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Social exclusion, long term poverty and social transfers in the EU: Evidence from the ECHP

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Abstract

The share of social transfers in GDP has risen almost steadily in recent decades in most European countries. Further, in recent years, in the public discourse of many EU countries there has been a shift in emphasis from "poverty" to "social exclusion". The fight against social exclusion features prominently among the social policy objectives of most European countries and a considerable proportion of social transfers are devoted directly or indirectly to policies aiming to combat it. Even though in recent years a number of empirical studies have been devoted to the analysis of the redistributive effects of social transfer, in most cases they rely on cross sectional information and provide only a snapshot picture. As a result, so far neither the extent of overlap of those at high risk of social exclusion and at high risk of chronic poverty ("longitudinal

poverty") nor the extent to which social transfers are actually directed towards these groups have been examined in depth. The present paper aims to fill this gap and examines the distributional impact of cash social transfers in a longitudinal perspective in EU member-states, using the balanced sample of the eight waves of the ECHP.

The paper builds on earlier work of the authors, argues that "social exclusion" is closely related to Amartya Sen's concept of "capability deprivation" and constructs a dichotomous indicator of high risk of social exclusion. In the first stage, groups at high risk of social exclusion and at high risk of "longitudinal poverty" are identified for each EU member-state when the population is grouped into non-overlapping and mutually exclusive groups using demographic, occupational and educational criteria and the extent of the two risk groups' overlap is examined. In the next stage, the effects of cash social transfers on aggregate inequality and poverty in a longitudinal perspective are analysed in detail. The analysis is carried out separately for all cash social transfers taken together and for non-pension cash social transfers, while an attempt is also made to identify the distributional effects of particular types of non-pension social transfers (Sickness and Invalidity Benefits, Family Benefits, Unemployment Benefits, Other Benefits).

The results show that both the level and the aggregate distributional effects of social transfers vary enormously across EU countries. Likewise, substantial cross-country differences are observed regarding the extent that these transfers are directed towards population groups at high risk of social exclusion or "longitudinal poverty". Further, the results suggest that these differences are related to the welfare state regime that the country under examination belongs to.

1. Introduction

Since the late 1980s, in the political discourses of several European countries the term 'poverty' has been gradually substituted primarily by the term 'social exclusion' and, to a lesser extent by the terms 'social disintegration', and 'social marginalisation'. Comprehensive definitions of 'social exclusion' used in the academic literature interpret it as the denial of social, political and civil rights of citizens in society or the inability of groups of individuals to participate in the basic political, economic and social functionings of the society [Silver (1994), de Haan (1998)]. In practice, though, policy makers as well as a number of social scientists in EU member-states seem to interpret 'social exclusion' as 'exclusion from the labour market', 'acute poverty and material deprivation' (or both) or, less frequently, 'inability to exercise basic social rights' [Mayes et al (2001), Atkinson et al (2002)]. Few empirical studies investigating aspects of social exclusion can be found in the literature and, among them, there exists little agreement regarding its proper operationalisation.

Earlier studies of social exclusion claimed that 'poverty' and 'social exclusion' differ in two fundamental respects: 'poverty' is unidimensional since it is only concerned with lack of income, whereas 'social exclusion' is multidimensional since it is related to a broad range of aspects of deprivation and, further, 'poverty' is a static concept whereas 'social exclusion' a dynamic concept [Berghman (1995)]. Both claims are controversial. Although a considerable number of empirical poverty studies equate poverty with lack of income, at least since the pioneering work of Townsend (1979), many social scientists have argued that poverty is a multidimensional phenomenon and several of them have incorporated aspects of multiple deprivation in their analysis. Further, in recent years with the advent of panel data and the extensive use of administrative records, a large number of empirical studies have been devoted to the investigation of dynamic aspects of poverty. In fact, as Sen (2000) points out, social exclusion might not be such a 'new' concept after all. Notions of poverty conceptualised in broader than monetary terms can be found even in Aristotle's *Nicomachean Ethics*, whereas the notions of exclusion and inclusion are at the centre of the concept of poverty used by Adam Smith in the *Wealth of Nations*.

Turning to poverty, it should be noted that most empirical studies tend to use distributions of current income, thus ignoring aspects of intertemporal transfers and income smoothing. This is the reason that a number of authors seem to suggest that it

might be preferable to use consumption rather than income as a proxy for the unobserved welfare level of individuals in distributional studies [Sen (1976a), Deaton (1980)]. If longitudinal data are available, it is possible to use "smoothed" income distributions and identify persons that are poor in a longitudinal perspective. Within this context it is interesting to examine the role of social transfers; that is, one of the most important instruments available to policy makers in their fight against poverty (and, to some extent, social exclusion).

The present paper builds on earlier work of the authors [Heady et al (2001), Tsakloglou and Papadopoulos (2002a, 2002b), Papadopoulos and Tsakloglou (2006)] and has three aims. First, to compare the aggregate levels and structure of social exclusion and longitudinal poverty in EU member-states, second, to examine the distributional impact of social transfers in EU member-states in a long-term perspective and, third, identify similarities and differences across countries and, if possible, to associate them with "welfare state regimes" [Esping-Andersen (1990), Leibfreid (1992), Ferrera (1996)], using the information of the European Community Household Panel (ECHP).

2. Social exclusion

In recent years, an agreement seems to emerge among social scientists belonging to various disciplines regarding a number of the attributes of social exclusion [Room (1995), Atkinson (1998), Sen (2000), Atkinson et al (2002)]:

- *It is multidimensional* and implies deprivation in a wide range of indicators of living standards. Usually, this deprivation has a neighbourhood dimension, since it can be caused not only by lack of personal resources but also by insufficient or unsatisfactory community resources.
- *It is dynamic* and implies that people are excluded not just because of their current situation, but also because they have little prospect for the future.
- *It is purely relative* since it implies exclusion from a particular society at a particular point in time.
- *It has an agency dimension*, in the sense that social exclusion lies beyond the narrow responsibility of the individual concerned.
- *It is relational*, in the sense that it implies a major discontinuity in the relationship of the individual with the rest of society, inadequate social participation, lack of social integration and lack of power.

Taking the above into account, it is clear that the data requirements for the operationalisation of "social exclusion" are daunting. In this section we attempt to provide an operational approximation to the concept of social exclusion, using the information of all eight waves – balanced sample- of the ECHP (1994-2001).[1] The ECHP was an ambitious effort to collect information on the living standards of the households of the EU member states using common definitions, information collection methods and editing procedures. It contains detailed information on incomes, socio-economic characteristics, housing amenities, consumer durables, social relations, employment conditions, health status, subjective evaluation of well-being etc.[2] One of the main objectives of the ECHP was the collection of data that could be used for the exploration of various aspects of social exclusion. Nevertheless, in many cases, the information collected refers to 'functionings' rather than 'capabilities', which could be considered as more appropriate for the investigation of aspects of social exclusion (Sen, 1999). Moreover, using the information of the ECHP it is not possible to examine in depth a number of the aforementioned aspects of social exclusion (for example, agency, neighbourhood dimensions, social safety nets etc.).

Of the 15 "old" EU member states that were initially envisaged to participate in the ECHP, Sweden did not provide longitudinal data to the ECHP and, hence, is left out of our analysis. Likewise, Germany, Luxembourg and the UK participated in the ECHP through their national panels that did not contain information essential for the construction of the indicator of social exclusion and, hence, are also left out of the analysis. Finally, Austria and Finland joined after the first wave and, therefore, the corresponding comparative results should be interpreted with caution.

The approach of this section is the following: first, we construct static indicators of deprivation in particular fields. In the second stage, we 'aggregate' this information in order to derive a static indicator of cumulative disadvantage. In the final stage, we focus on chronic cumulative disadvantage, which can be considered as a reasonable approximation to the concept of 'social exclusion' as outlined above. [3] The unit of

[1] Since we are interested in matching income with status information, in this part of the paper use is actually made of seven ECHP waves.

[2] Details of the methodology used for the collection of information in the ECHP can be found in EUROSTAT (1996). For issues related to the quality of the information collected, see EUROSTAT (2000). For a critical appraisal see Peracchi (2002).

3. Relatively similar approaches have been adopted by Schokkaert and Van Ootegem (1990), Brandolini and D' Alessio (1998), Burchardt et al (1999, 2002) and Klasen (2000) in their analyses

analysis is the individual (population member), although most of the information used has been collected at the household level.

Of the various blocks of information available in the ECHP, we selected four in order to proceed to the construction of deprivation indicators in particular fields: Income (Poverty), Living Conditions, Necessities of Life and Social Relations. The ECHP contains information on a number of other fields that, under different circumstances, could be fruitfully exploited for the purposes of the identification of population members at high risk of exclusion (such as current health status, highest education level attained, indebtedness, social security coverage etc.). This information is not used here for various reasons (quality of information, cross-country comparability, information related to outcomes rather than ability to participate etc.). Moreover, no indicators of labour market exclusion are included among the deprivation indicators for two reasons. This is because, firstly, if labour market status is included among the indicators of exclusion, a considerable proportion of the population that cannot participate in the labour market is left out of the analysis (including some vulnerable groups such as the elderly, the disabled, etc.). Secondly, using the information available we run the risk of confusing the cause (adverse employment history) with the outcome (exclusion).

The first deprivation indicator examined is lack of sufficient income (poverty). The use of such an indicator in the framework of the present analysis is not uncontroversial. However, as Sen (1999, p. 90) points out, 'while it is important to distinguish conceptually the notion of poverty as capability inadequacy from that of poverty as lowness of income, the two perspectives cannot but be related, since income is such an important means to capabilities'.As Sen (1999: 89) indicates, 'relative deprivation in terms of *incomes* can yield *absolute* deprivation in terms of *capabilities*' (italics in the original). Hence, in line with the current practice of Eurostat, we adopted a relativist approach and the poverty line used in our analysis is set at 60% of the median equivalent income per capita, using the 'modified OECD equivalence scales'. The latter assign a weight of 1.00 to the household head, a weight of 0.50 to each of the remaining adults in the household and a weight of 0.30 to each child. The estimates of the poverty rate derived using this method on the data of the last (seventh) wave of the ECHP are

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of living standards, poverty and/or social exclusion in Belgium (among the unemployed), Italy, the UK and South Africa, respectively. See also the axiomatic approaches to the measurement of social exclusion developed by Chakravarty and D'Ambrosio (2002) and Bossert et al (2005).

reported in the first column of Table 1. As will be shown later, they suggest that relative poverty tends to be higher in countries with higher levels of aggregate inequality such as the Southern European countries associated with the 'rudimentary' welfare state regime and countries associated with the 'liberal' welfare regime (UK and Ireland) and lower in the low inequality countries of Northern and Central Europe with 'corporatist' or 'social-democratic' regimes.[4] Results of sensitivity analysis available from the authors on request show that as the poverty line rises from 50% to 60% and, then, to 70% of the median equivalent income per capita poverty rates rise sharply but, in general, the relative ranking of countries hardly changes.

The second deprivation indicator used in the paper covers the field of Living Conditions. In this field, the ECHP contains information on 22 items related to the availability of certain household amenities, the existence of particular problems in the accommodation and the enforced lack of a number of durable goods.[5] Naturally, these items are not equally important in all countries. Hence, in order to aggregate the available information into a single 'welfare indicator' in the field of Living Conditions, for every item under consideration we assigned to each population member living in a particular country and having access to a particular item (housing amenity or lack of problem or durable good), a weight equal to the proportion of the country's population living in dwellings not lacking the corresponding amenity or not reporting the relevant problem or not reporting enforced lack of the particular durable good. As a consequence, if a particular item is very rare (common) in a particular country, an individual living in a household with such an item is assigned a low (high) welfare weight. Then, the weights of each person are added and the resulting sum is divided by the sum of the average 'welfare scores' for each item for the entire population. In

4. Despite its popularity, an important drawback of the poverty rate as a deprivation indicator is that it is not sensitive to the distance of the deprived individual from the deprivation threshold; that is, the poverty line. This drawback is also common in the rest of deprivation indicators used in this section of our analysis.

5. The information of the ECHP on household amenities refers to the existence of the following amenities in the dwelling: A separate kitchen, A bath or shower, An indoor flushing toilet, Hot running water, Heating or electric storage heaters, and A place to sit outside (e.g. terrace or garden). The, self-reported, information on problems with a household's accommodation refers to the following problems: Shortage of space, Noise from neighbours or outside, Too dark, not enough light, Lack of adequate heating facilities, Leaky roof, Damp walls, floors, foundation etc., Rot in window frames or floors, Pollution, grime or other environmental problems caused by traffic or industry, Vandalism or crime in the area. Finally, the information on enforced lack of durable goods due to financial reasons, concerns the following items: Car or van (available for private use), Colour TV, Video recorder, Micro wave, Dishwasher, Telephone, Second home (e.g. for vacation).

algebraic terms, the formula used for the calculation of each person's 'welfare indicator', u_j, is:

$$u_j = \frac{\sum_{i=1}^{I} w_i X_{ij}}{\sum_{i=1}^{I} w_i} \qquad (1)$$

where I is the total number of items for which information is available (22 items), w_i is the proportion of the country's population living in accommodation with item i and X_{ij} a variable that takes the value of 1 (0) if individual j lives in a household that is (is not) equipped with item i. For each population member the 'welfare indicator', u_j, takes values between 0 (complete deprivation) and 1 (no deprivation).

Finally, a cut-off point in the distribution of this welfare indicator is selected and the population members falling below this threshold are defined as persons at high risk of deprivation in the field of Living Conditions. For the purposes of our analysis, we selected a cut-off point equal to 80% of the median of the distribution of the above welfare indicator. The resulting estimates using the data of the third wave of the ECHP are reported in the second column of Table 1. The cross-country differences are substantially larger than the differences reported in the first column of the table. In general, higher aggregate deprivation rates are reported in the poorest EU member-states. Nonetheless, it should be kept in mind that these scores are purely relative, in the sense that they have been derived using national cut-off points. Naturally, the particular threshold selected, like the poverty line selected before, is quite arbitrary. However, evidence available from the authors on request shows that the results are fairly robust in terms of the ranking of the various countries when the threshold changes but, of course, not so the share of the population classified as deprived.

The third static deprivation indicator concerns the field of Necessities of Life. The households that participated in the ECHP were asked a number of questions about their ability to afford (if they wanted to) a number of activities considered as quite basic.[6] The method used for the construction of a deprivation indicator in the field of Necessities of Life is similar to that outlined above for the construction of a deprivation

6. The ECHP contains information on the ability of the households to afford (if they want to) the following items: Keep their homes adequately warm, Pay for a week's annual holiday away from home, Replace a worn-our furniture, Buy new, rather than second-hand, clothes, Eat meat, chicken or fish every second day and Have friends or family for a drink or meal at least once a month.

indicator in the field of Living Conditions. We first constructed country-specific welfare indicators for each population member based on the proportion of the country's population residing in households where the reference person replied positively to each of the questions asked. After experimenting with several thresholds, we selected a cut-off point equal to 60% of the national median and derived the estimates reported in the third column of Table 1. Again, as a general tendency, higher deprivation rates are reported in the poorest EU member-states. Results of sensitivity analysis not shown here suggest that in the case of Necessities of Life the country rankings are not as robust with respect to the threshold used as in the cases of Income (Poverty) and Living Conditions. The latter should be attributed primarily to the limited number of items used for the construction of the welfare indicator in the field of Necessities of Life, which results in a rather discontinuous distribution of welfare scores.

The fourth static deprivation indicator covers the field of Social Relations. In this case, we classified as deprived those population members aged 16 or above who reported that they talk to their neighbours 'once or twice a month' or less frequently and, in addition, they meet friends 'once or twice a month' or less frequently and, further, they are not members of a club or organisation (such as a sport or entertainment club, a local or neighbourhood group, a political party, etc.). Children aged below 16 were assigned the same status – deprived or non-deprived – as the reference persons of their households. The corresponding estimates are reported in the last column of Table 1. Unlike the other non-monetary deprivation indicators used in this paper that are likely, at least to some extent, to be correlated with the financial conditions of the individual and his/her household, this indicator aims to capture non-material aspects of exclusion. Undoubtedly, an individual classified as deprived according to the above definition must live a very isolated life, even if she has the capability to sustain a relatively high material standard of living. Nevertheless, using the information of the ECHP we cannot be sure whether the individual chose to be in this state (unlikely but not impossible) or not.

In the next stage, we proceed to the examination of the 'cumulative disadvantage' experienced by the members of each country's population; that is, the number of indicators according to which each population member is classified as deprived. It should be noted that this approach is not uncontroversial, since it gives equal weight to

all deprivation indicators. The corresponding estimates, using the data of the last (seventh) wave of the ECHP, are reported in Table 2. In all countries, the majority of the population is not classified as deprived according to any of the four deprivation indicators. The proportion of the population classified as deprived according to at least one indicator varies between 17.8% in Denmark and 40.1% in Greece. In all countries, substantially fewer population members are classified as deprived according to at least two indicators than according to at least one indicator. The proportion of the population classified as deprived according to three or four indicators varies between 4.4% in Portugal and less than 1% in Denmark, the Netherlands and Finland. Undoubtedly, being classified as deprived according to one criterion only, may be due to a chance factor. On the contrary, limiting the group of people at high risk of cumulative disadvantage to those classified as deprived according to three or four criteria would, in most cases, restrict the group to an extremely small group of seriously disadvantaged persons and would not allow any further analysis of the group's characteristics. Therefore, we decided to consider as persons at high risk of (static) cumulative disadvantage, those that are classified as deprived according to at least two of the above deprivation indicators. Using this criterion, the population share of the group varies between 2.8% in Denmark and 15.2% in Greece. High shares are also recorded in Portugal and Italy whereas the corresponding shares in the Netherlands, Finland and Belgium are below 5%.

As noted in section 2, one of the characteristics of social exclusion that has been emphasised in the literature is its dynamic nature. Being excluded today may lead an individual into a trap with little prospect of escaping exclusion in the future. Table 3 provides estimates about the number of times each country's population members are classified as being at high risk of cumulative disadvantage during a period of seven years using the longitudinal sample of the ECHP. Taking into account the evidence of Tables 1 and, particularly, 2, it is not surprising to find that in all countries the great majority of the population is not classified as being at high risk of cumulative disadvantage in any of the three years. The share of those classified as being at high risk of cumulative disadvantage in at least one year varies significantly across countries; from less than 10% in Denmark to over 36% in Greece and Portugal. Substantial variation is also observed with respect to the population share of those

classified as being at high risk of cumulative disadvantage during all seven years or at least in six out of seven years.[7]

Choosing a particular threshold to classify somebody as suffering from 'chronic cumulative disadvantage' is not an easy task. Being at high risk of cumulative disadvantage only once may be attributed to a chance factor and does not necessarily provide a strong indication of high risk of social exclusion. Similarly, escaping high risk of cumulative disadvantage only once or twice in a period of seven years may also be attributed to a chance factor and should not be considered as a strong indication of low risk of social exclusion [Atkinson et al (2002)]. Therefore, we decided to focus on those classified as being at high risk of cumulative disadvantage at least three times during a period of seven years and classify them as being at high risk of social exclusion. The corresponding estimates are shown in the fourth column of Table 3. They demonstrate that the cross-country variation is considerable. Only 1.4% of the Danish population are classified as being at high risk of social exclusion, whereas the corresponding proportion for Portugal is 19.8%. High proportions are also recorded in Greece (16.3%) and, to a lesser extent, Italy (13.0%) and relatively low ones in the Netherlands (4.1%) and Belgium (5.1%).

3. Social exclusion and longitudinal poverty: Comparison of levels and structures

As noted earlier, the panel nature of the data used in this paper provides the opportunity to examine aspects of longitudinal poverty in EU countries and then, compare the level and the structure of the risks of social exclusion and longitudinal poverty in these countries. The distributions used for the derivation of the longitudinal poverty measures were derived as follows. Equivalent incomes adjusted for inflation for all members of the balanced panel were estimated for each of the first seven waves of the ECHP. Then they were averaged (per person) and the poverty line was set equal to 60% of the median of the resulting distribution. Estimates of the poverty rate thus

[7]. Note that due to the shorter panel period the estimates for Finland and Austria reported in Table 3 underestimate the true extent of chronic cumulative disadvantage over a seven year period in comparison with the rest of the countries of the table. Note also that in at least two countries – Portugal and, to a lesser extent, Greece - a relatively substantial proportion of the population seems to suffer from cumulative disadvantage during all or almost all seven years under consideration.

derived are reported in the second column of Table 4.[8] The first column reproduces the estimates of the fourth column of Table 3 (share of the population at high risk of social exclusion). In all but one of the countries examined (Portugal) the average risk of longitudinal poverty appears to be higher than the risk of social exclusion. In broad terms, the rankings of the countries in the two distributions are quite similar. In both cases differences across countries are quite considerable and clear links with welfare state regime are evident. Citizens appear to be better protected against the risks of social exclusion and longitudinal poverty in countries associated with the social democratic or the corporatist regimes rather than in countries belonging to the liberal or, especially, the southern regime type.

The last two column of Table 4 examine the overlap of the groups of persons at high risk of social exclusion and longitudinal poverty. In all but one (Austria) of the eleven countries considered the majority of those at high risks of social exclusion are poor. In most cases the relevant share is around 70%. On the contrary, only in Portugal and Greece the majority of the longitudinally poor belong to the group of persons at high risk of social exclusion. In the rest of the countries the opposite is observed, although in most cases a considerable proportion of the longitudinally poor (28%-50%) are classified as being at high risk of social exclusion. Only in Denmark, the corresponding share is very low (11.2%).

Taking into account that policy makers interested in designing policies aimed to alleviate longitudinal poverty and social exclusion have only imperfect knowledge of both the precise level of income and the quality of life of individual citizens, policies are mainly designed according to the characteristics of the groups perceived to be at high risk of poverty and social exclusion. Therefore, it is important to examine whether the composition of the population at high risk of exclusion differs substantially from the composition of the population at high risk of longitudinal poverty. Otherwise, it may be easier to "kill two birds with one stone"; i.e. design policies aiming to fight simultaneously social exclusion and longitudinal poverty.

[8] Since the income information needed for the derivation of longitudinal poverty estimates in the cases of Germany, Luxembourg and the UK is available in the ECHP, the corresponding estimates are reported in Table 4. Note also that, due to shorter panel periods and, hence, higher variation in the reported longitudinal incomes, the longitudinal poverty estimates for Austria, Luxembourg and Finland reported in Table 4 are probably biased upwards in comparison to the rest of the estimates reported in this table.

Table 5 presents results of the structure of relative risk of social exclusion and longitudinal poverty according to the first wave status of the population member, when the population is grouped according to five criteria: employment status of the household's reference person and the individual, education level of the household's reference person and the individual and household type.[9] More specifically, for each country there are tow columns. Column A reports the relative longitudinal poverty risk of the group (i.e. the longitudinal poverty rate of the group divided by the longitudinal poverty rate of the entire population) while column B reports the relative risk of social exclusion. Since there are literally hundreds of figures involved, Table 5 aggregates the relevant information into three groups: "low risk", that is a relative risk factor below 0.5 (blue colour), "medium risk", that is a relative risk factor between 0.5 and 1.5 (yellow colour) and 'high risk", that is a relative risk factor higher than 1.5.[10]

As could have been anticipated on the evidence of Table 4, in most case within countries relative risks factors for particular population groups do not differ substantially in the cases of longitudinal poverty and social exclusion. Even when the colours differ, in most cases the two relative risk factors lie close to the borderline (0.5 or 1.5). In very few cases we observe groups that are classified as low risk according to one criterion and high risk according to the other (unemployed persons in Austria, members of lone parent households in Denmark and Finland, members of households headed by unemployed persons in Denmark). Some relatively common patterns seem to emerge across the EU. In almost all countries, high risks of longitudinal poverty and social exclusion seem to be associated with unemployment, precarious employment or inactivity (other than retirement) and low educational qualifications of the individual member and the household head and, to a lesser extent, lone parenthood. On the other hand, some striking cross-country differences are also evident (see, for example, the

[9] The same analysis was also performed using "dominant" instead of "first wave status". The results were not substantially different, although the size of certain groups – especially when the population was grouped according to employment status – was greatly diminished. Results available from the authors on request.

[10] Logistic regression analyses of the risks of longitudinal poverty and social exclusion were also performed using as explanatory variables the variables shown in Table 5 and a similar exercise to that reported in Table 5 was performed using odds ratios instead of relative risk factors and the results are available from the authors on request. Although the two sets of estimates were not considerably different, we decided to report relative risks factors since they are likely to be of greater interest from the policy maker's point of view.

cross-country differences in the relative risk factors of the elderly population: households headed by retired person, older households without children, etc).

4. Distributional effects of social transfers

One of the main instrument available to the policy makers in their efforts to alleviate poverty and, possibly to a lesser extent, social exclusion are social transfers. The present section is devoted to the detailed examination of the distributional effects of social transfers in the EU member-states in a longitudinal perspective. The effects of the social transfers are estimated by comparing the distribution of incomes including transfers with two hypothetical distributions: (i) where social transfers are removed, and (ii) where social transfers are reduced by ten percent. In both cases, it is assumed that no other income changes occur. Distribution (i) is reported only for expositional purposes since, if there were no social transfers, many members of the population would have been forced to make different private arrangements to ensure their survival. Distribution (ii) represents the effects of marginal changes to social transfers and, as such, is not as clearly hypothetical as distribution (i). However, it could still be objected that people would alter other income sources (such as income from employment) if this change occurs. Nonetheless, in the absence of reliable estimates of labour supply responses in all of the countries considered, it represents a reasonable "first order" approximation to the distributional effect of a marginal reduction in the transfers. These comparisons are made to examine the distributional effects of all the social transfers lumped together as well as the impact of particular types of transfers. It should be noted that in the ECHP pension receipts do not distinguish between different pension sources (state, occupational, private) but just report a single total. The issue of whether it is correct to regard such a total pension income as a "social transfer" could be disputed, although Adema (1999) provides a strong justification in terms of the state encouragement that is provided to pensions of all types. Nonetheless, this particular treatment of pension receipts is an additional reason for the reporting of this paper's results for both all social transfers and non-pension transfers alone.

Table 6 reports the share of cash social transfers in household disposable income and how this share is divided between major areas of expenditure, derived from the balanced panel of the ECHP. This is a picture of substantial diversity: total social transfers vary from 19.5% for Portugal to 28.4% for the Netherlands; pensions range

from 8.7% of household disposable income in Ireland to 22.5% for Italy; while non-pension social transfers range from 1.9% in Greece to 12.7% in Ireland. Substantial diversity is also observed regarding the composition of social transfers.[11]

If the degree to which the total expenditures are targeted on the poor were the same in each country, we would expect the Netherlands and Belgium to be more effective at countering poverty than Portugal and Greece, with the other countries somewhere in between. However, Eardley et al (1996) suggest that expenditures are not equally targeted in all countries. For example, their figures imply that Ireland and the UK apply substantially more means testing to their social transfers than the rest of the EU. These figures should be interpreted with care, both because the extent of means testing is difficult to measure[12] and because means-testing is not the same as targeting. For example, spending on single mothers could be well targeted if they are a poor group, even if the money is not explicitly means-tested. Nonetheless, it is clear that it is not sufficient to just look at the share of social transfer expenditure in household income or GDP to judge its distributional effect.

One aspect of social transfer expenditure that affects its targeting is its distribution by type of benefit, and this is also reported in Table 6. This shows that most countries spend the largest share of their social transfer budgets on the old, in the form of pensions (old age and survivors benefits). In contrast, the relative importance of the other benefits varies considerably between countries. In considering the distributional implications of the figures presented in Table 6, it is useful to distinguish between three basic ways in which a benefit can be related to income: (i) it can be earnings-related, so that recipients in higher income deciles generally receive higher benefits; (ii) it can be flat rate, so that recipients in all income deciles receive the same amounts; (iii) it can be means-tested, so that recipients in lower income deciles receive larger amounts. However, the distributional impact will also be affected by the proportion of people in each decile that are eligible for the benefit. For example, a flat rate payment

[11] Note also that the picture of this table is "partial", in the sense that no account is taken of non-cash social transfers. As the last column of the table – taken from Eardley et al (1996) – points the share of non-cash social transfers in all social transfers differs enormously across EU countries.

[12] This is because there are two dimensions of means testing: the proportion of benefits that are subject to means-testing and the sensitivity of the means-tested payments to household income and wealth. Moreover, means testing may increase notional progressivity without necessarily increasing actual progressivity, if the take-up is low.

for children could result in larger payments to lower deciles if families with several children are more likely to be poor than the rest of the population.

Naturally, the information of Table 6 does not provide a clear idea regarding the distributional effects of social transfers. On the contrary, Figures 1a and 2a (for all social transfers) and 1b and 2b (for non-pension social transfers) are quite indicative. Figures 1a and 1b report the annualised absolute value of social transfers per capita during all the waves of the ECHP when the population members are ranked in deciles according to their (longitudinal) equivalent disposable income.

The picture that emerges from Figure 1a regarding the absolute value of social transfers per decile in the EU member-states is quite diverse. In half of the countries, (Austria, France, Germany, Greece, Italy, the Netherlands and Portugal) the members of the top decile enjoy the highest mean social transfers per capita while in the Southern countries as well as Luxembourg these transfers take their lowest values in the bottom decile. In some countries social transfers rise as equivalent income rises, whereas, leaving aside the top and bottom deciles, the opposite is observed in others. In contrast, Figure 1b shows that in all countries a clear negative association exists between disposable income and the share of income due to cash social transfers. Unlike, Figures 1a and 2a, Figures 1b and 2b demonstrate that when the focus is exclusively on non-pension social transfers a negative relationship between per capita non-pension social transfers and income decile can be established in almost all countries, while the relationship between the share of these transfers declines monotonically as we move up the income deciles in almost all countries. This confirms the suggestion made earlier that pensions are less redistributive than other social transfers.

The first half of Table 7 reports the share of all social transfers taken together in the disposable income of the entire population, the longitudinally poor and those at high risk of social exclusion. The same exercise is repeated in the second half of the table for the non-pension social transfers. In all countries social transfers constitute a very significant component of the income of the longitudinally poor and the socially excluded – far more significant than in the entire population. However, cross-country differences are striking. For example, in Belgium and Denmark, between 70% and 80% of the disposable income of those at high risk of longitudinal poverty and social exclusion consists of social transfers, while the corresponding percentages in Italy,

Greece and Portugal are between 34% and 42%. The cross-country differences are far more striking when we restrict our attention to non-pension social transfers. Although over half the disposable income of the longitudinally poor in the Netherlands and Ireland consists of non-pension social transfers, the corresponding figures in Italy and, especially, are lower than 10%. These cross-country differences are likely to imply that the distributional effects of both social transfer in aggregate and, particularly, the non-pension social transfers are likely to differ substantially across EU member-states.

The evidence presented so far implies that, since social transfers account for a larger share of the incomes of the poor rather than the rich, it is likely that they contribute to a decline in total inequality. The validity of this hypothesis is confirmed in Table 8. In the first half of the table, the first column (A) reports estimates of the Gini index for the distribution of equivalent disposable longitudinal income per capita. The second column (B) reports the proportional decline between the level of inequality that would have been recorded if there were no social transfers and the current level of inequality. The third column (C) reports the impact that a uniform 10% cut in social transfers would have on the index. The same exercise is repeated in the second half of the table for non-pension social transfers.[13] The estimates reported in column A suggest that, as in similar studies using single year cross-sectional data, there are substantial cross-country differences in the levels of aggregate inequality in a longitudinal perspective too. In general, inequality appears to be higher in countries associated with the social-democratic and corporatist welfare state regime and lower in countries associated with the liberal and, particularly, the southern regime type.[14] The estimates of column B show that there are substantial cross-country differences regarding the total distributional impact of all cash social transfers. This impact is most important in Denmark, the Netherlands and Germany and least so in Portugal and Greece. The estimates reported in the columns C suggest that, at the margin, social transfers are most effective in reducing inequality in Denmark and least so in Portugal Italy and

13. It should be kept in mind that the extent of the distributional impact of a particular system of social transfers is a function of the pre-transfer level of inequality (or poverty) as well as the parameters of the transfers system.

14 Using inequality indices other than the Gini index, cross-country differences appear to be even more substantial, but the relative ranking of the countries hardly changes. Results available from the authors on request.

Greece.[15] Cross-country differences are even more substantial when pensions are left out of the analysis in the second half of Table 8. Inequality declines as a result of these transfers by over 20% in the countries usually associated with the social-democratic and liberal regimes (Ireland, Denmark, the Netherlands, the U.K and Finland) and by less than 10% in the countries associated with the southern regime (Spain, Portugal, Italy and, particularly, Greece). Countries associated with the corporatist regime lie between them. Similar differences can be observed regarding the marginal impact of these changes in the last column of the table. A comparison of columns B and C of each half of the table shows that the exclusion of pensions has some effect on the relative ranking of countries, but it is not dramatic. It is also interesting that the numbers in the second half of the table are generally smaller than the corresponding numbers in the first half, indicating that pensions do have a redistributive effect even though, probably, not as great as non-pension transfers.

Comparing these results with Table 7, it is clear that, as one would expect, the countries with transfer systems that are most effective in reducing inequality are those that spend a high proportion of income on transfers. In addition, Ireland's move up the ranking when pensions are excluded corresponds to its relatively low expenditure on pensions, while Italy's move down the scale corresponds to the high proportion of its social transfers devoted to pensions. However, there is not a perfect correlation. It is therefore necessary to look in more detail to fully understand the results in Table 8, which may be driven by the extent to which transfers are targeted towards the poorest segments of the population, in addition to the level of expenditure. In order to disentangle the corresponding effects, we employ the technique of inequality decomposition by factor component.[16] Following Pyatt et al. (1980), if there are *K*

15. The same exercise was also performed for other values of the inequality aversion parameter of the Atkinson index as well as for members of the extended Gini family of indices. In most cases, the more sensitive the index to changes at the bottom end of the distribution, the larger the aggregate as well as the marginal impact of social transfers on inequality.

16. It should be noted that even though the technique of inequality decomposition by factor component has been used extensively in the literature, it has been criticised on the grounds that the resulting decomposition may not be unique; i.e. the results depend on the rule (type of restrictions) used in the decomposition procedure [Shorrocks (1982)]. As Shorrocks (1983) showed using PSID data, the general procedure outlined below is the most plausible available. In line with the great majority of similar empirical studies [see Cowell (2000) and the references cited there], for the purposes of the present decomposition analysis we use the most popular index of inequality, the Gini index. Results similar to those reported below were also obtained using as index of inequality the squared coefficient of variation.

income components and the population is ranked in ascending order according to equivalent income, the Gini index, *G,* can be written as:

$$G = \sum_{k=1}^{K} \frac{m_k}{m} R_k G_k \qquad (2)$$

where m and m_k denote, respectively, the mean equivalent income and the mean equivalent income of type k *(k=1 … K)*, G_k the Gini coefficient for the distribution of income component k and R_k the relative correlation coefficient of component k, which is defined as the ratio of the covariance between this component, y_k, and the rank of total income, r, to the covariance between the component, y_k, and its own rank, r_k; that is:

$$R_k = \frac{\mathrm{cov}(y_k, r)}{\mathrm{cov}(y_k, r_k)} \qquad (3).$$

Then, dividing both sides of (2) by G we derive:

$$\sum_{k=1}^{K} w_k g_k = 1 \qquad (4),$$

where $w_k=m_k/m$ is the share of component k in total income and $g_k=R_k(G_k/G)$ is the relative concentration coefficient of component k in aggregate inequality. [17] Therefore, $w_k g_k$ is the proportional contribution of component k to aggregate inequality. *Ceteris paribus*, an equiproportionate increase in incomes of type k will cause an increase or decline in aggregate inequality if g_k is greater or less than one. Further, using (2) we can calculate the elasticity of G with respect to a proportional change in component k

$$e_k = (\mathrm{d}G/\mathrm{d}m_k)(m_k/G) = w_k g_k - w_k \qquad (5)^{18}$$

Estimates of w_k, g_k and e_k are reported in Table 9 for all cash social transfers taken together and for each individual component: pensions, all non-pension transfers, sickness and invalidity benefits, family benefits, unemployment benefits and other benefits. The estimates of the second column show that in all countries social transfers mitigate aggregate inequality, since all g_ks are less than one (in fact, all but one are negative). Nevertheless, a number of cross-country differences are also observed. The

17. Note that a negative R_k means that the respective component is negatively correlated with the rank of total income and, therefore, the resulting negative g_k implies that this component contributes directly to aggregate equality rather than inequality.

18. Naturally, the sum of these elasticities for all income components is always equal to zero, since an equiproportionate increase of all income components will leave aggregate inequality unaffected.

most egalitarian distributions of social transfers are recorded in Ireland (highly negative relative concentration coefficient, g_k). At the other extreme we find Portugal, where g_k takes a positive value. These differences in w_k and g_k lead naturally to differences in the elasticity of inequality with respect to social transfers, e_k: highest (in absolute terms) in Finland, Denmark and the Netherlands. These findings are consistent with the evidence reported in Table 8.[19]

The most important type of cash social transfer is pensions, accounting for 15-20% of total household income in most countries. As discussed earlier, these could well not be redistributive and, indeed, the estimates of g_k show that this is the case in the Netherlands, where pensions contribute to inequality rather than equality. In all other countries and, especially, in Denmark pension contribute to a reduction in inequality. Turning to non-pension transfers, we see that the concentration coefficients, g_k, are lower (algebraically) than those for all transfers and for pensions, confirming that non-pension transfers are more redistributive. However, in Greece, Italy and Portugal, the elasticities of inequality are smaller (in absolute terms) for non-pension transfers than for pensions, because of the high proportion of transfer expenditure devoted to pensions.

The income share of cash sickness and invalidity benefits varies from 0.8% in Greece to 4.9% in the Finland. In most cases, the corresponding g_ks are negative and in all countries the elasticity of aggregate inequality with respect to them is negative as well, varying from –0.010 in Austria to –0.056 in Ireland. The share of family benefits in total household income is extremely low in the Southern EU member-states but quite substantial in Belgium, Austria and Luxembourg. In all but one of the countries (Portugal) the relevant relative concentration coefficients are negative and the elasticity of G with respect to family benefits varies between -0.004 and -0.017 in the Southern countries and -0.042 and -0.095 in the rest of the countries under examination. Naturally, unemployment benefits play an important role where unemployment is high and unemployment compensation relatively generous. For very different reasons, their share in total household income varies from 5.7% in Ireland and 5.0% in Finland to 0.3% in Greece, Luxembourg and the U.K.. In Ireland the corresponding elasticity is -0.141 and high (negative) values are also recorded in Finland and Belgium. "Other"

19. At first sight, the estimates of e_k in Table 9 may appear to contradict the implied elasticities of the last part of Table 4. However, the former are point elasticities, whereas the latter are arc elasticities.

benefits (mainly housing benefits and social assistance) play an important role only in the UK, Denmark and, to a lesser extent, the Netherlands. In most cases the relevant g_ks are negative and large in absolute terms. As a consequence, in the above countries, the elasticity of G with respect to these benefits is relatively large too: -0.074 in the Netherlands, -0.065 in the U.K., -0.062 in Denmark. The overall picture of the role of different transfers in reducing inequality is as expected from the discussion in the earlier section 3. Insurance benefits, particularly pensions, are only weakly redistributive if at all, while benefits targeted at poor groups (family benefits, housing benefits and social assistance) are more strongly redistributive.

The last two tables of the paper examine the impact of social transfers on poverty. For the purposes of these tables we employ the index of Foster et al. (1984) which is defined as:

$$F = \frac{1}{n}\sum_{i=1}^{n}\left(\frac{z - x_i}{z}\right)^a \qquad (6)$$

where z is the poverty line, n the size of the population, x_i a variable that is equal to the equivalent income of the population member if he/she falls below the poverty line and z otherwise, and a is a poverty-aversion parameter. The poverty line is set at 60% of the median equivalent income.

Like Table 8, the first two columns of Table 10 report estimates of F for the distribution of disposable income for two values of a,[20] while columns A report the proportional decline between the level of poverty with no social transfers and the current level of poverty, and columns B the effect of a uniform 10% cut in all cash social transfers. The first half of the table reports results for all social transfers taken together while the second half reports results for non-pension social transfers only.

The first two columns suggest that, a anticipated, the recorded levels of longitudinal poverty are substantially lower than the corresponding estimates derived from cross-sectional data [Heady et al (2001)]. In the first half of the table, the estimates reported in columns A show that social transfers in cash are extremely important for the alleviation of poverty in all EU member-states. However, since these transfers increase the incomes of many population members who remain below the poverty line even after the transfers, their effectiveness in alleviating poverty appears to increase as the

value of *a* rises. Social transfers appear to be most effective in mitigating poverty in Denmark, Germany and the Netherlands and least so in Portugal and Greece. The results in columns B show that the marginal impact appears to be quantitatively most important in Denmark and Ireland and least so Portugal, Greece and Italy.

Looking at non-pension transfers, columns A show that Denmark and the Netherlands continue to have the largest impact on poverty, although they are joined by Ireland as the value of *a* increases. At the other end of the scale, Italy joins Greece as a country with relatively little impact, just as it did in Table 8. Columns B show that the greatest marginal impacts on poverty are in Denmark, Irelands and Finland, although the results vary depending on the value of *a*. Once again, Greece, Italy and Portugal are the countries where these transfers have little marginal impact on poverty, a well as Spain and Belgium. These results suggest that, in general, countries that are effective in using social transfers to reduce inequality are also effective in reducing poverty. However, it is interesting to note that Ireland is higher in the order of countries for reducing poverty than it is for reducing inequality, probably due to a combination of the high proportion of means-testing in Ireland's social transfers and the relatively small amount spent on pensions.

Table 11 is similar to Table 10, but instead of examining the impact on longitudinal poverty of all social transfers taken together, it analyses separately the impact of particular types of transfers, when *a*=2.[21] In all countries, the significance of pensions in alleviating poverty is enormous, while, at the margin, a 10% cut in pensions would have the most adverse impact in Denmark where many pensioners are located very close to the poverty line and the least adverse in the Netherlands. For the other transfers, there are important cross-country differences. Sickness and invalidity benefits reduce poverty by over 80% in Denmark, the Netherlands and Ireland but by less than 15% in Greece. Family benefits reduce poverty by over 65% in Ireland and Luxembourg but less than 10% in the Italy and Spain. Even more significant cross-country differences are registered regarding the efficacy of unemployment benefits in reducing poverty: poverty in Ireland declines by 87%while in Greece by just 1%. "Other" benefits play an important role in reducing poverty in the Netherlands,

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[20]. A value of 0 corresponds to the headcount ratio while 2 puts produces a distributionally-sensitive index satisfying Sen's (1976b) axioms that puts particular weight on the very poor.
21. Similar but less pronounced results were obtained when *a* was set at 0.

Denmark, the UK and Luxembourg. For most types of benefit, the patterns of results in columns B are relatively similar to those in columns A and considerable cross-country differences are also evident. A comparison of these results with those in Table 9 shows that, in general, countries where a particular transfer is effective in reducing inequality are also those in which the same transfer is effective in reducing poverty.

5. Conclusions

The results of the paper show that there are considerable differences across EU member-states regarding both the level and the structure of the population at high risk of social exclusion and poverty (analysed in a long-term framework). However, in most cases within countries there is considerable overlap of the two groups and relatively small differences in their characteristics. Substantial cross-country differences are also observed regarding the size, the structure and the effectiveness of the social transfers in fighting poverty and reducing inequality in a longitudinal perspective. All the above differences are clearly associated with welfare state regimes. Countries usually classified as belonging to the social democratic regime appear to protect better their citizens against the risks of longitudinal poverty and social exclusion and use their social transfers effectively in these regards. Exactly the opposite is the picture in the case of the countries belonging to the southern regime type. Countries belonging to the liberal regime appear to have relatively high levels of inequality, poverty and social exclusion, but they also appear to use their social transfers quite effectively at the margin (perhaps as a result of relatively extensive targeting). The countries of the corporatist regime were found to occupy the middle ground.

The interpretation of the results concerning the effectiveness of social transfers should be very careful. It can be argued that the results of the paper show that in some countries these transfers are used very effectively in order to reduce inequality, poverty and, perhaps, social exclusion in a long term framework. However, it can also be argued that the results show that in these countries there is welfare dependence and particular segments of the population are trapped close to the bottom of the distribution, with little prospects for a future escape. We happen to believe the former story but, certainly, further research is needed in order to distinguish between the two.

Table 1. Aggregate deprivation indicators

Country	Proportion of the population in the 7th wave of the ECHP classified as deprived according to:			
	Income (Poverty)	Living Conditions	Necessities of Life	Social Relations
Austria	12.1	4.0	10.5	5.9
Belgium	14.1	4.1	7.4	6.6
Denmark	11.6	3.6	3.8	2.7
Finland	12.4	2.3	10.6	2.6
France	16.2	7.6	7.9	3.5
Greece	20.3	9.4	27.2	1.7
Ireland	20.7	4.9	5.4	1.2
Italy	19.5	7.4	12.9	6.7
Netherlands	10.7	3.2	7.3	3.8
Portugal	20.1	15.6	14.7	4.3
Spain	19.5	5.4	6.8	1.9

Table 2. Aggregate indicators of cumulative disadvantage (wave 7)

Country	Proportion of the population classified as deprived according to:				
	No criterion	At least one criterion	At least two criteria	At least three criteria	All four criteria
Austria	75.5	24.5	7.0	1.3	**
Belgium	76.5	23.5	4.8	1.3	**
Denmark	82.2	17.8	2.8	[0.5]	**
Finland	78.4	21.6	4.7	0.7	**
France	74.6	25.4	6.8	1.5	[0.1]
Greece	59.9	40.1	15.2	3.4	**
Ireland	75.4	24.6	5.6	1.2	**
Italy	68.2	31.8	10.7	3.0	0.4
Netherlands	80.9	19.1	3.9	0.5	**
Portugal	63.8	36.2	12.9	4.4	0.5
Spain	73.4	26.6	5.4	1.5	[0.2]

Table 3. Aggregate indicators of social exclusion

Country	Proportion of the population classified as suffering from cumulative disadvantage during a period of seven years:*							
	Never	At Least Once	At Least Twice	At Least 3 Times	At Least 4 Times	At Least 5 Times	At Least 6 Times	Seven Times
Austria	84.2	15.8	9.2	5.6	3.3	1.8	0.8	-----
Belgium	83.9	16.1	7.6	5.1	3.4	2.2	1.1	[0.2]
Denmark	90.4	9.6	3.3	1.4	[0.6]	**	**	**
Finland	88.9	11.1	5.3	3.0	1.2	0.7	-----	-----
France	80.7	19.3	11.6	7.5	4.8	3.2	1.7	0.6
Greece	63.0	37.0	23.8	16.3	11.2	7.7	5.4	2.8
Ireland	79.6	20.4	13.4	9.2	5.0	2.7	1.8	[0.4]
Italy	71.2	28.8	17.2	11.7	8.0	5.2	3.4	1.4
Netherlands	86.9	13.1	7.2	4.1	2.6	1.7	0.7	[0.2]
Portugal	63.1	36.9	24.2	19.8	14.7	10.7	7.4	4.5
Spain	76.0	24.0	13.6	8.0	5.2	2.9	1.3	0.3

*6 for Austria and 5 for Finland

Table 4. Social Exclusion and Poverty (PI) in the sample (based on 7waves)*

Country	Population share of socially excluded	Population share of poor (PI)	Proportion of socially excluded who are poor	Proportion of poor who are socially excluded
Austria	*5.6*	*7.9*	*42.0*	*30.5*
Belgium	5.1	10.7	73.3	34.4
Denmark	1.4	6.7	52.6	11.2
Finland	*3.0*	*7.9*	*73.0*	*28.3*
France	7.5	11.5	65.1	42.5
Germany	-----	7.7	-----	-----
Greece	16.3	17.3	69.2	64.6
Ireland	9.2	13.0	62.9	44.1
Italy	11.7	15.6	71.8	49.8
Luxembourg	-----	*9.5*	-----	-----
Netherlands	4.1	7.0	70.1	43.0
Portugal	19.8	17.8	58.6	64.7
Spain	8.0	14.1	73.9	39.3
UK	-----	14.7	-----	-----

* Austria and Luxembourg: 6 waves, Finland: 5 waves

Table 5. Structure of PI Poverty and Social Exclusion according first wave status

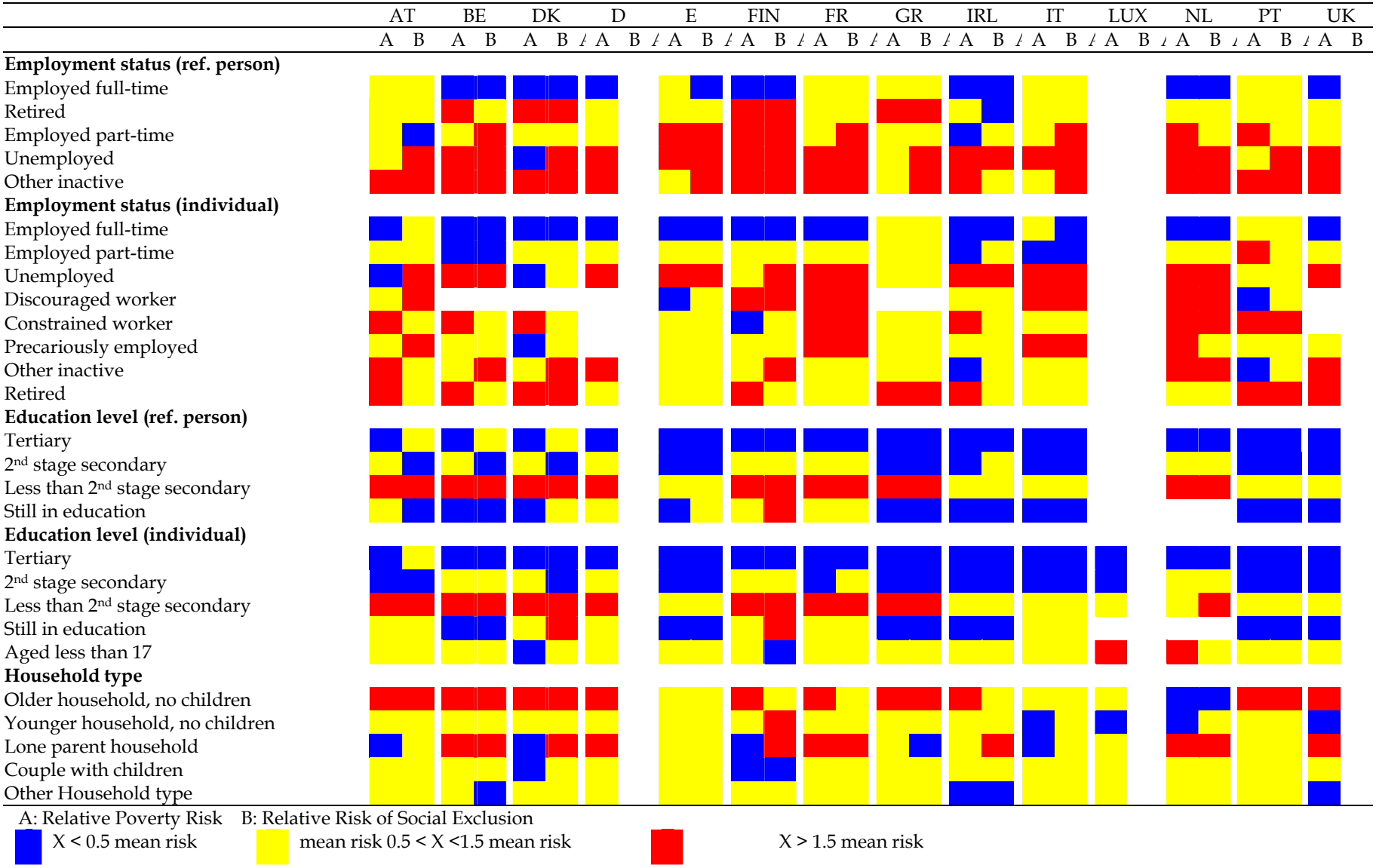

Table 6. Structure and share of cash transfers in disposable income

Country	Pensions	Sickness & Inval. Benefits	Family Benefits	Unempl. Benefits	Other Benefits	All social transfers	Non-pension social transfers	Ratio of cash to non-cash soc. tr. (1991)
Austria[1]	13.9	1.6	5.1	1.1	2.1	23.8	9.9	----
Belgium	15.4	2.1	5.3	2.6	0.9	26.3	10.9	3.1
Denmark	10.5	2.5	3.5	3.3	2.9	22.7	12.2	1.8
Finland[2]	8.8	3.6	2.9	3.4	1.3	20.0	11.2	1.8
France	17.5	1.4	3.4	2.2	1.6	26.1	8.6	2.6
Germany	18.7	1.4	3.5	2.7	1.0	27.3	8.6	2.1
Greece	18.3	0.8	0.5	0.3	0.3	20.2	1.9	10.6
Ireland	8.7	2.3	3.8	5.1	1.5	21.4	12.7	1.9
Italy	22.5	1.7	0.4	0.8	0.2	25.6	3.1	2.6
Luxembourg[1]	15.5	2.8	4.7	0.2	0.7	23.9	8.4	2.8
Netherlands	16.8	4.4	3.2	1.8	2.2	28.4	11.6	3.8
Portugal	13.8	2.0	1.7	1.3	0.7	19.5	5.7	1.9
Spain	16.1	3.3	0.2	2.4	0.5	22.5	6.4	2.9
UK	14.9	2.6	3.2	0.3	3.5	24.5	9.6	2.0

[1]:1995-2000, [2]:1996-2000

Figure 1a. Per Capita Cash Social Transfers per Decile

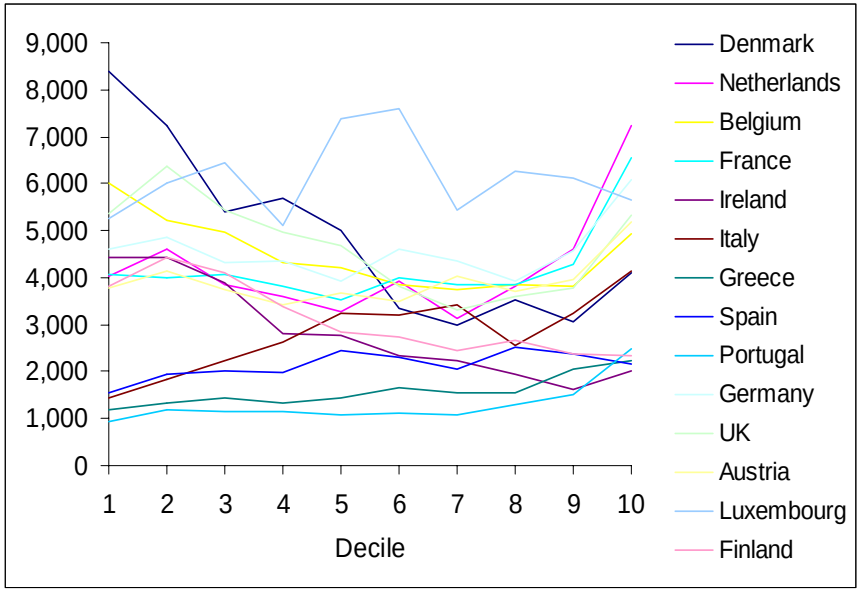

Figure 2a. Income Share of Cash Social Transfers per Decile

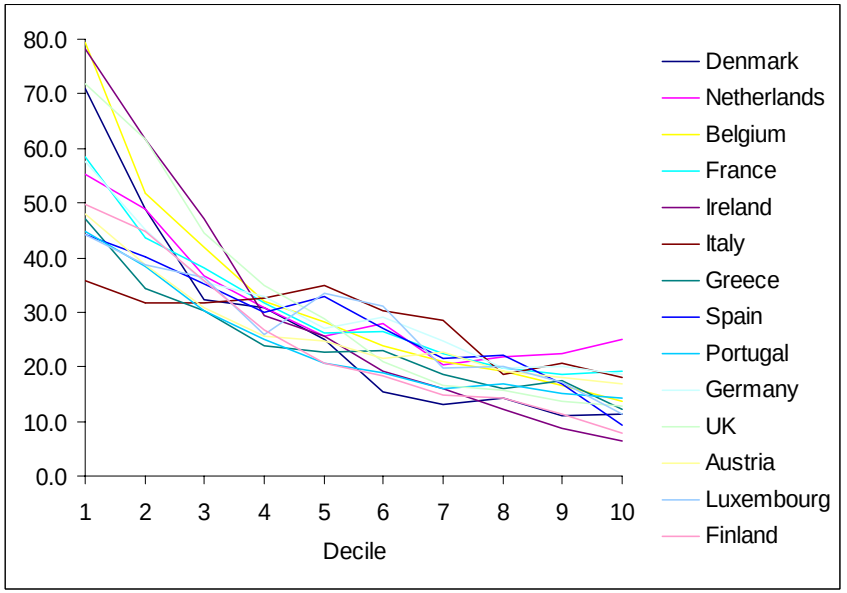

Figure 1b. Per Capita Non-Pension Cash Social Transfers per Decile

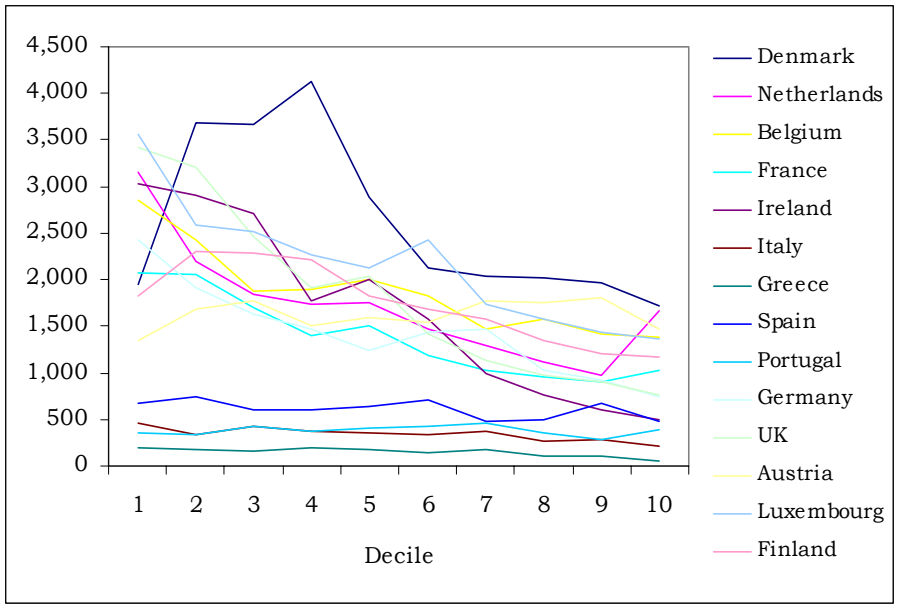

Figure 2b. Income Share of Non-Pension Cash Social Transfers per Decile

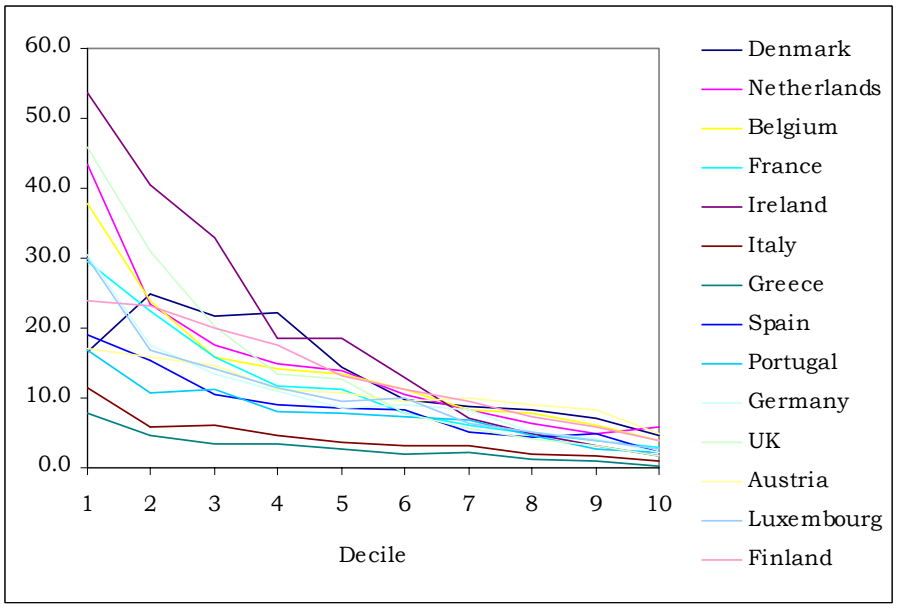

Table 7. Share of social transfers in disposable income

Country	Share of all social transfers in			Share of non-pension social transfers in		
	Aggregate disposable income	Disposable income of poor persons	Disposable income of socially excluded	Aggregate disposable income	Disposable income of poor persons	Disposable income of socially excluded
Austria[1]	23.7	52.3	40.3	9.9	17.1	21.0
Belgium	26.4	78.9	72.6	11.0	37.9	44.2
Denmark	22.6	78.8	74.8	12.2	15.3	48.9
Finland[2]	20.0	50.2	50.0	11.2	23.9	35.9
France	26.1	56.6	52.4	8.6	29.2	31.7
Germany	27.2	60.3	----	8.5	32.9	----
Greece	20.2	40.4	41.7	1.9	6.5	6.4
Ireland	21.4	74.6	64.2	12.7	50.3	57.0
Italy	25.6	34.3	36.7	3.1	9.0	10.5
Luxembourg[1]	24.0	45.7	----	8.5	30.6	----
Netherlands	28.4	58.7	66.5	11.6	49.0	54.6
Portugal	19.5	41.0	36.5	5.7	13.4	12.4
Spain	22.5	41.6	48.6	6.4	17.5	23.6
UK	24.5	70.9	----	9.6	41.8	----

Table 8. Distributional Impact of Cash Social Transfers (Gini index, PI)

Country	All social transfers			All social transfers except pensions		
	A	B	C	A	B	C
Austria[1]	0.206	35.6	2.2	0.206	14.4	1.0
Belgium	0.239	41.4	3.6	0.239	18.4	1.7
Denmark	0.172	45.9	5.0	0.172	24.9	2.2
Finland[2]	0.210	35.6	3.4	0.210	20.3	1.8
France	0.253	38.5	2.3	0.253	15.4	1.5
Germany	0.218	43.1	2.8	0.218	16.8	1.6
Greece	0.299	27.2	1.5	0.299	3.3	0.3
Ireland	0.278	35.5	3.7	0.278	25.5	2.7
Italy	0.268	33.2	1.5	0.268	5.4	0.4
Luxembourg[1]	0.230	36.5	2.6	0.230	16.2	1.5
Netherlands	0.221	44.9	2.4	0.221	24.4	2.1
Portugal	0.327	21.5	1.3	0.327	6.9	0.6
Spain	0.301	30.2	2.0	0.301	9.6	0.8
UK	0.270	38.6	3.4	0.270	20.4	2.0

A:Distribution of disposable income including cash transfers
B: Proportional decline in inequality due to cash transfers (%)
C: Increase in inequality due to uniform 10 per cent cut in cash transfers (%)
[1]:6-waves, [2]:5-waves

Table 9. Contribution of Cash Social Transfers to Total Income and Aggregate Inequality in EU Member States (Gini index, PI)

	All social transfers (minus pensions)			Pensions			Sickness and invalidity benefits			Family benefits			Unemployment benefits			Other Benefits[4]		
	w_k	g_k	e_k	w_k	g_k	e_k	w_k	g_k	e_k	w_k	g_k	e_k	w_k	g_k	e_k	w_k	g_k	e_k
Austria[1]	0.099	0.053	-0.093	0.139	0.243	-0.105	0.016	0.289	-0.012	0.051	-0.494	-0.076	0.011	-0.306	-0.014	0.021	1.409	0.008
Belgium	0.110	-0.530	-0.168	0.154	-0.073	-0.165	0.021	-0.432	-0.030	0.053	-0.054	-0.056	0.026	-1.435	-0.064	0.009	-0.895	-0.017
Denmark	0.122	-0.662	-0.202	0.105	-1.474	-0.259	0.025	-1.169	-0.054	0.035	-0.098	-0.038	0.033	-0.508	-0.049	0.029	-1.068	-0.060
Finland[2]	0.112	-0.562	-0.175	0.088	-0.603	-0.141	0.036	0.000	-0.036	0.029	-0.211	-0.035	0.034	-0.993	-0.068	0.013	-1.778	-0.036
France	0.086	-0.659	-0.143	0.175	0.671	-0.058	0.014	-0.277	-0.018	0.034	-0.660	-0.056	0.022	0.046	-0.021	0.016	-2.003	-0.047
Germany	0.085	-0.806	-0.153	0.186	0.530	-0.087	0.014	-0.296	-0.018	0.034	-0.593	-0.055	0.027	-0.990	-0.053	0.010	-1.785	-0.027
Greece	0.019	-0.473	-0.028	0.183	0.426	-0.105	0.008	-0.522	-0.012	0.005	-0.973	-0.010	0.003	0.075	-0.003	0.003	-0.100	-0.003
Ireland	0.127	-1.105	-0.266	0.087	-0.043	-0.091	0.023	-1.501	-0.057	0.038	-0.572	-0.060	0.051	-1.467	-0.125	0.015	-0.617	-0.024
Italy	0.031	-0.390	-0.044	0.225	0.647	-0.079	0.017	-0.301	-0.022	0.004	-0.747	-0.006	0.008	-0.605	-0.013	0.002	0.287	-0.002
Luxembourg[1]	0.085	-0.706	-0.144	0.155	0.432	-0.088	0.028	-0.642	-0.046	0.047	-0.563	-0.073	0.002	-1.342	-0.006	0.007	-1.635	-0.020
Netherlands	0.116	-0.725	-0.201	0.168	1.022	0.004	0.044	-0.246	-0.055	0.032	-0.737	-0.056	0.018	0.232	-0.014	0.022	-2.406	-0.076
Portugal	0.057	-0.021	-0.058	0.138	0.571	-0.059	0.020	-0.261	-0.026	0.017	-0.026	-0.017	0.013	0.532	-0.006	0.007	-0.384	-0.009
Spain	0.064	-0.175	-0.076	0.161	0.312	-0.111	0.033	-0.032	-0.034	0.002	-0.725	-0.004	0.024	-0.332	-0.032	0.005	-0.125	-0.006
UK	0.095	-1.037	-0.194	0.148	0.228	-0.115	0.026	-0.690	-0.044	0.032	-1.056	-0.065	0.003	-1.279	-0.007	0.035	-1.260	-0.078

1:1995-2000

2:1996-2000

3:2000

4: Other Benefits include: Education related allowances, social assistance, housing allowance and any other personal benefit not falling into any of the above categories

Table 10. The impact of cash social transfers on poverty

Country	Final distribution		All social transfers				All social transfers except pensions			
	Poverty rate	FGT2	Poverty rate		FGT2		Poverty rate		FGT2	
			A	B	A	B	A	B	A	B
Austria[1]	7.9	0.528	76.0	21.8	94.3	25.0	55.8	8.9	68.6	7.8
Belgium	10.7	0.565	70.8	26.9	96.9	48.9	48.6	14.3	88.0	20.8
Denmark	6.7	0.135	77.4	35.2	99.0	110.2	67.6	10.9	95.9	17.9
Finland[2]	7.9	0.291	76.4	27.2	96.3	36.8	62.6	14.5	89.2	18.1
France	11.5	0.512	71.0	22.9	97.0	41.1	48.9	13.3	85.2	20.6
Germany	7.7	0.421	78.4	23.9	97.5	36.0	55.5	12.1	84.9	18.8
Greece	17.4	1.672	51.1	10.4	88.6	17.6	10.7	1.5	26.9	2.4
Ireland	13.0	0.395	65.9	28.1	97.6	75.8	58.2	16.1	95.3	51.8
Italy	15.6	1.314	59.7	8.9	91.7	14.7	16.4	2.3	44.3	4.3
Luxembourg[1]	9.5	0.331	73.2	20.5	97.2	42.0	50.0	9.2	89.5	29.5
Netherlands	7.0	0.270	80.5	28.2	98.6	46.9	64.1	16.5	95.6	40.4
Portugal	17.8	1.528	49.3	8.8	87.0	17.5	21.7	3.7	49.6	5.8
Spain	14.1	0.961	62.7	15.7	93.1	20.0	33.9	5.8	68.1	9.2
UK	14.7	0.931	63.0	23.1	95.4	38.9	45.3	11.7	87.4	24.5

A: Proportional decline in poverty due to cash transfers (%)

B: Increase in poverty due to uniform 10 per cent cut in cash transfers (%)

Table 11. Impact of particular social transfers on poverty (PI, FGT2)

Country	Pensions		Sickness and Invalidity Benefits		Family Benefits		Unemployment Benefits		Other Benefits[14]	
	A	B	A	B	A	B	A	B	A	B
Austria[1]	92.0	16.7	31.5	1.5	43.4	4.3	17.0	1.0	12.8	0.9
Belgium	95.4	27.2	57.9	3.9	48.0	4.3	67.7	8.5	33.0	2.5
Denmark	98.4	86.5	86.7	7.9	22.6	0.9	57.8	2.8	68.9	5.2
Finland[2]	93.1	18.1	66.7	3.5	29.5	1.4	65.6	7.6	48.1	4.7
France	95.6	19.7	36.7	1.9	57.8	7.0	35.0	3.1	53.9	7.3
Germany	96.6	16.5	43.2	1.8	43.1	4.5	60.0	6.8	47.5	4.7
Greece	87.2	14.9	14.8	1.0	11.0	1.0	1.0	0.1	3.2	0.3
Ireland	93.7	22.4	80.3	12.8	68.6	8.8	87.0	23.0	34.7	3.8
Italy	89.9	10.2	29.7	2.1	3.4	0.3	18.2	1.4	5.1	0.4
Luxembourg[1]	95.6	11.8	73.6	5.0	68.4	12.5	12.5	1.0	62.2	9.9
Netherlands	97.6	5.8	88.3	7.7	55.7	7.8	49.1	3.5	84.7	18.9
Portugal	82.3	11.4	28.4	2.1	17.9	1.9	5.2	0.3	14.5	1.4
Spain	89.8	10.2	44.9	2.5	7.7	0.8	44.2	4.7	10.8	1.0
UK	91.0	13.4	48.8	3.3	60.7	8.7	12.2	1.2	65.0	9.8

A: Proportional decline in poverty due to cash transfers (%)

B:Increase in poverty due to uniform 10 per cent cut in cash transfers (%)

[1]: Other Benefits include: Education related allowances, social assistance, housing allowance and any other personal benefit not falling into any of the above categories

Appendix

As in all panels, the ECHP suffered from attrition. What were the effects of this attrition to the measured levels of inequality and poverty and to what extent are the results reported in the paper are due to attrition rather than income smoothing? The following table tries to provide some indicative answers. The first column reports the sample size in the original sample (wave 1), while column 2 reports the size of the balanced panel and column 3 the ratio of the two (effectively, attrition due to any source). Differences across countries appear to be quite substantial; from less than 30% in Portugal and the U.K. to over 60% in Ireland. This is the reason that all the estimates reported in the paper were weighted using the longitudinal weights provided by EUROSTAT. The remaining of the table examines the likely impact of attrition on the measured estimates of inequality and poverty. If attrition is non-random and concentrated mainly in the tails of the income distribution, ceteris paribus, we would anticipate a decline in the measured cross-sectional levels of inequality and, perhaps, poverty. Indeed, this appears to be the case regarding inequality in all but two countries (Finland and Luxembourg), but in most cases the declines are not dramatic. In the case of relative poverty estimates, the situation is less clear-cut since in five countries poverty rates in the last wave are higher than in the first (substantially so in Ireland). Nevertheless, it should be kept in mind that these comparisons are only indicative since they do not isolate the distributional impacts of various policy changes that took place during the period under examination. Finally, as anticipated, the level of inequality in the distribution of longitudinal incomes is lower than the level of cross-sectional inequality in all countries; in most cases by a substantial margin. Similar results are obtained regarding longitudinal poverty, too.

Table A1. Sample sizes and comparisons of cross-sectional and balanced sample estimates

	Wave 1 sample size (unweighted)	Balanced panel sample size (unweighted)	% Attrition	Gini			Poverty rate		
				Wave 1	Wave 7	Balanced panel	Wave 1	Wave 7	Balanced panel
Austria[1]	9579	5760	39.9	0.268	0.242	0.206	13.8	12.1	7.9
Belgium	9149	5256	42.6	0.293	0.287	0.239	16.2	14.1	10.7
Denmark	7693	3606	53.1	0.228	0.223	0.172	11.2	11.6	6.7
Finland[2]	11214	5854	47.8	0.233	0.250	0.210	10.5	12.4	7.9
France	18916	10658	43.7	0.296	0.276	0.253	16.0	16.2	11.5
Germany	16284	11102	31.8	0.277	0.250	0.218	14.6	11.5	7.7
Greece	16321	9118	44.1	0.348	0.329	0.299	21.8	20.3	17.4
Ireland	14585	5401	63.0	0.339	0.297	0.278	16.7	20.7	13.0
Italy	21934	13859	36.8	0.329	0.297	0.268	20.6	19.5	15.6
Luxembourg[1]	8192	4554	44.4	0.254	0.258	0.230	12.0	12.0	9.5
Netherlands	13029	7544	42.1	0.286	0.258	0.221	11.3	10.7	7.0
Portugal	14706	10337	29.7	0.374	0.369	0.327	23.6	20.1	17.8
Spain	23025	11862	48.5	0.333	0.325	0.301	18.8	19.5	14.1
UK	12844	9300	27.6	0.336	0.308	0.270	20.3	17.4	14.7

[1]: 6 waves, [2]: 5 waves

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