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Welfare states, labour market institutions and the working poor: a comparative analysis of 20 European countries

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Welfare states, labour market institutions and the working poor:

A comparative analysis of 20 European countries

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March 2008

Abstract

This paper regards the incidence of in-work poverty and how it is reduced by the payment of social transfers in 20 European countries. It combines a micro- and a macro-level perspective in two-level models. The basis for the analysis is micro-data from the EU Statistics on Income and Living Conditions (EU-SILC) 2005 and macro-data from sources such as the OECD and Eurostat. The broad comparative perspective allows for a separation of different institutional influences, namely the influence of the degree of decommodification, defamilisation and bargaining centralisation. In contrast to previous studies on the working poor which have mainly described country differences in in-work poverty, this paper focuses on the question of how such differences can be explained from a broader perspective of poverty research. In general, the results confirm the overall hypothesis that both welfare state measures and labour market institutions have an influence on in-work poverty. By analysing influences on pre-transfer poverty and poverty reduction separately, I show that such factors have varied effects on in-work poverty. While bargaining centralisation proves to be relevant for the distribution of pre-transfer incomes only, the set-up of the social security system in particular impacts the extent of poverty reduction.

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1. Introduction

For a long time, in-work poverty was not associated with European welfare states. Recently the issue has drawn increasing attention as a potential consequence of welfare state change which is associated with an emphasis on labour market inclusion in favour of social security (Gilbert, 2002; Barbier, 2004). This is also reflected at the level of policy making. For instance, in its guidelines for the employment policies of the Member States, the Council of the European Union stresses that “[e]fforts to raise employment rates go hand in hand with [...] reducing the share of working poor” (Council of the EU, 2005: 3). The perceived need for poverty reducing measures is driven by the notion of a significant share of working poor in Europe. But earlier research also shows that this share clearly differs from one country to the next (see, e.g., Peña-Casas and Latta, 2004; Bardone and Guio, 2005). Not much is known about the causes for these differences. This paper aims to answer why the incidence of in-work poverty differs within Europe. In a comparison of 20 European countries, I will analyse how institutional factors such as the system of wage bargaining or the transfer system explain differences in in-work poverty rates and how poverty is reduced in the process of income redistribution.

This paper looks at in-work poverty from the perspective of general comparative poverty research (see e.g. Atkinson et al., 1995; Förster and Pellizari, 2000; Moller et al., 2003), which argues that a person’s welfare is generated at household level. Hence, personal low wages, which are often in the focus of studies on the working poor (Marx and Verbist, 1998; Brandolini et al., 2002; Gardiner and Millar, 2006) are regarded as only one cause of in-work poverty. At least two other factors influence a worker’s poverty risk. Other earners may contribute to household income. Furthermore, transfers may play a crucial role in lifting poor workers out of poverty. To explain country differ-

ences in in-work poverty, we have to take into account differences not only in the incidence of low wages but also in the accumulation of earned incomes within households, in the availability and take-up of benefits. The differences between countries in each of these areas are explained by different institutional factors. Taken together these institutional differences are expected to explain the variation in the structure and incidence of in-work poverty. In a comparison of 13 European countries, Lohmann (2007, forthcoming) finds support for this hypothesis and shows that in-work poverty rates differ significantly according to country-specific institutional settings. This paper partly draws on these earlier analyses. However, in order to be able to disentangle the various influences which cumulate into higher or lower poverty rates, I analyse separately how institutional factors shape the incidence of pre-transfer poverty (which is calculated on the basis of disposable household income minus social transfers) and the extent to which poverty is reduced by such transfers. The latter analysis examines which groups of the pre-transfer poor are not poor after social transfers are added to household income. By analysing pre-transfer poverty and poverty reduction separately, it is possible to answer an important question: Do the higher or lower incidences of in-work poverty have to be attributed to differences in labour market institutions, or do variations in welfare state characteristics play a more important role? Although the paper is primarily interested in relationships at the macro level, it also considers micro-level influences. This multilevel perspective takes into account the way in which characteristics of the institutional framework alter individual poverty risks and the likelihood of moving out of poverty due to the receipt of transfers. Furthermore, we can control for country-specific differences in the composition of workers and their households in a broader, more encompassing manner that is often not possible when only considering relationships at the macro level.

The paper is organised as follows: The second section discusses the influence of the institutional framework on the incidence of in-work poverty. Section 3 examines poverty risk factors at the individual level and differences in the reduction of poverty. The empirical analyses are based on data from the EU Statistics on Income and Living Conditions (EU-SILC) 2005 and macro-data from sources such as the OECD and Eurostat. A discussion of the data and methods (Section 4) is followed by a descriptive overview (Section 5) of cross-country differences in in-work poverty and the extent to which transfers reduce poverty. Section 6 presents the results of the multivariate empirical analysis. A conclusion is given in Section 7.

2. The influence of welfare state measures and labour market institutions

It is a straightforward assumption that labour market institutions influence the incidence of pre-transfer poverty while welfare state measures primarily affect the extent of poverty reduction. In fact, the discussion on labour market institutions and income inequality usually refers to earnings. Previous research suggests that labour market institutions play a key role in explaining the extent of low-wage work as well as the distribution of wages (Lucifora et al., 2005; Blau and Kahn, 1996; Teulings and Hartog, 1997). In particular, institutional features like centralised and/or coordinated wage-setting are likely to affect the incidence of low wages. Many studies also show an influence of union density on the distribution of wages (Freeman, 1993; DiNardo et al., 1996; Rueda and Pontusson, 2000). But since union density does not necessarily translate into a high or low level of bargaining coverage, it seems more adequate to examine features of the bargaining system. In particular, the finding that bargaining centralisation encourages wage equality has gained broad empirical support (Golden and Londregan, 2006). Thus, I hypothesise that the system of wage bargaining has an influence on the extent of in-

work poverty. To be exact I expect that a higher level of bargaining centralisation lowers the numbers of pre-transfer working poor.

Regarding welfare state characteristics, we can distinguish the degree of de-commodification and defamilisation. While the concept of decommodification is defined as the reduction of individuals' reliance on the market for their well-being (Esping-Andersen, 1990), defamilisation is defined as the reduction of a person's dependence on the family (McLaughlin and Glendinning, 1994; Lister, 1994). In technical terms, decommodification describes the extent to which the welfare state provides transfers to those outside the labour market (Esping-Andersen, 1990; Scruggs and Allan, 2006). As far as poverty in general is concerned, it is obvious that the degree of decommodification is related to the incidence of poverty, since the poverty risk of the jobless depends strongly on the availability and level of transfers (Atkinson et al., 1995; Kenworthy, 1999; Förster and Pellizari, 2000; Sainsbury and Morissens, 2002; Moller et al., 2003). With respect to the working poor, this relationship is less obvious. However, we can distinguish two relevant mechanisms. From the perspective of economic work incentives, we can argue that the level of transfers influences the level of wages workers are willing to accept and thus the level of earnings. This is assumed to have an influence on the incidence of pre-transfer poverty. While this influence is indirect, it will be easier to detect a direct influence from the increase of household income through transfers. Also workers can claim benefits. This is the case not only if specific in-work benefits exist but also if earned incomes are below the transfer threshold. However, relevant in-work benefits are paid in Ireland and the UK only (OECD 2005). As a consequence, in most countries transfers paid to other household members are more important (Lohmann 2007). Such transfers increase the household income and thus decrease the risk of being poor for jobless and working individuals alike. Therefore, the more

generous the benefits paid to working and non-working persons, the greater the chances that the working poor will be lifted out of poverty.¹

As defined above, defamilisation has to do with independence from one's family. This concept concerns women's independence from care obligations and a male main earner (Orloff, 1993; Lister, 1994), the independence of unemployed or low-paid adult children from their parents (Paugam and Russell, 2000), and the independence of the elderly from their children (McLaughlin and Glendinning, 1994). In terms of policies, defamilisation is achieved via dual-earner policies such as care for children and the elderly as well as through policies aimed at the economic independence of young unemployed persons. These policies are relevant for an analysis of in-work poverty in a twofold manner. First, care obligations restrict female employment—or more generally, restrict the possibility of having more than one earner per household—which is related to a higher risk of being poor. Hence, I expect an influence on the incidence of pre-transfer poverty. Second, in situations where unemployed adults live with other family members—in other words: situations with a higher degree of intergenerational dependency—this has an influence on the relationship of needs to earned incomes in these households. Larger households have greater needs and thus are more likely to be poor. Again, this will mainly affect pre-transfer poverty and not the extent of poverty reduction. Intergenerational dependency could, however, be interpreted in a positive way as well because it provides protection within the family. This is not expected to be the case for all workers, however, but rather for specific groups like younger adults. In addition to the impact of dual-earner support and intergenerational dependence, there is a third factor that affects working families' likelihood of being poor. Many welfare states offer general family support in the form of cash child benefits or tax deductions in order to compensate for the higher needs and employment restrictions of families. Since 'having children' is in many countries the only precondition to receive child benefits, most

working families will benefit from such transfers (see, e.g., Strengmann-Kuhn 2003). Therefore, I expect that the generosity of child benefits has a positive influence on the extent of poverty reduction.

3. Individual and household-related factors

As for institutional influences, we can expect that the influence of individual- and household-related factors differs depending on whether we look at pre-transfer poverty or the extent of poverty reduction. First, influences on the incidence of pre-transfer poverty are discussed. Poverty research has established a number of individual and household-related factors that influence the risk of being poor. In broad terms, these can be classified as factors related to ‘needs’ and to ‘resources’. Needs are imposed by a given household structure as already discussed in the section above. In general terms, larger households have larger needs and these needs differ according to the age of the household members. Furthermore, the risk of being poor is influenced by the resources a person has at his or her command. Crucial resources are those that allow for successful participation in the labour market—such as education, labour market experience and occupation. In addition to ‘needs’ and ‘resources,’ there are ‘restrictions’ on labour market participation, such as care obligations for children or elderly people in a given household.

Which individual and household-specific characteristics can we expect to alter the extent of poverty reduction? In other words, who is more likely to move out of poverty after transfers have been taken into account? Differences are likely to be structured according to the differences in the availability and in the take-up of benefits. Both differ depending on which type of benefit we are looking at. In broad terms, we can distinguish among unemployment benefits, social assistance benefits, family benefits, and

old-age benefits. Since I will look at individuals of working age, it seems adequate to disregard the impact of the latter. Since in most systems only workers with a solid work history receive unemployment benefits, I assume that the poverty reduction of such benefits is higher for older workers. Since in some countries young adults are not eligible for social assistance either, this will work into the same direction. Most obvious is the situation in the case of family benefits (Immervoll et al., 2001). For workers with children I expect a stronger impact of transfers on the degree of poverty reduction.

In addition to the availability of transfers, differences in group-specific benefit take-up rates will have an impact on the extent of poverty reduction. Previous research discusses a number of influences on the probability of benefit take-up such as information deficits, the level of expected entitlements, and the costs associated with claiming (Kerr, 1982; van Oorschot, 1991). Accordingly, employed people are less likely to claim benefits, which can be explained by their limited time budget in comparison to the non-working population and by the fact that they stand to receive lower benefits since they are receiving at least some income from work. In addition, they appear less likely to claim benefits due to fears of stigmatisation, since it is mainly the unemployed who claim benefits. This is not to say, however, that the working poor do not claim benefits at all. A number of studies have shown that transfers are a crucial part in the budget of working households near or below the poverty line (Strengmann-Kuhn, 2003; Lagarenne and Legendre, 2000; Lohmann, 2007). If we apply the expectations concerning costs and benefits to the working poor, it can be expected that workers who are working longer hours and have higher incomes are less likely to claim benefits. Furthermore, I assume that benefit take-up rates among the self-employed will be lower since it will be more difficult for this group to provide sufficient information about earned incomes. Underreporting of income to tax authorities acts as an additional disincentive for the self-employed to claim benefits. Due to information deficits and problems in complying

with administrative procedures, migrants and persons with low education are expected to be less likely to claim benefits. In addition, I assume that households with more than one adult are more likely to claim benefits because their time restrictions are less severe than those of households with single adults. Previous research also shows a curvilinear influence of age (Kayser and Frick, 2001). Younger and older persons are less likely to claim benefits than middle age groups. It is, however, unclear if this relationship is the same for the working poor. Furthermore, it will not be possible to differentiate aspects of benefit availability and benefit take-up in the empirical analysis. Since the lower availability of transfers for younger persons partly works against the age differences in benefit take-up, it is difficult to predict an aggregate effect. In contrast, an unambiguous effect can be expected for groups like migrants and low-qualified workers, who are less likely to have information about existing benefits and claiming procedures. I expect that these groups benefit less from available transfers and therefore are less likely to be lifted out of poverty.

4. Joint analysis of micro and macro influences – multilevel analysis

As discussed in Sections 2 and 3, we can expect macro as well as micro-level influences to explain the variance in in-work poverty. The following analysis examines these influences jointly using a multilevel approach. As discussed in Section 2, I hypothesise that welfare state characteristics and labour market institutions—i.e., *macro-level influences*—have an effect on the incidence of pre-transfer in-work poverty as well as the degree of poverty reduction via transfers. In addition, Section 3 introduced a number of *micro-level influences*. Furthermore, we can expect these micro-influences to interact with macro-influences (*cross-level interactions*). In other words, the strength of individual risk factors can be expected to differ according to the setup of the institutional

framework. Along with micro, macro, and cross-level influences, an additional aspect must be taken into account when comparing the extent of in-work poverty and poverty reduction at the aggregate level. There are differences in the *composition of the working population* (e.g., female employment, working time, size and structure of the households people live in) which explain part of the differences in aggregate rates. We cannot regard these factors as exogenous; rather, they are to a large extent the consequence of welfare state measures. Hence, controlling for such micro-level differences already picks up part of the institutional differences.

Micro-data

The empirical analyses are based on the European Community Statistics on Income and Living Conditions 2005 (EU-SILC), which contains comparable data on all EU-25 countries (except Malta) plus Norway and Iceland (Eurostat, 2007). Since sufficient data on the institutional framework (see next section) does not exist for all of these 26 countries, a number of countries had to be excluded. These countries are Estonia, Lithuania, Latvia, Cyprus, Slovenia, and Iceland. This leaves a sample of 20 countries, which covers the EU-15 countries plus four of the Eastern-Continental member states and Norway.

Income data in EU-SILC is collected for the year before the survey. Hence, the analyses regard the situation in 2004. Therefore, the definition of “working” also applies to the year before the survey. A person is defined as working if he or she has been working at least seven months out of twelve. The population in question is defined as workers living in private households, over 17 and below 65 years of age. The focus in this paper is on pre-transfer poverty and the impact of social transfers (except old-age benefits as they are not regarded as central for the working poor).² Pre-transfer income is defined as disposable income minus social transfers. A person is *pre-transfer poor* if

he or she lives in a household with an equivalised (modified OCED-scale) pre-transfer household income below 60 percent of the median.³ A second poverty line is computed on the basis of equivalised post-transfer household income. If a person is poor according to the pre-transfer poverty line but not according to the post-transfer line we can assume that poverty has been reduced via the receipt of transfers.⁴ In the following I speak—for the sake of brevity—of *poverty reduction* if I mean that a person is lifted out of poverty after transfers have been taken into account.

It is more common to look at the extent of poverty reduction from a macro perspective. The difference between pre-transfer and post-transfer poverty rates divided by the pre-transfer rate is usually interpreted as the extent of poverty reduction. However, there are not only persons who move out of poverty due to the payment of transfers. There are also persons who are not poor according to the pre-transfer poverty line but poor according to the post-transfer poverty line (*poverty increase*).⁵ In a macro perspective, we usually ignore this group. Since we cannot ignore this group in a micro perspective we have to differentiate between *net poverty reduction* and *gross poverty reduction*. The former is the concept often used in macro comparisons, while the latter is the one defined in the paragraph above. In the descriptive analysis (Section 5), we will see that aggregate gross and net reductions are highly correlated. Therefore, in the multivariate analysis I will ignore the aspect of poverty increases within the process of redistribution and only examine the extent of gross poverty reduction.

The analysis consists of two sets of multivariate models. First, I examine which factors influence the probability that a working person is pre-transfer poor. Second, I analyse which characteristics increase the probability that poor persons will move out of poverty after transfers are paid (poverty reduction). I use the same set of independent variables in both analyses but partly expect different influences (see the discussion in Section 3). The structure of a household a person lives in is measured by a set of vari-

ables that record the number of persons living in each individual's household by age group (0-2, 3-5, 6-12, 13-17, and 18+ years). To control for the specific situation of single parents and women after separation, marital status (dummy variable indicating separation or divorce), gender, and a respective interaction effect (separation/divorce*gender) are also included in the models. Age is included in form of a linear and a quadratic term. Education is expected to influence the ability to generate income through labour market participation and may also have an impact on the likelihood of benefit take-up. Education is included as a set of dummy variables (ISCED 0-2/3/4-6). Furthermore, a dummy variable is included that differentiates the autochthonous population from the immigrant population.⁶ A number of variables deal with a person's employment situation. I differentiate between self-employed (including unpaid family members) and other workers. Like employment, also self-employment is defined on the basis of the information about the year before the survey. Most persons were either employed or self-employed. Some persons, however, were in self-employment for some months only. Workers are regarded as self-employed if they were self-employed at least half the time they were employed during the year before the survey. In the same manner we can differentiate part-time workers from full-time workers. The models contain controls for occupation consisting of a number of dummy variables (ISCO-88, one-digit level). Since earned income from other household members is expected to play a role in explaining the risk of being poor, as is the likelihood of benefit take-up, the number of employed household members is controlled for. The respective variables record the number of additional workers in a person's household (apart from the person him/herself), partly differentiated by working time.

Macro-data

Table 1 provides an overview of the definition and sources of the macro indicators. The indicators describe the situation in the year 2003 or 2004. Since an Esping-Andersen-style decommodification index (Scruggs and Allan, 2006) does not exist for all the countries dealt with in this paper, the indicator simply reflects the level of unemployment benefits (as a percentage of the average wage of a production worker – APW). The respective information is taken from published figures from the OECD tax/benefit models (OECD 2007).⁷

<Table 1: Definition and sources of macro indicators>

As discussed in Section 3, the concept of defamilisation covers different dimensions. Dual-earner support and general family support are measured by the level of public expenditure on family services and family cash transfers (both as a percentage of GDP). The figures are taken from the OECD Social Expenditure Database (SOCX). The indicator of intergenerational dependence is the share of young unemployed (20-29 years) who live in their parents' household (by country, computed on the basis of EU-SILC). Information on the level of wage bargaining centralisation has been taken from Visser (2004: 43).

Table 2 provides information on the means and the variation of these macro indicators. I will comment briefly on these figures in order to give an impression of the total variation. Average replacement rates vary from 6 percent of the APW (Italy) to about 80 percent (Denmark, Sweden, Netherlands, Luxembourg). There is only one country that spends more than two percent of its GDP on family services (Denmark). Respective spending is lowest in Ireland and Greece. Average spending on family cash benefits is higher than spending on services. Many countries spend about two percent of its GDP on family transfers. Luxembourg, which spends 3.5 percent, is a positive out-

lier. Spain, like other Southern European countries, is found at the bottom of the distribution. We can also observe clear differences in the share of young unemployed living with their parents. In Northern European countries, this share is usually lower than in Southern and Central-Eastern Europe. While in Denmark only 11 percent of the young unemployed live with their parents, the respective share is 83 percent in Greece.⁸ The indicator for bargaining centralisation ranges from 0.13 to 0.71. While wage bargaining is decentralised in the UK, it is most centralised in Austria. Unemployment rates and economic growth rates are included as control variables. There are exceptional rates of unemployment in Poland and the Slovak Republic (18 and 19 percent). It is not higher than 10.6 percent (Spain) in the rest of the countries, and lowest in Norway and Ireland. Per capita growth is higher than four percent in Luxembourg, Ireland, Greece, and the Eastern-Continental countries. It is exceptionally low in Italy, Germany, and Portugal (not higher than 1.1 percent).

<Table 2: Means and variation of macro indicators>

In addition, some of the models contain cross-level interaction effects. It is a straightforward assumption that higher spending on family services lowers the poverty risk associated with having young children because it offers better chances to reconcile work and family. Intergenerational dependency can be seen as a factor that shifts the poverty risk from younger to older workers (due to young unemployed and low-wage workers living with their parents). Accordingly, a positive interaction between age and intergenerational dependence can be assumed. Centralised bargaining is expected to have an influence on the earnings differential by skills because the equalising impact of centralisation is mainly found at the lower end of the earnings distribution (see e.g. Blau and Kahn, 1996). As a consequence, low-skilled workers can expect higher wages in

countries with centralised bargaining systems. Poverty reduction is expected to be stronger for workers with children in countries with higher spending on family cash benefits. Hence, additional models contain these respective interactions terms.

Modelling strategy

From the perspective of multilevel analysis, we can describe the EU-SILC as two-level data with individuals nested within countries (see, e.g., Snijders and Bosker, 1999). A general problem in estimating regression models from nested data is that the assumption of independence of errors across observations is likely to be violated. A common approach to dealing with this kind of data is to estimate a random intercept model in which the error term contains a unit-specific random component u_i which captures the country-specific unobserved characteristics. If the assumption holds that u_i is uncorrelated with any of the independent variables, the random intercept model will yield unbiased and efficient estimates. Under the same assumptions, a standard regression model (in the linear case OLS) will also result in unbiased estimates. However, the estimates will be inefficient. Furthermore, the random intercept model allows us to differentiate between country- and person-level variance. On the basis of the variance components, we can compute the intraclass correlation *rho* which indicates the country-level variance as a fraction of total variance. Given the dichotomous nature of the dependent variables (poor/not poor and move out of poverty/stay in poverty, after transfers are taken into account) all the models are specified as logistic regressions.⁹

5. In-work poverty and reduction of poverty in 20 European countries

Table 3 shows the incidence of in-work poverty and the extent of poverty reduction via social transfers in all of the 20 countries which are examined in this paper.¹⁰ For better

orientation, the countries are grouped regionally, which produces a strong overlap with broadly used welfare state typologies. On average, pre-transfer poverty is lowest in the countries of the Scandinavian cluster, followed by the Western-Continental and the Anglo-Saxon countries. Pre-transfer poverty is clearly higher in the Southern European countries and in three of the Eastern-Continental countries. However, the variation in some of the clusters is rather high, in particular within the two continental clusters. The picture slightly changes if we move to post-transfer poverty. Now in all Scandinavian countries in-work poverty is low. Again, low poverty rates can also be observed in countries of the Western-Continental and the Eastern-Continental cluster (Belgium, Germany, Czech Republic). The Southern European cluster is the one with the most consistent results. In these countries, post-transfer in-work poverty tends to be high.

<Table 3: Pre-transfer poverty, post-transfer poverty and poverty reduction>

This is clearly due to the modest impact of transfer payments in Southern Europe. In these countries on average, the difference between the pre-transfer and post-transfer poverty (net reduction) is less than a percentage point. This is the result of two mechanisms. On the one hand, in Southern Europe not many of the pre-transfer poor find themselves above the poverty line after transfers are paid (small gross reduction). On the other hand, compared to the rest of the countries, a larger proportion of the population finds themselves below the poverty line (large gross increase). Nevertheless, in all countries including the Southern European countries, the post-transfer rate is lower than the pre-transfer rate. In addition, Table 3 reports the relative degree of poverty reduction which is often more adequate because in absolute terms poverty reduction can be high simply because we start off from a higher level of pre-transfer poverty.

6. Explaining poverty risks and the extent of poverty reduction

As argued above I expect that in-work poverty and the extent of poverty reduction differs according to a number micro- and macro-level determinants. I start with the analysis of the influence of micro-level determinants. Table 4 shows the results of two-level random intercept models for both dependent variables. The empty models (M0) are the starting point for the further steps of analysis because they give us the information how much of the variance of the respective variables is variance between countries. The fraction of between-country variance in pre-transfer poverty is low ($\rho=0.042$). The degree of poverty reduction differs more by country, which is reflected in a higher intraclass correlation ($\rho=0.157$).¹¹

Before I consider these country differences in more detail, I will first discuss the individual pre-transfer poverty risk factors that are expected to reflect the position of workers in the labour market and the effect of redistribution within the household (results in the left panel of Table 4). The direction of the coefficients in Model 1 (M1) shows which groups of the working population are affected by poverty. The results are mostly in line with results from general poverty research. There are differences according to age, education, and marital status. As far as age is concerned, we find a U-shaped influence. The risk of being a member of the working poor is lowest for the middle age groups. Higher education lowers the risk of being poor. As expected, migrants face higher poverty risks, which reflects their more precarious position in the labour market. How far this can be attributed to discrimination or unobserved aspects of (lower) qualification cannot be distinguished on the basis of these results. Women are more likely to be poor than men. The difference is more pronounced without controlling for job characteristics like part-time work and occupation (results not reported). The fact that sepa-

ration or divorce is often accompanied by economic strain for women is reflected by a higher poverty risk among this group.

<Table 4: Coefficients of micro models>

The household context also strongly influences the risk of belonging to the working poor. The larger a person's household, the more likely s/he is to be poor. While the number of household members reflects the needs of a household and—in the case of small children—potential restrictions on labour market participation, additional workers in a household are likely to lower the risk of poverty. Not surprisingly, this effect is strongest in the case of additional full-time workers. But also workers who live together with part-time workers are less likely to be poor. As in the case of additional workers, the working time of the worker him/herself influences the person's risk of being poor. Part-time workers face a higher risk of poverty than full-time workers. Also self-employed workers are more likely to be poor. It is, however, unclear to what extent this can be attributed to an underreporting of earnings from self-employment. When we look at occupation, agricultural workers are at the highest risk of being poor. Apart from this, there are clear differences between high-skilled and low-skilled workers.

Table 4 (right panel) shows that also the extent of poverty reduction differs according to individual and household-related factors. For some groups with high poverty risks, transfers clearly work against their disadvantageous position in the pre-transfer distribution of incomes. As expected, workers with children—in particular young children—are lifted out poverty by transfer payments more often than others. The same applies to women and workers who are living together with other adults. There are, however, also groups that profit less from transfers although they also face above average poverty risks. As I have argued, migrants and workers with low qualifications are

less likely to claim benefits due to their greater difficulties complying with administrative procedures. The respective negative effects in the model seem to confirm this expectation. However, the influence of education is insignificant according to usual standards. The self-employed are a third group with a higher pre-transfer poverty risk and a lower probability that poverty will be reduced via transfers. In addition, workers in households with other workers are less likely to be lifted out of poverty by transfers. If we assume that households with more than one worker are likely to have a higher income than single-earner households, the expectation of lower transfers could explain this result. Regarding occupations, we can differentiate two groups of workers. First, there are higher officials/managers and agricultural workers, who have lower chances of being pulled out of poverty via transfers. Second, there are the rest of the occupations, which show fairly small and probably insignificant differences for the majority of workers.

I have argued above that country-level variation is probably already explained by individual-level factors due to composition effects. As we can see by comparing the variance components of the full models (M1) against the empty models (M0), this holds true only in the case of poverty reduction. But still a large proportion of variance remains unexplained since person-level variables explain only 11 percent of the country-level variance ($\rho=0.140$ vs. 0.157). Therefore, let us turn to the major question of this paper, namely whether differences between countries can be explained by institutional factors. In a first step, I look at how country differences in pre-transfer poverty can be explained (Table 5) before I move to the question of poverty reduction. Given the small amount of between-country variance in pre-transfer poverty, we start with models that examine only single factors at the macro level (M2 a-e). Step by step, these models are expanded to more complex models. I have argued that bargaining centralisation will have the most important effect on pre-transfer poverty but that also the relation of needs

and income in a household may play a role. With regard to the latter, I assume that the availability of family services like child care increases the number of earners per household and that intergenerational dependence increases the needs of a household. The first column of Table 5 reports the results of five different models, each containing a single indicator. As expected, there is evidence that bargaining centralisation and factors which affect the relationship of needs and resources within the household influence worker's pre-transfer poverty risk. Poverty is lower in countries with centralised bargaining systems and higher if the share of young unemployed living with their parents is high. In addition, pre-transfer poverty tends to be lower in countries that spend more on family services. However, the effect is not significant at the five-percent level.

<Table 5: Coefficients of micro/macro-models on pre-transfer poverty>

The other two influences prove to be robust if we include all indicators in a joint model (M3) and also after controlling for economic growth and unemployment (M4). If we move to more complex models, we see that only the influence of bargaining centralisation is robust. If we include micro-level influences (M5a-e, M6), the influence of intergenerational dependence (unemployed living with parents) becomes insignificant.¹² It is more than probable that part of the effect is already picked up by the variables on household composition and employment structure at the micro level. As a consequence, the influence of bargaining centralisation is the only one that receives support in all models. This confirms the hypothesis that mainly labour market institutions have an impact at the distribution of pre-transfer poverty.

The models presented in Table 6 deal in the same manner with the influence of institutional and economic factors on the extent of poverty reduction. I expect that the degree of poverty reduction is primarily affected by welfare state characteristics. As

seen above, the degree of country-level variance in poverty reduction is much higher than in the case of pre-transfer poverty. Nevertheless I start with simple models to document how the different factors affect each other. In a bivariate perspective (M2a-e) there are significant influences regarding the degree of decommodification and defamilisation. As expected, the extent of poverty reduction is higher in countries with higher replacement rates and more generous family benefits. Furthermore, the degree of poverty reduction is lower in countries with higher intergenerational dependence. There is also a positive influence of family service expenditure. It is, however, difficult to explain why we find a positive effect. We cannot rule out that the variable picks up other, unobserved characteristics of welfare states.

<Table 6: Coefficients of micro/macro-models on poverty reduction>

Apart from the influence of expenditure on family benefits and services, none of the influences proves to be robust when we move to more elaborate models (M3-M7). Nevertheless the proportion of between-country variance (more than 15 percent, see M0) is reduced to less than a third. By comparing Model M3, M4, and Model M6 we see that most of this reduction is due to institutional factors. It is also important to note that bargaining centralisation—being the most relevant factor in the explanation of pre-transfer poverty—plays no significant role in the explanation of poverty reduction via transfers. This result highlights the importance of distinguishing between institutional factors that alter the incidence of pre-transfer poverty and factors that have an impact on the extent of poverty reduction. As a preliminary conclusion, we can say that labour market institutions are important for the former while welfare state characteristics are important for the latter.

<Table 7: Coefficients of models with cross-level interactions>

After having examined person-level and country-level influences, I come now to the third and last step of the analysis. As argued above, it is most likely that institutional factors not only influence the general incidence of in-work poverty and the general extent of poverty reduction but also structure group-specific poverty risks. To test the respective hypotheses, we look at models that contain a number of cross-level interaction effects (Table 7). Three models deal with pre-transfer poverty, a fourth the extent of poverty reduction. The results do not confirm all the hypotheses I discussed in Section 4. Against the expectations, the poverty risk of employed persons with small children is higher in countries with higher spending on family services. This result is robust even if we do not control for the number of employed persons per household at the micro level, which is expected to pick up part of the institutional influence. The effect is smaller but still significant (results not reported). In contrast, there is evidence that low-qualified workers are less likely to be poor in countries with centralised bargaining systems. The results also support the hypothesis that the risk profile by age differs between countries with high and low intergenerational independence. The respective interaction effect is positive. Hence, the U-shaped influence of age is flattened out. This means that the poverty risk is shifted from younger to older workers. While younger workers are protected in the family context, older workers face additional needs. The last model deals with the interaction between the generosity of family benefits and the extent of poverty reduction related to children in the household. We find a positive interaction effect, i.e., the more a country spends on family benefits, the more likely it is that workers with children will benefit from transfers and be able to move out of poverty. The fact that we find significant cross-level influences in line with the expectations (with one exception) further supports the hypothesis about the relevance of institutional factors in explaining country

differences in the incidence of in-work poverty and the extent of poverty reduction via transfers.

7. Conclusion

This paper has analysed the incidence of in-work poverty and how it is reduced by the payment of social transfers in 20 European countries. This broad comparative perspective allowed for the separation of different institutional influences, namely the influence of the degree of decommodification, defamilisation and bargaining centralisation. In contrast to previous studies on the working poor, which have mainly described country differences in in-work poverty, this paper has focussed how such differences can be explained from a broader perspective. In general, the results confirm the overall hypothesis of this paper that welfare state measures and labour market institutions both have an influence on in-work poverty. By analysing influences on pre-transfer poverty and poverty reduction separately, I demonstrated that these factors affect in-work poverty in a varying manner. While bargaining centralisation proved to be relevant for the distribution of pre-transfer incomes only, the set-up of the transfer system (unemployment replacement rates, expenditure on family cash benefits) mainly impacted the extent of poverty reduction. Against my initial expectations, the availability of family services strongly influences the extent of poverty reduction but has hardly any effect on pre-transfer poverty rates. Furthermore, workers with children are more likely to be poor in countries with higher spending on family services. If we argue that the availability of family services—mainly childcare—is expected to increase the number of workers within family households we would expect the opposite result. As already discussed, this result proved robust to modifications of the model as well. Another option would be

to use indicators that better measure the concept of defamilisation. Unfortunately, up to now these are not available for a larger number of countries.

Although the main focus of the paper has been to show the influences of welfare state measures and labour market institutions we should not ignore the fact that individual and household-related factors also play an important role in explaining who is working but poor and who is not. The analysis of pre-transfer in-work poverty indicates that the risk profile of the working poor does not differ from the risk profile in general poverty studies. Workers with low resources who are living in households with higher needs and face larger restrictions are more likely to be poor. But also the extent of poverty reduction is structured by individual and household-related factors. While workers with children are more likely to be pulled out of poverty, in particular in countries with high family cash benefits expenditures, other groups like migrants not only face a higher risk of being poor relative to the pre-transfer poverty line but are also less likely to receive transfers. It is likely that not only the differing availability of benefits but also differences in take-up rates shape the profile of the working poor after transfers are paid.

References

- Atkinson, A. B./ Rainwater, L./ Smeeding, T. M. (1995): *Income Distribution in OECD Countries. Evidence from the Luxembourg Income Study (LIS)*. Paris: OECD.
- Barbier, J. –C. (2004): Systems of social protection in Europe. Two contrasted paths of activation and maybe a third. In: Lind, J./ Knudsen, H./ Jørgensen, H. (Eds.): *Labour and employment regulation in Europe*. Brussels: Peter Lang: 233-253.
- Bardone, L./ Guio, A.-C. (2005): In-work poverty. In: *Statistics in focus - population and social conditions* 2005(5).
- Bergh, A. (2005): On the counterfactual problem of welfare state research: How can we measure redistribution? In: *European Sociological Review* **21**(4): 345-357.
- Blau, F. D./ Kahn, L. M. (1996): International Differences in Male Wage Inequality: Institutions versus Market Forces. In: *Journal of Political Economy* **104**(4): 791-837.
- Brandolini, A./ Cipollone, P./ Sestito, P. (2002): Earnings dispersion, low pay and household poverty in Italy, 1977-1998. In: Cohen, D./ Piketty, T./ Saint-Paul, G. (Eds.): *The Economics of Rising Inequalities*. Oxford: Oxford University Press: 225-264.
- Council of the EU (2005): Council decision of 12 July 2005 on Guidelines for the employment policies of the Member States. *Official Journal of the European Union* **L 205/21**.
- DiNardo, J./ Fortin, N. M./ Lemieux, T. (1996): Labor market Institutions and the distribution of wages. In: *Econometrica* **64**: 1001-1044.
- Esping-Andersen, G. (1990): *The three worlds of welfare capitalism*. Cambridge: Polity Press.
- Eurostat (2007): *EU-SILC User Data Base description. Version 2005-2 from 27-06-07*. Luxembourg.
- Förster, M. F./ Pellizzari, M. (2000): *Trends and driving factors in income distribution and poverty in the OECD area*. OECD, Labour Market and Social Policy Occasional Papers No. 42, Paris: OECD.
- Freeman, R. B. (1993): How much has de-unionization contributed to the rise in male earnings inequality? In: Danziger, S./ Gottschalk, P. (Eds.): *Uneven Tides: Rising Inequality in America*. New York: Russell Sage Foundation: 133-163.
- Gardiner, K./ Millar, J. (2006): How low-paid employees avoid poverty: An analysis by family type and household structure. In: *Journal of Social Policy* **35**(3): 351-369.
- Gilbert, N. (2002): *Transformation of the welfare state. The silent surrender of public responsibility*. Oxford: Oxford University Press.
- Golden, M. A./ Londregan, J. B. (2006): Centralization of bargaining and wage inequality: A correction of Wallerstein. In: *American Journal of Political Science* **50**(1): 208-213.
- Guo, G./ Zhao, H. (2000): Multilevel modelling for binary data. In: *Annual Review of Sociology* **26**: 441-462.

- Hauser, R. (2008): *Problems of the German Contribution to EU-SILC: A Research Perspective, Comparing EU-SILC, Microcensus and SOEP*. SOEPpapers on Multidisciplinary Panel Data Research 86, Berlin.
- Hernanz, V./ Malherbet, F./ Pellizari, M. (2004): *Take-up of welfare benefits in OECD countries. A review of the evidence*. OECD Social Employment and Migration Working Papers, No. 17, Paris.
- Immervoll, H./ Sutherland, H./ de Vos, K. (2001): Reducing child poverty in the European Union: The role of child benefits. In: Vleminckx, K./ Smeeding T. (Eds.): *Child Well-being, Child Poverty and Child Policy in Modern Nations*. Bristol: Policy Press.
- Kayser, H./ Frick, J. R. (2001): Take It or Leave It: (Non-)Take-Up Behaviour of Social Assistance in Germany. In: *Schmollers Jahrbuch. Journal of Applied Social Science Studies* **121**(1): 27-58.
- Kenworthy, L. (1999): Do Social-Welfare Policies Reduce Poverty? A Cross-National Assessment. In: *Social Forces* **77**(3): 1119-1139.
- Kerr, S. A. (1982): Deciding about supplementary pensions. A provisional model. In: *Journal of Social Policy* **11**(4): 505-517.
- Lagarenne, C./ Legendre, N. (2000): Les travailleurs pauvres en France: facteurs individuels et familiaux. In: *Économie et Statistique* **335 - 5**: 3-25.
- Leitner, S. (2003): Varieties of familialism. The caring function of the family in comparative perspective. In: *European Societies* **5**(4): 353-375.
- Lister, R. (1994): 'She has other duties' - Women, citizenship and social security. In: Baldwin, S./ Faklingham, J. (Eds.): *Social security and social change. New challenges to the Beveridge model*, New York: Harvester Wheatsheaf: 31-44.
- Lohmann, H. (2007): *Armut von Erwerbstätigen in europäischen Wohlfahrtsstaaten. Niedriglöhne, staatliche Transfers und die Rolle der Familie*. Wiesbaden: VS Verlag.
- Lohmann, H. (forthcoming): The working poor in European welfare states: Empirical evidence from a multilevel perspective. In: Andreß, H.-J. / Lohmann, H. (Eds.): *The working poor in Europe*. Cheltenham: Edward Elgar.
- Lucifora, C./ McKnight, A./ Salverda, W. (2005): Low-wage employment in Europe: a review of the evidence. In: *Socio-Economic Review* **3**(2): 259-292.
- Marx, I./ Verbist, G. (1998): Low-Paid Work and Poverty: A Cross-Country Perspective. In: Bazen, S./ Gregory, M./ Salverda, W. (Eds.): *Low-Wage Employment in Europe, Cheltenham*. Edward Elgar: 63-86.
- McLaughlin, E./ Glendinning, C. (1994): Paying for care in Europe: is there a feminist approach? Hantrais, L./ Mangen, S. (Eds.): *Family policy and the welfare of women*. Cross-National Research Papers, European Research Centre, Loughborough University of Technology, Leicestershire: 52-69.
- Moller, S./ Bradley, D./ Huber, E./ Nielsen, F./ Stephens, J. D. (2003): Determinants of Relative Poverty in Advanced Capitalist Democracies. In: *American Sociological Review* **68**(1): 22-51.
- OECD (2005): *Employment Outlook*. Paris: OECD.

- OECD (2007): *Net replacement rates (NRR) over a 5-year period following unemployment, 2001-2004*. www.oecd.org/els/social/workincentives (19. November 2007), Paris: OECD.
- Orloff, A. S. (1993): Gender and the social rights of citizenship: The comparative analysis of gender relations and welfare states. In: *American Sociological Review* **58**(3): 303-328.
- Paugam, S./ Russell, H. (2000): The effects of employment precarity and unemployment on social isolation. In: Gallie, D./ Paugam, S. (Eds.): *Welfare Regimes and the Experience of Unemployment in Europe*. Oxford: Oxford University Press: 243-264.
- Peña-Casas, R./Latta, M. (2004): *Working poor in the European Union*. European Foundation for the Improvement of Living and Working Conditions, Luxembourg.
- Ringen, S. (1987): *The possibility of politics. A study in the political economy of the welfare state*. Oxford: Clarendon Press.
- Rueda, D./ Pontusson, J. (2000): Wage inequality and varieties of capitalism. In: *World Politics* **52**: 350-383.
- Sainsbury, D./ Morissens, A. (2002): Poverty in Europe in the mid-1990s: the effectiveness of means-tested benefits. In: *Journal of European Social Policy* **12**(4): 307-327.
- Scruggs, L./ Allan, J. (2006): Welfare-state decommodification in 18 OECD countries: a replication and revision. In: *Journal of European Social Policy* **16**(1): 55-72.
- Snijders, T. A. B./ Bosker, R. J. (1999): *Multilevel analysis. An introduction to basic and advanced multilevel modeling*. London/ Thousand Oaks/ New Delhi: Sage.
- Strengmann-Kuhn, W. (2003): *Armut trotz Erwerbstätigkeit. Analysen und sozialpolitische Konsequenzen*. Frankfurt/New York: Campus.
- Teulings, C./ Hartog, J. (1997): *Corporatism or Competition? Labour contracts, institutions and wage structures in international comparison*. Cambridge: Cambridge University Press.
- van Oorschot, W. (1991): Non-take-up of social security benefits in Europe. In: *Journal of European Social Policy* **1**(1): 15-30.
- Visser, J. (2004): Patterns and variations in European industrial relations. In: European Commission: *Industrial relations in Europe 2004*. Luxembourg: Office for Official Publications of the EC: 11-57.

Tables:

Table 1: Definition and sources of macro indicators

Concept	Definition of indicator	Source
Level of transfers	Average net unemployment replacement rate (first five years following unemployment) as a % of average production worker wage (APW) in 2004	OECD 2007
General family support	Family cash benefits (public expenditure as a % of GDP) in 2003	OECD Social Expenditure database (SOCX)
Dual earner support	Family services (public expenditure as a % of GDP) in 2003	OECD Social Expenditure database (SOCX)
Intergenerational dependence	Share of young unemployed (20-29 years) living in parents' household	EU-SILC 2005
Bargaining centralization	Index of wage bargaining centralization in 2003	Visser 2004: 43

Table 2: Means and variation of macro indicators

	mean	s.d.	min	max
Unemployment replacement rate (% of APW wage)	61.9	18.9	6.0	79.0
Family cash benefits (expenditure as % of GDP)	1.5	0.7	0.4	3.5
Family services (expenditure as % of GDP)	1.0	0.5	0.3	2.3
Young unemployed living with parents (%)	48.0	23.6	11.3	82.7
Bargaining centralization (Index)	0.42	0.17	0.13	0.71
Unemployment rate (%)	8.20	4.12	4.40	19
Economic growth (real, in %)	3.16	1.43	0.90	5.5

Sources: See Table 1, own computations.

Table 3: Pre-transfer poverty, post-transfer poverty and poverty reduction by country (working population)

	poverty rate		absolute change of poverty rate			relative change of poverty rate		
	pre-transfer %	post-transfer %	gross reduction %	gross increase %	net reduction %	gross reduction %	gross increase %	net reduction %
Denmark	8.9	4.8	4.7	0.6	4.1	52.5	0.6	46.0
Finland	7.4	3.8	3.8	0.2	3.6	51.1	0.2	48.6
Norway	9.0	4.8	4.9	0.7	4.2	54.5	0.8	46.7
Sweden	11.8	5.2	7.1	0.5	6.6	60.2	0.6	55.7
Austria	10.3	6.7	4.1	0.5	3.6	39.6	0.5	35.2
Belgium	6.3	3.9	2.9	0.5	2.4	46.2	0.5	38.6
France	11.6	6.1	6.0	0.4	5.5	51.3	0.5	47.6
Germany	9.9	5.2	5.0	0.3	4.7	50.6	0.4	47.1
Luxembourg	12.7	9.4	4.1	0.8	3.3	32.3	0.9	26.2
Netherlands	8.3	5.9	2.6	0.2	2.4	31.6	0.2	29.0
Ireland	9.7	5.8	4.3	0.4	3.9	44.5	0.5	39.9
United Kingdom	11.5	8.0	4.1	0.7	3.4	35.8	0.8	29.9
Greece	13.1	12.7	1.3	0.9	0.4	9.7	1.0	3.2
Italy	10.3	8.9	2.0	0.6	1.4	19.4	0.7	13.5
Portugal	14.5	13.3	2.3	1.1	1.2	16.0	1.3	8.5
Spain	11.1	10.3	1.7	0.9	0.8	15.7	1.1	7.2
Czech Republic	7.6	3.5	4.3	0.2	4.0	56.4	0.2	53.5
Hungary	17.6	9.8	8.6	0.8	7.8	49.0	1.0	44.5
Poland	16.5	13.7	3.9	1.1	2.9	23.8	1.3	17.3
Slovak Republic	11.5	8.9	3.0	0.5	2.6	26.4	0.5	22.4
mean	11.0	7.5	4.0	0.6	3.4	38.3	0.7	33.0
s.d.	2.9	3.2	1.8	0.3	1.9	15.6	0.3	16.4
min	6.3	3.5	1.3	0.2	0.4	9.7	0.2	3.2
max	17.6	13.7	8.6	1.1	7.8	60.2	1.3	55.7

Source: EU-SILC 2005 (weighted), own computations.

Table 4: Coefficients (log odds) of random intercept logit models on probability of pre-transfer poverty and poverty reduction

	Pre-transfer poverty		Poverty reduction	
	M0	M1	M0	M1
<i>age:</i>				
in years		-0.119 ***		-0.015
in squared years		0.0012 ***		0.0002 +
<i>gender (ref.: male)</i>				
female		0.132 ***		0.327 ***
<i>immigrant status (ref.: native)</i>				
migrant		0.689 ***		-0.323 ***
<i>education (ref.: ISCED 4-6)</i>				
ISCED 0-2		0.946 ***		-0.114 +
ISCED 3		0.388 ***		0.031
<i>marital status (ref.: else, male)</i>				
separated, divorced		0.086		-0.177
sep./div.*female		0.287 ***		0.028
<i>number of children/persons in hh (by age)</i>				
0-2 years		0.672 ***		0.451 ***
3-5 years		0.456 ***		0.142 ***
6-12 years		0.439 ***		0.114 ***
13-17 years		0.670 ***		-0.060 *
18+ years		0.371 ***		0.373 ***
<i>number of employed household members (by working time)</i>				
part-time		-0.914 ***		-0.255 ***
full-time		-1.531 ***		-0.475 ***
<i>employment status (ref.: employee)</i>				
self-employed		1.236 ***		-1.035 ***
<i>working time (ref.: full-time)</i>				
part-time		0.811 ***		-0.028
<i>occupation, ISCO (ref.: legislators, senior officials, managers [1])</i>				
Professionals (2)		-0.568 ***		0.417 ***
Technicians and associate professionals (3)		-0.171 ***		0.444 ***
Clerks (4)		-0.020		0.597 ***
Service workers, shop/market sales workers (5)		0.548 ***		0.493 ***
Skilled agricultural and fishery workers (6)		1.138 ***		0.141
Craft and trades related workers (7)		0.515 ***		0.522 ***
Plant and machine operators, assemblers (8)		0.306 ***		0.585 ***
Elementary occupations (9)		0.877 ***		0.416 ***
intercept	-2.169 ***	-1.217 ***	-0.517 **	-1.408 ***
σ^2 (between countries)	0.145	0.157	0.614	0.533
rho	0.042	0.046	0.157	0.140
log-likelihood	-56747	-44501	-10660	-9841
n (countries)	20	20	20	20
n (observations)	168003	168003	18304	18304

Source: EU-SILC 2005, own computations.

Notes: Significant at $p < 0.001$ (***), $p < 0.01$ (**), $p < 0.05$ (*), $p < 0.1$ (+).

Table 5: Coefficients (log odds) of random intercept logit models on prob. of pre-transfer poverty

	models with macro-level variables only			models with micro- and macro-level variables		
	M2a-g ¹	M3	M4	M5a-g ²	M6	M7
Unemployment replacement rate	-0.006	0.005	0.005	-0.003	0.003	0.002
Family cash benefits	0.026	0.104	0.096	0.090	0.164 +	0.174
Family services	-0.286 +	0.031	0.038	-0.039	0.189	0.211
Young unempl. living with parents	0.011 ***	0.012 **	0.011 **	0.006	0.008	0.005
Bargaining centralization	-1.300 **	-0.965 **	-0.910 **	-1.414 **	-1.333 **	-1.144 **
unemployment			0.005			0.022
economic growth			0.024			0.049
σ^2 (between countries)	‡	0.052	0.051	‡	0.079	0.066
rho	‡	0.016	0.015	‡	0.024	0.020
log-likelihood	‡	-56738	-56737	‡	-44494	-44492
n (countries)	20	20	20	20	20	20
n (observations)	168003	168003	168003	168003	168003	168003

Source: EU-SILC 2005 and various sources (see Table 1), own computations.

Notes: Significant at $p < 0.001$ (***), $p < 0.01$ (**), $p < 0.05$ (*), $p < 0.1$ (*). 1) Coefficients of seven bivariate models, 2) Macro-level coefficients of seven two-level models including all micro-level variables used in M1 (see Table 4). ‡) Not all information recorded for each of the seven models. But see Table A2 for information on between-country variance.

Table 6: Coefficients (log odds) of random intercept logit models on probability of poverty reduction

	models with macro-level variables only			models with micro- and macro-level variables		
	M2a-g ¹	M3	M4	M5a-g ²	M6	M7
Unemployment replacement rate	0.021 *	0.004	0.004	0.021 **	0.006	0.006
Family cash benefits	0.539 **	0.429 **	0.395 +	0.496 *	0.374 **	0.314 +
Family services	0.901 ***	0.693 *	0.701 *	0.924 ***	0.727 **	0.733 **
Young unempl. living with parents	-0.021 ***	-0.004	-0.005	-0.021 ***	-0.004	-0.004
Bargaining centralization	1.251	0.253	0.298	1.385	0.414	0.431
unemployment			-0.001			-0.008
economic growth			0.043			0.057
σ^2 (between countries)	‡	0.226	0.224	‡	0.149	0.147
rho	‡	0.064	0.064	‡	0.043	0.043
log-likelihood	‡	-10650	-10650	‡	-9829	-9829
n (countries)	20	20	20	20	20	20
n (observations)	18304	18304	18304	18304	18304	18304

Source: EU-SILC 2005 and various sources (see Table 1), own computations.

Notes: Significant at $p < 0.001$ (***), $p < 0.01$ (**), $p < 0.05$ (*), $p < 0.1$ (*). 1) Coefficients of seven bivariate models, 2) Macro-level coefficients of seven two-level models including all micro-level variables used in M1 (see Table 4). ‡) Not all information recorded for each of the seven models. But see Table A2 for information on between-country variance.

Table 7: Coefficients (log odds) of random intercept logit models on probability of pre-transfer poverty and poverty reduction

	Pre-transfer poverty			Poverty reduction
	M8	M9	M10	M8
MACRO LEVEL:				
A: Young unempl. living with parents	-0.0057			
B: Family services		-0.149		
C: Bargaining centralization			-1.223 **	
D: Family cash benefits				0.268
CROSS-LEVEL INTERACTIONS:				
A*age	0.0003 ***			
B*child (0-5years)		0.308 ***		
C*ISCED 0-2			-0.711 ***	
D*child (0-17 years)				0.166 ***
MICRO LEVEL:				
<i>age:</i>				
in years	-0.135 ***	-0.120 ***	-0.120 ***	-0.015
in squared years	0.001 ***	0.001 ***	0.001 ***	0.0003 +
<i>gender (ref.: male)</i>				
female	0.132 ***	0.130 ***	0.130 ***	0.320 ***
<i>immigrant status (ref.: native)</i>				
migrant	0.693 ***	0.696 ***	0.692 ***	-0.345 ***
<i>education (ref.: ISCED 4-6)</i>				
ISCED 0-2	0.944 ***	0.950 ***	1.226 ***	-0.117 +
ISCED 3	0.385 ***	0.391 ***	0.396 ***	0.029
<i>marital status (ref.: else, male)</i>				
separated, divorced	0.096 +	0.086	0.085	-0.171
sep./div.*female	0.287 ***	0.290 ***	0.289 ***	0.022
<i>number of children/persons in hh (by age)</i>				
0-2 years	0.665 ***	0.379 ***	0.670 ***	0.207 ***
3-5 years	0.453 ***	0.165 ***	0.454 ***	-0.111 *
6-12 years	0.439 ***	0.438 ***	0.438 ***	-0.136 ***
13-17 years	0.670 ***	0.672 ***	0.670 ***	-0.305 ***
18+ years	0.372 ***	0.369 ***	0.370 ***	0.365 ***
<i>number of employed household members (by working time)</i>				
part-time	-0.912 ***	-0.917 ***	-0.916 ***	-0.262 ***
full-time	-1.530 ***	-1.535 ***	-1.532 ***	-0.480 ***
<i>employment status (ref.: employed)</i>				
self-employed	1.234 ***	1.239 ***	1.237 ***	-1.048 ***
<i>working time (ref.: full-time)</i>				
part-time	0.812 ***	0.811 ***	0.811 ***	-0.034
<i>occupation, ISCO (ref.: legislators, senior officials, managers [1])</i>				
Professionals (2)	-0.566 ***	-0.570 ***	-0.567 ***	0.413 ***
Technicians and associate professionals (3)	-0.169 ***	-0.172 ***	-0.171 ***	0.446 ***
Clerks (4)	-0.016	-0.017	-0.021	0.590 ***
Service workers, shop/market sales workers (5)	0.550 ***	0.552 ***	0.545 ***	0.490 ***
Skilled agricultural and fishery workers (6)	1.132 ***	1.140 ***	1.128 ***	0.146
Craft and trades related workers (7)	0.517 ***	0.517 ***	0.511 ***	0.520 ***
Plant and machine operators, assemblers (8)	0.307 ***	0.308 ***	0.303 ***	0.579 ***
Elementary occupations (9)	0.878 ***	0.879 ***	0.872 ***	0.415 ***
intercept	-0.862 ***	-1.847 ***	-2.297 ***	-0.879 **
σ^2 (between countries)	0.141	0.158	0.101	0.415
rho	0.041	0.046	0.030	0.112
log-likelihood	-44471	-44443	-44482	-9805
n (countries)	20	20	20	20
n (observations)	168003	168003	168003	18304

Source: EU-SILC 2005 and various sources (see Table 1), own computations.

Notes: Significant at $p < 0.001$ (***), $p < 0.01$ (**), $p < 0.05$ (*), $p < 0.1$ (+).

Additional tables:

Table A1: Correlation matrix of macro level variables

	RRATE	FAMB	FAMS	YUNEM	CENTR	UNEM	GDPG
RRATE	1						
FAMB	0.374	1					
FAMS	0.285	0.049	1				
YUNEM	-0.629	-0.236	-0.641	1			
CENTR	0.342	0.169	0.132	-0.374	1		
UNEM	-0.306	-0.445	-0.292	0.460	-0.390	1	
GDPG	-0.145	0.286	-0.313	0.379	-0.216	0.441	1

Sources: See Table 1.

Notes: RRATE: Unemployment replacement rate, FAMB: Family cash benefits, FAMS: Family services, YUNEM: Young unemployed living with parents, CENTR: Bargaining centralization, UNEM: Unemployment rate, GDPG: Economic growth.

Table A2: Additional information on models in Table 5 and 6 (between-country variance, σ^2)

	pre-transfer poverty		poverty reduction	
	M2a-g	M5a-g	M2a-g	M5a-g
Unemployment replacement rate	0.134	0.153	0.469	0.381
Family cash benefits	0.144	0.152	0.458	0.402
Family services	0.122	0.156	0.388	0.295
Young unempl. living with parents	0.083	0.140	0.386	0.300
Bargaining centralization	0.098	0.102	0.570	0.480
Unemployment	0.123	0.135	0.515	0.431
economic growth	0.115	0.121	0.612	0.530

Source: See Table 5 and 6.

¹ So far, I have only discussed the influence of the availability of transfers and ignored the question of benefit take-up, which also affects the degree of poverty reduction. Previous research has shown that take-up rates differ according to a number of personal and household characteristics (see Section 3). There is also evidence that take-up rates are influenced by characteristics of transfer systems. For example, potential recipients are less likely to claim means-tested benefits or are kept away if the process of claiming is complex or degrading. However, cross-national evidence is rare (see for an overview Hernanz et al., 2004). On the basis of the existing results it is difficult to produce sound hypotheses concerning country-specific levels of non-take-up. Furthermore, without a simulation of the transfer system, which is beyond the scope of this paper, it is not possible to differentiate effects of the availability and the non-take-up of transfers. Therefore, if there are relevant differences in the level of non-take-up—e.g. due to means-testing—these are partly picked up by indicators of transfer generosity, which are lower if transfers are means-tested.

² Social transfers include unemployment benefits, sickness benefits, disability benefits, education-related allowances, family/children-related allowances, social assistance etc., and housing allowances.

³ It would also be worthwhile to take into account the influence of taxation. Unfortunately, EU-SILC does not contain information on gross incomes for all countries. Therefore, the analyses deal with the effect of social transfers only.

⁴ An inherent feature of the approach to comparing poverty rates based on pre-transfer and post-transfer poverty rates is that it makes the counterfactual assumption that the pre-transfer distribution would be the same if no transfers were available (Ringen, 1987; Bergh, 2005).

⁵ This is due to the fact that we define two different poverty lines, one on the basis of pre-transfer income, a second on the basis of post-transfer income. Persons with an income near the pre-transfer poverty line who do not receive transfers are the most likely to be pushed into poverty in the process of redistribution.

⁶ The categories of the variable in EU-SILC are not the same in every country. Therefore, the measurement of migrants differs from country to country. In some countries persons are coded as natives who are coded as migrants in other countries. However, every person coded as migrant is either not born in a given country or/and does not have the nationality of the country he/she lives in.

⁷ The benefit level differs according to household type and previous level of income. Hence, the OECD publishes figures for a number of different constellations. The indicator used in this analysis has been

calculated as the average of all group-specific indicators. Replacement rates refer to a five-year period following unemployment.

⁸ The share of young unemployed living with their parents is highly correlated with some of the welfare state characteristics like the level of replacement rates (see Table A1). This is not unexpected as it reflects the fact that the family acts as provider of social security if the respective public systems are weak. Other indicators are only modestly correlated.

⁹ There are different methods for estimating logistic regressions using random components for dichotomous dependent variables. In some cases, these methods yield substantively different results (Guo and Zhao, 2000). The models in this paper are estimated with Stata 10 (xtlogit).

¹⁰ The post-transfer poverty rates equal the in-work poverty rates published at the EUROSTAT website (State: 24. January 2008). There are, however, differences between figures from national social reporting and the EUROSTAT figures. For instance, poverty rates calculated on the basis of the German Socio-Economic Panel (GSOEP) are much higher than on the basis of EU-SILC, which has lead to concern about a potential bias in the German EU-SILC sample (Hauser, 2008). However, since Germany is only one country of 20 in this comparison and its country ranking would not be completely different on the basis of alternative poverty rates, we have decided to run the following analyses on the basis of all countries where data are available.

¹¹ For the computation of the intraclass correlation I assume a person-level variance of $\pi^2/3$ which is implied by the logistic distribution of the respective residuals (Snijders and Bosker, 1999: 224).

¹² Also for models which contain micro-level variables, I report the coefficients at the macro level only. In none of the models are the micro-level influences altered in a significant way compared to the models discussed so far (results not reported).