Persistent Income Poverty and Deprivation in the European Union: An Analysis of the First Three Waves of the European Community Household Panel

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Acknowledgements

Abstract

The starting point of this paper is the difficulties created for cross-sectional income poverty lines by the fact that current income is relatively weakly related to current life-style deprivation. In this paper, using the UDB for the first three waves of the ECHP, we have sought to establish how much progress can be made in resolving such difficulties by focusing on poverty persistence. Our results show that this approach does constitute a significant improvement over its cross-sectional counterpart. Relationships involving persistent poverty come close to being uniform across countries. The measure of persistence also conforms to our expectations of how a poverty measure should behave in that, unlike the situation for relative income poverty lines, defining the threshold level more stringently enables us to progressively identify groups of increasingly deprived respondents. However, the overlap between the dimensions is far from perfect. Persistent income poverty is more strongly influenced by factors that are closely related to the generation of resources while life-style deprivation is more closely associated with factors that reflect additional demands. Both are significantly related to subjective economic well being with the impact of the former being substantially mediated by the latter while relative deprivation has a substantial net impact.

1. Introduction

The standard conceptualisation of poverty within the European Union (EU) is in relative terms. Customarily as in a number of studies by the EU Commission or EUROSTAT, this involves setting the poverty line at a particular percentage of mean or median income. (O'Higgins & Jenkins 1990: ISSAS 1990, Hagenaars *et al.* 1994, Eurostat, 1999). The general rationale is that those falling more than a certain 'distance' below' the central tendency are excluded from the minimally acceptable way of life of the society in which they live because of lack of resources. However, as recognised some time ago by Ringen (1987, 1988), low income does not serve as a valid indicator of such exclusion, because it fails to identify households experiencing distinctive levels of deprivation. Various studies of different industrialised countries have indeed found a substantial proportion of those on low incomes not to be suffering from deprivation while some households above income poverty lines do experience such deprivation.[1] For those seeking to conduct comparative European research, the problems posed by this mismatch are exacerbated by the fact that its magnitude varies systematically across countries, with the association between income and deprivation being weakest in the most affluent countries and strongest in the least prosperous. (Whelan *et al*, forthcoming).

In this paper we make use of the User Data Base (UDB) for the first three waves of the European Community Household Panel Study (ECHP) in order to explore the relationship between persistent income poverty and life-style deprivation. Our interests go beyond the description of the extent of persistent income poverty or even an analysis of the determinants of such persistence. Our focus is rather on the extent to which by moving from income poverty measured at one point in time to the use of

panel data we can make progress in tackling certain issues that have been for some time been central to the debate on the measurement of poverty.

One response to such difficulties would be to dispense with income and go directly to the measurement of deprivation. However, to do so without understanding why current income proves to be such a poor predictor of deprivation would undermine the theoretical, policy and normative bases of any ensuing measures. An alternative approach starts from the position that developing an understanding of the relationship between income and deprivation will allow us to make use of types of measures. Here, we wish to explore the extent to which introducing a temporal dimension might contribute to such understanding. We might reasonably expect that the impact of low income on deprivation will depend 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. From this perspective the solution to some of our difficulties may be found by moving beyond a focus on income poverty at a point in time to a broader concern with the accumulation and erosion of resources over time. The possibility exists that if we had sufficient understanding of, and relevant information on, such processes we could proceed to measure poverty directly in terms of available resources. Since we are far from being in such an ideal situation, we must make judicious use of different types of information in a manner, which is informed by our understanding of what is ultimately desirable.

In this paper we make use of the availability of the three-wave UDB data set for the ECHP to pursue this strategy by pursuing by addressing the following questions.

- How do the patterns of cross-sectional persistent income poverty in the European Union compare?

- To what extent do cross-sectional poverty rates and degrees of persistence cluster in a manner that is consistent with welfare regime theory?

- To what extent is poverty persistent over time and how much does this vary across country.

- Does shifting from cross-sectional income poverty measures to measures tapping persistence over time, thus reducing the impact of transient circumstances, lead to a stronger relationship with deprivation.

- Do persistent income poverty measures behave as we would expect them to behave on theoretical grounds? In particular, does deprivation increase as poverty is defined more stringently? Is there a continuum of deprivation as the extent of exposure to poverty increases?

- To what extent are persistent income poverty and current life-style deprivation measuring similar or different phenomena?

- What are the implications, in terms of our understanding of the determinants and consequences of poverty of the choice of measure?

The structure of the paper is as follows. In the next section we describe the data on which we base our analysis. In section three we consider the extent of cross-sectional income poverty in 1995 the level of persistent income poverty between 1993 and 1995. Section 4 deals with the relationship between persistent income poverty and life-style deprivation. In section 5 this analysis is extended by comparing the determinants of persistent poverty and deprivation. The sixth section explores the value of having both types of measures by considering the contribution they can make

to an understanding the subjective experience of economic strain. In the concluding section we provide a summary of our findings and consider their implications for the measurement of poverty.

2. Data

The results presented in this paper are based on the User Data Base (UDB) containing data from Wave 1,2 and 3 of the ECHP as released for public use by Eurostat.[2] The unit of analysis is the individual and we work with the sub-sample present in each of the waves.[3] Since our analysis relates to eleven countries this gives an overall sample of 131,335.[4] The income measure employed is total disposable income, including transfers and after deduction of income tax and social security contributions, with the household taken as the income recipient unit. The principal accounting period for income employed in the ECHP is the previous calendar year: with the Wave 1 survey carried out in 1994, the Wave 2 in 1995 and the Wave 3 in 1996 this means the income measures relate to calendar years 1993, 1994 and 1995 respectively. [5]

Since a given level of household income will support a different standard of living depending on the size and composition of the household, we adjust for these differences using equivalence scales. The scale we employ at this point is often termed the "modified OECD" scale: where the first adult in a household is given the value 1, with this scale each additional adult is given a value of 0.5 and each child a value of 0.3. [6] We thus calculate the number of equivalent adults in each household using this scale, and construct equivalised income by dividing household income by this number. Equivalised income of the household is then attributed to each member, assuming a common living standard within the household, and our analysis is carried out using the individual as the

unit of analysis. A change in the equivalised income of a particular individual over time may thus reflect either a change in the total income coming into the household, or a change in the number of adults and children depending on it, or both. Assessing the extent of income poverty persistence involves comparing the equivalised incomes reported in 1993, 1994 and 1995. Our analysis is thus restricted to individuals residing in households that were present in all three waves who were present in all three waves.

For the purposes of the analysis in this paper we identified thirteen household items, which could serve as indicators of the concept of life-style deprivation as outlined above.[7] These items are considered to cover a range of what we term Current Life-Style Deprivation. A further eleven items relating to housing and the environment, which in principle meet our definition of deprivation, have been excluded because they have been shown to form quite distinct clusters to the CLSD measure and to have significantly weaker correlations with income (Whelan *et al*, forthcoming). Thus the exclusion of these items will minimise the extent of income-deprivation mismatch found in the ECHP data. 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.

For our present purposes we use a weighted version of this measure in which each individual item is weighted by the proportion of households possessing that item in each country. As a consequence deprivation of an item such as a video recorder will be counted as a more substantial deprivation in Denmark as compared to Greece. In this form the measure is clearly unsuitable for the purposes of comparison across countries. However, the weighted CLSD measure makes it possible to identify for

each country and for each income poverty line a corresponding deprivation threshold. This allows in principle for the mismatch between poverty defined in income terms and deprivation terms to vary from zero to one hundred per cent. Where we wish to make comparisons across country we will employ the standardised version of the measure. In other words we will express scores in terms of deviation from the national mean divided by the country specific standard deviation.

3. The Extent of Cross-sectional Income Poverty and Persistent Income Poverty

In the first two columns Table 1 we show the distribution of income poverty at 60% and 70% of median income for individuals present in all three waves, across the eleven countries in our analysis. At the 60% line the poverty rate ranges from lows of 8% in Denmark and 10% Netherlands to in excess of 20% in Spain, Greece and Portugal. The other countries are found in a narrow range running from 14% to 19% with France, Germany and Belgium at the lower end of the range and Ireland, Italy and at the upper end. [8] A rather similar pattern is found for the 70% line with Denmark and the Netherlands having rates below twenty per cent while the Portuguese rate reaches 30%. All of the remaining countries are found in the range running from 22% to 28%. However, in this case Belgium, Ireland and the UK are less sharply differentiated from the Southern European countries The distribution of poverty is largely as we would expect given our understanding of the variable role of the welfare state in these counties. For example, the clustering of countries broadly corresponds to the set of *unemployment welfare regimes* identified by Gallie and Paugam (2000: 3-13) who focus on those aspects of welfare regimes that provide protection from misfortune in the labour market. Thus the Southern European countries, which display generally high poverty rates, are characterised by a sub-

protective system with limited coverage of benefits, modest benefits where they exist and an absence of active labour market polices. Ireland and the UK, which are also found at the upper end of the continuum, are characterised by a liberal/minimal regime which provides a higher level of protection but which is uneven in its coverage and provides a low level of compensation. Ireland differs from the U.K. though in that its proportionate expenditure on active labour market policies is substantially greater. Belgium, Germany, France and the Netherlands, which display somewhat lower poverty rates than Ireland and the U.K. are examples of the employment centred regime where the coverage of the unemployed is more widespread, the level of financial compensation is higher and active labour market policies play a prominent role. However, principles of eligibility are primarily defined in terms of previous unemployment experience. The Netherlands has a distinctively low poverty rate among this group, which is consistent with Gallie and Paugam's (2200:353) identification of it as a 'high-security' employment welfare system involving both high levels of compensation and an unusually long period of support. Finally Denmark's low rate of poverty is consistent with the fact that it constitutes an example of a universalistic regime which provides with both the widespread coverage, a high level of benefits and a strong emphasis on active employment policies.

How does the level of persistent income poverty compare with the cross-sectional estimates? Before seeking to answer this question we should elaborate on the manner in which we define persistent poverty. It is well known that cross-sectional analyses do not give a representative picture of the lives of all those who ever experience a poverty spell. Those observed at particular point in time will display significantly longer spells of poverty than those ever in poverty. Bane and Ellwood (1986) make

the distinction between an *ever begun* sample and a *point in time* sample. Here we present annualised 'counts' of years in income poverty within a three year window of observation and make no assumptions that these counts represent continuous 'spells' where an individual is below the income poverty line. This should be borne in mind when interpreting the analyses presented in this report. We do not know when those recorded as income poor in 1993, which is the first year for which we have information, entered that state. Thus that group who exited from poverty in 1994 will contain cases that have experienced longer spells of poverty than at least some of the households who did not exit. Correspondingly, we have no information on when or whether those in poverty at interview in 1995 left this state.

Table 1: *Income Poverty in 1993 and Persistent Income Poverty 1993-95 at 60% and 70% of Median Income by Country*

	% Poor 1993		%Poor in 1993 poor 1993&94&95	
	60%	70%	60%	70%
Germany	15.5	21.6	45.8	53.2
Denmark	8.1	14.9	38.2	42.3
Netherlands	10.0	19.5	34.0	46.7
Belgium	17.4	26.1	43.6	52.9
France	14.4	22.5	47.2	55.1
U. K.	19.7	28.0	39.5	53.6
Ireland	18.4	26.5	40.7	59.6
Italy	18.9	26.2	47.0	53.8
Spain	21.2	27.7	41.0	55.0
Greece	20.1	27.1	50.5	55.0
Portugal	23.6	29.7	56.3	64.0

The foregoing does not in anyway undermine the analyses we intend to present in the subsequent sections of the document, but it should be kept clearly in mind when considering the implication of the results we present. Analysis of poverty spells and the experiences of individuals involves different, but complementary perspectives. Thus as Rodgers & Rodgers (1993) note, spell analysis regards chronic poverty as a state in which one falls below a predefined threshold during a long and continuous

period of time. However, as they argue, chronic poverty could equally be conceptualised as the experience of poverty in a large proportion of time periods. Furthermore, while spell analysis has the potential to provide us with distinctive insights into the poverty process, analysis of individuals provides an important complement. Thus as Rodgers & Rodgers (1993:1558) note, a conclusion that x% of poverty spells end within one year could mean that x% of poor people had one brief poverty spell or that a much smaller number of poor individuals had many short spells. Furthermore, as Ashworth *et al* (2000:210) observe, replacing the individual or the household as the unit of analysis makes it possible to lose sight of the characteristics of the poor and the severity of poverty.

Over and above differences in poverty rates is there any evidence that that poverty is more persistent in one country than another? In columns three and four and four we set out the overall persistence rate in each country for the period 1993-95 for 60% and 70% of median income. At the former line we find that Denmark and the Netherlands who displayed the lowest poverty rates in 1993 also exhibit the lowest levels of persistence with approximately one third of those poor in 1993 remaining so over the three year period. Similarly, Greece and Portugal who had the highest poverty rates in 1993 also display the highest persistence levels with over one in two remaining poor throughout the period. For the other countries the rate varies between 41% and 47% but without any obvious discernible pattern. Not surprisingly, persistence rates are somewhat higher at the 70% line. The lowest rates are again found in Denmark and the Netherlands where they range from the low to the middle forties. Portugal continues to have a distinctively high rate with almost two in three remaining persistently poor. For the remaining counties the rate ranges between 53 and 60%

with Ireland occupying a higher position in the hierarchy than was the case for the 60% line and a Greece a somewhat lower one.

Thus overall there is some association between poverty rate and persistence, as suggested by Duncan *et al* (1993), although only at the extremes. Evidence of a connection between persistence rates and type of welfare regime is even weaker. On reflection this is perhaps less than surprising. Fritzell (1990:18-19) notes that it is far from a simple matter to deduce clear-cut hypotheses regarding poverty dynamics from welfare regime theory. Thus contrasting the polar opposite cases of the universalist and marginal regimes in operation in Sweden and the United States he notes the operation of a number of countervailing factors. The Swedish focus on redistribution might be expected to encourage economic stability while the operation of a relatively free market in the US might lead one to expect more ups and downs. However, Sweden and the US also represent opposite extremes in terms of income inequality and thus a move between two categorical ranks may also involve a greater step in absolute terms in the latter than the former. Moreover aspects other than cash benefits may come into play. For instance, in Sweden active labour market policies may be expected to minimize labour market marginalization and encourage economic mobility. Furthermore, cyclical variations in factors such as unemployment might also be expected to play a role.

Whelan et al (2000) have conducted an analysis of the poverty mobility in the first two waves of the ECHP which attempts to take these consideration into account by using log-linear methods to distinguish between, among other factors, structural effects or absolute variations in poverty mobility, differences in income distances

between categories and net or relative tendencies towards mobility. The results of their analysis suggest that variations in the extent of short-term poverty persistence within the EU are largely accounted for by cross-national differences in overall poverty rates and short-term fluctuations in such rates rather than by differential tendencies towards relative mobility. What Sobel *et al* (1985) refer to as 'shift' as opposed association effects appear to be the crucial to the explanation of cross-national variation. Models that assume that the processes underlying poverty dynamics are constant perform almost as well as those that allow for cross-national variability. Furthermore, the nature of these common processes which relate to distance between categories, variable immobility tendencies on the diagonal and specific 'affinities' which appear explicable in terms of rather general institutional features of European welfare systems. This despite, as Esping-Andersen (1997) notes, increasing reference in both popular and political discourse to a new class of 'losers', as reflected in labels such as the A team and B-team and the 'new underclass', little reference to culture of poverty type processes appear to be required when accounting for short-term poverty persistence in the EU.

The foregoing is encouraging from the point of view of the major objective of this paper which is to evaluate how much progress we can make in resolving the income-deprivation mismatch because. It suggests that differences between those exposed to varying degrees of poverty persistence are likely to involve a pattern of gradual differentiation rather any sharp divide between the persistently poor and all other. In which case we might expect to see this reflected in the relationship between persistence and deprivation.

4. Income Poverty Persistence and Life-Style Deprivation

In this section we examine the relationship between the standardised CLSD measure and the degree of persistent poverty at 70% of median income. The distribution of persistent poverty in 1995 at the 70% line is set out in Table 2.

Table 2: *Persistent Income Poverty in 1995 at 70% of Median Equivalent Household Income*

	Number of Times Poor			
	0	1	2	3
Germany	65.6	13.2	9.6	11.5
Denmark	71.3	14.5	7.9	6.3
Netherlands	69.2	11.9	9.8	9.1
Belgium	62.9	12.8	10.6	13.8
France	65.0	12.7	9.9	12.4
U. K.	59.7	14.8	10.5	15.0
Ireland	61.1	11.4	11.7	15.8
Italy	62.8	13.0	10.0	14.1
Spain	59.7	14.6	11.9	13.8
Greece	59.7	13.8	11.1	15.3
Portugal	58.1	12.0	10.8	19.0

The percentage managing to totally avoid poverty during the three year is at its highest in Denmark and the Netherlands, where the rate is respectively 71% and 69% and at its lowest in Portugal at 58%. The remaining counties are found in the narrow range between 60% and 66%. Very little cross-country variation is found in the percentage exposed to poverty in one or two years. For the former the range runs from 11% to 155 and for the latter from 8% to 12%. For those persistently poor across the period we find a pattern that is the mirror image of that found for those who entirely avoid poverty. Denmark and the Netherlands have particularly low rates of 6% and 9% respectively while Portugal exhibits the highest rate of 19%. The remaining countries are found in the range 12% to 16%.

We have chosen to operate with the 70% income line because the distribution of persistence poverty in all three years provides a set of rates which is not too far from those observed for cross-sectional income poverty at the 60% line and thus makes comparisons of the impact of both types of line reasonable. Our dependent variables is this case is constructed by taking in each case the deviation from the national mean divided by the corresponding standard deviation. Thus we are looking at the impact of persistent poverty on an individual's *relative* position in their own country in relation to current life-style deprivation. In Table 3 the results of this analysis are set out taking the group who have not been exposed to poverty as the reference category and expressing the scores of the remaining groups in terms of deviations from the reference group.

Table 3: *Mean Differences in Standardised CLSD in 1996 by Persistent Income Poverty at 70% of Median Equivalent Household Income*

| | Number of Times Poor | | | | | | |
	0	1	2	3	b	R^2	Eta^2
Germany	0.00	0.51	0.73	0.92	0.329	.119	.124
Denmark	0.00	0.56	0.61	0.44	0.234	.043	.062
Netherlands	0.00	0.48	0.76	1.38	0.437	.188	.190
Belgium	0.00	0.30	0.61	1.03	0.332	.135	.137
France	0.00	0.42	0.93	1.30	0.441	.224	.225
U. K.	0.00	0.48	0.97	1.22	0.425	.228	.230
Ireland	0.00	0.54	0.87	1.30	0.435	.251	.252
Italy	0.00	0.43	0.66	1.13	0.368	.167	.169
Spain	0.00	0.60	0.79	1.26	0.415	.226	.231
Greece	0.00	0.54	0.75	1.26	0.429	.221	.224
Portugal	0.00	0.51	0.90	1.16	0.393	.223	.226
All Countries	0.00	0.49	0.78	1.18	0.398	.191	.193

Thus, if we take the example of Belgium, those who have been exposed to poverty on one occasion during the three year interval have a standardised deprivation score that is 0.30 higher than those who have managed to completely avoid poverty. This rises to 0.61 for those poor in two out of three years and to 1.03 for those poor in all three years. A quite striking degree of similarity is observed across countries. In all with the

exception of Denmark, the deprivation score increases as the degree of exposure to poverty increases. In Denmark the main contrast is between those who entirely avoid being poor and all others.

The cross-national similarity goes beyond the general trend towards increasing deprivation. If for the moment we exclude Denmark, we find that for those who have experienced poverty on one occasion the relative distance from those with no experience of poverty, as captured in the standardised deprivation score ranges between 0.30 and 0.60. From those poor on two occasions the corresponding range is 0.61 to 0.90. Finally for those poor throughout the period occasions the value lies in the range 0.92 to 1.38. Thus, for this group of ten countries, we have no example of a case where a lesser degree of persistence produces a higher relative deprivation score than a higher degree. A comparison of the columns reporting the R^2 and the Eta^2 show that only in the case of Denmark does a non-linear specification for the persistent poverty variable produce a substantial increase in explanatory power. [9] Focusing on the linear specification again confirms the striking cross-national similarity, with the unstandardised regression coefficient varying between a low of 0.329 for Germany and a high of .437 for the Netherlands. In the final column we show the results of a linear specification across al eleven countries. This assumes no interaction between country and persistent poverty in their impact on relative deprivation. This is clearly an oversimplification, however, with the exception of Denmark using these overall European results to describe the process in any of the individual countries other than Denmark would not lead one seriously astray. We therefore find a remarkable similarity in the relationship between persistent poverty and relative deprivation across countries.

In Table 4 we seek to assess the degree of overlap between persistent income poverty and experience of extreme life-style deprivation. We proceed as follows. For each country we identify the upper segment of the deprivation distribution which corresponds in size with the percentage experiencing persistent income poverty between 1993 and 1994. We then establish the degree of overlap or consistency between persistent poverty and extreme deprivation. From Table 4 we can see that Denmark once again constitutes a deviant case with only an eleven per cent overlap. This in Denmark persistent poverty and extreme deprivation constitute quite distinct phenomena. In the other countries the degree of consistency is a good deal higher. It ranges from a low of 34 % in Germany to a high of 34 % in Portugal. If we exclude Germany, the remaining nine countries are found in a ten per cent range. Thus while persistent income poverty is related to current life-style deprivation is a systematic and broadly uniform manner, when they are used to identify groups of 'poor' households the overlap is far from perfect. Persistent income poverty and the CLSD measure tap related but distinct dimensions. In the section that follows we seek to explore the nature of such differences by examining their respective determinants.

Table 4: *Percentage Consistency between being Persistently Income Poor 1993-1995 at 70% of Median Income and being above the Corresponding Deprivation Threshold*

	%
Germany	34.2
Denmark	10.8
Netherlands	39.9
Belgium	37.3
France	39.8
U. K.	42.1
Ireland	43.4
Italy	37.1
Spain	44.9
Greece	39.2
Portugal	46.5

Before doing so we wish to examine how persistent poverty compares to current income as a measure of poverty. We do so by in each case by comparing the mean score on the CLSD measure in 1996. Figure 1 compare the trend as one moves from 70% to 50% of median income to in 1995 to that observed as one moves from being poor in at least one. In the former case a trends towards an increased mean CLSD is observed only in the Southern European countries and France. For the remaining seven countries no such trend exists thus undermining the rationale relative income lines in terms of their ability to capture. In the case of persistent poverty on the other hand, with the exception of Denmark, in every case defining the poverty line more stringently leads to an increase in the mean CLSD. Thus persistent income poverty provides a measure which behaves a great deal more like a valid measure of poverty than does cross-sectional income poverty.

Figure 1 : Mean CLSD in 1996 by Relative Income Lines and by Persistent Poverty Lines at 70 % Median Income Line
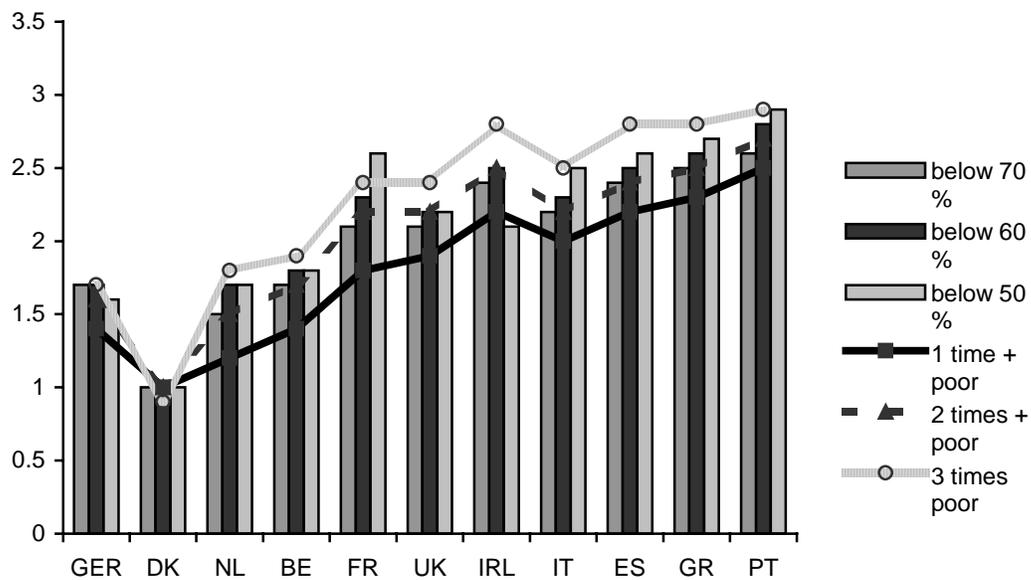
5. The Determinants of Persistent Poverty and Deprivation

In Tables A1 and A2 of the appendix we show the detailed results of logistic regressions showing the relationship between a set of socio-demographic variables and persistent poverty at 70% of median income and being above the corresponding deprivation. As we are predicting poverty and deprivation at the household level, 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 involves more than one person, the oldest person with responsibility. The variables included in these equations were identified as those having a systematically different relationship to the two dependent variables. We do not seek here, therefore, to provide a comprehensive account of the full range of influences on persistent poverty and deprivation. Instead we seek to bring out key factors which behave quite differently in relation to the two dimensions. These variables are as follows:

- Self-employment including farming.

- Labour market detachment as reflected in being inactive or long-term unemployed. The data available in the ECHP mean that the most appropriate definition of long-term unemployment is being currently employed and having been unemployed for more than six months in 1993.

- Separation or divorce.

- Lone parenthood.

These results are presented in Figures 2A to 2D. The figures shown here are the net multiplicative coefficients or odds ratio. Thus in Figure 2A the coefficients involve a comparison, respectively of the odds of being persistently poor between 1993 and 1995 and of being above the deprivation threshold for those in self-employment

compared to non-manual employees while controlling for class, lone-parenthood and separation/divorce. In every case the odds ratio is higher for persistent poverty. The range of odds ratios lies between 1.47 and 10.68 for persistent poverty and 0.85 and 4.94 for the deprivation threshold. If we take the example of Belgium we find that the coefficient for the former is 7.72 while for the latter it is 1.51. Substantial differences of this sort are found in all countries except Germany, although the differences are somewhat more modest in France and the U. In Figure 2B we show the corresponding patterns for labour market detachment. The results show that for those who are long-term unemployed or inactive the odds ration for persistent poverty is again higher in every case than that for the deprivation threshold. The range of coefficients runs from 1.54 to 8.23 for the latter and from 1.16 to 4.05 for the former. Taking Belgium again as an example, the odds ratio for persistent poverty is 4.93 whereas that for deprivation is 1.78. The differences are less clear than for self-employment but still emerge quite clearly in eight of the eleven countries. Thus the persistently poor are generally substantially more differentiated from others in terms of self-employment and labour market detachment than are those above the corresponding deprivation.

In Figure 2C we examine the impact of separation or divorce. Here we find that, outside the less prosperous Southern European countries there is a general tendency for separation/divorce to have a stronger impact on the risk of deprivation than persistent poverty. The exception here is Ireland where divorce was not available until quite recently. For the remaining Northern European countries and Italy the range of odds ratios for the deprivation threshold lies in the range 1.07 to 3.87 with the corresponding range for persistent poverty being 0.33 to 1.64.

Figure 2a: Odds Ratio for Varying Poverty Lines for Self-employed Including Farmers versus Non-Manual by Country
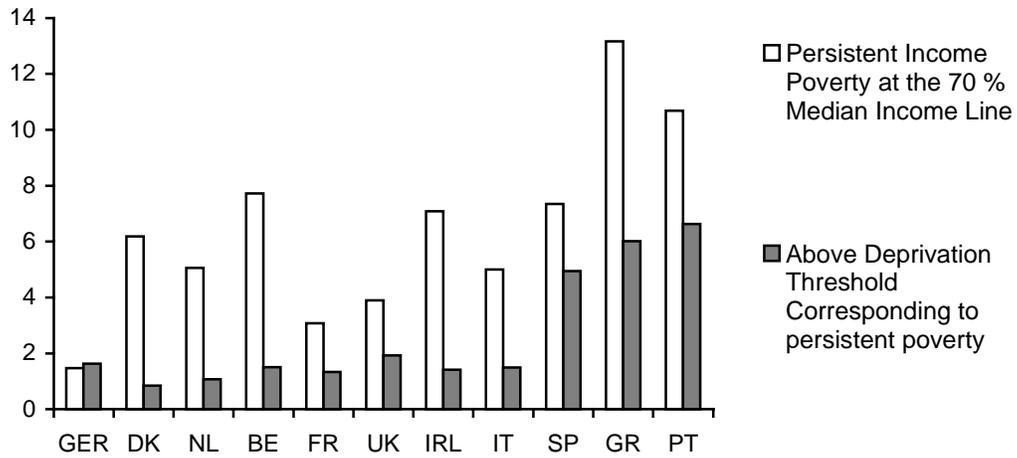

Figure 2b: Odds Ratio for Varying Poverty Lines for Long-term Unemployed and Inactive versus Others by Country
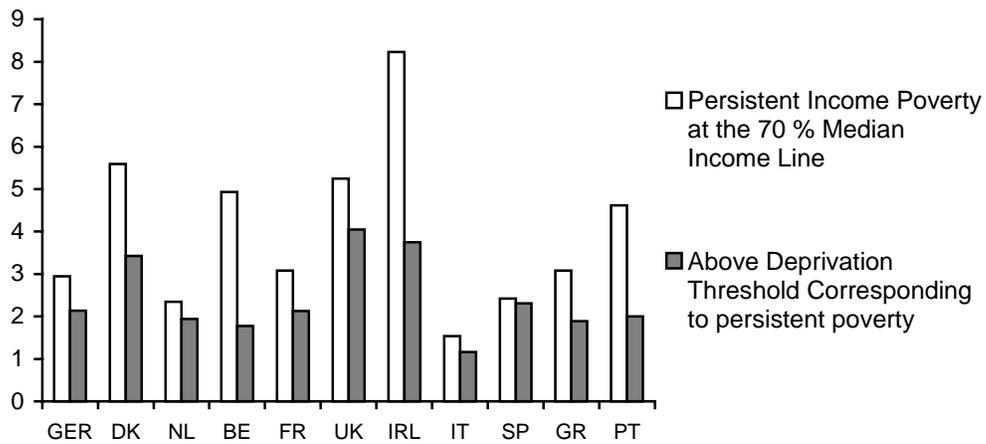
Figure 2c: Odds Ratio for Varying Poverty Lines for Separated and Divorced versus Others by Country
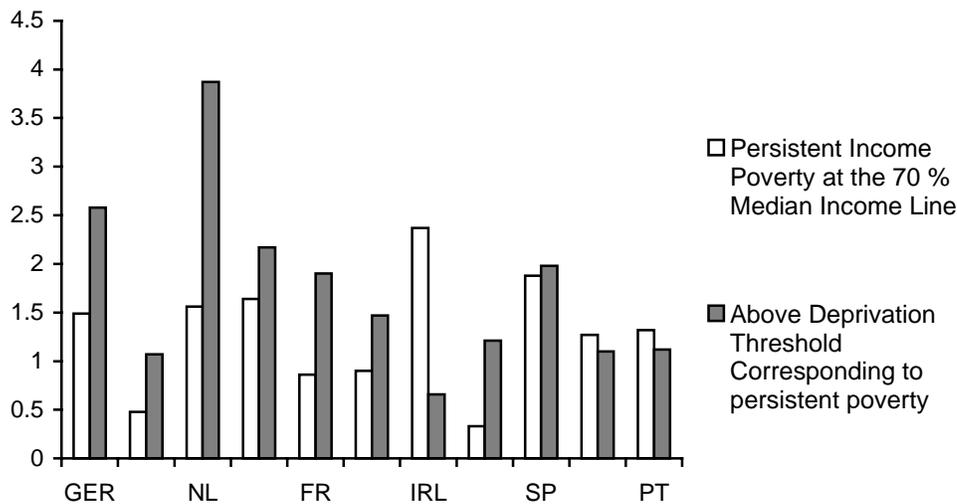
Figure 2d: Odds Ratio for Varying Poverty Lines for Lone Parents versus others by Country
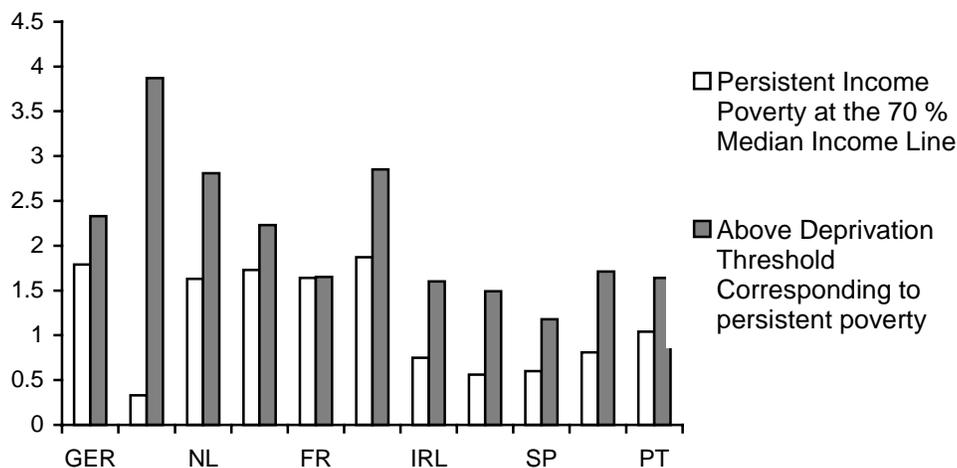
In Figure 2D we look at the impact of lone parenthood. In relation to persistent poverty the effect is quite variable, raising the risk of poverty in most Northern European countries, with the notable exception of Denmark and reducing it in most Southern European Counties and in Ireland. It remains true thought that in every case the value of the odds ratio is higher for the deprivation threshold rather the persistent

poverty. Thus for the former the range of odds ratios runs from 1.18 to 3.87 and for the latter from 0.33 to 1.87. Thus lone parenthood is a great deal more potent in differentiating those above the deprivation threshold from others than in identifying the persistently income poor.

Our attention in the foregoing analysis has been on the factors that differentiate deprivation and persistent income poverty. This should not lead us to neglect influences that they have in common. Thus while self-employment and labour market marginality play a greater role in determining persistent poverty in remains true, that for all counties in our analysis, the odds ratio for both variables is also greater than one in the case of persistent poverty. Thus in both cases the variables operate in broadly the same direction though with differing degrees of strength. As can be seen from appendix tables A1 and A2, manual class also has a generally similar influence on both outcomes, with the relative strength of impact varying from country to country. For persistent poverty the odds ratios for net effect of manual social class runs from 2.02 to 6.22 and for deprivation from 1.74 to 8.05. However, our analysis has helped us to make progress in establishing why, despite the existence of a range of shared influences, the overlap between these different types of disadvantage is far from perfect. Persistent income poverty is crucially influences by the extent and nature of ones involvement in the labour market. However, although the experience of persistent is clearly related to the extent of deprivation experienced, it does not necessarily translate into extreme deprivation in the sense of being found above the deprivation threshold corresponding to persistent income poverty. Thus a self-employed person who has experienced low income for three years in succession may be able to draw on savings or income in kind in order to remain below this threshold.

Similarly an older person who is inactive in the labour market may still enjoy the advantages afforded by resources accumulated during earlier participation in the labour market. The long-term unemployed may draw on support from family networks. Correspondingly, someone who avoids persistent income poverty may be faced with demands arising from particular life-events that result in their current resources being an inadequate basis for avoiding being found above the deprivation threshold. Thus while the persistent income poverty measure is particularly sensitive to the manner in which resources are generated, the deprivation measure appears to be more sensitive to differential needs generate by life-course events.

6. Understanding Economic Strain and Financial Dissatisfaction

In order to improve our understanding of the respective roles of persistent income poverty and life-style deprivation, in this section we examine subjective responses to economic circumstances. We make use of two indicators, which are available in the ECHP. The first concerns the extent the degree of economic strain that the respondent reports experiencing difficulty in making ends meet. The second captures the degree of dissatisfaction with current financial situation. Given our interest in poverty measurement, in both cases we focus on particularly negative reactions. Thus in the firs case we distinguish between those experiencing extreme difficulty and all others and in the second between those expressing extreme financial dissatisfaction and all others. In both cases we take the indicators from the 1994 wave of the ECHP.

In Table 5 we present the results of a set of logistic regressions, which show the impact of persistent poverty and standardised deprivation on the odds of reporting great difficulty in making ends meet.

Table 5*: The Impact of Persistent Income Poverty at the 70% Median Income Line on the Odds of Experiencing Great Difficulty in making Ends Meet*

	Odds Ratios					
	Persistent Poverty				Standardised CLSD	
	Gross		Net After Controlling for Standardised deprivation		Net Effect Controlling for Persistent Poverty	
Germany	1.64	***	1.10	n.s.	2.64	***
Denmark	1.43	***	1.12	ns	2.82	***
Netherlands	2.25	***	1.33	***	4.28	***
Belgium	1.94	***	1.44	***	2.99	***
France	1.95	***	1.28	*	3.22	***
U. K.	1.77	***	1.04	n.s.	3.97	***
Ireland	2.05	***	1.36	***	3.89	***
Italy	1.86	***	1.34	***	3.06	***
Spain	1.81	***	1.22	***	3.48	***
Greece	1.89	***	1.17	***	5.63	***
Portugal	1.54	**	1.06	**	3.28	***
All Countries	1.78	***	1.26	***	3.04	***

$* p < .05, ** p < .01, *** p < .001$

In the first column we display the gross impact of persistent poverty. The coefficients show the increase in odds of experiencing extreme difficulty for each additional year in poverty between 1993 and 1995. The values range between 1.43 for Denmark and 2.05 for Ireland. Excluding Denmark would reduce the range of country differences from 0.62 to 0.41. Thus once again what is striking is the degree of similarities between countries rather than the moderate variation we observe. In the second column we control for the effect of relative deprivation. The coefficient for persistent poverty is significantly reduced in every case, ranging from 1.10 in Denmark to 1.36 in Ireland and becomes non-significant in three of the eleven countries. The final column shows the net effect of relative deprivation controlling for persistent poverty. Here we can see that in every case impact of relative deprivation remains substantial. The coefficient ranges from 2.64 in Germany to 5.63 in Greece, although excluding these countries it is confined to the much narrower range of 2.82 to 3.97. An analysis, which assumes no variation across countries, gives gross and net coefficients for

persistent income poverty of 1.78 and 1.25 respectively and a net coefficient for relative deprivation.

In Table 6 we present an identical analysis for extreme dissatisfaction with financial situation. In this case the gross coefficient ranges between 1.39 for Portugal to 1.99 for the Netherlands. The corresponding range for the net coefficient runs from 1.07 in Portugal to 1.34 in Belgium. The latter coefficient is statistical significant in only five of the eleven countries. The net coefficient for relative deprivation is statistically significant in every case and is confined to the narrow range running from 1.92 to 2.88. The analysis assuming no country interactions results in coefficients of 1.63 and 1.24 respectively for the gross and net effects and 2.10 for the net impact of relative deprivation. Taken together the analysis relating to these indicators of subjective economic well being suggested the following conclusions.

Table 6: *The Impact of Persistent Income Poverty at the 70% Median Income Line on the Odds of Experiencing Extreme Financial Dissatisfaction*

| | Odds Ratios Persistent Poverty | | | | Standardised CLSD | |
	Gross		Net After Controlling for Standardised deprivation		Net Effect Controlling for Persistent Poverty	
Germany	1.54	***	1.12	n.s.	2.11	***
Denmark	1.50	***	1.21	n.s.	2.27	***
Netherlands	1.99	***	1.10	n.s.	2.88	***
Belgium	1.87	***	1.34	***	2.34	***
France	1.63	***	1.07	n.s.	2.48	***
U. K.	1.51	***	1.02	n.s.	2.42	***
Ireland	1.59	***	1.17	***	2.28	***
Italy	1.66	***	1.28	***	2.15	***
Spain	1.59	***	1.24	***	1.92	***
Greece	1.78	***	1.31	***	2.42	***
Portugal	1.39	***	1.07	n.s.	2.04	***
All Countries	1.63	***	1.24	***	2.10	***
* P< .05, ** P< .01, *** p< .001						

- Not surprisingly, persistent income poverty is significantly related to both perceived economic strain and financial dissatisfaction.

- This effect is significantly mediated in all cases by relative life-style deprivation and is entirely accounted for by this factor in just less than one out of two cases.

- Relative deprivation remains a significant influence in every case even when one controls for persistent income poverty.

- Thus while persistent poverty and relative deprivation both provide information relevant to understanding subjective economic well being, the latter serves to mediate the former and constitutes a substantially stronger influence.

- The range of cross-country variation in all three effects is rather modest. Although models, which assume no cross-country variation, do not provide a satisfactory statistical fit, they provide a reasonably satisfactory approximation to the individual country patterns. Persistent poverty and relative deprivation appear to influence subjective economic strain in a very similar manner irrespective of the particular country on which we focus.

Conclusions

The starting point of this paper is the well known difficulties created for cross-sectional income poverty lines by the fact that current income is relatively weakly related to current life-style deprivation, particularly in the more affluent countries. These difficulties we noted might be overcome if we had sufficient information on the accumulation and erosion of resource over time. In this paper, using the User Data Base for the three waves of the ECHP we have sought to establish how much progress can be made in resolving such difficulties by focusing on the degree of exposure to poverty over a three year period rather than at a single point in time.

Our analysis has largely focused on persistent poverty at 70% of median income, where the distribution across country of the percentage experiencing poverty in all three years is relatively close to that for the cross-sectional distribution for income poverty at the 60% line which is the line most frequently for such analysis. At this line the percentage exposed to poverty in all three of the years for which data is available varies from just above 40% to just over 60% of those poor in 1993. The available evidence regarding the processes underlying short-term persistent poverty encouraged us to think that differences between those exposed to varying degrees of poverty persistence were likely to involve a pattern of gradual differentiation rather any sharp divide between the persistently poor and all other.

Our results show that this persistent income poverty measure does constitute a significant improvement over its cross-sectional counterparts. Of particular importance is the fact that relationships involving persistent poverty come close to being uniform across countries. The first and perhaps most striking example of this is the fact that, with the exception of Denmark, persistent poverty is related to relative life-style deprivation in a linear and approximately equal strength fashion across all of the countries in our analysis. Thus each one-year increase in exposure to poverty produces an increase of 0.40 in the standardised deprivation measure. The persistent poverty measure also conforms to our expectations of how a poverty measure behaves in that the level of deprivation rises systematically as the degree of exposure to poverty increases. This in contrast to the pattern observed for cross-sectional income poverty measures as one moves from more to less generously defined income lines.

With the exception once again of Denmark, somewhere between one third to just less than half of those who are persistently poor over all three years are also found below the corresponding current life-style deprivation threshold corresponding. Thus while there is a systematic relationship between persistent income poverty and relative life-style deprivation there are also clearly tapping somewhat different phenomena. Some understanding of these differences is given by the fact that the former is more strongly influenced than the latter by self-employment and labour market marginality while the opposite is true for lone-parenthood and separation or divorce. Thus while persistent poverty and deprivation share a common set of influences, the former appears to be more strongly influenced by factors that are closely related to the generation of resources and the latter by factors that reflect additional demands. Once again while significant variation exists across countries the general pattern is common. Both persistent poverty and deprivation are significantly related to subjective economic well being in a fashion that is relatively uniform across countries. The impact of the former is substantially mediated by the former while relative deprivation has a substantial net impact.

Overall the persistent poverty measure constitutes a significant advance on cross-sectional income measures. It also has the considerable advantage that that it impacts on relative deprivation and subjective economic well being in a manner that is relatively uniform across countries. However, the availability of a persistent income poverty measure does not allow us to dispense with information on life-style deprivation. There is clearly a great deal relating to the process of accumulation of erosion of resources, which is not fully captured in our persistent poverty measure. In

the absence of such information there is a great deal to be said for making use of both

types of information.

Appendix

Respondents were asked about some items in the format employed by Mack & Lansley (1985): for each household it was established if the item was possessed/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.

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. An index based on a simple addition of these thirteen items give a reliability coefficient of 0.80.

Appendix A1: *A logistic regression of the determinants of being found above the persistent poverty threshold corresponding to 60% of median income*

	Self Employment		Labour Market Detachment		Manual Class		Separated/ Divorced		Lone Parent		Improvement in G2	df
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig		
Germany	1.47	*	2.95	***	2.02	***	1.50	***	1.79	***	414.4	5
Denmark	6.10	***	5.59	***	3.94	***	.48	**	.33	**	398.8	5
The Netherlands	5.06	***	2.35	***	5.37	***	1.56	**	1.63	**	646.9	5
Belgium	7.71	***	4.93	***	2.63	***	1.64	***	1.73	***	786.5	5
France	3.08	***	3.08	***	5.47	***	.86	*	1.64	***	1121.4	5
UK	3.90	***	5.25	***	5.46	***	.90	*	1.87	***	1411.2	5
Ireland	7.09	***	8.23	***	5.71	***	2.37	***	.75	*	1647.9	5
Italy	5.00	***	1.55	***	4.08	***	.33	***	.56	***	975.9	5
Greece	13.18	***	3.08	***	6.22	***	1.27	n.s.	.81	n.s.	1152.8	5
+Spain	7.35	***	2.42	***	5.80	***	1.88	***	.60	***	1225.4	5
Portugal	10.69	***	4.62	***	4.35	***	1.32	*	1.04	n.s.	1666.7	5

* p<.05, **p<.01, ***p<.001

Appendix A2: *A logistic regression of the determinants of being found above the deprivation threshold corresponding to persistent poverty*

	Self Employment		Labour Market Detachment		Manual Class		Separated/ Divorced		Lone Parent		Improvement in G2	Df-
	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig	Odds Ratio	Sig		
Germany	1.63	**	2.14	***	2.94	***	2.58	***	2.33	***	629.1	5
Denmark	0.85	n.s.	3.43	***	1.74	***	1.07	n.s.	3.87	***	240.7	5
The Netherlands	1.07	n.s.	1.94	***	3.03	***	3.87	***	2.81	***	612.3	5
Belgium	1.51	**	1.78	***	2.11	***	2.17	***	2.23	***	348.8	5
France	1.33	*	2.13	***	3.13	***	1.90	***	1.65	***	668.8	5
UK	1.93	***	4.05	***	4.52	***	1.47	***	2.85	***	1445.6	5
Ireland	1.41	**	3.75	***	4.90	***	0.66	*	1.60	***	1292.3	5
Italy	1.49	***	1.16	*	3.01	***	1.21	n.s.	1.49	***	493.8	5
Greece	6.02	***	1.89	***	8.05	***	1.10	n.n.	1.71	***	760.3	5
Spain	4.94	***	2.31	***	6.84	***	1.98	***	1.18	n.s.	1375.3	5
Portugal	3.63	***	2.00	***	5.46	***	1.12	n.s.	1.64	***	926.4	5

* p<.05, **p<.01, ***p<.001

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[1] These include (Townsend 1979 342) , (Mack & Lansley 1985 868), and Gordon *et al* (1995) with British data, Mayer & Jencks (1988) for the USA, Callan, Nolan, & Whelan (1993) and (Nolan & Whelan 1996a&b) Nolan with Irish data, (Muffels 1993) with Dutch data, and Hallerod (1995) for Sweden. Even where a variety of deprivation dimensions are distinguished and one focuses on those which might be expected to relate most closely to current income, major discrepancies between income and deprivation are still found (Muffels 1993, Nolan & Whelan 1996[a&b])

[2] For a discussion of the quality of the ECHP data see Whelan *et al* (2000).

[3] The weighting variables employed for the longitudinal analysis is, as recommended by Eurostat, the 1996 base weight.

[4] For the purposes of the present analysis we have excluded Lusxembourg because it must frequently be treated as an exceptional case.

[5] For discussions of the quality of the ECHP data set see Eurostat (1999a & b) and Watson and Healy (1999).

[6] The level of measured income inequality can vary depending on the choice of equivalence scale (see e.g. Coulter, Cowell, *et al.* 1992 555).

[7] Thus we avoid items where the issue of choice cannot be satisfactorily resolved and those, such as "having a second home", where possession of the item is a relatively rare phenomenon in all of the countries covered.

[8] The only significant deviation from this pattern produced by focusing on 5O% rather than 60% of median income relates to Ireland which has the sixth lowest poverty rate based on the latter and the third lowest based on the former.

[9] However, given the large samples involved the differences tend to be statistically significant.