offers the first opportunity to conduct an analysis covering the full range of EU countries that allows us to compare multidimensional outcomes with those deriving from the

conventional relative income poverty approach. On the basis of previous work, we hypothesise that the successful implementation of a strategy that captures both multidimensionality and risk will reveal a picture of variation across welfare regimes and socioeconomic groups considerably more in line with our expectations relating to valid measures of poverty and social exclusion. In relation to socioeconomic variation, we will concentrate on the impact of social class because of our conviction that the ongoing dispute relating to its importance¹ can be further clarified by comparative analysis which combines a relational conceptualisation of social class with an appropriate multidimensional analysis of social exclusion.²

As knowledge of the limitations of relying solely on income to measure poverty and social exclusion has become more widespread, attention has been increasingly focused on multidimensional approaches (Boarini and d'Ercole, 2006; Bradshaw and Finch, 2003; Gordon et al., 2000; Guio et al., 2009; Nolan and Whelan, 2010; Whelan et al., 2001). At the level of conceptualisation, the case for a multidimensional approach to understanding what it means to be socially excluded is compelling. However, as Nolan and Whelan (2007) argue, its value needs to be empirically established.

At the national level where the data available tend to be considerably more comprehensive than at the EU level, a variety of sophisticated analytic strategies have been employed to explore such issues. These include latent class analysis (De Wilde, 2004; Grusky and Weeden, 2007; Moisiu, 2004; Whelan and Maître, 2005, 2005b), structural equation modelling (Carle et al., 2009; Tomlinson et al., 2008), item response theory (Capellari and Jenkins, 2007) and self-organising maps (Pisati et al., 2010; Whelan et al., forthcoming). However, the data currently available at the EU level is considerably less comprehensive and is substantially more restricted for EU-SILC than for the ECHP. This creates difficulties for the application of such methods on a comparative European basis.

Beyond data issues, one of the problems with the manner in which the concept of social exclusion has been used is that by indiscriminate use it can be extended to describe every kind of deprivation: 'the language of exclusion is so versatile and adaptable that there may be a temptation to dress up

every type of deprivation as exclusion' (Sen, 2000: 9). For our present purposes it is crucial to clarify the distinctions between the notions of social exclusion as multiple deprivation and alternatively as a set of interrelated risks.

Kronauer (1998) notes that the emergence of the concept of social exclusion was directly related to the renewed emergence of the threat of high unemployment and the threat it posed to national modes of integration. Paugam (1996) captures this focus on processes leading from precariousness to exclusion in the sense of exposure to cumulative disadvantage and a progressive rupturing of social relation. However, as Atkinson and Davoudi (2000: 434) observe, the pursuit of these issues can lead to a focus on the sense of solidarity within groups involving reciprocity and mutual aid or on the other hand 'societal solidarity'.³ One of the difficulties with the former emphasis and with a focus on social cohesion, involving social connectedness and communal identification (Friedkin, 2004), is that the evidence relating to the impact of factors such as unemployment and material deprivation on such outcomes is extremely modest (Gallie and Paugam, 2000; Whelan et al., 2002).

An alternative conception of social exclusion, such as that proposed by Levitas et al. (2007), focuses on multidimensional deprivation involving a wider restriction of access to commodities and services necessary for full participation in the society.⁴ Adopting this broader focus on multiple deprivation, problems arise from the fact that correlations between deprivation dimensions tend to be a good deal more modest than is often imagined. This is true even in relation to income and consumption deprivation but the observed overlap becomes considerably lower if concern with multidimensionality encompasses factors such as housing, neighbourhood environment, health and, indeed, social and political participation. This difficulty is recognised in the Levitas et al. (2007) distinction between social exclusion and 'deep exclusion'. The latter refers to exclusion across more than one dimension of disadvantage, resulting in severe negative consequences for quality of life, well-being and future life chances. However, unless such negative consequences are demonstrated, labelling deprivation in relation to any one or, indeed, combination of a wide range of dimensions as 'social exclusion' is problematic. On the other

hand, an emphasis on 'deep exclusion' runs the risk of being interpreted in terms of an 'underclass'.⁵

Because of the foregoing difficulties we focus initially on economic vulnerability involving exposure to a set of restricted but key risks. This leaves open the issue of the relationship between such vulnerability and multiple deprivation understood as simultaneous experience of a range of deprivation dimensions.

Following Chamber (1989: 1), we can define vulnerability as not necessarily implying current deprivation but rather involving insecurity and exposure to risk and shock. Bradshaw and Finch (2003) suggest that it is useful to distinguish between *risk factors*, which signal the greater vulnerability of a category of individuals, and *triggers* which have a direct causal impact. It is on the former that we focus.

Our analysis will proceed as follows:

- Making use of a statistical procedure known as latent class analysis we will seek to identify 'economically vulnerable' groups.⁶
- We proceed to provide a detailed account of levels and patterns of economic vulnerability across welfare regimes and of the relationship between such vulnerability and a restricted form of multiple deprivation.
- Our analysis will be extended to a comparison of relative risk of poverty and economic vulnerability across social classes within and between welfare regimes.⁷

Latent class analysis

Our objective is to identify groups who are vulnerable to economic exclusion in the sense of being distinctive in their risk of falling below a critical resource level, being exposed to life-style deprivation and experiencing subjective economic stress. Usually the groups into which researchers classify their observations are known in advance and correspond to the values taken by particular variables or combinations of variables. In some cases, however, the groups of interest are not known a priori and must be discovered using suitable classification techniques. Latent class analysis assumes that each individual is a member of one and only one of N underlying classes and that, conditional on membership of an unobserved class, the observed variables are mutually independent of each other. Conditional independence

is a version of the familiar idea that the correlation between two variables may be a result of their common dependence on a third variable.

The basic notion is that there are underlying processes that result in distinct clusters of individuals. Within those groups, indicator outcomes are independent of each other because the factors that lead to individuals being located there are those that accounted for the original correlations. The question is then whether such simplifying assumptions allow us to identify clusters of individuals with distinct multidimensional profiles while at the same producing an allocation of individuals to the cells of the relevant multidimensional table that comes sufficiently close to the observed patterns.

The contrast between clusters is in terms of risk profiles rather than existing patterns of deprivation. In the analysis that follows we specify that individuals are allocated to one of two classes. However, neither the size of the underlying clusters nor the risk profiles are specified a priori but are determined by the objective of finding the closest possible fit to the observed data consistent with the simplifying assumptions of our model.

Data and measures

Sample

The Eurostat User Database EU-SILC 2006 covers 26 countries: 24 EU member states as well as Norway and Iceland. The household survey is made of 202,978 households with a total of 536,993 individuals. The sample sizes across countries range from 8,598 individuals in Iceland to 54,512 in Italy. The unit of analysis is the individual. Where appropriate, the household attributes and characteristics of the household reference person (HRP) have been allocated to the individual. Significance levels have been adjusted for the clustering of individuals within households.

Income measure

The income measure we employ is the annual total household disposable income adjusted for household size using the OECD modified equivalence scale. The reference period is the 12 months prior to date of interview. Poverty is defined in

Table 1 Deprivation items for index of consumption deprivation

Incapacity to afford paying for one week annual holiday away from home
Incapacity to face unexpected financial expenses
Incapacity to afford a meal with meat, chicken, fish (or vegetarian) every second day
Respondent for household which cannot afford to have a car
Inability to keep home adequately warm
Incapacity to afford to have a personal computer
Arrears relating to mortgage payments, rent, utility bills, hire purchase

terms of levels of median equivalent income. In our subsequent latent class analysis we distinguish four categories of income:

- those below national 70 percent of equivalent median income lines;
- those between the 60 percent and 70 percent lines;
- those between the 50 percent and 60 percent lines;
- those below the 50 percent line.

Measure of consumption deprivation

Our analysis focuses on a seven-item index of 'consumption deprivation' that comprises items ranging from enforced absence relating to current requirement such as food and heat to more general consumption items such as being able to afford a holiday, a car or a personal computer, as well as experiencing arrears on regular bills such as rent or utilities. Full details of the items are provided in Table 1. Confirmatory factor analysis reveals that this dimension emerges as a distinct factor and reliability analysis provides evidence that the items are tapping a common underlying dimension and that is true across the countries included in our analysis and can consequently be employed for comparative purposes.⁸ The version of this measure that we use in our subsequent analysis is a dichotomous one in which the threshold is chosen so that the proportion of individuals above it corresponds as closely as possible to that below the income poverty based on 60 percent of median equivalent income. Thus, in principle, a complete overlap between the groups identified is possible and deviation from that outcome is not a statistical artefact.

Economic stress

The subjective measure of economic stress we employ is based on the following question asked to all household reference persons: 'Thinking now of your household's total income, from all sources and from all household members, would you say that your household is able to make ends meet?'

Respondents were offered six response categories ranging from 'with great difficulty' to 'very easily'. Our analysis focuses on a comparison between those in households experiencing 'great difficulty' and 'difficulty' and all others.

The European Socio-economic Classification

Our analysis makes use of a slightly aggregated version of the European Socio-economic Classification (ESeC).⁹ As Goldthorpe (2002: 213), observes, one of the primary objectives of schemas such as ESeC is to bring out the constraints and opportunities typical of different class positions particularly as they bear 'on individuals' *security, stability and prospects* as a pre-condition of constructing explanations of empirical regularities'. Economic vulnerability provides a particularly appropriate outcome indicator in examining the impact of social class defined in this manner. A failure to observe systematic variation by social class in exposure to economic vulnerability would seriously undermine claims that social class remains fundamental to the distribution of life chance. Our analysis employs a seven-category aggregated version of the ESeC. We have used information relating to current and previous employment and a 'dominance' procedure for partners in assigning a social class to all household members.¹⁰

The seven classes with which we operate are as follows:

- large employers, higher grade professional, administrative and managerial occupations: 'the higher salariat' (ESeC Class 1);
- lower grade professional, administrative and managerial occupations: 'the lower salariat' (ESeC Class 2);
- intermediate occupations and lower supervisory and technician occupations: 'higher grade white and blue collar' (ESeC Classes 3 and 6);
- small employer and self-employed non-professional occupations: 'petit bourgeoisie' (ESeC Class 4);
- farmers (ESeC Class 5);
- lower services, sales and clerical occupations and lower technical occupations: 'lower white collar and skilled manual' (ESeC Classes 7 and 8);
- routine occupations: 'semi-unskilled manual' (ESeC Class 9).

Welfare regimes

Our analysis is based on data from EU-SILC 2006 covering 26 countries. However, since our purpose is to facilitate evaluation of the relative merits of the conventional income poverty measure and our indicator of economic vulnerability, rather than to provide a descriptive account of European poverty and deprivation patterns,¹¹ our focus will be at the level of welfare regime.

As Esping-Andersen and Myles (2009) note, the welfare state influences life-course risks, intergenerational risks and class risks each of which has its own redistributive logic. While some studies such as Smeeding (1997) show an association between levels of welfare spending and redistribution, both Palme (2006) and Esping-Andersen and Myles (2009) conclude that the available evidence provides little support for any straightforward link between GDP or higher levels of social spending and reduced inequality and rather suggests that the most important effects derive from the institutional design of welfare states. Such design effects can take complex forms. Thus while targeted welfare states are more biased in favour of redistribution, Korpi and Palme's (1998) 'paradox of redistribution' directs attention to the fact that universal benefits are both more generous and reach the needy with greater certainty. As Esping-Andersen and Myles (2009: 655) stress, since the redistributive role of services varies so much across societies, an exclusive focus on money incomes inevitably provides an incomplete and potentially distorted picture.

Gallie and Paugam's (2000) 'employment regime' typology focuses on the degree of benefit coverage and level of financial compensation for the unemployed and the scale of active employment policies. Bukodi and Róbert (2007) add a related concern with the strictness of employment protection legislation (EPL) comprising a set of rules governing the hiring and firing process. Combining these criteria with those reflected in the standard Esping-Andersen categorisation they distinguish six welfare regimes,¹²

which we employ in our subsequent analysis, as follows:

- The *social democratic regime* is characterised by its emphasis on universalism. A high level of employment flexibility is combined with high security in the form of generous social welfare and unemployment benefits to guarantee adequate economic resources independently of market or familial reliance. We have included Sweden, Denmark, Iceland, Finland, Norway and Netherlands in this cluster.¹³
- The *corporatist regime* involves less emphasis on redistribution. The dominance of insurance implies an accent on horizontal redistribution. Entitlements depend primarily on life-long employment and such regimes are generally transfer-heavy and service-lean. This cluster includes Germany, Austria, Belgium, France and Luxembourg.
- The *liberal regime* assumes that the role of government is to nurture rather than replace the market. Social benefits are typically subject to a means test but there has been a shift in recent years towards work-conditional, negative income tax policies. These countries exhibit levels of flexibility coupled with limited measures to actively sustain employment.¹⁴ The UK and Ireland constitute this group. As Esping-Andersen and Myles (2009: 646) observe, this combination of targeting and conditionality should, in principle, lead to contradictory outcomes, but in practice the redistributive effort is likely to be undermined by the 'paradox of redistribution'.
- The *southern European regime* is distinguished by the crucial role of family support systems. Labour market policies are poorly developed and selective. The benefit system is uneven and minimalist in nature and lacks a guaranteed minimum income provision. This group comprises Cyprus, Greece, Italy, Portugal and Spain.
- Low levels of spending on social protection and weakness of social rights are common on post-socialist societies. Bukodi and Róbert (2007) observe that there has been a general increase in employment flexibility with most transition countries displaying a level of labour market flexibility significantly less than the UK but significantly greater than in southern Europe.

They distinguish two clusters. The corporatist *post-socialist corporatist* regime comprises the central European countries, with mostly transfer-oriented labour market measures and a moderate degree of employment protection. The Czech Republic, Hungary, Poland, Slovenia and Slovakia are included in this cluster.

- The *post-socialist liberal cluster* comprises the Baltic countries which are characterised by a more flexible labour market, with employers unwilling to abide by legal regulation of the market, and an absence of policies aimed at sustaining employment. Estonia, Latvia, Lithuania are included in this group.

Prior to our empirical analysis we make clear that, on the basis of the existing literature and our understanding of the key distinctions involved, we hypothesise that employing a multidimensional measure of economic vulnerability, which also seeks to tap the dynamic aspects of social exclusion by measuring exposure to a set of interrelated risks, will reveal social class and welfare regime variation substantially more in line with theoretical expectations than is the case with an income poverty measure.

Levels and patterns of economic vulnerability by welfare regime

Our analysis focuses on explaining the distribution of individuals across a 4*2*2 tabulation comprising four categories of income poverty by the dichotomous consumption deprivation by the dichotomous economic stress. Our objective is to find a parsimonious model of the underlying processes producing an allocation of individuals to the sixteen cells of this table that generates a set of expected frequencies which comes close to reproducing the observed frequencies. In Table 2 we display the results for model fit, size of the vulnerable class and conditional probabilities. Given large sample sizes, ranging from 33,665 in the post-socialist liberal regime to 132,111, any parsimonious model is unlikely to produce a satisfactory fit to the observed data by strict statistical criteria. Nevertheless, the latent class model with two classes does remarkably well across all six welfare regimes in accounting for patterns of association. The G² likelihood ratio chi-square is a measure of goodness of fit. The lower

its value the more closely the expected frequencies correspond to the observed. The size of the G^2 for the independence model provides one benchmark against which to assess the fit of the latent class model. The independence model assumes, somewhat unrealistically, that there is no relationship between risk of poverty, consumption deprivation and subjective economic stress. The latent class model reduces this by a level of from 99.6 to 99.9 for the six welfare regimes. Focusing on the index of dissimilarity or the proportion of cases misclassified, this runs from 0.003 for the social democratic regime to 0.018 for the post-socialist conservative. Thus in each case the latent class model comes close to reproducing the observed data.

A systematic pattern of variation in the size of the vulnerable class is observed across welfare regimes. The lowest level of 12.6 percent is observed for the social democratic regime. It rises to 15 percent and 20.3 percent respectively for the corporatist and liberal regimes. It increases to 28.2 percent for the southern European regime. Finally it rises to 34.6 percent and to 40.1 percent respectively for the post-socialist corporatist and liberal clusters. This sharp pattern of differentiation can be contrasted with restricted differentiation found in Table 3 in relation to national income poverty at 60 percent of median income averaged across the countries making up the regimes where the mean level ranges between 10.3 percent and 19.4 percent and very similar outcomes are observed for the social democratic and post-socialist corporatist clusters on one hand and the liberal regimes on the other.

In Table 2 the bottom rows show the probability of being income poor, experiencing consumption deprivation or subjective economic stress depending on whether one is located in the economic vulnerable cluster or not. A graphic illustration of the factors differentiating the vulnerable from the non-vulnerable is provided in Figure 1. For income poverty the contrast takes a rather similar form across regimes. For the social democratic regime the risk of falling below the 60 percent line is 0.071 for the non-vulnerable group and 0.341 for the vulnerable. For the 50 percent and 70 percent lines the corresponding figures are respectively 0.037 and 0.168 and 0.129 and 0.551. The profile for the corporatist group figures are very similar, with the main

Table 2 Economic vulnerability by welfare regime

Class type	Social democratic		Corporatist		Liberal		Southern European		Post-socialist conservative		Post-socialist liberal	
	NV	V	NV	V	NV	V	NV	V	NV	V	NV	V
Class size	0.874	0.126	0.850	0.150	0.797	0.203	0.718	0.282	0.654	0.346	0.599	0.401
G^2	22.961		50.112		44.576		165.419		185.898		27.407	
Df.	4		4		4		4		4		4	
Reduction in independence model G^2	99.89		99.80		99.55		99.57		99.60		99.79	
Index of dissimilarity	0.0034		0.0064		0.0104		0.0166		0.0176		0.0135	
< 70%	0.129	0.551	0.138	0.608	0.183	0.636	0.158	0.540	0.115	0.445	0.117	0.495
< 60%	0.071	0.341	0.075	0.430	0.119	0.483	0.102	0.414	0.070	0.324	0.074	0.373
< 50%	0.037	0.168	0.035	0.243	0.065	0.312	0.059	0.278	0.039	0.220	0.041	0.256
Deprivation	0.006	0.644	0.014	0.738	0.014	0.609	0.024	0.634	0.144	0.900	0.167	0.946
Economic stress	0.035	0.578	0.037	0.634	0.058	0.642	0.157	0.846	0.134	0.878	0.058	0.666
N	103,930		90,298		40,643		132,111		119,471		33,665	

Note: V = vulnerable; NV = non-vulnerable.

difference being that the figures for the vulnerable are higher and the contrast is therefore sharper. For the liberal and southern European regimes poverty rates are higher for both the vulnerable and non-vulnerable. For the 60 percent line the rates for vulnerable and non-vulnerable rises to 0.483 and 0.119 respectively for the former and to 0.414 and 0.102 for the latter. For the post-socialist regimes the extent to which poverty rates are higher than for the southern European regime depends on the line on which one focuses, but the differences in each case are rather modest. Overall we observe sharp differentiation between the vulnerable and non-vulnerable clusters with variation across regimes in such differentiation being highly restricted.

Differentiation in terms of vulnerability is least on income poverty. When we focus on subjective economic stress, as captured by the indicator relating to difficulty in making ends meet, we find that for the vulnerable cluster the risk of economic stress ranges from 0.578 in the social democratic regime to 0.878 for the post-socialist corporatist cluster; with both liberal regimes being closer to the former and the southern European cluster being closer to the latter. For the non-vulnerable clusters, on the other hand, the level of economic stress in the social democratic and corporatist regimes is less than 0.04. It then rises to just less than 0.06 percent in the two liberal regimes. It then rises substantially to 0.134 for the post-socialist corporatist cluster before peaking at 0.157 for the southern European regime.

However, economic stress is not the main differentiating factor. Instead the variable playing this role is consumption deprivation. For the social democratic regime such deprivation is close to zero for the non-vulnerable cluster but rises to 0.644 for the vulnerable class. For the corporatist group the respective figures are 0.014 and 0.738 and for the liberal regime 0.014 and 0.609. For the southern European cluster the figure for the non-vulnerable rises to 0.024 compared to one of 0.634 for the vulnerable class. These four regimes can be contrasted with the post-socialist clusters where deprivation levels are substantially higher for both vulnerable and non-vulnerable groups. For the conservative group the respective figure for the non-vulnerable and vulnerable clusters are 0.144 and 0.900 and for the liberal group the corresponding figures are 0.167 and 0.946.

Table 3 Mean national poverty rates and economic vulnerability by welfare regime

	% poor	% economically vulnerable
Social democratic	10.3	12.6
Corporatist	13.0	15.0
Liberal	19.4	20.3
Southern European	18.7	28.2
Post-socialist corporatist	13.7	34.6
Post-socialist liberal	19.9	40.1

In order to make clear of the scale of disparities between the vulnerable and the non-vulnerable and to facilitate comparison within and between welfare regimes, in Table 4 we set out the relevant odds ratios. Focusing first on income poverty at the 60 percent line, we can see from column 1 that economic vulnerability raises the odds on such poverty by a factor of 6.8 for the social democratic regime. The magnitude of this disparity varies little across welfare regimes. It rises to 9.3 for the corporatist regime but ranges between 6.2 and 7.4 for the remaining clusters. For subjective economic stress the scale of differentiation is much sharper with the odds ratio for the social democratic regime reaching 38. However, once again variation in the size of the effect across regime is modest, running from a low of 29 to 48 and reveals no systematic pattern. The largest odds ratios are associated with the two corporatist clusters and the lowest with the liberal and southern European regimes.

The contrast with the results relating to consumption deprivation is quite striking. Outside the post-socialist regimes the odds ratios are considerably higher. In addition, a clear pattern of differentiation in the magnitude of the odds ratio is observed across welfare regimes. The largest value of almost 300 is associated with the social democratic regime. It falls to 210 for the corporatist cluster, reflecting a somewhat sharper proportionate increase in level of risk for the vulnerable group than for the non-vulnerable in comparison with the social democratic regime. A further decline to 110 is observed for the liberal regime, arising from the fact that, while the deprivation risk rates for the vulnerable are identical for the liberal and corporatist clusters, the level for the non-vulnerable is lower in the former, producing a less sharp pattern

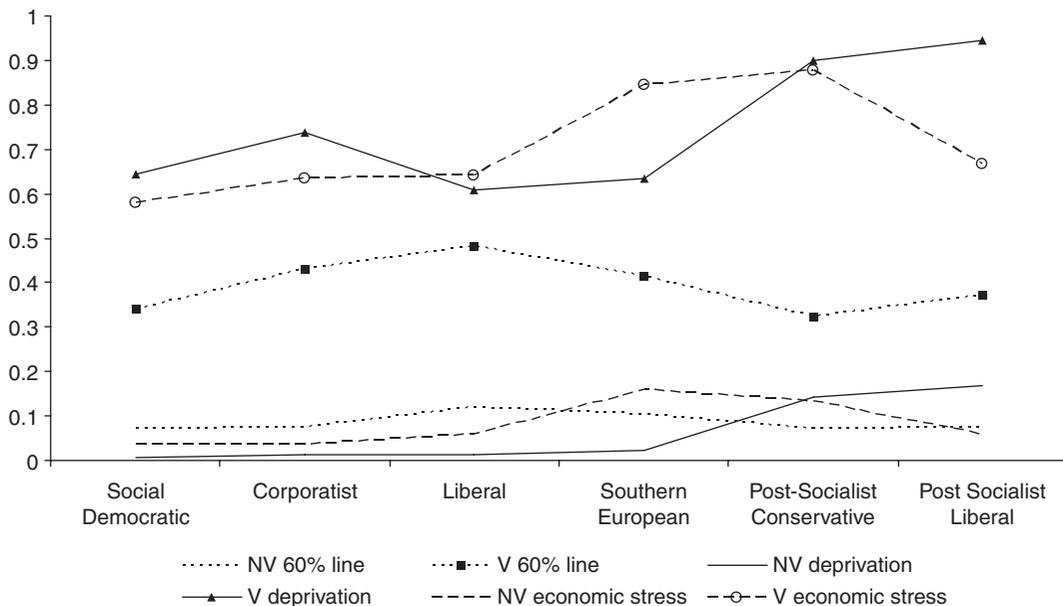


Figure 1 Vulnerability to economic exclusion

of polarisation. A further fall in the value of the relevant odds ratio to 72 is observed for the southern European cluster, largely reflecting a doubling of the levels for the non-vulnerable group, although the absolute levels remains low. For the post-socialist group we observe a decline in the odds ratio to 47. This occurs even though the risk level for the vulnerable group reaches 0.90 because the proportionate increase for the non-vulnerable is a good deal sharper. The further slight fall to 32 for the post-liberal socialist regime arises for similar reasons.

Overall, for economic vulnerability we observe a pattern of differentials between welfare regimes whereby polarisation is sharper in the more generous and comprehensive regimes. Thus while the absolute risk of being economically vulnerable and experiencing deprivation if one is in the vulnerable class is greatest in the least generous and comprehensive regimes the degree of polarisation in terms of relative risk of deprivation and economic stress is sharpest in the most generous and comprehensive regimes.

The conditional probabilities from the latent class model allow us to compare the picture deriving

from a focus on interrelated risks to that stemming from an emphasis on point-in-time multiple deprivation. As a consequence of the fact that the risk levels for each of our three indicators are independent within latent classes, calculation of the likelihood of simultaneously experiencing income poverty, consumption deprivation and economic stress involves multiplying through the conditional probabilities for each outcome. In Table 5 we report multiple deprivation levels broken down by welfare regime. For the non-vulnerable groups we can see that for all six clusters the rate is effectively zero. For the vulnerable group the lowest level of multiple deprivation of 12.7 percent is observed for the social democratic regime. This rises to 18.9 percent for the liberal regime and to 20.1 for the corporatist cluster. It then increases gradually to 22.2, 23.5 and 25.6 percent, respectively, for the southern European, post-socialist liberal and corporatist clusters. Thus the economically vulnerable are least exposed to multiple deprivation in the social democratic regime and most subject to such deprivation in the two corporatist regimes.

Clearly economic vulnerability does not necessarily imply multiple deprivation. Only one in eight

Table 4 Within regime relativities for vulnerable versus the non-vulnerable for disadvantage indicators derived from the Latent Class Model

	<i>Income poverty at 60% of median income Odds ratios</i>	<i>Economic stress dichotomy Odds ratios</i>	<i>Consumption deprivation dichotomy Odds ratios</i>
Social democratic	6.8	37.7	299.3
Corporatist	9.3	45.1	210.2
Liberal	6.9	29.1	109.5
Southern European	6.2	29.5	72.4
Post-socialist corporatist	6.4	47.5	46.9
Post-socialist liberal	7.4	32.2	32.4

of the vulnerable group in the social democratic regime are so deprived and for the remaining regimes it ranges between just below one in four and one in five. Given the minimal levels of multiple deprivation among the non-vulnerable groups, calculating overall levels of such exposure reduces to multiplying the rates for the economically vulnerable by the proportion vulnerable. For the social democratic regime the proportion multiply deprived is lowest at 1.6 per cent. It rises to 3.0 and 3.8 percent for, respectively, the corporatist and liberal regimes. Thus, as for the economically vulnerable, the lowest level of multiple deprivation is observed for the social democratic regime. However, the ranking of the liberal and corporatist regimes is reversed. This occurs because, while the rate of multiple deprivation for the vulnerable is lower in the former, the level of vulnerability is higher. The scale of multiple deprivation rises gradually from 6.3 to 9.0 and 14.2 percent as one moves from the southern European to the post-socialist corporatist and liberal regimes. Once again we see the reversal of the rankings of the liberal and corporatist regimes.

Overall levels of multiple deprivation are considerably more sharply differentiated by comprehensiveness and generosity of welfare regimes than are the corresponding rates for the vulnerable. However, only for the post-socialist clusters does the figure rise above 6 percent of the population. This is true despite the fact that the correlations between the three dimensions we have considered are substantially higher than those involving other dimensions of deprivation. Adopting a more encompassing definition of multiple deprivation

would lead us to observe substantially lower levels and ones that would be negligible in the more affluent regimes.

Relative risk of poverty and economic vulnerability by social class and welfare regime

In this section we consider the consequences of opting for income poverty or economic vulnerability as a dependent variable for conclusions relating to the impact of social class. In Table 6 we set out the results from a set of logistic regressions relating to variation in the relative risk of income poverty at 60 percent by social class by welfare regime.¹⁵ With the higher salariat as the benchmark, for every regime the odds on being poor are most strongly influenced by membership of the farming class. For the social democratic regime the odds on farmers being poor are higher than those for the higher salariat by a factor of 7.5. This rises to 10.5 for the corporatist cluster and 11.5 for the two liberal regimes. It increases further to 13.2 for the post-socialist corporatist cluster and finally to 14.4 for the southern European. The next strongest average effect is observed for the petit bourgeoisie. The weakest effect is observed for the post-socialist liberal and liberal cluster with odds ratios of 3.5 and 5.4, respectively. For the remaining clusters, the figure ranges between 7.3 and 8.8.

The differential between the higher and lower salariat is positive in every case, positive but modest. It ranges from a low of 1.1 in the social democratic and southern European regimes to 1.7 in the liberal

Table 5 Levels of multiple deprivation (poverty at 60% line + consumption deprivation + economic stress) by economic vulnerability and welfare regime (%)

	<i>Economically vulnerable</i>	<i>Non-vulnerable</i>	<i>Total</i>
Social democratic	12.7	0.0	1.6
Corporatist	20.1	0.0	3.0
Liberal	18.9	0.0	3.8
Southern European	22.2	0.0	6.3
Post-socialist corporatist	25.6	0.1	9.0
Post-socialist liberal	23.5	0.1	14.2

regime. The impact increases for the higher white and blue collar class and runs from 1.7 for the social democratic cluster to 3.2 for the liberal regimes. A significant strengthening of the class effect is found for the lower white collar and skilled manual class. Once again the lowest value of 3.5 is found for the social democratic regime. The highest value of 8.1 is associated with the corporatist regime. The remaining values range between 4.7 for the post-socialist liberal regime to 6.5 for the liberal. For the semi-unskilled class a further increase in the odds ratio is observed in each case. Once again the lowest and the highest odds ratios are observed in the social democratic and corporatist regimes with respective values of 3.8 and 9.6. The remaining values run from 6.5 in the post-socialist corporatist cluster to 8.2 for the southern European regime.

In general, we observe strong class effects relating to classes involved in self-employment with weaker but systematic class hierarchy effects.

In Table 7 we report the results from the corresponding set of logistic regressions relating to economic vulnerability.¹⁶ In contrast to the situation for poverty, by far the strongest differential is associated with the semi-skilled manual class. Two of the three lowest odds ratios are observed for the post-socialist regimes with the respective values for the liberal and corporatist variants being 6.9 and 8.3. These values are lower than in a number of other regimes despite the high absolute levels of economic vulnerability of the semi-skilled manual class in such regimes. They reflect the relatively higher exposure of the higher salariat in these regimes to vulnerability. The next lowest value of 7.0 is observed for the social democratic regime. It arises for a quite different reason relating to the distinctively low level of vulnerability

among those in the semi-unskilled manual class in this regime. The odds ratio rises gradually as one moves from the liberal to the corporatist and finally to the southern European regimes from 9.6 to 11.0 and 12.7.

A similar pattern, although involving slightly weaker effects, is observed for the lower white collar and skilled manual class. For the post-socialist cluster the weakest effect of 4.7 is again observed for the liberal variant while that for the corporatist group reaches 6.4. A similarly relatively low value of 5.3 is associated with the social democratic regime. We again observe a gradual increase from 7.9 to 8.3 to 11.5 as we move from the corporatist to the liberal and the southern European regime. For the higher white and blue collar class the odds ratio varies between 2.9 and 3.1 for the post-socialist clusters and the social democratic regime. This rises to 3.9 and 3.3 respectively for the corporatist and liberal regimes and to 4.5 for the southern European cluster. Differentiation relating to the impact of membership of the lower and higher salariat across regimes is relatively slight.

The impact of being member of either the petit bourgeoisie or the farming class is substantially weaker in the case of economic vulnerability but variation across regimes is considerably greater. For the petit bourgeoisie we see that the weakest effects are observed for the liberal regimes and the highest for the corporatist and southern European clusters. For farming the post-socialist corporatist and southern European regime have distinctively high odds ratios of 7.8 and 12.3 while in no other case does the value rise above 3.6. The scale of the observed effects for the propertied classes is generally substantially weaker than for poverty.

Table 6 Logistic regression of poverty by ESeC class schema by welfare regime

	Welfare regimes																	
	Social democratic			Corporatist			Liberal			Southern European			Post-socialist corporatist			Post-socialist liberal		
	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.
Higher salariat (1)	Ref.		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.		Ref.	
Lower salariat (2)	1.147	ns	1.323	***	1.703	**	1.087	ns	1.265	***	1.281	ns	1.265	***	1.281	ns	1.265	***
Higher white & blue collar (3,6)	1.671	***	2.731	***	3.209	***	2.502	***	2.158	***	2.312	***	2.158	***	2.312	***	2.158	***
Petit bourgeoisie (4)	7.772	***	8.068	***	5.385	***	8.787	***	7.294	***	3.530	***	7.294	***	3.530	***	7.294	***
Farmers (5)	7.511	***	10.457	***	11.478	***	14.365	***	13.221	***	11.559	***	13.221	***	11.559	***	13.221	***
Lower white collar & skilled manual (7,8)	3.452	***	8.067	***	6.500	***	6.205	***	5.408	***	4.743	***	5.408	***	4.743	***	5.408	***
Semi-unskilled manual (9)	3.788	***	9.639	***	7.202	***	8.222	***	6.477	***	7.466	***	6.477	***	7.466	***	6.477	***
Nagelkerke R	0.078		0.130		0.112		0.131		0.119		0.121		0.119		0.121		0.119	
Reduction in Log likelihood ratio	2,955.1		5,939		2,490.0		103,62.5		7,706.5		1,823.8		7,706.5		1,823.8		7,706.5	
Degrees of freedom	6		6		6		6		6		6		6		6		6	
N	91,420		85,127		36,195		125,498		109,426		22,058		109,426		22,058		109,426	

Notes: ***p < 0.01; **p < 0.05; *p < 0.1.

Table 7 Logistic regression of level of economic vulnerability by ESeC class schema by welfare regime

	Welfare regimes																		
	Social democratic			Corporatist			Liberal			Southern European			Post-socialist corporatist			Post-socialist liberal			
	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	Odds ratios	Sig.	Ref.	
Higher salariat (1)	Ref.			Ref.			Ref.			Ref.		Ref.			Ref.			Ref.	
Lower salariat (2)	1.536	***	1.864	***	1.816	***	1.865	***	1.764	***	1.952	***	1.764	***	1.952	***	1.952	***	1.952
Higher white & blue collar (3,6)	2.868	***	3.900	***	3.302	***	4.453	***	3.057	***	3.048	***	3.057	***	3.048	***	3.048	***	3.048
Petit bourgeoisie (4)	3.187	***	4.527	***	2.678	***	6.365	***	3.192	***	1.741	***	3.192	***	1.741	***	1.741	***	1.741
Farmers (5)	2.268	***	3.546	***	2.146	**	12.346	***	7.794	***	3.492	***	7.794	***	3.492	***	3.492	***	3.492
Lower white collar & skilled manual (7,8)	5.330	***	7.988	***	8.304	***	11.478	***	6.411	***	4.716	***	6.411	***	4.716	***	4.716	***	4.716
Semi-unskilled manual (9)	7.045	***	11.005	***	9.632	***	12.733	***	8.287	***	6.901	***	8.287	***	6.901	***	6.901	***	6.901
Nagelkerke R	0.073		0.109		0.135		0.137		0.137		0.125		0.137		0.125		0.125		0.125
Reduction in Log likelihood ratio	2,751.0		5,226.6		2,881.8		12,166.4		11,330.6		2,213.1		11,330.6		2,213.1		2,213.1		2,213.1
Degrees of freedom	6		6		6		6		6		6		6		6		6		6
N	89,149		84,511		35,835		125,105		108,655		22,026		108,655		22,026		22,026		22,026

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$.

Conclusions

While entirely persuaded by the theoretical arguments relating to the virtues of a multidimensional approach, we have stressed the need for methodological progress that allows us fruitfully to explore key issues relating to poverty and social exclusion. Our analysis provides a comparison of levels and socioeconomic patterns of disadvantage in relation to income poverty and social exclusion. Given the variety of meanings attributed to both social exclusion and multidimensionality, we have sought to clarify the distinction between social exclusion understood as heightened risk in relation to a number of outcomes and alternatively social exclusion as multiple deprivation involving point-in-time overlapping deprivations.

We have sought to do so by applying latent class analysis to distinguish groups of individuals who are found economically vulnerable. Our analysis was then extended to provide estimates of multiple deprivation both for vulnerable groups and the population as a whole.

Contrary to the situation with national income poverty measures, levels of economic vulnerability vary systematically across welfare regimes in line with the comprehensiveness and generosity of such regimes. Levels of vulnerability increase as we move from the social democratic to the corporatist to the liberal to the southern European and finally post-socialist regimes, both corporatist and liberal. Within each regime the economic vulnerability approach identifies a group of individuals that exhibits a distinctive multidimensional profile. Consumption deprivation is the key differentiating factor. While levels of such deprivation are substantially higher in the more limited and less generous welfare regimes, polarisation between the vulnerable and non-vulnerable is sharpest in the more comprehensive and generous regimes.

Multiple deprivation is concentrated almost entirely in the economically vulnerable class. However, in every welfare regime a substantial majority of the vulnerable are not currently exposed to such deprivation. Extending the definition of multiple deprivation to encompass dimensions such as housing, health and neighbourhood environment would lead to further very substantial reductions in estimates of such levels.

The latent class approach to economic vulnerability enables us to provide a coherent account of

patterns of social exclusion within and across welfare regimes. Despite the scale of variation across welfare regimes, the numbers above the vulnerability threshold in the post-socialist regimes are considerably lower than the corresponding figures employing a European level relative income approach. The latent class approach shares with an EU level 'at risk of poverty' approach the capacity to reveal the expected differentiation between welfare regimes. However, employing the latter, unlike the case for national relative income poverty lines where regime differences are modest, the contrast between the post-socialist regimes and all others comes to entirely dominate results.¹⁷

The latent class approach also reveals striking patterns of differentiation by social class within welfare regimes.¹⁸ Unlike the national relative income approach the latent class approach produces a pattern of class differentiation that is not dominated by the contrast between the self-employed and the remaining social classes. At the same time, it uncovers important variations in such effects across regimes. In contrast to a European-wide relative income approach, it also simultaneously captures the fact that while *absolute* levels of vulnerability are distinctively high among the lower social classes in the less generous and comprehensive welfare regimes, class *relativities* are sharper at the other end of the spectrum.¹⁹

No single indicator is likely to prove adequate in capturing the diversity of experience of poverty and social exclusion in an enlarged European Union. In light of this, we have considerable sympathy with those who argue for the need to supplement nationally based indicators with EU-wide indicators. However, in this paper we have sought to demonstrate that a more effective strategy may be to take more seriously the need to invest greater effort in translating the conceptually compelling case for a multidimensional approach to social exclusion into an appropriate set of operational alternatives.

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Notes

- 1 See Atkinson (2007), Beck (2007) and Goldthorpe (2007a, 2007b, and 2009).
- 2 See Goldthorpe (forthcoming) for discussion of the contrast between 'attributional' and 'relational' approaches to social class.
- 3 Difficulties arise from the fact that the term 'social cohesion' has partly assimilated older terms such as social solidarity and social integration (Lockwood, 1964) while frequently lacking clarity on the relationship between societal patterns of inequality and forms of such cohesion. See Wilkinson and Pickett (2009).
- 4 Levitas et al. (2007) see such multidimensional deprivation as affecting both the quality of life of individuals and the equity and cohesion of society as a whole. However we would prefer to see such relationships between individual outcomes and societal characteristics as matters for empirical enquiry rather than definition.
- 5 This tendency is also stressed in Room's (1999: 171) discussion of notions of continuity and catastrophe in the social exclusion literature.
- 6 Earlier implementations of this approach include Whelan and Maître (2005a, 2005b). The current approach adds these early efforts in terms of the choice of indicators and in taking advantage of the opportunities offered by EU-SILC to develop a European-wide analysis based on adequate national samples.
- 7 For convenience we will refer to national 'at risk of poverty' measures simply as indicators of 'poverty'.
- 8 See Whelan et al. (2008) for further details.
- 9 See Rose and Harrison (2007, 2009).
- 10 Employing this procedure, the number of individuals classified as having 'never worked' is extremely modest and we have excluded them from our analysis.
- 11 For such accounts see Guio (2005a, 2005b).
- 12 Fenger (2007), employing a hierarchical cluster analysis, identifies a similar set of regimes.
- 13 The proper allocation of the Netherlands is a matter for debate. We follow Muffels and Luijkx (2006) in locating it in the social democratic cluster.
- 14 Although the latter is less true of Ireland.
- 15 Standard errors in Tables 5 and 6 have been calculated to take into account the clustering of individuals within households.
- 16 The estimates in Table 6 are based on employing the LEM modal class procedure for the identification of the dependent variable. Each observation is assigned to that latent class for which, given the manifest scores, the estimated classification probability is largest. Allocation to clusters is on the basis of modal assignment.
- 17 See Whelan and Maître (forthcoming).
- 18 It is clear, however, that efforts at targeting within post-socialist regimes would require supplementary measures.
- 19 As Whelan and Maître (2008) demonstrate, the economic vulnerability approach has significant advantages over income and deprivation measures in relation to problems of measurement error that arise in analysis of dynamics. As a consequence it proves considerably more effective in revealing the impact of social class on patterns of persistent disadvantage over time.

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