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Explaining Levels of Deprivation In the European Union

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Introduction

Though the definition of poverty is always problematic, many now accept that it refers to exclusion from a lifestyle which is generally seen as acceptable in the society in question, because of a lack of resources. The standard yardstick upon which this threshold is measured is income, that is, poverty is measured indirectly as some fraction of mean or median income. This approach has yielded a great deal of valuable work, but has been criticised, particularly by Ringen (1987, 1988) on the grounds that, low income is quite unreliable as an indicator of poverty as it fails to identify households experiencing distinctive levels of deprivation. Subsequently, there has been a growth of interest in the direct measurement of poverty using indicators of the absence of amenities or activities which a majority of the population have or participate in (Townsend 1988; Mayer and Jencks 1988; Muffels 1993) and an emphasis on different dimensions of deprivation (Callan et al 1993; Layte et al 1999). However, research consistently shows that there is a substantial mismatch between income and deprivation poverty measures, even where the latter are chosen to relate most closely to current income, a problem made worse by the fact that the degree of mismatch varies across countries (Whelan et al 2000).

Apart from plain error in the reporting of income levels, there are several reasons why this mismatch may exist. First, the impact of low income on deprivation depends on the length of time this persists, the presence of other resources such as savings or assets and the availability of monetary or non-cash transfers from family or social networks. This emphasises the fact that resources are accumulated and eroded over time and this will not necessarily be captured by income measures. Second, households get to their present position by numerous paths and via different experiences. For example, we would expect that those who have experienced intermittent and insecure employment in the past, but are now employed will have higher levels of deprivation than those who have had a stable employment. Third, the fact that the relationship between income and deprivation measures varies across countries could suggest that differing welfare state structures smooth income flows in different countries to varying degrees. Such methodological questions have

implications for recent findings in poverty research. Research from Germany (Leisering and Walker 1998; Leisering and Leibfried 1999) drawing on the work of Beck (1992) and using income measures has argued that spells of poverty tend on average to be short and are associated with biographical transitions in life such as divorce, illness and leaving the parental home (Leisering and Leibfried 1999: 240) rather than being due to the structural factors identified in previous research which can lead to 'poverty careers'. Could it be though that such findings are driven by an over emphasis on income as the primary measure of poverty and thus miss the structured features of poverty measured by deprivation which lead to long term hardship and economic strain (Layte *et al* 2000)? Would Leisering and Leibfried find similar results for Germany if they used a deprivation as well as an income measure?

Such methodological and substantive issues mean that a comparative analysis of the structure of deprivation and the relationship between income and deprivation is long overdue. This is a large project, which has already been started in part (Layte *et al* 1999). Here though we pursue a far narrower question, that of the determinants of deprivation. Here we assess the extent to which country differences in levels of deprivation can be adequately explained by variation in the distribution and impact of particular individual and household characteristics, or whether we must continue to make reference to persisting country effects. If we can answer such a question using sound empirical evidence, this will not only be interesting in its own right, but will serve as an important building block in the more ambitious comparative analysis of the income-deprivation relationship.

Previously, it has only been possible to examine the narrower question for a small number of countries because these types of data are quite rare (Halleröd 1998; Nolan et al 1999), but such data are now available in the European Union Household Panel Survey (ECHP). Therefore, the primary aim of this paper to use this, as yet under utilised source of truly comparative deprivation information to examine the level of deprivation across 12 countries in the E.U before moving onto more substantive questions about the determinants of such deprivation.

The paper proceeds in the following way: in the first part of the paper we describe the construction of the deprivation measure to be used and its relationship to income in

previous research. This established, we move on in the second part of the paper to a descriptive analysis of the level of deprivation in the 12 countries in the ECHP database. In the third section we move into a more analytical mode to examine the determinants of deprivation across the countries in the ECHP data set. Absolute levels of deprivation in different countries are undoubtedly a function of the level of affluence of the country itself, but the level of deprivation may also be associated with the distribution between countries of different household and individual characteristics that are associated with disadvantage. Such characteristics may also vary in their influence across different countries thus we need to model these relationships in some detail to get a better picture of the structure of deprivation. If, however, once we have controlled for the distribution of these characteristics and their differential effect we still find a residual effect for the country this strongly suggests that further research is necessary on the role that national institutions such as the welfare state and social structure play in determining levels of deprivation.

In the fourth section we return to the implications of the results in section three for recent research on the 'biographisation' and 'democratisation' of poverty (Leisering and Leibfried 1999). Are the results of previous research in Germany using income measures also true when using deprivation measures and are there similar patterns cross-nationally?

Measuring Deprivation

Most analysts of poverty would now concede that it should be conceptualised in relative terms, that is, people are in poverty when they cannot 'participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged or approved, the society to which they belong' (Townsend 1979, p31). In most research, this has been operationalised purely in terms of income as some fraction of the mean or median income in the society in question. This has yielded useful and interesting results, but there are several reasons why using income alone may be problematic. First of all, Townsend's oft cited quote makes it clear that poverty is a state of hardship and deprivation in living conditions or amenities, not simply the amount of money that they have. This point was forcefully made by (Ringen 1987;Ringen 1988) who argued that if, as most researchers assert, they are

attempting to measure exclusion from a particular lifestyle through lack of resources, there is clearly a theoretical inconsistency in using an *indirect* measure (i.e. income) to measures a *direct* concept (i.e. deprivation). However, even if one accepts an indirect measure of deprivation through lack of resources on pragmatic grounds, the assumption is empirically flawed. A great deal of research has shown that the relationship between income and deprivation is rather looser than would be expected *a priori* (Townsend 1979; Mack & Lansley 1985; Mayer & Jencks 1988; Callan, Nolan, & Whelan 1993; Nolan & Whelan 1996). Research has shown that a large proportion of those classified as poor because of low income are not deprived and vice versa. Apart from plain error in the reporting of income levels there are several reasons why the relationship between income and deprivation measures may be less than perfect. First of all, this could be because those with adequate resources do not always use these to obtain the items deemed necessary by the researcher or the population in general, thus the net level of resources left after other 'preferred' purchases is still inadequate. Second, the correlation may be loose because one fails to capture the dynamic aspects of the relationship. Resources are accumulated and eroded through time, thus current, or even longer run measures of income may fail to distinguish between with similar levels of income, but different recent histories. The impact of low income on deprivation also depends on the availability of other resources either through monetary or non-cash transfers from social networks or government.

A third reason why income is a problematic measure of poverty is that using fractions of mean income in comparative research is of questionable validity since being below, say 50% of mean income in one country may have very different effects on lifestyle than being under the same threshold in another. Therefore, following other researchers such as Townsend (1979) and Mack and Lansley (1985), here we examine differences in deprivation between E.U countries where deprivation is the enforced lack of items, amenities or activities through lack of resources. The notion of enforced absence is crucial here since we are interested in the operation of constraint through lack of resources and not simply the effect of ill health, location or preference.

The Data and Variables

One of the primary reasons why comparative research on deprivation is rare is because there is very little comparative deprivation data available. However, in this paper we use data from the first wave of the European Union Household Panel Survey (ECHP) conducted by Eurostat in 1994 which has comparative data for twelve E.U countries. The aim of the survey was to harmonise to the greatest extent possible the sampling, questions, data collection, coding and re-weighting of the data so as to foster comparative research. Our results are based on the overall sample of 60227 households with information on deprivation only being collected at the household level. The use of the household as the unit of analysis has important implications since it assumes that all the members of the household share the same level of deprivation. Though data to examine this question are rare, research has suggested that in general, household members do tend to share the same standard of living (Nolan & Cantalon 1998).

In using the data there is a question as to how it should be weighted. In terms of descriptive statistics it is a simple matter to apply a weight designed to ensure national as well as cross-national representativeness. However, this would not be appropriate in more analytic situations where we need to apply tests of significance. Here, we have chosen to weight by the individual country proportionate weight, but this does mean that results for the overall European sample are valid only if there are no interactions between our independent predictors and country.

In the first wave of the panel we identified twenty-five household items which could serve as indicators of concept of life-style deprivation outlined above. The format of the items varied but in each case we seek to use measures which can be taken to represent enforced absence of widely-desired items. Respondents were asked about some items in the format employed by Mack & Lansley (1985): for each household it was established if the item was posessed/availed of, and if not a follow-up question asked if this was due to inability to afford the item. The following six items took this form:

- A car or van.
- A colour TV.
- A video recorder.

- A micro wave.
- A dishwasher.
- A telephone.

In these cases we consider a household to be deprived only if absence is stated to be due to lack of resources.

For some items the absence and affordability elements were incorporated in one question, as follows: “There are some things many people cannot afford even if they would like them. Can I just check whether your household can afford these if you want them”. The following six items were administered in this fashion:

- Keeping your home adequately warm.
- Paying for a week’s annual holiday away from home.
- Replacing any worn-out furniture.
- Buying new, rather than second hand clothes.
- Eating meat chicken or fish every second day, if you wanted to.
- Having friends or family for a drink or meal at least once a month.

Three items relate to absence of housing facilities so basic one can presume all households would wish to have them:

- A bath or shower.
- An indoor flushing toilet.
- Hot running water.

A further set of items relating to problems with accommodation and the environment contained the implicit assumption that households wish to avoid such difficulties. These include the following eight items:

- Shortage of space.
- Noise from neighbours or outside.
- Too dark/not enough light.
- Leaky roof.
- Damp walls, floors, foundation etc.
- Rot in window frames or floors.

- Pollution, grime or other environmental problems caused by traffic or industry.
- Vandalism or crime in the area.

The final item relates to arrears; we consider a household as experiencing deprivation in terms of this item if it was unable to pay scheduled mortgage payments, utility bills or hire purchase instalments during the past twelve months. This gives us a total of twenty-five items. In each case we assign a score of one to a household where deprivation is experienced and a score of zero where it is not.

There are several different ways in which these items could be combined into a summary index. They could all be combined in an additive fashion to produce a scale ranging from 0 to 23, or each item could be weighted by a factor such as the proportion lacking it[1]. However, work in the Irish context (Nolan and Whelan 1996) suggests that deprivation is made up of a number of distinct dimensions that are differentially related to income. If we ignore this complexity we may get a misleading impression of the determinants of deprivation. Previous work with the ECHP (Layte *et al* 1999) has shown that five distinct factors emerge from the data that have a consistent fit across the 12 countries of the data set. The dimensions identified where as follows:

- Basic life-style deprivation - comprising items such as food and clothing, a holiday at least once a year, replacing worn-out furniture and the experience of arrears for scheduled payments.
- Secondary life-style deprivation - comprising items that are less likely to be considered essential such as a car, a phone, a colour television, a video a micro wave, a dish-washer and a second home.
- Housing facilities - housing services such the availability of a bath or shower, an indoor flushing toilet and running water likely to be seen as essential.
- Housing deterioration - the existence of problems such as a leaking roof, dampness and rotting in window frames and floors

[1] Halleröd (1995, 1998) has also weighted each item lacked by the proportion seeing this item as a social necessity for both men and women, among different age groups and among different household types and geographic regions. This produces the Proportional Deprivation Index or PDI.

- Environmental problems - problems relating to noise, pollution, vandalism and inadequate space and light.

As just discussed, Layte *et al* (1999) found that the different dimensions were differentially correlated with current income which suggested that they were determined by separate processes with the basic dimension being most strongly related, followed by the secondary. It seems likely that dimensions such as the two relating to housing facilities and deterioration and the environmental dimension may well be determined by more specific social policies and thus are not good indicators of current lifestyle deprivation in the general sense. As such, it seems more sensible to use the basic and secondary dimensions as the measures to be used in this paper. Moreover, Layte *et al* found that a combined basic and secondary dimension yielded a highly reliable index of current lifestyle deprivation that had good measurement properties when used comparatively.

We now have a measure of deprivation that we can use in analyses. The question is, why are some people, or in our case, some households more deprived than others and how does this vary between countries?

Describing Deprivation

To begin an examination of the determinants of deprivation in each country, it is first useful to get an overview of the overall level of deprivation in each country. As already discussed, we would expect that in the poorer E.U countries such as Greece and Portugal levels of deprivation would be higher than among the more affluent countries. Table 1 shows that there does seem to be some truth in this as levels of deprivation vary widely and in roughly the expected pattern. Whereas 62% of households in the Netherlands are not experiencing enforced deprivation of any of the items in the current lifestyle index, in Greece and Portugal this is true of only a small minority (6 and 7% respectively). At the other end of the deprivation scale, whereas the level of what we might term extreme deprivation (a score of 8 or more items) is only 0.3% in the Netherlands, it is almost 30% in Greece and Portugal. However, countries may well differ greatly in average levels of deprivation due to the

distribution of different types of disadvantages and differences in the effect of these disadvantages.

Explaining Deprivation

Where an individuals and households level of resources depends mainly on their participation in economic production and exchange, it is likely that inability to participate will have dramatic consequences on levels of deprivation. In the short run, savings or transfers from family and social networks may substitute for market income, but without some form of intervention from the state or other welfare body, deprivation is the inevitable consequence. As we will go onto see, family support may indeed substitute for government transfers, but this can only occur where social integration and family structure remain strong enough to fill the gap. In this situation, disadvantages in the labour market at the household level will lead to an increased probability of deprivation and if distributed unevenly between countries to higher or lower national levels of deprivation.

Across states the size of the population at risk of deprivation in the absence of government intervention varies widely due to different economic and social histories. Thus poorer states with more unemployment and greater numbers of unemployed will have higher average levels of deprivation and states may also differ because of different levels of income inequality. But, more interestingly, disadvantage does not always strike the same types of individuals across countries.

Table 1: Distribution of Current Lifestyle Deprivation in 12 European Union Countries 1994

	DE	DK	NL	BE	LU	FR	UK	IRE	IT	GR	S	P
0	41.5	45.6	62.8	43.0	58.8	31.3	31.7	26.4	32.0	6.0	12.4	7.0
1	23.6	18.5	13.2	22.8	19.1	22.4	21.9	21.4	17.8	7.7	14.8	8.0
2	12.2	14.3	6.4	9.6	6.4	14.4	12.0	14.5	12.3	8.5	11.7	6.8
3	8.3	8.1	6.4	7.1	5.0	10.8	9.3	10.9	10.6	8.4	12.1	7.8
4	5.7	5.7	4.7	4.5	4.0	7.2	7.4	8.0	8.8	8.9	11.6	9.4
5	4.0	3.4	3.5	3.9	2.5	4.5	5.3	5.9	6.7	9.9	8.6	10.3
6	2.2	2.6	1.9	4.2	2.7	3.7	4.2	4.0	5.0	10.8	8.2	10.9
7	1.4	.9	.6	1.8	.8	2.4	3.1	3.1	3.2	11.0	6.7	10.0
8 or more	1.1	0.9	0.5	3.1	0.7	3.3	5.1	5.8	3.6	28.8	13.9	29.8
Mean	1.29	1.26	0.94	1.30	0.84	1.66	1.81	2.03	1.92	4.91	3.18	4.91
Total	100	100	100	100	100	100	100	100	100	100	100	100

For example, the risk of unemployment for women in Southern European states such as Italy and Spain (as well as Northern European states such as France) is far higher than for men, whereas the opposite is true in countries such as the UK and Sweden. Similarly, younger people (aged less than 25) are far more at risk of unemployment in Southern European states compared to Northern European states such as Germany and Denmark. These different risk profiles combine with other factors such as the extent to which young people live independently of their parents and the participation rates of women to produce complex patterns of disadvantage in each country. Since these constellations of factors are not themselves entirely unconnected to welfare policy (in its broadest sense), we need to be careful in examining the effectiveness of welfare systems to separate individual factors from institutional features. More importantly in the context of this paper, the risk of deprivation should also be strongly related to the extent to which governments intervene in the nexus between household and market. This intervention often takes the form of a monetary transfer from government as for example, unemployment benefit, or as subsidies, for example on the cost of housing or children, but both the coverage of these benefits and the level of compensation that they offer varies greatly across E.U states. Nonetheless we can isolate some characteristics that should associated with deprivation across countries. First of all there are those factors which impact on the level of resources available to households. Factors such as long term unemployment, lone parenthood and being at either end of the age spectrum and living alone could be expected, ceteris paribus, to impact on the level of resources since they impede, or decrease the returns to participation in the labour market or denote failure therein.

On the other hand, other characteristics increase the level of resources necessary to a household to maintain any given standard of living. The size of the household is particularly crucial here with larger numbers of dependants such as children being associated with higher levels of poverty in previous research. As discussed earlier however, these characteristics may be more or less associated with deprivation depending on their interaction with other characteristics and the extent of intervention by national welfare systems.

Table 2: Bivariate Effects of Particular Disadvantages on Current Lifestyle Deprivation in 12 European Union Countries 1994													
	DE	DK	NL	BE	LU	FR	UK	IRE	IT	GR	S	P	EU12*
Single Elderly	0.20	-0.39	0.42	0.49	0.00	0.33	0.33	-0.73	0.47	1.37	1.71	1.24	0.30
Single Person 17 to 24	0.85	1.69	1.78	1.58	-0.41	0.84	1.91	0.82	1.21	-0.11	-0.16	-2.08	0.76
Lone Parent	1.06	1.26	1.66	1.19	0.42	1.07	1.92	1.65	0.25	0.57	0.27	0.88	1.10
3+ Children	0.63	0.01	-0.34	0.01	0.71	0.13	0.89	0.49	1.00	0.00	0.21	1.02	0.41
LT Unemployed	2.68	1.62	2.12	1.92	2.72	2.79	3.53	3.01	2.43	2.26	2.00	1.71	2.77
Manual Class	0.80	0.60	0.65	0.72	0.93	1.05	1.32	1.59	0.92	1.43	1.54	2.11	1.124
N	4446	3744	5146	4149	1011	7315	5731	4000	7113	5523	7204	4879	60259

* Note: Weighted using a grossing factor to population size.

Taking both of these points we can get a better picture of the impact of these variables on the level of deprivation if we estimate their effect controlling for the mean in each country. We can do this in a simple fashion using a series of bivariate OLS regressions using data from each country, though it must be remembered in interpreting these effects that we are not controlling for any other characteristics. Because our measure of deprivation is that for the household has a whole, we use the characteristics of the head of household in these analyses. Although other members of the household may well contribute to the overall resources of the household, it is likely that the head of household and their characteristics sets the general standard of living.

Table 2 gives the results for just such a series of analyses and makes for interesting reading. Starting first with the effects for being a single elderly person, the effects are basically bimodal with the Northern European countries having considerably smaller effects than the Southern European. In the case of Ireland and Denmark, the elderly are shown to experience less deprivation than the rest of the population. On the other hand if we look at the effect for being a young person living alone (aged 17 to 24) we find the opposite pattern with the Southern European states, except Italy having negative estimates. This may well be because it is rare in these countries for the young to live independently (because of high youth unemployment and the absence of benefits for the young), thus those that do are usually fairly affluent.

In the Northern European States on the other hand, single young people have higher deprivation scores, although Ireland[2] and Luxembourg stand apart. Turning to the effect of being a lone parent, there is substantial degree of variation across the countries, although this characteristic has a positive effect on deprivation across all countries. As with the head of household being a young single person though, here lone parents face the least tariff in the Southern European States (including Italy this time) followed by France, Germany, Denmark and the Benelux countries. The UK and Ireland stand apart as countries with a high level of deprivation associated with being a single parent. Having a larger number of children (3+) does tend to lead to

[2] In the case of Ireland, it should be noted that young people tend to live in the family home until later ages than in most other European countries and particularly during 3rd level education.

higher levels of deprivation, but the effect is rather small when compared to the other effects in Table 2, the largest being in Italy, the UK and Luxembourg. The effect of the head of the household being long term unemployed is high and positive across all of the countries and underlines the impact of such a characteristic on living standards across the E.U. Nonetheless there is variation with the effect being least in Denmark, Portugal and Belgium and greatest in the UK and Ireland. Finally, we come to the effect of the head of household being in the manual working class. Once again we see a north/south divide in this effect with the Southern European countries having higher estimates, although this easy demarcation is complicated by the inclusion of the UK and Ireland among the high effect countries. Portugal turns out to have by far the largest effect here, followed by Ireland and Spain. At the other end of the scale, being manual working class in Denmark exerts less than half the effect of being in the same position in the UK.

We can see then that the characteristics outlined earlier on tend to be associated with higher levels of deprivation, particularly if the head of household is long term unemployed or comes from the manual working class. That said however, there is quite substantial variation in the effect between countries. As discussed earlier this could be due to the interaction of different characteristics in each country, but it could also be due to the effect of social welfare policies within countries. Although we will not be able to examine the latter point fully, we can examine the effect of the first and make some inroads into the second if we move to a multivariate framework of analysis.

Modelling Deprivation

To begin to unravel the relationship between country institutional context and the distribution of disadvantaged characteristics in each country we need to model the level of deprivation at the household level. Modelling deprivation will also allow us to examine the empirical value of the arguments about 'biographisation', 'temporalisation' and 'democratisation' made in Leisering and Walker (1998) and Leisering and Leibfried (1999). 'Biographisation' refers to the process whereby poverty becomes associated with particular life events, and especially transitions such as divorce, separation and leaving home among the young. Although not explicitly

linked by Leisering and Leibfried, this process is also related to the changing 'temporalisation' of poverty in that such events are seen to be the main factors that precipitate a fall into poverty, which is usually of a temporary nature. This questioned much previous literature on poverty which had assumed that poverty tended to last for long durations and was structured by deep seated socio-economic forces such that poverty was a working class phenomena. Questioning this assumption, Leisering and Leibfried have argued that poverty is now also experienced to a larger extent by the middle classes.

Here, although we will not examine the 'temporalisation' thesis, or the 'democratisation' thesis that poverty is *increasingly* experienced by the middle classes (since both would require longitudinal data), we can examine whether poverty is still structured to a large extent by such features as social class and occupational status or whether life transitions such as divorce and separation are strong explanatory factors.

In the following models we enter a number of different characteristics into an OLS model of the level of current lifestyle deprivation. As we are predicting household deprivation, the characteristics of the household reference person are used alongside variables that express household structure. The household reference person is the person responsible for the accommodation, or if this is more than one person, the oldest person in responsibility. In practice and given prevailing partnership patterns, this tends to lead to the reference person being male. Apart from the age and sex of the reference person, we use the following variables in the analysis:

Log Equivalent Income

The ECHP survey collected information on all elements of household income in 1993 and adopted an annual accounting period. This includes government and inter-household transfers as well as income from self-employment and farming. As households differ in size, the new OECD equivalence scale is used (first adult receives a weighting of 1, each subsequent adult 0.5 and each child a value of 0.3) and the resulting figure logged.

Household Type

This typology divides households up into five types: single person, single parents, single elderly, elderly couple, couple with no children, couple with one or two children, couple with three or more children and finally, an other grouping. Our hypothesis is that characteristics that do not allow one to fully participate in the labour market are likely to lead to deprivation in the absence of decommodifying policies. As such, this variable allows us to see whether categories such as single parents, the elderly or those with children are more deprived.

Marital Status

As discussed, the 'biographisation' thesis maintains that poverty is more likely to be the consequence of life events such as divorce and separation, rather than the more traditional socio-structural variables such as social class. Using variables representing whether the head of the household has experienced divorce, separation or widowhood we can examine this effect.

Highest Education

Educational level is likely to have a large impact on labour market success, but measuring this across countries in a consistent and valid manner is difficult. Within the ECHP, educational level is coded using the International Standard Classification of Education (ISCED) grouped into third level (ISCED 5-7), second stage of secondary education (ISCED 3-4) and all those with less than second stage of secondary level (ISCED 0-2). The two higher categories are compared to having less than second stage of secondary.

Present and Recent Employment Status

Employment status is likely to be one of the best predictors of deprivation level, but knowing someone is presently employed may miss much of the variation within this group based on their past employment record. Unfortunately, the ECHP only asks respondents or their employment status now, whether they where unemployed in each of the months in 1993 and whether they have experienced unemployment in the last five years. Since most will have been interviewed in the second half of 1994, this means that we are not sure of their employment status between the end of 1993 and interview. Nevertheless, we make seven categories from those self-defining as employed, unemployed or inactive. The currently unemployed are divided between those who were unemployed those for more than six months in 1993 and those less than 6 months in 1993. The currently employed are divided into those who experienced unemployment in 1993, those who did not experience unemployment in 1993, but who did so in the last five years before interview and those with no unemployment experience. Lastly we have a category for those currently defining themselves as inactive. If we list these in order of labour market disadvantage they become 'precarity level 6' to precarity level 1 where 6 is unemployed currently and for 6 months or more in 1993 and level 1 is currently inactive. All groups are compared to the currently employed who have not experienced unemployment in the last five years.

Social Class Position

Last of out independent predictors is the social class position of the household reference person. Social class is a rather contested concept, but in most interpretations it refers to a set of locations (rather than persons) identifiable by their relationship to dimensions of advantage and disadvantage in the labour market, and thus more widely. Class thus allows us to sum up a number of other forms of disadvantage in a manner that tends to be stable across time. Presence in a more disadvantaged social class tends then to constrain mobility into a more advantaged position. Here we use a collapsed version of the CASMIN class schema, which is essentially the Erikson,

Goldthorpe, & Portocarero (1979) (EGP) scheme. Since our interest is in the effect of being in the most disadvantaged class position, we collapse the schema from its usual 11 categories into five, dividing between the self-employed and employees. The former are divided again into self-employed with employees, those without employees and those engaged in farming. Employees are themselves split between the non-manual and manual.

Modelling Strategy

Rather than enter all of the variables into the model at once we take a graduated approach and use five nested models to examine the relationship between country context, household characteristics and the interaction of the two. Putting country into the equation first (model one) allows us to examine the difference in mean levels of deprivation before entering the age and household structure variables in model two which control for the level of *need* within the household. Model three sees the entry of the education, labour market position (and history) and social class variables which represent an indirect measure of the level of resources in the household. In model four we test to see whether the some of the household level characteristics vary by country using interaction terms for the variables already used in Table 2, before model five, the final model also includes the log of equivalent household disposable income. By building the models in this fashion we will be able to examine whether the country differences highlighted in model one still exist by model five. If so, we have grounds to suspect that national welfare and structures may play a role since the socio-demographic distribution has been controlled for, as has any country interaction with this and the income distribution.

Results

Table 3 gives the estimates and significance of the variables entered into the five nested models (A-E). Beginning in model 1 we see the pattern of country difference already shown in Table 1, except here we have a test of the significance of the differences in the mean.

Table 3: Parameter Estimates and Significance for OLS Models of Current Lifestyle Deprivation										
	Model A		Model B		Model C		Model D		Model E	
	β	Sig	β	Sig	β	Sig	β	Sig	β	Sig
Constant	1.26	***	0.58	***	-0.61	***	-0.30	***	11.0	***
Denmark	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Germany	-0.01	n.s	0.07	n.s	0.30	***	0.09	n.s	-0.01	n.s
Netherlands	-0.50	***	-0.36	***	-0.10	*	-0.25	***	-0.26	***
Belgium	-0.16	**	-0.05	n.s	0.05	n.s	-0.06	n.s	-0.05	n.s
Luxembourg	-0.42	***	-0.29	***	-0.20	*	-0.37	***	0.30	**
France	0.34	***	0.42	***	0.42	***	0.12	n.s	0.13	*
UK	0.40	***	0.48	***	0.46	***	0.06	n.s	0.11	n.s
Ireland	0.67	***	0.72	***	0.40	***	-0.10	n.s	-0.08	n.s
Italy	0.43	***	0.61	***	0.56	***	0.33	***	0.09	n.s
Greece	3.45	***	3.64	***	3.43	***	2.89	***	2.42	***
Spain	1.68	***	1.86	***	1.41	***	0.96	***	0.73	***
Portugal	3.56	***	3.72	***	3.32	***	2.41	***	1.89	***
Male	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Female			0.28	***	0.34	***	0.34	***	0.28	***
Aged 17 to 24			1.03	***	0.67	***	0.70	***	0.40	***
Aged 25 to 44			0.14	***	0.28	***	0.28	***	0.18	***
Aged 45 to 64	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Over 65			0.12	n.s	-0.21	***	-0.18	**	-0.06	n.s
Single			0.55	***	0.41	***	0.43	***	0.39	***
Single Parent			0.87	***	0.61	***	1.00	***	0.77	***
Single Elderly			0.53	***	0.25	**	0.23	**	0.01	n.s
Elderly Couple			0.30	***	-0.06	n.s	-0.08	n.s	-0.18	**
Couple 2 or less Children	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Couple 3+ Children			0.83	***	0.73	***	0.47	*	0.20	n.s
Other			0.38	***	0.29	***	0.28	***	0.15	***
Separated			0.77	***	0.61	***	0.60	***	0.59	***
Divorced			0.52	***	0.42	***	0.38	***	0.42	***
Widowed			0.11	*	-0.13	**	-0.12	*	-0.04	n.s
Education=ISCED5-7	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Education=ISCED3-4					0.34	***	0.36	***	0.13	***
Education=ISCED0-2					1.07	***	1.06	***	0.63	***
Precarity Level 6					2.38	***	1.52	***	1.23	***
Precarity Level 5					1.68	***	1.66	***	1.39	***
Precarity Level 4					1.10	***	1.07	***	0.68	***
Precarity Level 3					0.65	***	0.64	***	0.50	***
Precarity Level 2					0.83	***	0.82	***	0.48	***
Precarity Level 1	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Non-Manual	*Ref.*		*Ref.*		*Ref.*		*Ref*		*Ref*	
Self-Employed with Emps					-0.25	***	-0.16	***	-0.32	***
Self-Employed					0.40	***	0.53	***	0.15	***
Small Holder					1.34	***	1.56	***	0.87	***
Manual Working Class					0.76	***	0.07	n.s	0.01	n.s
Log Equivalent Income									-1.14	***
Interactions	See Table 4									
N: 60127 R^2	0.24		0.27		0.39		0.41		0.46	

The Netherlands and Benelux countries emerge as having significantly less deprivation than the reference country Denmark, whereas France, Italy, the UK and Ireland form a group midway between the Benelux countries and the more deprived Southern European countries of Greece, Spain and Portugal. Adding the variables

representing household structure and the degree of need in model B only exaggerates this pattern of country difference, although the effect for Belgium, Like Germany becomes insignificant. This lack of effect on the country dummies of the variables representing household 'needs' is interesting since it suggests that the country differences in deprivation that we observe are not due to differences in household structure.

Looking at the parameter estimates for the household structure variables in model B we can see that younger household heads tend to be associated with higher levels of deprivation. We also get confirmation here of the result in Table 2 for single parents which is positive and significant, as is that for being a couple with three or more children. Interestingly, the variables representing whether the head is divorced or separated are significant predictors of higher deprivation as predicted by the biographisation thesis.

Model C sees the entry of those factors associated with the resources of the household such as the level of education, employment status and social class position of the head of household. Though we see no change in the significance of the country estimates in model C, we do see a large decrease in the size of the estimates, with Ireland and Spain experiencing decreases in the effect of 55 and 24% respectively. All three new clusters of variables in model C have the expected effect with lower levels of qualification, higher levels of precarity and being manual working class or a small holder all leading to significantly greater levels of deprivation. The effect for the precarity variable is almost finely graduated as we move from the long term unemployed through the short term unemployed to the employed who have experienced unemployment to the reference category – each having a small, though significant effect on deprivation. It should be remembered that at this point, we are still constraining the effects of these covariates to be equal across countries and thus not allowing differential effects across countries to emerge in the model. Given this, it is remarkable how clear the effect is in model C for the variables representing household resources. The substantial increase in explained variance (R^2) at this iteration (from 27% to 39%) also suggests that these effects are common to all countries in the model. The increase in explained variation also shows, contrary to the biographisation and democratisation arguments of Leisering and Walker (1998) and

Leisering and Leibfried (1999), that deprivation is still very much structured by the traditional factors of social class, educational attainment and labour market status.

Table 4: Country Effects for Selected Variables

Country Effects		Model D		Model E	
		β	Sig.	β	Sig.
Single Parents	Germany	0.50	*	0.37	*
	Netherlands	1.04	n.s	0.88	n.s
	Belgium	0.79	n.s	0.59	n.s
	Luxembourg	0.21	*	0.23	n.s
	France	0.71	n.s	0.47	n.s
	UK	1.32	n.s	0.97	n.s
	Ireland	0.77	n.s	0.62	n.s
	Italy	0.23	***	0.20	**
	Greece	0.42	**	0.46	n.s
	Spain	0.05	***	0.09	***
	Portugal	0.74	n.s	0.54	n.s
Long Term	Germany	2.55	***	1.96	**
Unemployment	Netherlands	1.68	n.s	1.20	n.s
	Belgium	1.88	n.s	1.33	n.s
	Luxembourg	2.08	n.s	1.39	n.s
	France	2.68	***	2.12	***
	UK	3.40	***	2.74	***
	Ireland	2.57	***	1.93	***
	Italy	2.20	**	1.28	n.s
	Greece	2.57	***	1.92	**
	Spain	2.23	***	1.59	n.s
	Portugal	0.94	n.s	0.33	**
Manual	Germany	0.46	***	0.31	**
Occupation	Netherlands	0.24	n.s	-0.02	n.s
	Belgium	0.19	n.s	0.12	n.s
	Luxembourg	0.46	*	0.11	n.s
	France	0.70	***	0.43	***
	UK	0.73	***	0.48	***
	Ireland	1.05	***	0.65	***
	Italy	0.52	***	0.35	***
	Greece	1.32	***	1.10	***
	Spain	1.12	***	0.83	***
	Portugal	2.07	***	1.74	***
3 or more	Germany	0.86	n.s	0.63	n.s
Children	Netherlands	0.29	n.s	-0.13	n.s
	Belgium	0.64	n.s	0.38	n.s
	Luxembourg	0.98	n.s	0.70	n.s
	France	0.48	n.s	0.17	n.s
	UK	0.93	n.s	0.48	n.s
	Ireland	0.72	n.s	0.38	n.s
	Italy	1.43	***	0.83	*
	Greece	0.49	n.s	0.30	n.s
	Spain	0.72	n.s	0.39	n.s
	Portugal	1.17	*	0.66	n.s

However, it could still be that the effects do vary across country thus in model D we enter interactions for being a single parent long term unemployed, in a manual occupation and having three or more children, with country into the model. We now see some dramatic reductions in the main country effects with those for the UK, Ireland and France becoming insignificant and the effects for the Southern European countries reducing in magnitude by between 41 (Italy) and 16% (Greece). These are dramatic changes, although it should be borne in mind that the addition of the interactions only raises the R^2 from 39% to 41%, compared to the 12% increase with the addition of the main terms. This suggests that most of the effect of these variables is common across countries. Analyses also show that the effect of the interactions is primarily driven by the country interaction with manual class position (totally in the case of the UK and Ireland). This means that almost all the main country effect for the UK and Ireland is accounted for by the differential effect of class in these countries. If we return to the theory of biographisation at this point we can see that although divorce and separation remain significant influences on the level of deprivation, this is far outweighed by the class effect.

The full parameters for these interaction effects are shown in Table 4 and show the large significant and positive effect of both manual class and long term unemployment on deprivation outside Denmark, the Netherlands and the Benelux countries. Interestingly in terms of the debate over biographisation, there is a significant positive effect for manual class and particularly long term unemployment in the German context.

Lastly we turn to model E and the inclusion of the variable for equivalised household disposable income. By including this variable we hope to control for the effects of the variance across countries in the distribution of income and moreover test to see whether the effect of some of the variables occurs through income, rather than some other process. The variable itself has a significant negative effect, but it also has a profound effect on the model. The coefficients in model E show a sharp fall for the effect of having a young household head (43%), being a single parent (23%), low education (41%) and long term unemployment (19%). The effect for having three or more children becomes insignificant suggesting that this effect is completely accounted for by the costs of large numbers of children and not some other process.

More interestingly, the introduction of the income variable also attenuates the effect of the interactions between country and long-term unemployment. The country effects for long term unemployment in the Southern European countries are particularly reduced, with those for Spain and Italy becoming insignificant with the introduction of income. However we also see large reductions in the size of the country effects for the UK, Ireland, France and Germany. This suggests that much of the effect of long term unemployment on deprivation in these countries can be accounted for in terms of the direct effect of low income, rather than indirectly through other processes (c.f Gallie and Paugam 2000). On the other hand we should also stress the continuing importance of the other predictor variables used in the model, and particularly those for social class, education and labour market status. Even in the presence of the income variable these remain strong predictors of deprivation.

Conclusions

Even though most analysts of poverty would now concede that it should be conceptualised in relative terms as exclusion from a 'customary' lifestyle through lack of resources, it is still striking that generally this is operationalized through relative income measures. This tendency is particularly common in comparative poverty research where absence of direct measures of lifestyle deprivation make the direct analysis of deprivation almost impossible. In this paper, we have sought to begin the task of analysing the cross-national deprivation data contained in the 1994 wave of the European Household Panel Survey.

Section two of the paper showed that a set of stable, cross-nationally valid deprivation dimensions emerge from the data, but that a combined 'current lifestyle' deprivation index could be made from two of the original scales that is ideal for examining the general processes of accumulation and attrition experienced by households. After a brief overview of the degree of difference in deprivation levels between countries at the beginning of section three, we discussed the general processes likely to account for different levels of deprivation between countries. Certain individual and household characteristics are more likely to be associated with higher levels of deprivation in welfare capitalist economies, but as the name suggests the extent of difference in the

effect of these characteristics will differ according to the degree of intervention on the part of the state and other institutions. As a preliminary approach to the analysis of these processes we divided the factors associated with increased deprivation into two broad categories – those that effect the extent of need and those that influence the level of resources likely to be available.

Taking a subset of these characteristics such as single parenthood, single elderly status, long term unemployment and manual working class position we used bivariate analyses to examine how these effects varied across countries. Although it was clear that characteristics such as long term unemployment and manual class position profoundly increased deprivation across all countries, the effect did vary substantially and suggested that there may well be other processes at play.

In an attempt to control for the possible interaction of these characteristics and the differential effect across country we moved to a multi-variate framework in section 4. Using a set of nested models we examined the extent to which country differences in the level of deprivation could be accounted for by the distribution of different disadvantaged characteristics as well as examining the effect of these characteristics themselves. The model showed that the inclusion of household structure and resource variables led to a large decrease in the level of the country difference, particularly after the inclusion of variables representing employment status, education and social class. Allowing particular categories of these variables to interact with country brought a large decrease in the size of most country effects outside Denmark and the Benelux countries and led the main effect for the UK and Ireland to become insignificant. This development underlines the importance of structural socio-economic factors such as social class and labour market status, even in the presence of variables such as divorcee status which have been put forward as important predictors of poverty.

The final model of the fourth section introduced income as a covariate and showed that many of the processes underlying levels of deprivation revolved around the provision of an adequate income. This was particularly clear in the case of being a young head of household, a single parent or having a large family where the previously large effect became insignificant. The inclusion of the income variable also

strongly reduced the country effects of the variables representing long term unemployment in most countries. On the other hand the main effects for social class, education and labour market status remained strong predictors of deprivation, even in the presence of the income variable.

Overall then, the paper underlines the importance of deprivation as a measure of poverty that should be placed alongside income in the analysts tool kit. The descriptive and explanatory analyses in this paper have shown that the measure of deprivation used behaves according to our expectations when predicted by different characteristics that we would expect to be associated with disadvantage. Contrary to the thesis of biographisation, the structural socio-economic factors traditionally taken to be major predictors of deprivation are still very important, although other life events do predict higher levels of deprivation. The final models showed though, that there is still a great deal of variation between countries in the level of deprivation that is not explained and which would benefit from more focused analyses on the role of national welfare state institutions.

References

Callan, T., Nolan, B., & Whelan, C. T. (1993), Resources, Deprivation and the Measurement of Poverty, *Journal of Social Policy*, vol. 22, no. 2, pp. 141-172.

Erikson, R., Goldthorpe, J. H., & Portocarero, L. (1979), Intergenerational Class Mobility in Three Western European Societies", *British Journal of Sociology*, vol. 30.

Gallie, D. & Paugam, S. (2000), *Welfare Regimes and the Experience of Unemployment* Oxford University Press, Oxford.

Halleröd, B. (1998), Poor Swedes, Poor Britons: A Comparative Analysis of Relative Deprivation, in *Empirical Poverty Research in a Comparative Perspective*, H. J. Andress, ed., Ashgate, Aldershot.

Layte, R., Maitre, B., Nolan, B. and Whelan, C.T. (1999): *Income, Deprivation and Economic Strain: An Analysis of the European Community Household Panel*, European Panel Analysis Working Paper No. 5, Institute for Social and Economic Research, University of Essex, Colchester.

Leisering L. and S. Liebfried (1999): *Time and Poverty in western Welfare States: United Germany in Perspective*, Cambridge University Press: Cambridge

Mack, J. & Lansley, S. (1985), *Poor Britain*, Allen and Unwin., London.

Mayer, S. & Jencks, C. (1988), Poverty and the Distribution of Material Hardship, *Journal of Human Resources*, vol. 24,no. 1, pp. 88-114.

Mitchell, D. (1991), *Income Transfers in Ten Welfare States* Avebury, Aldershot.

Muffels, R. (1993) "Deprivation Standards and Style of Living Indices," in *The European Face of Social Security*, J. Berghman & B. Cantillon, eds., Avebury, Aldershot.

Nolan, B. & Cantalon, S. (1998), Are Married Women More Deprived than Their Husbands?, *Journal of Social Policy*, vol. 27, pp. 151-171.

Nolan, B. & Whelan, C. T. (1996), Resources, deprivation and poverty, *Oxford and New York: Oxford University Press, Clarendon Press, 1996*.

Ringen, S. (1987), *The Possibility of Politics* Clarendon Press, Oxford.

Ringen, S. (1988), Direct and Indirect Measures of Poverty, *Journal of Social Policy*, vol. 17, pp. 351-366.

Townsend, P. (1979), *Poverty in the United Kingdom* Penguin, Harmondsworth.

Townsend, P. (1988), Deprivation, *Journal of Social Policy*, vol. 16, no.2: pp125-46.