

The risk of multi-dimensional disadvantage and social exclusion during four life stages in a dynamic perspective: Evidence from the ECHP

1. Introduction

In earlier work [Tsakloglou and Papadopoulos (2000)] we analysed the risk of multi-dimensional disadvantage and social exclusion of the four population groups that our project focused upon – retired persons, sick or disabled persons, young adults, and lone parents – in comparison with the living standards of the entire population from a static point of view in five EU member-states (Austria, Germany, Greece, Portugal and the United Kingdom) using the micro-data of the second wave of the European Community Household Panel (ECHP). The purpose of this paper is to repeat this exercise in a dynamic framework, using the data of the first three waves of the ECHP, which cover the period 1994-1996.¹ Naturally, this limited time span is less than ideal for a dynamic analysis, but this was the only ECHP information available during the implementation of our project. For the purposes of the main part of the analysis, comparisons are performed in terms of low income (poverty), and relative deprivation in the fields of housing amenities, ability to afford particular durable goods and necessities of life.

In broad terms, the results of the static analysis show that a number of similarities and differences can be identified in the five aforementioned EU member-states with respect to the relative welfare position of the four population groups under examination. According to most of the indices used, two of these groups – members of lone parent households and sick or disabled persons – face a substantially higher risk of poverty, non-monetary material deprivation and multi-dimensional disadvantage than the average population member in all five countries. Retired persons were found to enjoy a considerably lower standard of living than the rest of the population in the Southern countries (Greece and Portugal) and the United Kingdom. On the contrary, with the possible exceptions of Germany and the United Kingdom, young adults did not seem to face particularly high risks of poverty and non-monetary material deprivation.²

1. In fact, due to data limitations, the largest part of the paper's analysis relies on information of the second and the third wave of the ECHP.

2. Further, it was found that social transfers make a significant contribution to poverty alleviation in the case all population groups under examination – in particular, retired

The rest of the paper is organised as follows. Section 2 deals with dynamic aspects of monetary and non-monetary deprivation of the four groups under consideration. Section 3 examines the impact of particular transitions on the probability of moving into or out of poverty in the case of two groups (young adults and retired persons). The analysis of Sections 2 and 3 makes use of the information of two waves of the ECHP for all five countries. Section 4 presents results derived from all three ECHP waves and uses a slightly different concept of “multi-dimensional disadvantage” than that used in the rest of the analysis, but for four countries only. Finally, Section 5 provides the conclusions and highlights similarities and differences between the results of static and dynamic analysis.

2. Dynamic aspects of monetary and non-monetary deprivation

The concepts used in this section – such as the definitions of the “risk groups” or the definitions of “deprivation indicators” and the cut-off points – are exactly the same as those used in the static analysis [Barnes (2000)], with one important exception. In order to achieve a contemporaneous reference period for the concept of income and the attributes of the individual, the concept of income used in the present analysis is “net monthly income from all sources”, whereas in the static analysis we used the more comprehensive “net yearly income from all sources”. Naturally, for the purposes of the dynamic analysis we restrict our focus on the “balanced sample”, that is, the members of the population who were present in the samples of both the second and the third wave of the ECHP.

We start by looking at the aggregate picture. Table 1 reports for each country the proportion of the population falling below the relevant thresholds³ in

persons and sick or disabled persons – especially in the “Northern” countries (Austria, Germany and the United Kingdom).

3. These thresholds are: 60% of the median equivalent disposable income (using the “modified OECD equivalence scales”, which assign a weight of 1 to the household head, a weight of 0.5 to each other adult in the household and a weight of 0.3 to each child in the household [Hagenaars et al (1994)]), 80% of the median deprivation score in the case of “housing amenities” and “durable goods” and 60% of the median deprivation score in the case of “necessities of life”. The formula for the calculation of each population member’s deprivation score, μ_j , is:

$$\mu_j = \frac{\sum_{i=1}^I w_i X_{ij}}{\sum_{i=1}^I w_i}$$

where I is the total number of amenities/durables/“necessities of life” for which information is available in the ECHP, w_i is the proportion of the population living in households reporting

waves 2 and 3, as well as the corresponding “persistence rates”.⁴ The latter is the share of those who were classified as deprived in both waves among those classified as deprived only in the first wave. “Persistence rates” convey important information both for the purposes of our analysis and for the design of policies aimed to fight poverty and social exclusion. This can be highlighted with a hypothetical example [Heady (1997)]. Suppose that in two countries the poverty rate remains at 20% for five consecutive years. However, in the first country the 20% of the population in poverty consists always of the same individuals, whereas in the second country each year a different fifth of the population falls below the poverty line. Apparently, social exclusion is likely to be more of a problem in the first rather than the second country and, furthermore, different types of policies may be needed in order to deal with the problem in each case. For example, in the case of the second country a monetary temporary relief program may be sufficient, whereas in the second country more structural measures may be required.

The estimates of Table 1 suggest that between the second and the third wave the poverty rates remained quite stable (changed by less than one percentage point) in all countries apart from Portugal, where it rose substantially. Deprivation in the field of housing amenities declined in all countries under examination – relatively more so in the countries with the highest deprivation scores (Greece and Portugal). With respect to aggregate relative deprivation in the field of durable goods, the picture is mixed, with considerable changes recorded only in the United Kingdom (decline) and Portugal (increase). Finally, in the field of “necessities of life”, all countries apart from Austria record declines in aggregate relative deprivation – in the case of Greece the decline is really spectacular.⁵ Regarding the persistence rates, with few exceptions, over half of those classified as deprived in the second wave were also classified as deprived in the third wave. As a rule of thumb, it can be noted that, as anticipated, these rates tend to be higher when the deprivation rates are relatively high in both waves.

Tables 2-5 report the main results of the analysis of deprivation dynamics for the four “risk groups” of interest in our project. Each of these tables is divided into four panels examining, respectively, dynamic aspects of relative deprivation in the

amenity/durable/“necessity of life” i and X_{ij} a variable that takes the value of 0 (1) if individual j lives in a household with (without) amenity/durable/“necessity of life” i .

4. Due to the fact that the concept of income used in Table 1 differs from that used in the static analysis and, furthermore, that a considerable proportion of the comparisons made in the framework of the static analysis concerned only those aged 16 or more, whereas those of Table 1 refer to the entire population, the estimates of this table are not strictly comparable with the estimates of the static analysis.

5. This decline may be attributed to the considerable discontinuities observed in the distribution of individual deprivation scores in the field of “necessities of life” in Greece.

fields of income (poverty), housing amenities, consumer durable goods and “necessities of life”. In every panel, the members of each “risk group” are compared with both the entire population aged 16+⁶ and with population members aged 16+ with similar characteristics apart from the “risk” factor⁷ with respect to two attributes: their probability to remain in deprivation in both waves and their deprivation persistence rate. Since these tables report ratios, values higher (lower) than 1 denote higher (lower) than average risk of deprivation with respect to the particular attribute in the relevant field. It should be noted, also, that under normal circumstances, the relative persistence rate is not likely to take values substantially different than 1, whereas this is not the case with respect to the relative probability of remaining in deprivation.⁸

The interpretation that should be given to the two sets of estimates reported in Tables 2-5 – comparisons of the «risk groups» with the entire population aged 16+ and comparisons of the «risk groups» with their «reference groups» – is the following. Comparisons with all individuals aged 16+ provide an indication of the average dynamic risk of deprivation in comparison with the entire population. If the corresponding estimates are substantially higher (lower) than 1, it can be argued that the members of the «risk group» face a high (low) probability of deprivation from a dynamic point of view in comparison with the average population member. Comparisons of the «risk groups» with their «reference groups» provide a rough indication of the marginal effect of the «risk» factor on dynamic deprivation. In other words, if the «risk factor» (sickness, young age, retirement, lone parenthood) did not have any effect on dynamic deprivation, the corresponding ratios should be around 1. Values of the ratios substantially higher (lower) than 1 in the relevant rows imply that, *ceteris paribus*, the «risk factor» is associated with a high (low) risk of deprivation from a dynamic point of view.

2.1. Sick or disabled persons

Table 2 reports deprivation dynamics for the group of persons who were classified as “sick and disabled” in both waves. The estimates of the first panel show that when the members of this group are compared with all persons aged 16+ in the balanced sample with respect to their poverty situation, their poverty

6. The entire population, in the case of members of lone parent households.

7. With the exception of the young adults who are only compared with the entire population aged 16+.

8. Moreover, it should be noted that especially for the movements into and out of monetary deprivation (poverty) we adopted a stricter definition. More specifically, in order to consider that somebody changed status, we assumed that he/she did not only cross the poverty line, but did so by moving by five or more percentile points in the income distribution (so as to avoid classifying as movements into/out of poverty marginal changes by a few income units).

persistence rate appears to be higher than average in all countries apart from Portugal (very marginally, though). Further, their relative probability of remaining in poverty in both waves is considerably higher than that of the entire population aged 16+ in all countries under examination – especially in Germany, where the probability of remaining in poverty in both waves is almost three times higher than that for the entire population aged 16+. In the last two lines of each panel of Table 2 comparisons are performed between the members of the “sick and disabled” group and their “reference group”; that is, all persons aged 16+ and under state retirement age who were not members of the “sick and disabled” group in either wave. When the sick and disabled persons are compared with their “reference group”, their relative position appears even more disadvantaged. In all countries their relative probabilities of remaining below the poverty line in both waves as well as their relative persistence rates are considerably higher than when the members of the group are compared with the entire population aged 16+.

The second panel, which examines the relative position of the members of the group in terms of their dynamic relative deprivation in the field of housing amenities, reveals that the corresponding relative persistence rates are not substantially different than those of either the entire population aged 16+ or the members of the “reference group”. However, when we turn to the relative probability of remaining in deprivation, the ratios are much higher than 1 – especially when the “risk group” is compared with the “reference group” – in all countries apart from Austria.

When we examine the group’s dynamic relative deprivation in terms of durable goods in the third panel of Table 2, persistence rates are lower than average in two countries (Austria and, especially, the United Kingdom) and higher in three (Portugal, Greece and, especially Germany). Irrespective of whether the comparisons are made with the entire population aged 16+ or the members of the “reference group”, the group’s probability of remaining in deprivation in both waves is higher than average in all countries (again, especially in Germany).

The last panel of Table 2, which examines the group’s dynamic relative deprivation in terms of “necessities of life”, the picture is very clear. In all countries, the risk group’s deprivation persistence rates are higher than those in the entire balanced sample of persons aged 16+ and becomes even higher when comparisons are restricted between the members of the “risk group” and the members of the “reference group”. When we turn to the probability of remaining in deprivation in the field of “necessities of life” in both waves, the results of Table 2 are even more revealing. In all countries under consideration, the probability of remaining in deprivation among the members of the “risk group” is considerably higher (between

1.91 and 3.82 times) than among all population members aged 16+ and, especially than among the members of the “reference group” (between 2.63 and 4.67 times). In both cases, the highest ratios are observed in the United Kingdom and Germany.

2.2. Young adults

Table 3 is devoted to the examination of dynamic aspects of relative deprivation of the group of “young adults”. Since this group was defined in a purely demographic way, it was decided to present comparisons with the entire population only (in other words, we did not compare the group’s situation with that of a “reference group”). With respect to poverty dynamics, only in Germany the relative probability of the group’s members to remain in poverty is higher than that of all population members aged 16+. When we turn to the examination of the relative poverty persistence rates, the estimates of Table 3 suggest that in all countries under examination these rates are lower than average. In other words, the average poor member of the “risk group” in wave 2 was less likely to remain in poverty in wave 3 than the average poor population member aged 16+.

Unlike poverty, the situation is not that clear-cut when we turn our focus to deprivation in the fields of housing amenities and, especially, durable goods. In the field of housing amenities, a North/South divide becomes apparent. In both Greece and Portugal young adults face a substantially lower probability of remaining in deprivation as well as a lower persistence rate than the entire population, whereas in Austria and Germany these probabilities and rates are approximately equal to or higher than those faced by the average population member. Likewise, comparisons in the field of durable goods show that with the exceptions of Portugal in the case of relative probability of remaining in deprivation in both waves and Greece and the United Kingdom in the case of relative persistence rates, all other probabilities and rates reported in the third panel of Table 3 are higher for the group of young adults than for the entire population aged 16+.

The picture is also mixed in the last panel of Table 3, which focuses on deprivation in terms of “necessities of life”. In the two Southern countries (Greece and Portugal), both the probability of remaining in deprivation in both waves and the deprivation persistence rate of the young adults are considerably lower than those of all persons aged 16+. Likewise, from this point of view, young adults also appear to fare marginally better than the average population member in Germany. However, in the United Kingdom the deprivation persistence rate of young adults is higher than the population average and in both Austria and the United Kingdom the probability of remaining in deprivation in both waves is higher than the national

average (particularly in the United Kingdom, where the relevant figure among young adults is three times higher than that for all persons aged 16+).

2.3. Retired persons

The estimates reported in the first panel of Table 4 show that in all countries under examination the dynamic poverty risks of the retired persons are higher than those faced by both all persons aged 16+ and the relevant “reference group” (that is, persons aged over 45 who did not belong to the group of “retired persons” in either wave). This holds for both the poverty persistence rates (with the partial exception of Portugal) and the probability to remain below the poverty line. In particular when comparisons are made between the “risk group” and the “reference group” in terms of their probabilities to remain below the poverty line, the probabilities of the retired appear to be over twice as high as those of the “reference group in Austria and Portugal and over three times higher in the United Kingdom

When comparisons are performed in terms of deprivation in the field of housing amenities, the retired appear to face lower risks than the average population member in Austria and Germany, but higher in Greece and Portugal. A peculiar picture appears when comparisons are made in terms of dynamic relative deprivation in the field of durable goods. In this case, the deprivation persistence rates of the retired are lower than those of both the “reference group” and all the persons aged 16+ in all countries apart from Germany. However, when we turn to the examination of the probability of remaining in deprivation in both waves, in almost all cases these probabilities are higher for the retired (especially so in the case of the United Kingdom and, in particular, when the “risk group” is compared with the “reference group”).

The results of the last panel of Table 4 on deprivation in terms of “necessities of life” are very similar to those reported in the first panel of the table. In all countries and irrespective of whether comparisons are made between the “risk group” and the “reference group” or between the “risk group” and the entire population aged 16+, the retired appear to face higher persistence rates as well as considerably higher probabilities of remaining in deprivation in both waves. In some cases, and especially when comparisons are performed between the “risk group” and the “reference group”, the differences in the corresponding probabilities are very large. For example, in the United Kingdom and Germany, the probability of a retired person to remain in relative deprivation in terms of “necessities of life” in both waves is four times higher than the corresponding probability of somebody aged over 45 who was not a member of the group in either wave.

2.4. Members of lone parent households

Table 5 reports deprivation dynamics for the group of members of lone parent households (hereafter, “lone parents”). For the purposes of our analysis we use two reference groups, instead of one. More specifically, we subdivided the group of lone parents into lone parents with some dependent children and lone parents without dependent children and compared their living standards in a dynamic framework with partnered mothers with some dependent children and partnered mothers without dependent children, respectively (in both cases, including the other members of their households).⁹

When lone parents are compared with the entire population in terms of poverty dynamics, the picture is mixed. In all countries the relative probability of lone parents remaining in poverty in both waves is higher than the national average. However, the relevant ratios differ considerably across countries. In Austria, Portugal and, particularly, Greece the differences are not enormous. However, in Germany and the United Kingdom the probability of a lone parent to stay in poverty in both waves is found to be over three times higher than the national average. In terms of persistence, in all countries, apart from Greece, the corresponding rates are higher than 1. When comparisons are performed between the “risk groups” and the “reference groups”, it becomes clear that even though both sub-groups of lone parents fare worse than their “reference groups”, in all countries under examination, apart from Austria,¹⁰ lone parents with some dependent children fare much worse than lone parents without dependent children vis-à-vis their “reference groups”.

Similar pictures emerge from the second and, particularly, the third panel of Table 5, where dynamic aspects of deprivation in terms of housing amenities and consumer durable goods are analysed. In all countries, apart from Austria, members of lone parent households fare worse than the average population member. In fact, in Austria members of lone parent households seem to face a lower risk of dynamic deprivation in these fields than the rest of the population. In the other countries, the differences between members of lone parent households and the rest of the population are far more pronounced in the cases of Germany and the United Kingdom than in Greece and Portugal. As in the first panel of Table 5, with the

9. It should be kept in mind that in all countries the great majority of lone parents are lone mothers.

10. This result holds for all indicators of dynamic deprivation in Austria (lone parents with some dependent children faring better than lone parents without dependent children in comparison with the relevant “reference groups”). This does not imply that lone parents with dependent children fare better than lone parents without dependent children. This result is due to the unusually high living standards of the second “reference group” – partnered mothers without dependent children – in Austria.

exception of Austria, the differences between the members of the “risk group” and the members of the “reference group” are larger when comparisons are made with members of households of partnered mothers with dependent children than with members of households of partnered mothers without dependent children.

The last panel of Table 5 also presents a picture relatively similar to that of the first panel of the table. In Austria, the risk of dynamic deprivation in the field of “necessities of life” of the members of lone parent households does not seem to be substantially different than that of the rest of the population. In all other countries under consideration, the deprivation persistence rates of the group are higher than those for the rest of the population and, more importantly, the probability that a member of the group remains in deprivation in both waves is higher than that for the average population member. As in the previous panels, the observed differences between the members of lone parent households and the rest of the population are substantially higher in Germany and the United Kingdom than in Greece and Portugal. Finally, as in the rest of this table’s panels, comparisons of the “risk groups” with their “reference groups” shows that lone parenthood with dependent children has a stronger deprivation-inducing effect than lone parenthood without dependent children (again, with the exception of Austria).

3. Further analysis of poverty dynamics in two “risk groups”

The aim of this section is to examine the impact of factors associated with movements into and out of poverty for the two largest of the four “risk groups” that our project focused upon: young adults and retired persons. Due to the small sizes of the two other “risk groups” – sick or disabled persons and members of lone parent households – and the fact that we used only two waves of the ECHP, few transitions into and out of poverty and few changes in state variables were observed within these groups and hence, it was difficult to employ successfully multi-variate analysis techniques in them. The results for retired persons and young adults are reported in Tables 6 and 7, respectively. We focus primarily on the effects of changes in family circumstances and labour market status on the probability of moving into or out of poverty.

The estimates reported in Tables 6 and 7 are “odds ratios”. They should be interpreted as the expected number of retired persons (young adults) who moved from state X in wave 2 to state Y in wave 3 and into/out of poverty for every retired person (young adult) who made the same move but did not change poverty status, over the same ratio for retired persons (young adults) who remained in both waves

in the households of the reference group.¹¹ As a consequence, odds ratios higher (lower) than 1 imply that the corresponding change from state X to state Y between the two waves is associated with an increased (decreased) probability of moving into or out of poverty. The estimates of the odds ratios were derived from logistic regressions. Four equations were estimated for each country: one for the probability of moving into poverty and one for the probability of moving out of poverty for retired persons and young adults. Naturally, the dependent variable was the movement into or out of poverty. The independent variables were sets of dummy variables for the family situation (living arrangements) and the employment situation of the retired person or the young adult in each wave, the employment situation of his/her household in each wave, his/her health status, age, sex and educational level. Tables 6 and 7 report selective odds ratios. Several other such ratios could be estimated using the coefficients of the estimated equations, reflecting the impact of various transitions.

For a number of reasons these estimates should be interpreted with great caution. In the logistic regression analysis we used as independent variables state variables in waves 2 and 3 (for example employment status in wave 2 and employment status in wave 3). In several pairs of such variables there were few changes between the two waves. As a result, the corresponding variables exhibited a high degree of correlation, thus violating one of the basic assumptions of regression analysis (non-collinearity). The consequence of this treatment is that, in many cases, several coefficients turned out to be statistically not significant (quite unjustifiably) and, further, a number of estimated coefficients appear to be implausibly large or small (as well as unstable). For this reason, we focus primarily on odds ratios derived from at least one statistically significant at the 5% level coefficient (they are reported in bold characters in Tables 6 and 7) and, even in these cases, the above qualifications should be kept in mind when interpreting the results.

Table 6 reports the corresponding results for retired persons. The top panel deals with movements into poverty and the lower with movements out of poverty. Initially, we examine the effects of changes in family circumstances (for example, from living with partner and no children to living alone) for different sex and age groups. Then, we examine the effect of moving from a situation where all other household members of working age are working to one where no such member is working for males and females separately. In general, one would anticipate that if the odds ratio associated with a particular movement in the top panel of the table is higher than 1, the corresponding figure in the lower panel of the table would be lower than 1. It turns out that this is not always the case.

11. Since in this section the analysis is performed within particular “risk groups”, the term

The first four rows of Table 6 show that in all countries a movement from a situation where the retired person lives with his/her partner to a situation where he/she is living alone – most probably because the partner died – is associated with an increased probability of moving into poverty, irrespective of the sex or the age of the retired person. However, the corresponding ratios differ very considerably across countries, with the strongest effects observed in Germany and the least strong in Greece. A movement from a situation where all other household members of working age are working to one that nobody does is associated with an increased probability of moving into poverty for both males and females in all countries apart from Greece (perhaps, reflecting peculiarities of her pension system). However, in all other countries apart from Greece the corresponding coefficients are not statistically significant. Almost all the odds ratios reported in the lower panel of Table 6 were derived from coefficients that were not significant at the 5% level and, in fact, in many cases it was not possible to include the relevant sets of variables in the estimated equation because of the aforementioned problems of multicollinearity. In general, movements from “living with partner” to “living alone” are negatively associated with the probability of moving out of poverty in Portugal but, surprisingly, the opposite is the case in Greece. Further, in Austria, Germany and Greece, the movement from a situation where all other household members are working to one that nobody does is negatively associated with the probability of moving out of poverty, but the case is the opposite in Portugal.

Table 7 is the counterpart of Table 6 for young adults. Here too, the focus is on changes in labour market and family status. The first two lines of the table show that the movement from education or training to work among very young adults is strongly negatively associated with a movement into poverty in the United Kingdom and Greece and less so in Portugal and Germany. On the contrary, in the same age group a movement from education or training to unemployment is strongly positively associated with a movement into poverty in the Northern countries (Germany, Austria and the United Kingdom). In these rows, one can also discern considerable quantitative differences between odds ratios reported for males and females. The next two lines demonstrate that in all countries a movement from full-time work to unemployment among those aged 20-24 is strongly positively associated with a movement into poverty, especially so in the United Kingdom¹². Differential effects by sex are evident but in opposite directions especially in Austria and the United Kingdom. Surprisingly, in no country any of the coefficients associated with a

“reference group” does not denote the same thing as in the previous section.

12. Surprisingly, perhaps, of the relevant variables turned out to be significant in the Portuguese equation.

movement from unemployment in wave 2 to full-time work in wave 3 turned out to be statistically significant in the relevant equations.

Turning to effects associated with changes in family situations in the lower half of the top panel of Table 7 we observe that leaving the parental household in order to live with others in the age group 16-19 is associated with a strong increase in the probability of falling below the poverty line in Germany and, to a far lesser extent in Portugal, as well as in Austria (in the latter, only among females). On the contrary, such a movement seems to be associated with a declining probability of moving into poverty in Greece. A female's aged 20-24 movement from living with parents to living with her partner is strongly associated with a movement into poverty only in Germany. Mixed results across countries are also obtained when we examine the impact of the arrival of the first child in a young couple's household. Finally, in all countries apart from Portugal, a movement from living with partner and a child to lone parenthood for a female aged 20-24 is strongly associated with a movement into poverty (especially in Austria). Likewise a movement from living with partner and a child to living alone for a male aged 20-24 appears to increase the risk of falling below the poverty line in all countries apart from Portugal.

The lower panel of Table 7 examines the impact of various transitions on the probability of moving out of poverty in the group of young adults. Transitions from education or training to full-time work appear to be associated with large but not significant (from a statistical point of view) increases in the probability of moving out of poverty in Austria and, to lesser extent, Germany. Irrespective of the age or the sex of the young adult a movement from education and training or full time employment to unemployment, in almost all cases is strongly associated with a very considerable decline in the probability of moving out of poverty. Turning to the effects of transitions related with changes in the young adult's living arrangements, it should be noted that none of the relevant odds ratios was derived from statistically significant coefficients. Moreover, in many cases we were not able to include the relevant variables in the estimated equations due to multicollinearity problems. Therefore, the corresponding estimates should be interpreted very cautiously. The movement from the parental home to live with others is associated with a reduced probability of moving out of poverty in Greece and, especially, Germany but not so in Portugal and the United Kingdom (in the latter, for females only). Further, according to these estimates, females aged 20-24 leaving the parental home in order to live with their partner increase considerably their chances to move out of poverty in Germany. In the same country, the arrival of a child in a young couple seems to be associated with increased probability of escaping poverty, while the opposite is true when the couple breaks and the female becomes a lone mother and the father lives alone.

4. Multiple deprivation dynamics using three waves of the ECHP

This section differs from the rest of the paper in a number of respects. It utilises the information of three instead of two waves of the ECHP. As a consequence of this, and since Austria joined the ECHP one year later than the other countries, it contains results for four countries only. Further, it uses a slightly different set of deprivation indicators. More specifically, instead of separate deprivation indicators for housing amenities and consumer durables we use the methodology outlined in Section 2 in order to derive a single deprivation indicator for “living conditions”. Along this indicator and the deprivation indicators in the fields of disposable monthly income (poverty) and “necessities of life” used in Section 2, we also use a deprivation indicator for “social relations”, exploiting the relevant information of the ECHP.¹³ Finally, for the purposes of the analysis, we draw a line classifying an individual as “suffering from multiple deprivation” – or “facing a high risk of social exclusion”, if we associate social exclusion with multiple deprivation – if he/she is classified as being in relative deprivation using at least two of the above four criteria. Naturally, for the purposes of the analysis we restrict ourselves to the use of the balanced sample; that is, the part of the original ECHP sample that was present in all three waves.

Table 8 presents the aggregate picture. The first three columns of the table report the shares of the population in each of the four countries under examination that are considered to be at “high risk of social exclusion” according to the above definition. Substantial cross-country differences become evident. The relevant shares are substantially lower in Germany than in the two Mediterranean countries (Greece and Portugal), with the United Kingdom shares lying between them; a result confirming the results of our previous static analysis [Tsakloglou and Papadopoulos (2000)]. The estimates reported in the last three columns of the table show the shares of each country’s population that are classified as being at “high risk of social exclusion” in no wave, at least one wave, at least two waves and in all three waves. The picture that emerges from these estimates is not substantially different than that of the first part of the table. For example, the proportions of the population that are classified as being at “high risk of social exclusion” in all three waves in Portugal (8.3%) and Greece (7.6%) are between three and four times higher than the corresponding proportion of Germany (2.2%). Again, the United Kingdom percentage (5.5%) lies between them.

13. A population member aged 16+ is defined as deprived if he/she “Talks to neighbours “once or twice a month or less frequently” and “Meets friends once or twice a month or less frequently”.

Since leading authors stress the importance of the “local dimension” of social exclusion [Berghman (1995), Atkinson (1998), Room (1999)] the last table of the paper, like Section 2, is devoted to the examination of dynamic aspects of multiple deprivation and exclusion within particular countries. More specifically, for each country, the estimates reported in Table 9 are ratios of the proportion of the members of the four “risk groups” classified as suffering from multiple deprivation over the proportion of those suffering from multiple deprivation in the entire population in none, at least one, at least two or all three waves.¹⁴

The estimates of the first panel of the table suggest that in Germany sick and disabled persons and members of lone parent households face a substantially higher risk of dynamic multiple deprivation than the average population member does. The corresponding risks for the young adults and the retired persons do not seem to be substantially different than those for the entire population. On the contrary, the estimates reported in the second panel of Table 9 suggest that in Greece among the four “risk groups” the retired face the highest risk of chronic multiple deprivation and social exclusion, followed by the sick and disabled. Members of lone parent households also appear to face a higher risk of social exclusion than the average population member, but the differences are not large. As for the young adults, according to all the indicators reported in this table, they seem to face a substantially lower risk of chronic multiple deprivation and social exclusion than the entire population. The evidence for Portugal is not very different than that for Greece. Here, too, young adults seem to face a low risk of social exclusion, whereas the retired, members of lone parent households and, to a slightly lesser extent, the sick and disabled face high risk of dynamic multiple deprivation and social exclusion. Finally, the last panel of Table 9 demonstrates that the United Kingdom is the only of the four countries examined in which all four groups analysed face a higher risk of social exclusion than the national average. However, whereas for the young adults and the retired the corresponding risks are not substantially higher than those for the entire population, the risks of the sick and disabled and, particularly, the members of lone parent households appear to be considerably higher than the national average.

5. Conclusions

14. Since the number of population members who were classified as “sick/disabled” in all three waves was very small, for the purposes of Table 9 we classified as “sick/disabled” all those who were classified as such in any of the three waves. For the other three “risk groups” – young adults, retired persons and members of lone parent households – participation in the “risk group” implies that they were members of the group in all three waves.

The aim of this paper was to examine dynamic aspects of multiple deprivation of four “risk groups” (retired persons, sick or disabled persons, young adults, and members of lone parent households) in five EU member-states (Austria, Germany, Greece, Portugal and the United Kingdom) using the data of the ECHP. The results of the empirical analysis highlighted several similarities and differences across countries. In comparisons with the average population member, in all countries the sick and disabled appear to face a higher risk of chronic multiple deprivation and social exclusion. However, this relative risk appears to be substantially higher in the North (Austria, Germany, United Kingdom) than in the South (Greece and Portugal). Regarding the young adults, our analysis shows that even in the countries where, according to the earlier results of the static analysis they appear to face a high risk of deprivation, this deprivation is probably of a temporary character and does not translate into a high risk of social exclusion for the members of the group as a whole. Of course, this does not imply that within the group there are no pockets of high risk of exclusion (for example, young adults with low qualifications for a successful employment career, as the results of multivariate analysis show). The retired appear to face a high risk of chronic deprivation and exclusion only in the Southern countries (Portugal and, especially, Greece). Finally, the members of lone parent households seem to face a disproportionate risk of social exclusion within all countries under examination, especially so in the United Kingdom, Germany and Portugal.

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Table 1. Deprivation dynamics: Aggregate picture

Country	Poverty			Amenities deprivation			Durables deprivation			Necessities		
	Wave 2	Wave 3	Persist. rate	Wave 2	Wave 3	Persist. rate	Wave 2	Wave 3	Persist. rate	Wave 2	Wave 3	Persist. rate
Austria	10.3	11.0	64	11.5	10.0	66	9.0	9.1	46	7.8	11.3	62
Germany	10.3	9.9	63	6.3	5.0	61	9.3	10.3	31	10.8	10.7	56
Greece	19.9	20.7	82	14.6	11.2	54	17.9	17.6	63	26.8	15.9	39
Portugal	20.6	23.2	72	15.3	13.3	78	30.5	32.3	74	18.5	15.6	61
U.K.	23.2	22.3	78	1.2	1.0	34	9.5	7.0	48	19.6	17.7	65

Table 2. Deprivation dynamics: Sick or disabled persons

	AT	DE	GR	PT	UK
POVERTY					
Relative probability of remaining in deprivation (without controls) ¹	1.50	2.83	1.35	1.80	1.73
Relative persistence rate (without controls) ¹	1.31	1.19	1.02	0.99	1.09
Relative probability of remaining in deprivation (with controls) ²	2.25	3.40	1.92	3.00	2.17
Relative persistence rate (with controls) ²	1.47	1.36	1.02	1.03	1.12
AMENITIES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	0.71	1.75	1.25	1.67	..
Relative persistence rate (without controls) ¹	1.00	0.92	1.05	1.07	..
Relative probability of remaining in deprivation (with controls) ²	0.71	2.33	1.67	2.50	..
Relative persistence rate (with controls) ²	0.96	0.95	1.21	1.15	..
DURABLES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	1.25	1.67	1.33	1.71	1.25
Relative persistence rate (without controls) ¹	0.91	1.40	1.21	1.11	0.54
Relative probability of remaining in deprivation (with controls) ²	1.25	2.50	1.45	2.00	1.25
Relative persistence rate (with controls) ²	0.85	1.56	1.19	1.07	0.53
NECESSITIES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	2.75	3.60	2.22	1.91	3.82
Relative persistence rate (without controls) ¹	1.21	1.31	1.23	1.18	1.30
Relative probability of remaining in deprivation (with controls) ²	3.67	4.50	3.43	2.63	4.67
Relative persistence rate (with controls) ²	1.32	1.39	1.53	1.29	1.38

1. Probability of remaining in deprivation in both waves (persistence rate) for the members of the “life-course group” over probability of remaining in deprivation in both waves (persistence rate) for all persons aged 16+.

2. Probability of remaining in deprivation in both waves (persistence rate) for the members of the “life-course group” over probability of remaining in deprivation in both waves (persistence rate) for all persons aged 16+ and under state retirement age, who were never in the “life-course group”.

Table 3. Deprivation dynamics: Young adults

	AT	DE	GR	PT	UK
POVERTY					
Relative probability of remaining in deprivation (without controls) ¹	0.67	1.33	0.76	0.60	0.93
Relative persistence rate (without controls) ¹	0.83	0.86	0.96	0.97	0.97
AMENITIES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	1.00	1.25	0.63	0.67	..
Relative persistence rate (without controls) ¹	1.04	0.98	0.78	0.88	..
DURABLES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	1.25	1.33	1.05	0.95	1.50
Relative persistence rate (without controls) ¹	1.09	1.13	0.78	1.01	0.96
NECESSITIES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	1.25	1.00	0.73	0.73	3.00
Relative persistence rate (without controls) ¹	0.94	0.93	0.78	0.95	1.33

1. Probability of remaining in deprivation in both waves (persistence rate) for the members of the "life-course group" over probability of remaining in deprivation in both waves (persistence rate) for all persons aged 16+.

Table 4. Deprivation dynamics: Retired persons

	AT	DE	GR	PT	UK
POVERTY					
Relative probability of remaining in deprivation (without controls) ¹	1.83	1.17	1.15	1.86	1.53
Relative persistence rate (without controls) ¹	1.13	1.12	1.02	1.03	1.03
Relative probability of remaining in deprivation (with controls) ²	2.75	1.40	1.65	2.33	3.29
Relative persistence rate (with controls) ²	1.19	1.15	1.04	0.95	1.18
AMENITIES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	0.71	0.25	1.13	1.25	..
Relative persistence rate (without controls) ¹	0.94	1.00	1.18	1.09	..
Relative probability of remaining in deprivation (with controls) ²	1.00	0.50	1.50	2.14	..
Relative persistence rate (with controls) ²	0.94	1.07	1.27	1.15	..
DURABLES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	0.75	1.33	1.25	1.48	3.00
Relative persistence rate (without controls) ¹	0.80	1.07	0.97	0.85	0.89
Relative probability of remaining in deprivation (with controls) ²	1.50	2.00	1.36	1.94	6.00
Relative persistence rate (with controls) ²	1.00	1.10	0.92	0.80	0.78
NECESSITIES DEPRIVATION					
Relative probability of remaining in deprivation (without controls) ¹	1.25	3.20	1.91	1.27	2.27
Relative persistence rate (without controls) ¹	1.11	1.07	1.18	1.08	1.03
Relative probability of remaining in deprivation (with controls) ²	1.67	4.00	2.33	2.33	4.17
Relative persistence rate (with controls) ²	1.25	1.00	1.24	1.30	1.03

1. Probability of remaining in deprivation in both waves (persistence rate) for the members of the “life-course group” over probability of remaining in deprivation in both waves (persistence rate) for all persons aged 16+.

2. Probability of remaining in deprivation in both waves (persistence rate) for the members of the “life-course group” over probability of remaining in deprivation in both waves (persistence rate) for all persons aged over 45, who were never in the “life-course group”.

Table 5. Deprivation dynamics: Members of lone parent households

	Relative probability of remaining in deprivation (relative persistence) in comparison with:														
	Members of lone parent households vs all population members					Lone parents vs partnered mothers with some dependent children ¹					Lone parents vs partnered mothers with no dependent children ¹				
	AT	DE	GR	PT	UK	AT	DE	GR	PT	UK	AT	DE	GR	PT	UK
POVERTY															
Relative probability of remaining in deprivation	1.55	3.02	1.16	1.53	3.10	2.40	3.83	2.40	2.18	5.25	3.00	1.33	1.23	1.83	2.86
Relative persistence rate	1.29	1.06	0.92	1.06	1.09	1.17	1.23	1.01	1.03	1.21	3.45	0.68	0.89	1.11	1.01
AMENITIES DEPRIVATION															
Relative probability of remaining in deprivation	0.81	2.09	1.00	1.32	..	1.17	5.00	2.00	1.83	..	4.00	1.25	1.17	1.25	..
Relative persistence rate	0.96	1.29	1.09	0.98	..	1.09	1.57	1.42	1.13	..	1.80	0.82	1.17	1.23	..
DURABLES DEPRIVATION															
Relative probability of remaining in deprivation	0.92	6.40	2.05	1.27	3.64	1.00	7.00	4.00	1.35	5.33	2.00	1.50	1.80	1.19	5.00
Relative persistence rate	0.63	0.51	1.10	1.15	1.05	0.83	2.76	1.22	1.16	1.23	0.85	1.05	1.07	1.00	1.05
NECESSITIES DEPRIVATION															
Relative probability of remaining in deprivation	1.02	2.89	1.73	1.43	3.19	2.00	3.80	3.40	2.60	5.50	4.00	2.80	2.22	1.64	2.86
Relative persistence rate	0.98	1.18	1.15	1.20	1.16	0.87	1.21	1.20	1.75	1.45	3.55	1.18	1.58	0.98	1.15

1. Including other household members

Table 6. Odds ratios resulting from changes in critical variables from wave 2 to wave 3 on the probability of moving into or out of poverty (Retired persons)

	AT	DE	GR	PT	UK
MOVEMENTS INTO POVERTY ^a					
From "Living with partner, no children" To "Living alone" (male, aged SRA-74)	3.54	19.31	1.38	5.25	2.75
From "Living with partner, no children" To "Living alone" (female, aged SRA-74)	3.29	17.98	1.73	3.77	3.63
From "Living with partner, no children" To "Living alone" (male, aged 75+)	2.24	na	1.55	4.39	3.01
From "Living with partner, no children" To "Living alone" (female, aged 75+)	2.08	na	1.94	3.15	4.79
From "All other HH members working" To "No HH member working" (male)	2.61	1.11	0.16	1.49	2.88
From "All other HH members working" To "No HH member working" (female)	2.43	1.04	0.20	1.07	3.80
MOVEMENTS OUT OF POVERTY ^a					
From "Living with partner, no children" To "Living alone" (male, aged SRA-74)	na	na	1.86	0.34	na
From "Living with partner, no children" To "Living alone" (female, aged SRA-74)	na	na	1.53	0.36	na
From "Living with partner, no children" To "Living alone" (male, aged 75+)	na	na	1.69	0.17	na
From "Living with partner, no children" To "Living alone" (female, aged 75+)	na	na	1.39	0.19	na
From "All other HH members working" To "No HH member working" (male)	0.25	0.89	0.37	1.33	na
From "All other HH members working" To "No HH member working" (female)"	0.23	0.50	0.30	1.45	na

Bold figures imply that the odds ratio was derived from a statistically significant coefficient (at the 5% level).

Table 7. Odds ratios resulting from changes in critical variables from wave 2 to wave 3 on the probability of moving into or out of poverty (Young adults)

		AT	DE	GR	PT	UK
MOVEMENTS INTO POVERTY ^a						
From	“Education/training”					
To	“Full-time work” (male aged 16-19)	0.56	0.40	0.10	0.65	0.09
From	“Education/training”					
To	“Full-time work” (female aged 16-19)	1.30	0.55	0.11	0.63	0.07
From	“Education/training”					
To	“Unemployment” (male aged 16-19)	2.44	2.97	0.96	0.97	1.93
From	“Education/training”					
To	“Unemployment” (female aged 16-19)	5.66	4.14	1.03	0.94	1.43
From	“Full-time Work”					
To	“Unemployment” (male aged 20-24)	2.39	4.09	7.17	1.32	39.4
From	“Full-time Work”					
To	“Unemployment” (female aged 20-24)	5.55	5.69	7.74	1.28	29.2
From	“Unemployment”					
To	“Full-time Work” (male aged 20-24)	0.65	0.69	0.30	0.75	2.99
From	“Unemployment”					
To	“Full-time Work” (female aged 20-24)	1.50	0.97	0.32	0.72	2.21
From	“Living with parents”					
To	“Living with others” (male aged 16-19)	0.86	16.90	0.27	2.00	na
From	“Living with parents”					
To	“Living with others” (female aged 16-19)	1.98	23.52	0.29	1.93	na
From	“Living with parents”					
To	“Couple, no children” (female aged 20-24)	1.00	7.55	1.74	0.53	na
From	“Couple, no children”					
To	“Couple, one child” (male aged 20-24)	2.32	1.34	0.42	0.01	na
From	“Couple, one child”					
To	“Lone parent” (female aged 20-24)	12.32	5.42	5.19	0.26	na
From	“Couple, one child”					
To	“Living alone” (male aged 20-24)	4.53	1.86	2.39	0.23	na
MOVEMENTS OUT OF POVERTY ^a						
From	“Education/training”					
To	“Full-time work” (male aged 16-19)	16.16	3.40	0.28	1.31	0.45
From	“Education/training”					
To	“Full-time work” (female aged 16-19)	6.14	3.34	0.33	1.74	2.07
From	“Education/training”					
To	“Unemployment” (male aged 16-19)	1.65	0.57	0.08	0.48	0.03
From	“Education/training”					
To	“Unemployment” (female aged 16-19)	0.63	0.56	0.10	0.64	0.13
From	“Full-time Work”					
To	“Unemployment” (male aged 20-24)	0.08	0.12	0.31	0.37	0.03
From	“Full-time Work”					
To	“Unemployment” (female aged 20-24)	0.03	0.12	0.37	0.49	0.14
From	“Unemployment”					
To	“Full-time Work” (male aged 20-24)	2.94	0.62	0.81	1.30	1.42
From	“Unemployment”					
To	“Full-time Work” (female aged 20-24)	1.13	0.61	0.97	1.72	6.53
From	“Living with parents”					
To	“Living with others” (male aged 16-19)	na	0.10	0.66	2.44	0.95

(continued)

From	"Living with parents"					
To	"Living with others" (female aged 16-19)	na	0.10	0.79	3.22	4.36
From	"Living with parents"					
To	"Couple, no children" (female aged 20-24)	na	8.57	na	na	na
From	"Couple, no children"					
To	"Couple, one child" (male aged 20-24)	na	6.00	na	na	2.13
From	"Couple, one child"					
To	"Lone parent" (female aged 20-24)	na	0.01	na	na	2.75
From	"Couple, one child"					
To	"Living alone" (male aged 20-24)	na	0.01	na	na	na

Bold figures imply that the odds ratio was derived from a statistically significant coefficient (at the 5% level).

Table 8. Dynamic multi-dimensional disadvantage over 3 waves –
Share of the population classified as deprived according to at least 2 out of 4 criteria in each wave

<u>Country</u>	Share of the population classified as suffering from multiple deprivation in:						
	Wave 1	Wave 2	Wave 3	No wave	At least one wave	At least two waves	All three waves
Germany	6.5	6.1	6.4	88.4	11.6	5.0	2.2
Greece	18.3	15.4	16.4	74.1	25.9	14.7	7.6
Portugal	19.2	15.9	14.1	74.6	25.4	14.3	8.3
UK	10.4	10.7	11.6	81.6	18.4	10.8	5.5

Criteria used: Disposable income, living conditions (amenities and durables), necessities of life and social relations.

Table 9. Relative dynamic multi-dimensional disadvantage over 3 waves

Country	Relative risk of being classified as suffering from multiple deprivation* in:			
	No wave	At least one wave	At least two waves	All three waves
Germany				
• Sick/disabled	0.88	1.94	2.84	3.50
• Young adults	0.96	1.31	1.08	0.91
• Retired	1.01	0.92	1.04	1.18
• Members of lone parent households	0.84	2.25	3.04	3.45
Greece				
• Sick/disabled	0.83	1.49	1.73	1.75
• Young adults	1.09	0.74	0.65	0.46
• Retired	0.77	1.64	1.91	2.28
• Members of lone parent households	0.95	1.14	1.05	1.17
Portugal				
• Sick/disabled	0.88	1.36	1.47	1.46
• Young adults	1.06	0.82	0.72	0.73
• Retired	0.77	1.67	1.97	2.07
• Members of lone parent households	0.90	1.29	1.60	1.96
UK				
• Sick/disabled	0.69	2.37	2.75	2.62
• Young adults	0.97	1.13	1.05	1.05
• Retired	0.95	1.24	1.25	1.15
• Members of lone parent households	0.64	2.61	3.02	3.55

* Probability of “risk group” members to be classified as deprived according to at least 2 out of 4 criteria over the same probability in the entire population